Title: Cooperative Purchase Agreements: Replacement Fire Apparatus and Equipment  
[Published for 10-Day Review 02/08/2018]

Location: Citywide

Recommendation: Pass a Motion: 1) approving the use of the Houston-Galveston Area Council (HGAC) cooperative purchase agreement with Pierce Manufacturing, Inc. (Contract No. FS12-17) for the purchase of four pumper trucks, one ladder truck and a heavy duty rescue truck in an amount not to exceed $5,107,181; 2) approving the use of the Public Procurement Authority/National Purchasing Partners Fire Rescue GPO (NPPGov/FRGPO) cooperative purchase agreement with a) LN Curtis and Sons (Contract No. 00000171) for the purchase of two stationary air compressor systems, and b) E.J. Metals, Inc. (Contract No. VH11550) for the purchase of one mobile air compressor unit in an amount not to exceed $411,773; 3) authorizing the City Manager or the City Manager’s designee to increase the Department of Public Works revenue and expenditure budgets (Fleet Fund, Fund 6501) in the amount of $47,830; and 4) authorizing the City Manager or the City Manager’s designee to execute the purchases specified above.

Contact: Alison Crandall, Program Specialist, (916) 808-1163; Mark Stevens, Fleet Manager, (916) 808-5869, Department of Public Works

Presenter: None

Attachments:  
1-Description/Analysis  
2-Agreement  
3-Resolution
Description/Analysis

Issue Detail: The Department of Public Works, Fleet Management Division, has a customer requirement to purchase replacement four pumper trucks, one ladder truck, one heavy duty rescue unit, two stationary air compressor systems and one mobile air compressor unit for the Sacramento Fire Department.

Policy Considerations: The recommendations in this report are in accordance with City Code Chapter 3.56 and Sacramento City Council Rules of Procedure, Chapter 7, Section E.2.d, which requires additional posting time for labor agreements and agreements greater than $1 million.

Economic Impacts: None

Environmental Considerations: No environmental review is necessary because the recommendations in this report involve the purchase of vehicles and are not considered to be a project in accordance with Section 15378(b)(2) of the California Environmental Quality Act guidelines.

Sustainability: The recommended purchases are consistent with the updated Fleet Sustainability Policy, adopted by City Council on December 12, 2017 (Resolution No. 2017-0478).

Commission/Committee Action: None

Rationale for Recommendation: After reviewing the available purchase options, the Department of Public Works, Fleet Management Division has determined that using the cooperative purchase agreement with HGAC and Pierce Manufacturing, Inc., and the cooperative purchase agreements between NPPGov/FRGPO and LN Curtis and Sons and E.J. Metals, Inc., represent the most advantageous purchasing strategy. The contracts were competitively bid, and the cooperative purchasing agencies receive greater discounts from the manufacturer due to a higher purchase volume than the City would receive if issuing its own bid.

In an ongoing effort to maximize cost savings and staff resources, many government agencies share contracting efforts through cooperative purchasing. This procurement method increases pricing competitiveness and lowers capital costs through volume buying. When comparing the administrative costs of procurement, staff considers product research, source selection, specifications, advertising, staff reports, awarding, protest, and administration of the contract. It
is often more cost-effective to eliminate the cost and time spent on these administrative processes and purchase items and services through a cooperative purchasing program.

The City has used both regional and national cooperative purchase agreements to complement its own contracting initiatives. Cooperative purchasing enables City departments to evaluate a broader range of contracting opportunities and to share resources with other jurisdictions. Cooperative purchasing also leverages internal and external resources to maximize cost savings opportunities for the City.

**Financial Considerations:** The recommended purchases, in the amount of $5,518,954, will be made from the Department of Public Works operating budget (Fleet Fund, Fund 6501) and charged to the Fire Apparatus Equipment Project (F12000300). An increase to the Department of Public Works operating revenue and expenditure budgets (Fleet Fund, Fund 6501) in the amount of $47,830 is necessary as the original amount budgeted for the heavy-duty rescue truck was based on prior purchases and did not account for manufacturer price increases. Upon completion of the recommended budget adjustment, sufficient funds will be available in the Department of Public Works operating budget to make the purchases. The cost to purchase the equipment is shown in the table below.

<table>
<thead>
<tr>
<th>QTY</th>
<th>ITEM</th>
<th>UNIT COST</th>
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<td>Fire Pumper Truck</td>
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<td>$2,657,604</td>
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<tr>
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<td>Fire Ladder Truck</td>
<td>$1,104,012</td>
<td>$1,104,012</td>
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<tr>
<td>1</td>
<td>Heavy Duty Rescue Truck</td>
<td>$1,345,565</td>
<td>$1,345,565</td>
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<tr>
<td>2</td>
<td>Stationary Air Compressor</td>
<td>$56,496</td>
<td>$112,992</td>
</tr>
<tr>
<td>1</td>
<td>Mobile Air Compressor</td>
<td>$298,781</td>
<td>$298,781</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>$5,518,954</td>
</tr>
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</table>

As of January 18, 2018, the Fire Apparatus Equipment Project (F12000300) has an unobligated budget of $8,842,436, which is sufficient to support the recommended purchases.

**Local Business Enterprise (LBE):** Pierce Manufacturing, Inc., LN Curtis and Sons and E.J. Metals, Inc. are not LBE firms. The minimum LBE participation requirement is waived for the City’s use of cooperative purchase agreements that have been competitively bid, evaluated, and awarded by other governmental agencies that may or may not have similar LBE programs. Use of the cooperative purchase agreements saves time, reduces administrative costs, improves efficiency and helps taxpayers dollars go further.
A CONTRACT BETWEEN
HOUSTON-GALVESTON AREA COUNCIL
Houston, Texas
AND
PIERCE MANUFACTURING INC.
Appleton, Wisconsin

This Contract is made and entered into by the Houston-Galveston Area Council of Governments, hereinafter referred to as H-GAC, having its principal place of business at 3555 Timmons Lane, Suite 120, Houston, Texas 77027, AND, Pierce Manufacturing Inc., hereinafter referred to as the CONTRACTOR, having its principal place of business at 2600 American Drive, Appleton, Wisconsin 54914.

ARTICLE 1: SCOPE OF SERVICES
The parties have entered into a Fire Service Apparatus (All Types) Contract to become effective as of December 1, 2017, and to continue through November 30, 2019 (the “Contract”), subject to extension upon mutual agreement of the CONTRACTOR and H-GAC. H-GAC enters into the Contract as Agent for participating governmental agencies, each hereinafter referred to as END USER, for the purchase of Fire Service Apparatus (All Types) offered by the CONTRACTOR in states other than Texas. The CONTRACTOR agrees to sell Fire Service Apparatus (All Types) through the H-GAC Contract to END USERS in states other than Texas.

ARTICLE 2: THE COMPLETE AGREEMENT
The Contract shall consist of the documents identified below in order of precedence:

1. The text of this Contract form, including but not limited to, Attachment A
2. General Terms and Conditions
3. Bid Specifications No: FS12-17, including any relevant suffixes
4. CONTRACTOR’s Response to Bid No: FS12-17, including but not limited to, prices and options offered

All of which are either attached hereto or incorporated by reference and hereby made a part of this Contract, and shall constitute the complete agreement between the parties hereto. This Contract supersedes any and all oral or written agreements between the parties relating to matters herein. Except as otherwise provided herein, this Contract cannot be modified without the written consent of both parties.

ARTICLE 3: LEGAL AUTHORITY
CONTRACTOR and H-GAC warrant and represent to each other that they have adequate legal counsel and authority to enter into this Contract. The governing bodies, where applicable, have authorized the signatory officials to enter into this Contract and bind the parties to the terms of this Contract and any subsequent amendments thereto.

ARTICLE 4: APPLICABLE LAWS
The parties agree to conduct all activities under this Contract in accordance with all applicable rules, regulations, directives, issuances, ordinances, and laws in effect or promulgated during the term of this Contract.

ARTICLE 5: INDEPENDENT CONTRACTOR
The execution of this Contract and the rendering of services prescribed by this Contract do not change the independent status of H-GAC or CONTRACTOR. No provision of this Contract or act of H-GAC in performance of this Contract shall be construed as making CONTRACTOR the agent, servant or employee of H-GAC, the State of Texas or the United States Government. Employees of CONTRACTOR are subject to the exclusive control and supervision of CONTRACTOR. CONTRACTOR is solely responsible for employee payrolls and claims arising therefrom.

ARTICLE 6: END USER AGREEMENTS
H-GAC acknowledges that the END USER may choose to enter into an End User Agreement with the CONTRACTOR through this Contract and that the term of said Agreement may exceed the term of the H-GAC Contract. However this acknowledgement is not to be construed as H-GAC’s endorsement or approval of the End User Agreement terms and conditions. CONTRACTOR agrees not to offer to, agree to or accept from END USER any terms or conditions that conflict with or contravene those in CONTRACTOR’s H-GAC contract. Further, termination of this Contract for any reason shall not result in the termination of the underlying End User Agreements entered into between CONTRACTOR and any END USER which shall, in each instance, continue pursuant to their stated terms and duration. The only effect of termination of this Contract is that CONTRACTOR will no longer be able to enter into any new End User Agreements with END USERS pursuant to this Contract. Applicable H-GAC order processing charges will be due and payable to H-GAC on any End User Agreements surviving termination of this Contract between H-GAC and CONTRACTOR.
ARTICLE 7: SUBCONTRACTS & ASSIGNMENTS
CONTRACTOR agrees not to subcontract, assign, transfer, convey, sublet or otherwise dispose of this Contract or any right, title, obligation or interest it may have therein to any third party without prior written notice to H-GAC. H-GAC reserves the right to accept or reject any such change. CONTRACTOR shall continue to remain responsible for all performance under this Contract regardless of any subcontract or assignment. H-GAC shall be liable solely to CONTRACTOR and not to any of its Subcontractors or Assignees.

ARTICLE 8: EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS
CONTRACTOR shall maintain during the course of its work, complete and accurate records of items that are chargeable to END USER under this Contract. H-GAC, through its staff or its designated public accounting firm, the State of Texas, or the United States Government shall have the right at any reasonable time to inspect copy and audit those records on or off the premises of CONTRACTOR. Failure to provide access to records may be cause for termination of this Contract. CONTRACTOR shall maintain all records pertinent to this Contract for a period of not less than five (5) calendar years from the date of acceptance of the final contract closeout and until any outstanding litigation, audit or claim has been resolved. The right of access to records is not limited to the required retention period, but shall last as long as the records are retained. CONTRACTOR further agrees to include in all subcontracts under this Contract, a provision to the effect that the subcontractor agrees that H-GAC'S duly authorized representatives, shall, until the expiration of five (5) calendar years after final payment under the subcontract or until all audit findings have been resolved, have access to, and the right to examine and copy any directly pertinent books, documents, papers, invoices and records of such subcontractor involving any transaction relating to the subcontract.

ARTICLE 9: REPORTING REQUIREMENTS
CONTRACTOR agrees to submit reports or other documentation in accordance with the General Terms and Conditions of the Bid Specifications. If CONTRACTOR fails to submit to H-GAC in a timely and satisfactory manner any such report or documentation, or otherwise fails to satisfactorily render performance hereunder, such failure may be considered cause for termination of this Contract.

ARTICLE 10: MOST FAVORITED CUSTOMER CLAUSE
If CONTRACTOR, at any time during this Contract, routinely enters into agreements with other governmental customers within the State of Texas, and offers the same or substantially the same products/services offered to H-GAC on a basis that provides prices, warranties, benefits, and or terms more favorable than those provided to H-GAC, CONTRACTOR shall notify H-GAC within ten (10) business days thereafter of that offering and this Contract shall be deemed to be automatically amended effective retroactively to the effective date of the most favorable contract, wherein CONTRACTOR shall provide the same prices, warranties, benefits, or terms to H-GAC and its END USER. H-GAC shall have the right and option at any time to decline to accept any such change, in which case the amendment shall be deemed null and void. If CONTRACTOR is of the opinion that any apparently more favorable price, warranty, benefit, or term charged and/or offered a customer during the term of this Contract is not in fact most favored treatment, CONTRACTOR shall within ten (10) business days notify H-GAC in writing, setting forth the detailed reasons CONTRACTOR believes aforesaid offer which has been deemed to be a most favored treatment, is not in fact most favored treatment. H-GAC, after due consideration of such written explanation, may decline to accept such explanation and thereupon this Contract between H-GAC and CONTRACTOR shall be automatically amended, effective retroactively, to the effective date of the most favored agreement, to provide the same prices, warranties, benefits, or terms to H-GAC.

The Parties accept the following definition of routine: A prescribed, detailed course of action to be followed regularly; a standard procedure. EXCEPTION: This clause shall not be applicable to prices and price adjustments offered by a bidder, or contractor, which are not within bidder's control [example: a manufacturer's bid concession], or to any prices offered to the Federal Government and its agencies.

ARTICLE 11: SEVERABILITY
All parties agree that should any provision of this Contract be determined to be invalid or unenforceable, such determination shall not affect any other term of this Contract, which shall continue in full force and effect.

ARTICLE 12: DISPUTES
Any and all disputes concerning questions of fact or of law arising under this Contract, which are not disposed of by agreement, shall be decided by the Executive Director of H-GAC or his designee, who shall reduce his decision to writing and provide notice thereof to CONTRACTOR. The decision of the Executive Director or his designee shall be final and conclusive unless, within thirty (30) days from the date of receipt of such notice, CONTRACTOR requests a rehearing from the Executive Director of H-GAC. In connection with any rehearing under this Article, CONTRACTOR shall be afforded an opportunity to be heard and offer evidence in support of its position. The decision of the Executive Director after any such rehearing shall be final and conclusive. CONTRACTOR may, if it elects to do so, appeal the final and conclusive decision of the Executive Director to a court of competent jurisdiction. Pending final decision of a dispute hereunder, CONTRACTOR shall proceed diligently with the performance of this Contract and in accordance with H-GAC'S final decision.
ARTICLE 13: LIMITATION OF CONTRACTOR'S LIABILITY
Except as specified in any separate writing between the CONTRACTOR and an END USER, CONTRACTOR's total liability under this Contract, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, but excluding its obligation to indemnify H-GAC described in Article 14, is limited to the price of the particular products/services sold hereunder, and CONTRACTOR agrees either to refund the purchase price or to repair or replace product(s) that are not as warranted. In no event will CONTRACTOR be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. CONTRACTOR understands and agrees that it shall be liable to repay and shall repay upon demand to END USER any amounts determined by H-GAC, its independent auditors, or any agency of State or Federal government to have been paid in violation of the terms of this Contract.

ARTICLE 14: LIMIT OF H-GAC'S LIABILITY AND INDEMNIFICATION OF H-GAC
H-GAC's liability under this Contract, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to its order processing charge. In no event will H-GAC be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor agrees, to the extent permitted by law, to defend and hold harmless H-GAC, its board members, officers, agents, officials, employees, and indemnities from any and all claims, costs, expenses (including reasonable attorney fees), actions, causes of action, judgments, and liens arising as a result of CONTRACTOR's negligent act or omission under this Contract. CONTRACTOR shall notify H-GAC of the threat of lawsuit or of any actual suit filed against CONTRACTOR relating to this Contract.

ARTICLE 15: TERMINATION FOR CAUSE
H-GAC may terminate this Contract for cause based upon the failure of CONTRACTOR to comply with the terms and/or conditions of the Contract; provided that H-GAC shall give CONTRACTOR written notice specifying CONTRACTOR'S failure. If within thirty (30) days after receipt of such notice, CONTRACTOR shall not have either corrected such failure, or thereafter proceeded diligently to complete such correction, then H-GAC may, at its option, place CONTRACTOR in default and the Contract shall terminate on the date specified in such notice. CONTRACTOR shall pay to H-GAC any order processing charges due from CONTRACTOR on that portion of the Contract actually performed by CONTRACTOR and for which compensation was received by CONTRACTOR.

ARTICLE 16: TERMINATION FOR CONVENIENCE
Either H-GAC or CONTRACTOR may cancel or terminate this Contract at any time by giving thirty (30) days written notice to the other. CONTRACTOR may be entitled to payment from END USER for services actually performed; to the extent said services are satisfactory to END USER. CONTRACTOR shall pay to H-GAC any order processing charges due from CONTRACTOR on that portion of the Contract actually performed by CONTRACTOR and for which compensation is received by CONTRACTOR.

ARTICLE 17: CIVIL AND CRIMINAL PROVISIONS AND SANCTIONS
CONTRACTOR agrees that it will perform under this Contract in conformance with safeguards against fraud and abuse set forth by H-GAC, the State of Texas, and the acts and regulations of any funding entity. CONTRACTOR agrees to notify H-GAC of any suspected fraud, abuse or other criminal activity related to this Contract through filing of a written report promptly after it becomes aware of such activity.

ARTICLE 18: GOVERNING LAW & VENUE
This Contract shall be governed by the laws of the State of Texas. Venue and jurisdiction of any suit or cause of action arising under or in connection with this Contract shall lie exclusively in Harris County, Texas. Disputes between END USER and CONTRACTOR are to be resolved in accord with the law and venue rules of the state of purchase. CONTRACTOR shall immediately notify H-GAC of such disputes.

ARTICLE 19: PAYMENT OF H-GAC ORDER PROCESSING CHARGE
CONTRACTOR agrees to sell its products to END USERS based on the pricing and other terms of this Contract, including, but not limited to, the payment of the applicable H-GAC order processing charge. On notification from an END USER that an order has been placed with CONTRACTOR, H-GAC will invoice CONTRACTOR for the applicable order processing charge. Upon delivery of any product/service by CONTRACTOR and acceptance by END USER, CONTRACTOR shall, within thirty (30) calendar days or ten (10) business days after receipt of payment, whichever is less, pay H-GAC the full amount of the applicable order processing charge, whether or not CONTRACTOR has received an invoice from H-GAC. For sales made by CONTRACTOR based on this contract, including sales to entities without Interlocal Contracts, CONTRACTOR shall pay the applicable order processing charges to H-GAC. Further, CONTRACTOR agrees to encourage entities who are not members of H-GAC's Cooperative Purchasing Program to execute an H-GAC Interlocal Contract. H-GAC reserves the right to take appropriate actions including, but not limited to, contract termination if CONTRACTOR fails to promptly remit H-GAC's order processing charge. In no event shall H-GAC have any liability to CONTRACTOR for any goods or services an END USER procure from CONTRACTOR.
ARTICLE 20: LIQUIDATED DAMAGES
Any liquidated damages terms will be determined between CONTRACTOR and END USER at the time END USER’s purchase order is placed.

ARTICLE 21: PERFORMANCE AND PAYMENT BOND FOR INDIVIDUAL ORDERS
H-GAC’s contractual requirements DO NOT include a Performance & Payment Bond (PPB), and offered pricing should reflect this cost saving. However, CONTRACTOR must be prepared to offer a PPB to cover any specific order if so requested by END USER. CONTRACTOR shall quote a price to END USER for provision of any requested PPB, and agrees to furnish the PPB within ten business (10) days of receipt of END USER’s purchase order.

ARTICLE 22: CHANGE OF CONTRACTOR STATUS
CONTRACTOR shall immediately notify H-GAC, in writing, of ANY change in ownership, control, dealership/franchisee status, Motor Vehicle license status, or name, and shall also advise whether or not this Contract shall be affected in any way by such change. H-GAC shall have the right to determine whether or not such change is acceptable, and to determine what action shall be warranted, up to and including cancellation of Contract.

ARTICLE 23: LICENSING REQUIRED BY TEXAS MOTOR VEHICLE BOARD /IF APPLICABLE/
CONTRACTOR will for the duration of this Contract maintain current licenses that are required by the Texas Motor Vehicle Commission Code. If at any time during this Contract period, any CONTRACTOR’S license is not renewed, or is denied or revoked, CONTRACTOR shall be deemed to be in default of this Contract unless the Motor Vehicle Board issues a stay or waiver. Contractor shall promptly provide copies of all current applicable Texas Motor Vehicle Board documentation to H-GAC upon request.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their duly authorized representatives.

Signed for Houston-Galveston
Area Council, Houston, Texas:

[Signature]
Jack Steele, Executive Director

Attest for Houston-Galveston
Area Council, Houston, Texas:

[Signature]
Chuck Wemple, Chief Operations Officer

Date: 10/26/2017

Signed for Pierce Manufacturing Inc.
Appleton, Wisconsin:

[Signature]
Michael E. Pack, Vice President, Finance

Printed Name & Title: Michael E. Pack, Vice President, Finance
Date: 10/20/2017

Attest for Pierce Manufacturing Inc.
Appleton, Wisconsin:

[Signature]
Kristina Spang

Printed Name & Title: Kristina Spang, S. Sales Operations Manager
Date: October 20, 2017

H:\CONTRACTS\Fire Service Apparatus (All Types)\Pierce Manufacturing Inc\VFS12-17.65
## Attachment A
Pierce Manufacturing Inc.
Fire Service Apparatus (All Types)
Contract No. FS12-17

### T. Pierce

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>TA01</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 75' Rear-Mounted Telescoping Ladder (500#)</td>
<td>$ 746,013.00</td>
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<tr>
<td>TA02</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 75' Rear-Mounted Telescoping Ladder (500#)</td>
<td>$ 758,735.00</td>
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<td>TA03</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 107' Rear-Mounted Telescoping Ladder</td>
<td>$ 817,640.00</td>
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<td>TA04</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Rear Axle, 107' Rear-Mounted Telescoping Ladder</td>
<td>$ 860,089.00</td>
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<tr>
<td>TA05</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Rear Axle, 110' Rear-Mounted Telescoping Ladder</td>
<td>$ 901,609.00</td>
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<td>TA06</td>
<td>Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 105' Rear-Mounted Telescoping Ladder (500#)</td>
<td>$ 849,820.00</td>
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<td>TA07</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100' Mid-Mounted Telescoping Ladder (#500)</td>
<td>$ 1,036,731.00</td>
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<td>TA08</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 85' Rear-Mounted Telescoping Ladder with Platform (750#)</td>
<td>$ 994,689.00</td>
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<td>TA09</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 95' Mid-Mounted Telescoping Ladder with Platform (750#)</td>
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<td>TA10</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100' Rear-Mounted Telescoping Ladder with Platform (750#)</td>
<td>$ 1,081,045.00</td>
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<td>TA11</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 100' Tractor Drawn - Mid-Mounted Telescoping Ladder (#500)</td>
<td>$ 984,921.00</td>
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<td>TA12</td>
<td>Pierce Arrow Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 107' Tractor Drawn - Mid-Mounted Telescoping Ladder (#500)</td>
<td>$ 1,065,126.00</td>
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#### B. Wildland Fire Apparatus

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<th>Description</th>
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<tbody>
<tr>
<td>TB01</td>
<td>Pierce Brush Fire Apparatus, Ford F450, Formed Aluminum Utility Body</td>
<td>$ 126,354.00</td>
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<td>TB02</td>
<td>Pierce Brush Fire Apparatus, Ford F-550 Mini Pumper 500 gpm, 300 tank</td>
<td>$ 206,696.00</td>
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<tr>
<td>TB03</td>
<td>Freightliner 4-Door 4 x 4 Wildland, 500 water, 1000 gpm Pump</td>
<td>$ 273,343.00</td>
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#### C. Pumper Fire Apparatus

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<td>TC01</td>
<td>M2 Freightliner, 2-Door, OEM Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 219,712.00</td>
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<td>TC02</td>
<td>IH, 2-Door, OEM Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 224,952.00</td>
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<td>TC03</td>
<td>KW, 2-Door, OME Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 233,808.00</td>
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<td>TC04</td>
<td>Peterbilt, 2-Door, OME Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 243,701.00</td>
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<td>TC05</td>
<td>Pierce Saber FR, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 387,161.00</td>
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<td>TC06</td>
<td>Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
<td>$ 416,850.00</td>
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<td>TC07</td>
<td>Pierce Dash CF, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, PUC Body Pump</td>
<td>$ 528,525.00</td>
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#### D. Special Service Apparatus (Walk-In & Non-Walk In Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile

<table>
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<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
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<td>TD01</td>
<td>Ford F-550 4- Door, 12 'Non-Walk-in Formed Aluminum Body</td>
<td>$ 142,594.00</td>
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<tr>
<td>TD02</td>
<td>M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body</td>
<td>$ 181,536.00</td>
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<tr>
<td>TD03</td>
<td>IH, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body</td>
<td>$ 187,419.00</td>
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<td>TD04</td>
<td>Kenworth, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body</td>
<td>$ 188,754.00</td>
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<tr>
<td>Code</td>
<td>Description</td>
<td>Price</td>
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<td>-----------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>TD05</td>
<td>Peterbilt, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body</td>
<td>$ 198,398.00</td>
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<tr>
<td>TD06</td>
<td>Pierce Saber FR, Full-Tilt, Aluminum Cab, Single Axle, Formed Aluminum Body, Non-Walk-In HDR Body</td>
<td>$ 390,488.00</td>
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<tr>
<td>TD07</td>
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<td>$ 412,432.00</td>
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<tr>
<td>TD08</td>
<td>Pierce Velocity 4-Door Aluminum Cab, Tandem Axle Non-Walk-in HDR Body</td>
<td>$ 499,447.00</td>
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<tr>
<td>TD09</td>
<td>M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body</td>
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<tr>
<td>TD10</td>
<td>IHC, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body</td>
<td>$ 276,669.00</td>
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<tr>
<td>TD11</td>
<td>Kenworth, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body</td>
<td>$ 279,627.00</td>
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<tr>
<td>TD12</td>
<td>Peterbilt, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body</td>
<td>$ 286,436.00</td>
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<td>TD13</td>
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<td>TD14</td>
<td>Pierce Velocity 4-Door Aluminum Cab, Tandem Axle Walk-in HDR Body</td>
<td>$ 542,213.00</td>
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**E. Pumper/Tankers & Tankers**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE01</td>
<td>Freightliner 2 Door, Single Axle Tanker, Aluminum Body w/2000 water &amp; 500 pump</td>
<td>$ 262,886.00</td>
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<tr>
<td>TE02</td>
<td>IHC 2dr Single Axle Tanker, Aluminum Body w/2000 water &amp; 500 pump</td>
<td>$ 243,565.00</td>
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<td>TE03</td>
<td>Kenworth 2dr Single Axle Tanker, Aluminum Body w/2000 water &amp; 500 pump</td>
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<tr>
<td>TE04</td>
<td>Peterbilt 2dr Single Axle Tanker, Aluminum w/2000 water &amp; 500 pump</td>
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<tr>
<td>TE05</td>
<td>Pierce Saber FR, 4-Door, Full-Tilt, Aluminum Cab, Pumper/Tanker, Aluminum Body, Single Axle, 1000 GPM Pump, Mid-Mounted</td>
<td>$ 424,612.00</td>
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<tr>
<td>TE06</td>
<td>Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Pumper/Tanker, Aluminum Body, Tandem Axle, 1000 GPM Pump, Mid-Mounted</td>
<td>$ 436,967.00</td>
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<tr>
<td>TE07</td>
<td>Freightliner 2dr, Tandem Axle Tanker, Aluminum Body w/3000 water &amp; 500 pump</td>
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<tr>
<td>TE08</td>
<td>IHC 2dr Tandem Axle Tanker, Aluminum Body w/3000 water &amp; 500 pump</td>
<td>$ 293,270.00</td>
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<tr>
<td>TE09</td>
<td>Kenworth 2dr Tandem Axle Tanker, Aluminum Body w/3000 water &amp; 500 pump</td>
<td>$ 286,728.00</td>
</tr>
<tr>
<td>TE10</td>
<td>Peterbilt 2dr Tandem Axle Tanker, Aluminum w/3000 water &amp; 500 pump</td>
<td>$ 286,728.00</td>
</tr>
<tr>
<td>TE11</td>
<td>Pierce Saber FR, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1000 GPM Pump, Mid-Mounted Elliptical Tanker</td>
<td>$ 457,727.00</td>
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<td>TE12</td>
<td>Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Tandem Axle, 1000 GPM Pump, Mid-Mounted Elliptical Tanker</td>
<td>$ 490,508.00</td>
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CONFERENCE INVITATION: ☑  PRE-BID ☐  PRE-PROPOSAL

PROCUREMENT NO:  FS12-17  ISSUE DATE:  May 4, 2017

CATEGORY:  Fire Service Apparatus (All Types)

PURPOSE OF THE CONFERENCE

Prior to soliciting offerings for the supply of products and/or services described herein, the Houston-Galveston Area Council of Governments (H-GAC) will conduct a Conference for interested parties. At the Conference, H-GAC staff will solicit comments related to the requirements and specifications contained in this DRAFT document. Participants should be prepared to offer constructive suggestions regarding content and/or format. Information and comments received at the Conference will be considered by H-GAC staff when preparing the Invitation To Submit Competitive Responses. The objective is a clearly written and competitive specification.

Please closely study the contents of this document before attending the Conference. Proceedings will move swiftly and there will be no time for an effective review while it is underway. Prior review is important even if you are a previous supplier participant because significant changes may have been made since the last specification for this Product/Service was issued.

Participants should contact H-GAC a day or two ahead of the scheduled Conference date to confirm that the published date and time is still in effect.

More than 5,400 local governments, districts, state agencies and authorities participating in the H-GAC Cooperative Purchasing Program purchase products and services thru H-GAC contracts.

TENTATIVE PROCUREMENT SCHEDULE AND DETAILS

<table>
<thead>
<tr>
<th>DRAFT SPECIFICATION / INVITATION:</th>
<th>May 4, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-BID/PROPOSAL CONFERENCE:</td>
<td>June 1, 2017 @ 9:00 a.m. CT; H-GAC Offices</td>
</tr>
<tr>
<td>FINAL SPECIFICATION / INVITATION:</td>
<td>July 6, 2017</td>
</tr>
<tr>
<td>RESPONSES DUE:</td>
<td>August 10, 2017 @ 1:00 p.m. CT; H-GAC Clock</td>
</tr>
<tr>
<td>PUBLIC RESPONSE OPENING:</td>
<td>August 10, 2017 @ 2:00 p.m. CT; H-GAC Clock</td>
</tr>
<tr>
<td>RECOMMENDATIONS TO BOARD:</td>
<td>October 17, 2017</td>
</tr>
<tr>
<td>CONTRACT START DATE &amp; TERM:</td>
<td>December 1, 2017 through November 30, 2019</td>
</tr>
</tbody>
</table>

The documents comprising this Invitation are available via (appropriate box(es) checked):

☑ - E-mail  ☑ - Web Download @ www.hgacbuy.org/bids

For questions regarding this Invitation, please contact:

Name: Bill Burton  Phone: 832-681-2514  E-mail: wburton@h-gac.com

CONTENTS OF THIS INVITATION

SECTION A - General Terms & Conditions
SECTION B - Product/Service Specific Requirements (Draft)
SECTION C - H-GAC FORMS (Draft)
SECTION D - Pro-Forma (Sample) Contract
NOTICE TO MANUFACTURERS

H-GAC is conducting this procurement with the objective of establishing one or more blanket type contracts for use by our Members. Because our Members are located not only in Texas, but throughout the country, we strongly urge you to participate in the process at the manufacturer’s level. If you do not sell direct, your dealer network may still service customers while you handle the administrative functions of providing quotes, accepting purchase orders, and collecting payments. If this is not feasible, we will work with you to subsequently assign your contract to your dealers as necessary to service customers.

Whatever approach you choose to take, there is considerable potential sales value because the H-GAC Cooperative Purchasing Program is being used not only in the State of Texas, but NATIONWIDE. This means that H-GAC contractors will have a special advantage available to them in promoting sales to government agencies throughout the country… the ability to sell products without the need for the buyer to duplicate the competitive bidding process and expend all the associated staff time and taxpayer dollars. We believe an H-GAC contract would enhance your competitive position in the government marketplace, and are eager to work with you to promote the best interests of our participating local governments and qualifying non-profit organizations.

We look forward to your participation in our process. Please contact the H-GAC staff member listed on the cover of this Invitation for additional information.
SECTION A
GENERAL TERMS & CONDITIONS
FOR BIDS AND PROPOSALS

INVITATION No.  FS12-17
DESCRIPTION: Fire Service Apparatus (All Types)

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Revised: 01/26/15
1. INTRODUCTION

The Houston-Galveston Area Council (H-GAC) is a "Government-to-Government" procurement service for States, State Agencies, Local Governments, Districts, Authorities, and qualifying Not-for-Profit Corporations (End Users). End Users become Members of the H-GAC Cooperative Purchasing Program (HGACBuy) by executing an Interlocal Contract, which is free of cost and evergreen unless cancelled. HGACBuy, acting on behalf of Members, is soliciting competitive offerings for the furnishing of products and/or services, as described elsewhere, which MAY be purchased by Members during the contract term. Members using the Program issue purchase orders directly to HGACBuy contractors.

2. DEFINITIONS, ABBREVIATIONS & ACRONYMS

The following definitions, abbreviations and acronyms may be found in these specifications, and shall be interpreted herein as specified below.

Definitions and Abbreviations:

Acceptance. Acceptance takes place when the End User agrees with the Contractor that the terms and conditions of the contract have been met and verified. Acceptance is not the same as Receipt, and can only occur after intact shipping, inspection by End User, and any onsite testing that has been stipulated as part of the order.

Aggregate/Single Occurrence. The term "aggregate" in insurance terms is the sum of all claims against a specific policy for a specific loss incident. The term "single occurrence" differentiates between multiple claims and single claims against a specific policy. The inherent value of a policy's aggregate value is less important to an End User than is the value of a single claim as stated under "single occurrence."

Approved. Acceptable to the "authority having jurisdiction."

ARO. "After Receipt of Order". Used in conjunction with a defined time period (usually days or weeks) to establish the delivery or lead time pursuant to any individual purchase transaction. In the case of orders for bodies which will be mounted on a customer furnished cab/chassis, the term ARO shall be construed to mean "After Receipt Of Cab/Chassis."

Authority Having Jurisdiction. The authority shall be either H-GAC or the relevant End User based on the requirements as stated in each specification item. Unless specifically stated, the authority shall be H-GAC.

Bidder. Any entity that submits a competitive bid to this Invitation. (See also "Offeror")

Change Order. Request by an End User for a change in the composition of an already submitted purchase order, for example to change quantity ordered, add or delete items, etc.

Contract. Specifically, a contract between H-GAC and a successful Offeror which is executed based on an award made pursuant this Invitation.
**Contract Pricing Worksheet.** The standard H-GAC form to by used by Contractor in preparing a quotation to an End User, upon which End User's purchase order will be based. Contractor may use another quotation form provided it contains required information, and only if approved by H-GAC.

**Contractor.** The contracted business entity responsible for fulfilling a contract executed pursuant to this Invitation.

**Dealer/Distributor.** A duly authorized and/or franchised business entity which sells and services a manufacturer’s product in a specified marketing area.

**Defect.** A discontinuity in a part or a failure to function that interferes with the service or reliability for which the part was intended.

**Electronic Media.** As used herein, means computer based media such as 100mb Zip Disk, CDRom, e-mail, e-mail attachment, file downloaded from the web, etc.

**End User.** (See "Participant" and "Member")

**Listed.** Equipment or materials included in a list published by an organization, acceptable to the "Authority Having Jurisdiction" and concerned with product evaluation, that conducts periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or materials meet appropriate standards or has been tested and found suitable for use in a specified manner. NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. The "authority having jurisdiction" should utilize the system employed by the listing organization to identify a listed product.

**Manufacturer.** The person or persons, company firm, corporation, partnership, or other organization responsible for taking raw materials or components and making a finished product.

**May.** A term indicating a permissive use or an acceptable alternative to a specified requirement.

**Member.** An authorized Participant in the Program. (See "Participant" and "End User")

**Motor Vehicle.** The meaning of this term shall be based on the legal definition ascribed to it by the laws and/or regulations of the state in which any specific sale made pursuant to a Contract takes place.

**Must.** A term indicating a mandatory requirement.

**Offer or Offering.** Any product or service offered in reply to this Invitation.

**Offeror.** Any entity that submits a competitive bid or proposal in response to this Invitation. Bidder or Proposer.

**Participant.** Generally, any qualifying governmental or non-profit entity which has executed an Interlocal Contract for cooperative purchasing services with H-GAC.

**Product Liability Insurance.** Failure of Components and/or assembled equipment resulting in personal injury, disability or death and/or property damage is covered under the product liability insurance provisions.

**Product or Product Item.** Any of the specific goods, materials, equipment or service(s) specified in this Invitation. This term encompasses the base line item itself, and any and all accessories, options, modifications, ancillary services, assembly, testing, etc. that may be included in the delivered Product.

**Proposer.** Any entity that submits a competitive proposal in response to this Invitation. (See also "Offeror")

**Purchaser.** The End User having responsibility for the specification, requisition, ordering and acceptance of the Product or Service. (See also "End User")

**Purchasing Authority.** The agency that has sole responsibility and authority for negotiating, placing and, if necessary, modifying any solicitation, purchase order, or other award issued by a governing body [H-GAC].

**Quotation.** See "Contract Pricing Worksheet".

**Receipt.** Receipt takes place when a Product or Service is delivered to an End User and a document is executed that establishes that the Product is now in the possession of the End User or that the Service has been completed. Receipt DOES NOT connote or imply Acceptance.

**Response.** All or part of any offering submitted in response to this Invitation.

**Shall.** A term indicating a mandatory requirement or action.

**Should.** A term indicating a recommended or advised response to a specified requirement.

**Vendor.** A manufacturer's representative or dealer authorized to make sales and supply parts and service.

**Acronyms:**

- ANSI = American National Standards Institute
- ASTM = American Society for Testing and Materials
- ASME = American Society of Mechanical Engineers
- CFR = U.S. Code of Federal Regulations
- DOJ = U.S. Department Of Justice
- DOT = U.S. Department Of Transportation
EPA = U.S. Environmental Protection Agency
FAA = Federal Aviation Administration
FMVSS = U.S. Federal Motor Vehicle Safety Standards
H-GAC = Houston-Galveston Area Council of Governments
IEEE = Institute of Electrical and Electronics Engineers
MVD = Motor Vehicle Division of Texas Department of Transportation
NFPA = National Fire Protection Association
NHTSA = National Highway Traffic Safety Administration
NIOSH = National Institute For Occupational Safety And Health
NIST = National Institute of Standards and Technology
NTEA = National Truck Equipment Association
OSHA = U.S. Occupational Safety and Health Administration
RRC = Railroad Commission of Texas
SAE = Society of Automotive Engineers
TBPC = Texas Building and Procurement Commission (formerly GSC)
TxDOT = Texas Department Of Transportation
UL = Underwriter’s Laboratories Inc.
VTCS = Vernon’s Texas Civil Statutes

3. NON-BINDING ORAL COMMENTS
No oral comment, utterance or response made by any employee, member, or agent of H-GAC or any Member of the Cooperative Purchasing Program shall be considered factual or binding with regard to this Invitation, or any contract awarded as a result of this Invitation. Valid and binding terms, conditions, provisions, changes or clarifications, or requests thereof, shall ONLY be communicated written form.

4. STRUCTURE OF RESPONSE
Depending on the Product or Service, market structures and sales practices can differ substantially. For example, dealers may sell into any market or may be restricted to certain territories, manufacturers may sell direct or may be limited by law to selling thru independent dealerships, etc. H-GAC’s objective is to ensure that End Users, no matter where located, can buy contracted products/services and receive quality and timely service and support, while at the same time allowing for the most appropriate and effective response to this Invitation. Therefore, responses to this Invitation will be accepted in conformance with the following scenarios and requirements:

A. Single Respondent Acting Alone Or As "Lead" For A Group:
Offeror shall complete and sign a Form A and, if contracted, shall be solely responsible for all contractual requirements including administration, processing of purchase orders and handling of payments for transactions which may involve other dealers who actually deliver the products or services.

B. Multiple Respondents Acting Jointly:
A single Response shall be submitted, and each party to the Response shall complete and sign a separate Form A to be included in the single Response. If the Response is successful each party shall sign a separate contract with H-GAC and shall be responsible for compliance with all terms and conditions. Only those which have executed a written contract with H-GAC may process purchase orders and payments.

In any event, Offeror may be a party to one, and only one, response.

5. BASIC REQUIREMENTS & CONDITIONS
a. The final requirements and specifications contained herein may be different, perhaps materially, from those in the “Invitation To Attend Pre-Bid / Pre-Proposal Conference”, if any. It is Offeror’s sole responsibility to thoroughly examine and review all documentation associated with this Invitation, including any Addendums, and to insure that any response submitted complies in every respect with all requirements.

b. Any Addendum to this Invitation which may be required prior to the Response due date will be delivered to those prospective Offerors of record who have previously obtained a copy of this Invitation from H-GAC. Prospective Offerors shall be responsible for obtaining all documents relating to submission of a Response.

c. Offeror shall thoroughly examine any drawings, specifications, schedules, instructions and any other documents, supplied as a part of this Invitation, and is solely responsible for understanding and compliance.
d. **H-GAC** shall not be liable for Offeror's incomplete documentation, or for any costs associated with preparation and submission of any Response hereto. Additionally, all components of any Response become the property of **H-GAC**, **and shall be considered to be in the public domain.**

e. Offeror shall make all investigations necessary to become thoroughly informed regarding any plan and/or infrastructure that may be required to support delivery of any Product or Service covered by this Invitation. No plea of ignorance by Offeror stemming from failure to investigate conditions that may now or hereafter exist, shall be accepted as a basis for varying **H-GAC**'s requirements, or Offeror's/Contractor's obligations or entitlements.

f. Requests for changes to the requirements or specifications herein must be in writing (e-mail, fax, letter) and must be received by **H-GAC** no later than fifteen (15) calendar days prior to the Response Due Date. **H-GAC** will review such requests, but may or may not make changes at its sole discretion. Changes, if any, will only be made by written Addendum sent to addressees of record. In any event, it is Offeror's sole responsibility to insure that any and all Addendums which may have been issued have been received and addressed.

g. By submission of a response, Offeror expressly understands and agrees that all terms and conditions herein will be part of any subsequent contract that is executed pursuant to this Invitation.

h. Offeror is advised that all **H-GAC** contracts are subject to the legal requirements established in any applicable Local, State or Federal statute.

i. Offeror/Contractor must be in compliance with all licensing, permitting, registration and other applicable legal or regulatory requirements imposed by any governmental authority having jurisdiction. It is Offeror/Contractor's responsibility to insure that this requirement is met, and to supply to **H-GAC** upon request, copies of any license, permit or other documentation bearing on such compliance.

j. Unless otherwise established elsewhere in this Invitation, NO minimum purchase quantities or spending levels are provided or guaranteed by **H-GAC** or any End User.

k. This Invitation is not meant to restrict competition, but rather is intended to allow for a wide range of responses.

l. Responses which are 'qualified' with conditional clauses or alterations of or exceptions to any of the terms and conditions in this Invitation may be deemed non-compliant at **H-GAC**'s sole discretion.

m. The term ‘Offeror’, or derivative thereof, shall become synonymous with ‘Contractor’ for any successful Offeror recommended for a contract pursuant to this Invitation.

n. **H-GAC** reserves the right to:
   - Reject any and all offers received in response to this Invitation.
   - Reject any part of an offer received in response to this Invitation.
   - Determine the correct price and/or terminology in the event of any discrepancies in any response.
   - Accept a response from, and enter into agreement with, other than the lowest price Offeror.
   - Accept responses and award contracts to as many or as few Offerors as **H-GAC** may select.
   - Amend, waive, modify, or withdraw (in part or in whole) this Invitation, or any requirements herein.
   - Hold discussions with Offerors, although award may be made without discussion.
   - Request an Offeror to give a presentation of the Response at a time and place scheduled by **H-GAC**.
   - Exercise any of these rights at any time without liability to any Offeror.

o. **H-GAC** reserves the right to determine that conditions exist which prevent the public opening of responses on the date and at the time advertised, and to reschedule the public opening for a future date and time. Responses received by **H-GAC** by the original deadline will be secured unopened until the rescheduled opening date and time, and those having timely submitted such responses will be notified.

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6. **OFFEROR'S AUTHORIZED SIGNATORY**

The signatory shall be authorized to sign and contractually bind Offeror, and shall sign any and all Response documentation requiring a signature.

---

7. **SURETY FOR INSURANCE**

Contractor shall be responsible for using a surety company properly licensed by any and all states in which Contractor will do business with Participants. The surety company shall not expose itself to any loss on any one risk in an amount exceeding ten percent (10%) of its surplus to policy holders, provided any risk or portion of any risk shall have been reinsured, and such reinsurance shall be deducted in determining the limitation of risk applicable to **H-GAC**'s insurance requirements.
8. CONFIDENTIAL / PROPRIETARY MATERIALS
All documentation submitted as part of Offeror's response to this Invitation will be considered to be in the public domain and may be made available to Members and others, after contract award, upon properly submitted request. If Offeror submits documents marked “confidential” or “proprietary”, the Response may be deemed non-compliant.

9. REFERENCES
   a. Offeror shall list the names of at least five government agencies within the continental United States which have purchased from Offeror products or services similar to those covered by this Invitation, within the last two years. H-GAC reserves the right to determine if such products or services are appropriately similar.
   b. Offeror may provide reference information in whatever format desired, but each should include the following specific information:
      - Agency name
      - Contact person name
      - Address
      - Phone & Fax numbers
      - Description of product(s) or service(s) and date sold
   c. Other information, including criticism however learned, may be used by H-GAC in evaluation of responses.

10. INSURANCE
   a. Unless otherwise stipulated in Section B, Offeror/Contractor must have the following insurance and coverage minimums:
      - **General liability** insurance with a Single Occurrence limit of at least $1,000,000.00, and a General Aggregate limit of at least two times the Single Occurrence limit.
      - **Product liability** insurance with a Single Occurrence limit of at least $1,000,000.00, and a General Aggregate limit of at least two times the Single Occurrence limit for all Products except Automotive Fire Apparatus. For Automotive Fire Apparatus, see Section B – Product Specific of this Invitation.
      - **Property Damage or Destruction** insurance is required for coverage of End User owned equipment while in Contractor's possession, custody or control. The minimum Single Occurrence limit is $500,000.00 and the General Aggregate limit must be at least two times the Single Occurrence limit. This insurance may be carried in several ways, e.g. under an Inland Marine policy, as part of Automobile coverage, or under a Garage Keepers policy. In any event, this coverage must be specifically and clearly listed on insurance certificate(s) submitted to H-GAC.
   b. Insurance coverage shall be in effect for the length of any contract made pursuant to this Invitation, and for any extensions thereof, plus the number of days/months required to deliver any outstanding order after the close of the contract period.
   c. Original Insurance Certificates must be furnished to H-GAC on request, showing Offeror/Contractor as the insured and showing coverage and limits for the insurances listed above.
   d. If any Product(s) or Service(s) will be provided by parties other than Offeror/Contractor, all such parties are required to carry the minimum insurance coverages specified herein, and if requested by H-GAC, a separate insurance certificate must be submitted for each such party.
   e. H-GAC reserves the right to contact insurance underwriters to confirm policy and certificate issuance and document accuracy.

11. OFFEROR CERTIFICATIONS
    Offeror, by submission of a Response hereto, makes the following certifications under penalty of perjury and possible contract termination if any of these certifications are found to be false.

    Non-Collusive Response
    a. The prices in the Response have been arrived at independently without collusion, consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other Offeror or potential competitor.
b. The prices which have been quoted in the Response (unless otherwise required by law), have not been knowingly disclosed by Offeror and will not be knowingly disclosed by Offeror prior to the public response opening, either directly or indirectly, to any other Offeror or competitor.

c. No attempt has been made or will be made by Offeror to induce any other person, partnership or corporation to submit or not to submit a response for the purpose of restricting competition.

Non-Biased Specifications

This Invitation contains no requirements considered to be unduly biased in favor of Offeror or any other Offerors that may be competing for this procurement.

No Financial Interest or Other Conflict

a. No H-GAC officer, employee, Board of Directors member or member of any H-GAC board or commission, nor family member of any such person, has a financial interest, direct or indirect, in Offeror or in any contract Offeror might enter into with H-GAC.

b. No economic or employment opportunity, gift, loan, gratuity, special discount, trip, favor or service has been, or will be, offered or given to any officer, employee, Board of Directors member, or member of any H-GAC board or commission, nor to any family member of any such person.

Debarment and Suspension Status

a. Offeror is not currently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any government agency, nor is Offeror an agent of any person or entity that is currently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transaction by any government agency.

b. Offeror has not within a three year period preceding this Invitation been convicted of or had a civil suit judgement rendered against Offeror for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property.

c. Offeror is not presently indicted for or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses enumerated above.

d. Offeror has not, within a three year period preceding this Invitation, had any government (federal, state, or local) transactions terminated for cause or default.

Insurance Coverages

Offeror has and will maintain insurance coverage in accordance with the requirements of this Invitation.

Licensing & Permits

Offeror(s) has (have) all licenses and/or permits, required by any and all governmental entities having jurisdiction, to legally sell the products/services offered.

12. HISTORICALLY UNDERUTILIZED BUSINESS (HUB) PARTICIPATION

a. To satisfy Texas' statutory requirements [Government Code, Chapter 2161, Subchapter D], H-GAC requires all Offerors to supply information in any bid/proposal response listing (1) the total number of subcontracts and (2) the total number of HUB contracts applicable to the Products or Services offered in the response. Local governments often require this information for their own reporting requirements prior to placing orders through the H-GAC Cooperative Purchasing Program.

b. Offeror must complete Form B and include subcontracts with HUB’s that provide any materials or services related to sales that may be made thru H-GAC’s Cooperative Purchasing Program.

13. NON-RESIDENT RECIPROCAL SALES ACT

As required by Texas Civil Statutes in the award of contracts, an offeror which is not a Texas resident business must determine if its state of residence prohibits award of government contracts to Texas resident offerors without penalty. If Offeror’s resident state DOES penalize Texas offerors, Offeror must provide this information along with a copy of its applicable resident state's statute in the Response.
14. TEXAS MOTOR VEHICLE COMMISSION CODE & LICENSING

Sales of motor vehicles in the State of Texas are subject to the Texas Motor Vehicle Commission Code. If this Invitation includes any motor vehicle to be sold in the State of Texas, **Offeror** certifies by submission of a response hereto that all required Texas Motor Vehicle Commission licenses are in place and current, and that copies of all such licenses have been submitted with the Response. Further, it shall be **Contractor**’s responsibility to keep current all required Texas Motor Vehicle Commission licensing during the term of the contract, and to furnish license copies at any time on request by **H-GAC**. If **Contractor** does not maintain current licensing, **H-GAC** reserves the right to immediately terminate the contract.

**NOTE:** In accordance with the Texas Motor Vehicle Commission Code, contracts for motor vehicles to be sold within the state of Texas may be made ONLY with properly licensed Texas Motor Vehicle Dealers. Therefore, to be considered for a contract covering Texas End Users, the Response must include a Form A from a licensed Texas Motor Vehicle Dealer.

15. INTENT AND SCOPE OF SPECIFICATIONS

a. The intent of the specifications herein is to provide **Offeror** with sufficient information concerning the Products/Services to be contracted such that **Offeror** can prepare and submit an acceptable Response.

b. The specifications may be detailed or general in nature with regard to any particular Product/Service. Where not otherwise specified, details of construction, materials, or the way in which services will be provided, are left to the discretion of the **Offeror**, provided only that any offering shall conform, as a minimum, to best Industry standards and practices and to what is currently being sold in the marketplace.

c. Responses shall be considered only from **Offerors** that have established good reputations in their markets, and who furnish satisfactory evidence of ability to supply the Products/Services specified herein.

d. **Offeror** shall show proof of ability to provide to **End Users** prompt and competent service, including parts if applicable, for all Products/Services covered by this Invitation, by proper completion of a Service Organization Document as described elsewhere herein.

16. REQUIREMENTS APPLICABLE TO PHYSICAL GOODS

In the case of physical goods (e.g. equipment, material, supplies, as opposed to services), all Products offered must, unless otherwise stipulated in Section B:

a. Be new, unused, and not refurbished.

b. Not be a prototype insofar as the general design, operation and performance. This requirement is NOT meant to preclude **Offeror** from offering new models or configurations which incorporate improvements in a current design or add functionality, but which in such new model or configuration may be new to the marketplace.

c. Include any and all accessories which may or may not be specifically mentioned herein, but which are normally furnished or which are necessary to make a delivered Product ready for its intended use. Such accessories shall be assembled, installed and adjusted such that the Product is ready for continuous operation at time of delivery.

d. Have assemblies, sub-assemblies and component parts that are standard and interchangeable throughout the entire quantity of a particular Product as may be purchased simultaneously by any individual **End User**.

a. Be designed and constructed using current industry accepted engineering and safety practices, and materials.

b. Be available for inspection at any time prior to or after procurement.

17. PRODUCT CODES

Unless otherwise addressed in Section B of this Invitation, the following requirements shall apply:

a. Each Product/Service offered shall be uniquely identified using an **H-GAC** Product Code, which shall be determined as described in Section B of this Invitation. **Offeror** shall offer ONLY ONE Product for any particular Product Code. For example, **Offeror** may wish to submit a bid for Product Code ABC and may have another offering that also meets the requirements for ABC. **Offeror** MAY NOT submit two offerings for ABC. The alternate offering that also meets the requirements for ABC must be offered as an option "upgrade/downgrade" to ABC on Form E.

b. Pricing for optional upgrades or downgrades to base bid items should be quoted as an “adder” or “deduct” amount as appropriate, to be applied to the offered price of the base Product Item listed on Form D.

c. Base bid items and their associated HGACBuy Product Codes are included in the Section B and/or on Form D.
d. Selection of Product Codes for which to submit an offer is at Offeror’s sole discretion.

18. SPECIFIC DESCRIPTIVE REFERENCES

Except for Base Product Items listed on Form D, any reference to a specific catalog, data sheet, form, brochure, model name or number, etc. used herein to describe an item such as an option or accessory is only descriptive and is not to be considered restrictive unless otherwise noted. Such references are normally used only to indicate a type, general description, level of quality and/or required performance standards.

19. MANUALS

Unless otherwise specified or superceded herein, each Product delivered under an H-GAC contract, and if applicable any options thereto, shall be supplied with at least one (1) copy of a safety and operating manual. The cost of any such manuals must be included in the base price for any Product Item offered hereunder. If more detailed and technically orientated parts and maintenance manuals are available for a Product or option, at a cost, they shall be offered as options on the FORM designated herein for such options, or elsewhere in the Response as may be directed herein.

20. STANDARD FEATURES & OPTIONS

The following requirements are applicable primarily to physical goods.

Standard Features

a. The stated minimum requirements for all Products listed herein include what H-GAC considers to be “standard” features. Even though such features might normally be offered as options rather than as standard, they are nonetheless considered to be standard in this Invitation, and must be included in the base price for any Product offered. Such features SHOULD NOT be offered as options except as deducts for their omission from the base Product.

b. If it is unclear in the Response that an H-GAC standard feature is included in the base price, it will be assumed that such is the case. If awarded a contract Offeror will be expected to sell the Product with all H-GAC specified standard features included in the base price.

c. Any feature or accessory normally offered by manufacturer as "standard" shall be considered a standard feature and shall be included in the base price of any offering, even though not specifically listed as a requirement in H-GAC’s specifications. Such features SHOULD NOT be offered as options except as deducts for their omission from the base Product.

Options - General

a. Options are considered to be any features or accessories, other than H-GAC's and Manufacturer's "standard" features or accessories.

b. Options should be offered on the FORMS designated for quoting options. Each option should be listed and described on a separate line, and should include any Manufacturer's/Dealer's code number. If no Manufacturer's/Dealer's code number exists, Offeror should create one.

c. Prices for all offered options shall be assumed to include any installation or mounting required to make it a fully functional component of the Product, unless otherwise stated in Offeror's response.

Required Options

a. Product specifications in this Invitation may include H-GAC "Required Options". If so, Offeror must quote a price for ALL such options, and, if there is an H-GAC Option Code provided in this Invitation for such options, it MUST be used as part of the description.

b. For any specific "Required Option", Offeror may quote an equivalent so long as its design and performance are as good as, or better than, the specified option item. Responses which do not include pricing for Required Options may be considered non-compliant.

Other Options

a. "Suggested" or "Other" options may be listed for any particular Product in this Invitation, and Offeror is encouraged to quote pricing for such options. The extent of offered options in any response may be taken into consideration as part of the award criteria, at H-GAC's sole discretion.
b. **Offeror** is encouraged to include options for non-equipment items that may be applicable to a sale, such as: Extended Warranties, Maintenance Agreements, Buy-back or Trade-In Agreements, Out-of-state Delivery Charges, Quantity or Special Discounts, Extended Training Classes, etc.

### Published & Unpublished Options

a. H-GAC Cooperative Purchasing Program (Program) contracts are awarded through a public competitive bid or proposal (RFP) process. Further to that process, Program policy considers an 'option' listed and priced in a bid or RFP Response: (1) To be a "**Published Option**"; (2) To be part of any awarded contract; and (3) To be available for purchase by Program members separately and independently from associated base line items. However, since Published Options may have not been subjected to the same scrutiny as the associated base line items, it cannot be concluded they were directly competed. Therefore, pursuant to Local Government Code 252.021(a), purchase of a published option costing more than $50,000 shall not be allowed. Furthermore, H-GAC reserves the right at its sole discretion to disallow purchase of any Published Option through the Program if deemed contrary to the intent of the law.

b. Any option that has not been listed and priced in the Response is considered to be an “**Unpublished Option**”. Unpublished Options may be sold, but only in connection with the sale of a base Product Item, and only insofar as the total cost of all Unpublished Options remains below twenty-five percent (25%) of the total summed cost of the base Product(s) plus any Published Options.

c. No Published or Unpublished Option may be sold which essentially converts a Product such that it competes with a Product Item awarded to another contractor.

### 21. WARRANTIES, SALES & SERVICE

Unless otherwise addressed in Section B, the following requirements shall apply:

a. **Offeror** must be a properly franchised dealer authorized to sell and service, including warranty service, all products offered and sold in response to the bid invitation or under any H-GAC contract.

b. **Offeror** shall provide detailed Parts and Labor Warranty information with the Response. If **Offeror** submits a warranty with the Response which does not meet the minimum requirements herein, **Offeror** agrees by submission of a Response that such warranty shall be considered to be amended to meet those minimums.

c. Warranties shall be manufacturer's standard and shall be inclusive of any other warranty requirements which may be stipulated elsewhere herein.

d. Any warranties offered by a dealer shall be in addition to the manufacturer’s standard warranty, and shall not be a substitute for such. **Offeror's** base price for any Product shall be inclusive of the standard warranty.

e. Complete warranty information will be supplied to **End User** with each Product sold.

f. **Offeror/Contractor** is encouraged to offer extended warranties as an option.

g. Neither H-GAC nor **End User** assume any warranty or liability on **Contractor’s** behalf unless made or assumed in writing, initiated by **Contractor**, and agreed to in writing by H-GAC or the **End User** respectively.

h. **Contractor** shall be responsible for the execution and effectiveness of all product warranty, and shall be the sole source for solution to problems arising from warranty claims. **Contractor** agrees to respond directly to correct warranty claims and to ensure reconciliation of warranty claims that have been assigned to a third party.

### 22. H-GAC ORDER PROCESSING CHARGE

H-GAC will levy an Order Processing Charge on **Contractor** for each sale done thru the H-GAC contract, **with the exception of orders for motor vehicles**. Any bid pricing submitted will be considered to include the Charge. The amount of the applicable charge shall be per the most current H-GAC schedule. For motor vehicle orders, the Processing Charge shall be levied on and paid by the **End User**.

### 23. PRE-PAYMENTS AND DISCOUNTS

a. Progress, pre-payment and special discounts of any kind may be offered and detailed in the Response. Such discounts shall be clearly explained, but shall not be a determining factor in awarding contracts except in the case of tie offerings.

b. Quantity discounts applicable to similar Products sold to one or more **End User** Departments may be offered. Determination as to product similarity shall rest solely with **Contractor**.

c. For specific purchases, any proposed quantity, pre-payment or special discounts shall be clearly shown on the Contract Pricing Worksheet.
24. INSPECTION / TESTING

All Products sold pursuant to this Invitation shall be subject to inspection/testing by or at the direction of H-GAC and/or the ordering End User, either at the delivery destination or the place of manufacture. In the event a Product fails to meet or exceed all requirements of this Invitation, and unless otherwise agreed in advance, the cost of any inspection and/or testing, shall be borne by the Contractor.

25. PRODUCT DELIVERY

Unless otherwise addressed in Section B, the following requirements shall apply:

a. Title to goods, and responsibility and liability for loss and/or damage in shipping pass to End User at the delivery destination after receipt and acceptance have taken place. Cost of shipping/delivery shall be paid by End User unless otherwise agreed to by Contractor. If Contractor will be paying for shipping/delivery, shipping terms must be "F.O.B. Destination, Freight Prepaid". If End User will be paying for shipping/delivery, shipping terms must be "F.O.B. Destination – Freight Collect".

b. The details for the application and calculation of shipping and delivery charges must be stated in the Response on Form E. Any freight, shipping or delivery charged to End User will be prepaid and added to the invoice, and will be clearly shown on any Contract Pricing Worksheet or other quote presented to the End User.

c. The estimated delivery time after receipt of order (ARO), inclusive of Saturdays, Sundays and holidays, for all Products offered must be stated in the Response. Actual delivery for any particular order must be confirmed with End User at time of order placement, and must be stated clearly on the Contract Pricing Worksheet.

d. Contractor shall be responsible for delivery and Acceptance according to the requirements of the Contract and the Purchase Order.

e. Contractor shall advise End User prior to making any shipment/delivery, and shall make such shipment/delivery in accordance with End User's requirements, providing only that such arrangements do not contravene any requirement of the H-GAC contract unless agreed to by Contractor.

f. The execution of all required tests, certifications and/or licensing, and costs thereof, shall be the responsibility of Contractor. Upon request by End User or H-GAC, Contractor shall provide any documentation or certification related to such tests, certifications or licensing.

26. OFFERED PRODUCT ITEM VARIANCES

Any variance in the specifications or performance of Products offered pursuant to this Invitation shall be acceptable to H-GAC only insofar as it MEETS or EXCEEDS the specifications and requirements of this Invitation.

27. REQUIREMENTS FOR SUBMISSION OF A RESPONSE

Unless otherwise addressed in Section B, the following requirements shall apply:

a. Responses shall be submitted in two complete printed sets including an Original and one (1) Copy in separate "hard side" three-ring binders. The outer spine of each binder shall be labeled showing this Invitation No., Offeror Name, and either "Original" or "Copy", as applicable. The Original printed response will be considered to be the binding Response in case of any conflicts between printed copies and electronic copies. Except for required forms, H-GAC Invitation documents should not be included in the Response.

b. The Original and the Copy shall be submitted complete, except that the Electronic Media should be submitted only with the Copy.

c. All required H-GAC FORMS and documents shall be properly completed, without exception or Offeror's Response may be deemed non-compliant. Offeror may not modify the format of any H-GAC FORM in any way. Offeror may photocopy or print blank FORMS as needed. Information submitted on the printed copies of the FORMS may not be handwritten except for signatures and initials. It is Offeror's responsibility to insure that printed FORMS are clear and legible. Handwritten and illegible entries may be rejected. Offeror's printed, stamped or typed name shall appear on every FORM submitted in the Response.

d. The entire response submission shall also be submitted on electronic media, including all required H-GAC FORMS. Offeror is strongly advised to make and work with copies of the original electronic FORMS. The originals can then be used to make additional electronic or printed copies of the blank FORMS. Signatures are not required on the electronic FORMS.

e. The Response shall include ample written evidence, in the form of technical specifications, cut/tear sheets, brochures, pictures, drawings, etc., to demonstrate that all specifications herein have been met and/or exceeded.
f. The Response shall include, in any format desired, an overview of the Service Organization which will support Products sold under any H-GAC contract. The overview must include facility locations, phone numbers and Service Manager names, as well as the following:
   - The procedure to be used by an End User requiring repairs.
   - Typical turn-around time on repairs.
   - Service Department days and hours of operation.
   - Number of qualified / factory trained service personnel normally on hand.
   - Description of the parts inventory on hand.
   - Training services, facilities and personnel available.

g. Responses shall be enclosed in a sealed package(s) addressed to the Houston-Galveston Area Council, Cooperative Purchasing. The following information shall be stated on the exterior of the package(s):
   - Name and address of Offeror.
   - Date and hour of public response opening.
   - Bid/Proposal Invitation number.
   - The statement: "SEALED BID/PROPOSAL, DO NOT OPEN IN MAIL ROOM".

h. Submission of a COMPLETE Response by telegraphic or electronic transmission is not acceptable. However, Responses may be modified by telegraphic or electronic notice if such notice is received prior to the deadline for submission.

i. Samples, when required, shall be submitted within the time specified and at no expense to H-GAC. If not destroyed or consumed during testing, samples will be returned upon request at Offeror's expense.

j. Offeror shall provide firm contract pricing for all Products and Options being offered.

k. If applicable, responses shall include copies of all current licensing which may be required by the Texas Motor Vehicle Division for execution of sales pursuant to any contract with H-GAC.

l. Due to the complexity of responses and to aid in evaluation, the Response should contain ALL required information in tabbed sections as detailed below. Omission of any required FORM or information will be sufficient grounds for H-GAC to consider your response to be non-compliant.

m. First Section:
   - Form(s) A – Offeror Identification & Signatory: Identifies the offering party(ies), and should be completed by each party to the Response. If awarded, a contract will be executed with each.
   - Form B – Historically Underutilized Business Enterprises: Used to collect information about disadvantaged and minority suppliers and subcontractors, and to commit Offeror to working with Participants toward their program goals.
   - Form C – Response Checklist: Certification, and also an aid, to insure that all required information has been included in your Response.
   - References, formatted as described elsewhere herein.
   - Service Organization Document, formatted as described elsewhere herein.

Second Section:
   - Form D – Offered Items Pricing: For Bids, contains the list of the Product Items covered by this Invitation. Select the items offered and fill in the price for each. (For RFPs, follow the instructions in Section B as this Form may or may not be used.)
   - Form E – Published Options: Used to list and price all offered options. List, each on a separate line, all upgrades, downgrades, optional equipment, features, accessories and services which you desire to sell thru the H-GAC contract, if awarded. Published catalogs/price sheets may be listed, along with the discount structure that will apply. (For RFPs, follow the instructions in Section B as this Form may or may not be used.)
   - Form W-9 – Request for Taxpayer Identification Number and Certification: Should be completed by each party to the response.

Third Section:
   - Technical Specifications, Product Brochures, Tear Sheets, Cut Sheets, Strippers, etc. which clearly list and show all the standard features and capabilities of each Product Item offered on Form D.
Fourth Section:

- Warranty Documentation, as described elsewhere herein, for all items offered.
- Copies of any applicable Texas MVD Licenses.
- Electronic Media, containing the complete response including all required FORMS, stored in a pouch or an envelope such that it will not fall out of the binder. (Required in 'Copy' only, not in 'Original'.)
- Form CIQ – Conflict Of Interest Questionnaire: Chapter 176 of the Texas Local Government Code requires vendors and consultants contracting or seeking to contract with H-GAC to file a Conflict of Interest Questionnaire (CIQ) if they have an employment or other business relationship with an H-GAC officer or an officer’s close family member. The required questionnaire is located at the Texas Ethics Commission website: http://www.ethics.state.tx.us/whatsnew/conflict_forms.htm. It is Bidder's responsibility to download the form and furnish a completed copy with the Response, if it is applicable.

n. By submittal of Response, Offeror certifies to the best of its knowledge that all information is true and correct.

28. CLARIFICATION TO SPECIFICATIONS & REQUIREMENTS

a. If Offeror is in doubt as to the meaning of any item in this Invitation, a written request for clarification may be submitted to H-GAC up to fifteen (15) calendar days prior to the deadline for response submission. H-GAC shall not be responsible for late delivery. Requests may be transmitted by FAX or e-mail to the assigned Specification Specialist, and should clearly reference this Invitation number and the specific page and paragraph in question. If there are multiple questions, they should be stated separately and numbered.

b. Any interpretation of Invitation documents, if made, will be by written Addendum duly issued. A copy of such Addendum will be mailed or delivered to each person officially on record as having been sent a copy of this Invitation. H-GAC will not be responsible for any other explanation or interpretation of the Invitation documents made or given prior to the award of the contract.

c. Any objections to the Invitation documents must be filed in writing with H-GAC on or before fifteen (15) calendar days prior to the deadline for submission of responses.

d. Prospective offerors are advised that, after a draft specification has been issued, the Pre-Bid/Proposal Conference is the primary forum through which comments and suggestions may be offered for consideration by H-GAC prior to issuance of the final invitation and specifications.

e. All best efforts have been made to insure that the product/service descriptions and associated specification information in Sections B & C are correct, and adequate time has been given to prospective Offerors to point out mistakes. However, if an error remains and is caught by Offeror before the scheduled bid/proposal opening, Offeror shall make note of the required correction in the Response, and shall also notify H-GAC prior to the opening of responses.

29. INCONSISTENT INFORMATION

H-GAC review of responses supplied on H-GAC FORMS is a significant part of the evaluation process. Offeror shall state clearly all information required on the FORMS. Offeror's information supplied on the FORMS shall take precedence in the event any standard “boilerplate” type language included in Offeror's response is inconsistent with the information supplied by Offeror on the H-GAC FORMS. In all cases, information on H-GAC's printed FORMS supplied as part of Offeror's response shall take precedence over information supplied on electronic media.

30. REJECTION OF RESPONSES

a. H-GAC may reject a response if:
   - Offeror misstates or conceals any material fact in the Response, or if,
   - Offeror does not strictly conform to law or the requirements of this Invitation.

b. H-GAC may reject any and all responses, and may reject any part of a response.

c. H-GAC, at its sole discretion, may also waive any formalities or irregularities in any response, or ask for corrected information except for pricing.
31. **WITHDRAWAL OR MODIFICATION OF RESPONSES**

Once received by **H-GAC**, responses may be modified or withdrawn prior to the submission deadline only if the request to do so is in writing submitted by **Offeror's** authorized representative. Responses and requests for modification received after the submission deadline will not be accepted. Requests for response withdrawal received after the submission deadline will be accepted if the request to do so is in writing submitted by **Offeror's** authorized representative.

32. **RESPONSE EVALUATION**

For Bid Responses:

a. Section B will state whether the contract will be awarded to the lowest responsible bidder or to the bidder who provides goods or services at the best value for **H-GAC** and its participants.

b. If the contract will be awarded based on best value, Section B will state any relevant criteria which **H-GAC** will consider.

c. For each offered Product Item, **H-GAC** may use the offered price, prices for Required Options, and the prices of selected common Published Options to determine the lowest responsible offer.

d. Failure of **Offeror** to submit pricing for frequently purchased options and any **H-GAC** required options may cause response to be considered non-compliant at **H-GAC**'s sole discretion.

For Proposal Responses:

e. **H-GAC** will evaluate proposals as detailed in Section B.

f. By submission of a Response Offeror indicates acceptance of the evaluation technique, and recognizes and accepts that **H-GAC** may at it's sole discretion make subjective judgments during the evaluation process.

33. **ORDER OF PRECEDENCE PRIOR TO CONTRACT AWARD**

In the event of conflict between this document and any references or documents cited herein, this document shall take precedence prior to contract award.

34. **AWARD OF CONTRACT**

a. **H-GAC** reserves the right to accept or reject any Product Item or option offered. Additionally, all options included in Offeror's response and accepted by **H-GAC** are understood to be included in any contract.

b. **H-GAC** shall award contract(s) for line items or groups of line items, at its sole discretion.

c. With authority granted by the **H-GAC** Board of Directors, a written contract shall be presented to the successful **Offeror** and shall be subject to acceptance by the successful **Offeror** within thirty (45) calendar days after presentation by **H-GAC**. If a contract is not executed within thirty (45) calendar days, **H-GAC** may rescind the contract offer and award a contract to the next **Offeror** in order of rank as determined by **H-GAC**.

d. Delivery time and prompt payment discounts, including time allowed for payment, may be considered in tie-breaking of offers which are judged by **H-GAC** to be equal in all other criteria.

e. The contract shall include the following documents in the stated order of precedence:
   1. The contract document signed by **H-GAC** and **Offeror**.
   2. This Invitation and all specifications referenced herein.
   3. **Offeror's** response to this Invitation.

35. **PRO-FORMA CONTRACT**

This Invitation includes a Pro-Forma (sample) Contract which successful offerors will be expected to sign. The actual final contract will be the same or nearly the same as the Pro-Forma. **NOTE**: Successful Offerors MAY NOT process any purchase orders until the contract documents have been executed and returned to **H-GAC**.

36. **CONTRACT TERM**

The contract shall be in effect throughout the period stated elsewhere in the contract documents, and thereafter until such time as any outstanding orders against the contract have been fulfilled. The contract may be extended if deemed by **H-GAC** to be in the best interests of the Program, and subject to mutual agreement of the parties.
37. PERFORMANCE & PAYMENT BOND

H-GAC's contractual requirements DO NOT include a Performance & Payment Bond (PPB), and offered pricing should reflect this cost saving. However, Contractor must be prepared to offer a PPB to cover any specific order if so requested by End User. Contractor shall quote a price to End User for provision of any requested PPB, and agrees to furnish the PPB within ten business (10) days of receipt of End User's purchase order.

38. CHANGE ORDERS

End Users shall have the right to make additions by addenda for the purpose of clarification or inclusion of additional specifications, qualifications, conditions, etc. Any such addenda shall be made in writing and agreed upon by Contractor and the End User agency prior to issuance of any Change Order. A copy of any such Change Order shall be furnished by Contractor to H-GAC.

39. DUPLICATION OF TERMS OR STATEMENTS

Where statements or terms are duplicated or are extremely similar, H-GAC and the End User reserve the right to use the statement or term most favorable to H-GAC and/or the End User.

40. PUBLICITY

H-GAC encourages contractors to "market" the Program, and can provide some information and artwork to be used in published promotional materials. However, any publicity or published material released by Contractor referencing the contract, whether in the form of a press release, brochure, photographic coverage, or verbal announcement, shall be issued only with prior review and approval by H-GAC.

41. TAXES

HGAC and End User participants are either units of government or qualified non-profit agencies, and are generally exempt from Federal and State sales, excise or use taxes. Offeror shall not include any such taxes in the Response. Further, it shall be the responsibility of Contractor to determine the applicability of any taxes to a particular order and act accordingly. Exemption certificates will be provided upon request.

42. DRUG FREE WORKPLACE

Contractor shall provide notice to its employees and sub-contractors, as required under the Drug-Free Workplace Act of 1988. A copy of Contractor's Drug-Free Workplace policy shall, on request, be furnished to any End User.

43. PRODUCT NOTICES & MAILINGS

H-GAC is NOT the owner of Products sold pursuant to this Invitation, but acts only in the capacity of purchasing agent. In that regard, Contractor accepts sole responsibility for insuring that notices and mailings, such as Safety Alerts, Safety Recall Notices and Customer Surveys, are sent directly to the End User of record.

44. HANDLING OF ORDERS & PAYMENTS

In general, orders and payments will be handled as described below. More specific instructions and information regarding handling of purchase orders and the Order Processing Charge may be provided after contract award. Established procedures may be changed at any time by H-GAC as may be dictated by efficient business practice. The particulars of any sale, e.g. specific products, pricing, delivery, warranty, etc., will be in strict accordance with the terms and conditions of this Invitation and the specific contract awarded to Contractor. Beyond that:

a. For any particular procurement to be made under the provisions of an H-GAC contract, End User and Contractor will discuss requirements and agree as to what will be provided.

b. Contractor will prepare a Contract Pricing Worksheet and provide it to End User. The Worksheet will list everything being purchased including the base bid item(s), all published and unpublished options and the delivery date. All pricing shall be per the current contract.

c. End User will send a purchase document to Contractor, which Contractor will send H-GAC together with the Contract Pricing Worksheet. NOTE: Contractor agrees not to offer, agree to or accept from End User any terms or conditions that conflict with or contravene those in Contractor’s H-GAC contract, except for pricing discounts.
d. **H-GAC** will prepare an "Order Confirmation" and send it to **End User** and to **Contractor**. The Order Confirmation verifies that **Contractor** has a valid **H-GAC** contract and that the order is in compliance with the requirements of the **H-GAC** Cooperative Purchasing Program. **Contractor** will not ship any goods before receipt of both **End User's** purchase document and **H-GAC**'s Order Confirmation.

e. On notification that **Contractor** has received an order, **H-GAC** will invoice **Contractor** for the applicable Order Processing Charge. **NOTE:** The Order Processing Charge is charged to **Contractor**, **EXCEPT in the case of motor vehicles**. For all sales of motor vehicles the Order Processing Charge is levied on the **End User**, collected by **Contractor**, and remitted to **H-GAC** by **Contractor**.

f. **Contractor** will deliver products/services ordered, and will invoice **End User** for products/services accepted by **End User**. (See other Sub-Section herein dealing with Product Delivery.) **Contractor** will not invoice before shipment has been made.

g. **End User** will pay **Contractor** for those products and/or services ordered which have been received and accepted. Under no circumstances shall any check be made payable to a representative or agent. Should a representative or agent submit an invoice to **End User** for any cost related to a purchase order issued to **Contractor** for products/services covered by an **H-GAC** contract, such invoice shall be forwarded to **Contractor** and **Contractor** will take action to correct the error.

h. Upon delivery of any product/service by **Contractor** and acceptance by **End User**, **Contractor** shall remit to **H-GAC** the full amount of the applicable Order Processing Charge in accordance with the payment terms established in the **H-GAC** contract. **Note,** the Order Processing Charge is due whether or not **Contractor** has ever received an invoice from **H-GAC**. Sales executed based on the particulars of **Contractor's** **H-GAC** contract, without payment of the Order Processing Charge, may constitute fraud.

### 45. **PRICE CHANGES**

a. Any permanent increase or decrease in offered pricing for a base contract item or published option is considered to be a price change. Temporary increases in pricing by whatever name (e.g. ‘surcharge’, ‘adjustment’, ‘equalization charge’, ‘compliance charge’, ‘recovery charge’, etc.), are also considered to be price changes.

b. Except in the case of contracted published catalogs and price sheets, prices for Base Bid Items and Published Options are expected to be held firm for a minimum of 90 days from the date an awarded Offeror signs the **H-GAC** contract. Thereafter, changes will be considered if accompanied by justifying documentation satisfactory to **H-GAC**. For published catalogs and price sheets which are on an **H-GAC** contract, requests to amend the contract to reflect any new published catalog or price sheet may be submitted whenever the manufacturer publishes the new document. Any such request must include the new catalog or price sheet.

c. If **Contractor** routinely offers discounted contract pricing, **H-GAC** may request **Contractor** to accept amended contract pricing equivalent to the routinely discounted pricing.

d. No price change will be allowed unless it has been reviewed and approved by **H-GAC** in writing. **Contractor** must have received **H-GAC**'s written approval of any change prior to charging the new price or using it in any quotation prepared for an **End User**.

e. Price change requests must be submitted to **H-GAC** in writing and must be received by **H-GAC** at least thirty (30) calendar days prior to the requested effective date of the change, and must state the time period for which the requested pricing will remain firm.

f. Price change requests shall include **H-GAC Forms D** and **E**, or whatever documentation was used to submit pricing in the original Response hereto, showing all affected items with current contract price, requested price, and percentage change shown clearly for each. This documentation should be submitted in MSExcel format to facilitate analysis and updating of the website.

g. Price change requests **MUST** be supported with substantive documentation (e.g. manufacturer's price increase notices, copies of invoices from suppliers, etc.) showing that **Contractor's** actual costs have increased. The Producer Price Index (PPI) may be used as partial justification, subject to approval by **H-GAC**, but no price increase based solely on an increase in the PPI will be allowed.

h. All Products shall, at time of sale, be equipped as may be required under any then current applicable local, state, and federal government requirements. If, during the course of any contract, changes are made to such government requirements which cause a manufacturer's costs of production to increase, **Contractor** may increase Product pricing to the extent of **Contractor's** actual cost increase. The increase must be substantiated with support documentation acceptable to **H-GAC** prior to taking effect. Modifications to a Product required to comply with such requirements which become effective after the date of any sale shall be the responsibility of the **End-User**.
i. In cases involving contract extensions exceeding sixty-one (61) days beyond the stated expiration date of the contract, Contractor may request a price change based on the same conditions as stated above. However, the thirty (30) day prior notice is waived and H-GAC will consider the request immediately on receipt.

j. H-GAC reserves the right to accept or reject any price change request. Acceptance, if granted, will be in writing and the approved changes will become part of the contract.

**46. CONTRACT ITEM CHANGES**

a. If a manufacturer discontinues a contracted item, that item will automatically be considered to be deleted from the contract with no penalty to Contractor. However, H-GAC may at its sole discretion elect to make a contract award to the next low offeror for the item, or take any other action deemed by H-GAC to be in the best interests of End Users, at its sole discretion.

b. If a manufacturer makes any change in a contracted item which does not affect the contract price, Contractor shall advise H-GAC of the details. If the 'new' item is equal to or better than the originally contracted item, the 'new' item shall be approved as a replacement. Otherwise H-GAC may allow or reject the change, or take any other action deemed by H-GAC to be in the best interests of End Users, at its sole discretion. If the change is rejected there will be no penalty to Contractor.

c. If a manufacturer makes any kind of change in a contracted item which affects the contract price, Contractor shall advise H-GAC of the details. H-GAC may allow or reject the change at its sole discretion. If the change is rejected there will be no penalty to Contractor. However, H-GAC may elect to make a contract award to the next low offeror for the item, or take any other action deemed by H-GAC to be in the best interests of End Users, at its sole discretion.

d. In the case of specifically identified catalogs or price sheets which have been contracted as base bid items or as published options, routine published changes to products and pricing shall be automatically incorporated into the contract. However, Contractor must still provide thirty (30) calendar days written notice and an explanation of the changes to products and pricing. H-GAC will respond with written approval.

**47. FORCE MAJEURE**

If either party shall be wholly or partially prevented from the performance of any contractual obligation or duty by reason of or through strikes, stoppage of labor, riot, fire, flood, acts of war, insurrection, accident, order of any court, act of God, or specific cause reasonably beyond the party's control and not attributable to its neglect or nonfeasance, in such event, the time for the performance of such obligation or duty shall be suspended until such disability to perform is removed. Determination of Force Majeure shall rest solely with H-GAC.

**48. PERFORMANCE UNDER CONTRACT**

H-GAC is committed to insuring that Contractor provides effective and efficient service to all Participants in the Cooperative Purchasing Program, and expects that certain Performance Conditions must be met. Failure to meet these conditions may result in contract termination. In that regard, Contractor shall:

a. Appoint a dedicated representative to be the contact person and focal point for all matters relating to End User quotations and orders. The representative shall have: A toll free phone number with voice mail; A fax number; A working e-mail address; and A postal address.

b. Insure that the representative timely monitors all communication modes listed above, and promptly responds to communications from End Users and H-GAC in any of these modes. Phone calls will be promptly returned, in any event not later than the next business day. Acceptable failure will be due only to Force Majeure.

c. Maintain sufficient qualified staff to promptly process all communications from H-GAC or End Users, and to efficiently, effectively and accurately service all requirements of the contract.

d. As may be requested by H-GAC, replace any staff members who are not providing the service and expertise deemed necessary by H-GAC for acceptable support of End Users.

e. Properly prepare and provide to End User a Contract Pricing Worksheet, or a quotation in other format as approved by H-GAC, for each and every order that is to be executed.

f. Furnish, on request of H-GAC, reasonable data, forms and graphic material to be used in brochures or other print media, or on H-GAC's website.

g. Allow access to H-GAC authorized personnel for inspection of operating facilities, and auditing of purchase orders during the contract period, and for a period extending thru the completion of any outstanding orders. Site inspection may be arranged not less than ten (10) calendar days prior, shall include the names of all participants, and shall be at no expense to Contractor.
h. Reporting Requirements:
- Contractor agrees to submit written quarterly reports to H-GAC detailing all transactions during the previous three month period. Such reports shall include, but are not limited to the following:
  - End User name
  - Product/Service purchased, including Product Code if applicable
  - End User Purchase Order Number
  - Purchase Order Date
  - Product/Service dollar amount
  - HGACBuy Order Processing Charge amount
- Reports must be provided to H-GAC in MSExcel or other acceptable electronic format, and are due by the 30th day of the month following the applicable quarter being reported.

i. Should Contractor default in providing Products or Services as required by this Invitation and the contract, recourse may be exercised thru cancellation of the contract and other legal remedies as may be appropriate.

49. IMPLEMENTATION OF INTERNET BASED E-COMMERCE

H-GAC Cooperative Purchasing has adopted E-Commerce as part of its business model and maintains an internet website at www.HGACBuy.org. At any point in time, various information and process functions may be implemented and made operational thru the website, including but not limited to items such as:

Information Items
- Contract information
- Procurement schedules
- Response requirements & specifications
- Product and option item catalog listings
- End User & Contractor information

Functions
- End User product inquiries
- Product configuration and price quotes
- Purchase Orders and Confirmations
- Shipping/Delivery notices
- Invoice generation
- Payment remittances, etc.

All H-GAC Contractors, as a condition of contract, will be required to work with H-GAC and it’s E-Commerce provider(s) to maximize use of E-Commerce within the context of H-GAC Cooperative Purchasing business. Offeror is encouraged to refer to H-GAC’s Cooperative Purchasing web site where additional information can be found. If you have any questions, please contact H-GAC for assistance.

50. CONTRACTOR ORIENTATION/TRAINING

H-GAC believes that Contractor's familiarity with the operational policies and requirements of the Cooperative Purchasing Program is a key factor in achieving End User satisfaction. In that regard, the Contact Person listed on Form A, or an alternate, shall be required to participate in an H-GAC vendor orientation/training as soon as possible after contract award. In addition, any other of Contractor's staff who will be involved in any way with the HGACBuy Program should participate in orientation. The orientation may be presented as a teleconference or webinar, or may be held in H-GAC's offices as may be determined by H-GAC and Contractor to be the most efficient and effective form of delivery.

51. LEGAL & CONTRACTUAL REMEDIES

RESOLUTION OF PROTESTED SOLICITATIONS AND AWARDS

Procedure
- Any actual or prospective Offeror or Contractor who is aggrieved in connection with a purchase transaction may file a grievance. The grievance may be filed at any phase of the procurement. In order for an above mentioned party to enter the grievance process, a written complaint must be sent to the Office Services Manager of H-GAC by certified mail which identifies the following:
  1. Name, mailing address and business phone number of the complainant.
  2. Appropriate identification of the procurement being questioned.
  3. A precise statement of reasons for the protest.
  4. Supporting exhibits evidence or documents to substantiate any claims.

The grievance must be based on an alleged violation of H-GAC’s Procurement Procedures, a violation of State or Federal law (if applicable), or a violation of applicable grant or contract agreements to which H-GAC is a
party. Failure to receive a procurement award from **H-GAC** in and of itself does not constitute valid grievance. Upon receipt of grievance, the Office Services Manager will initiate the informal resolution process.

**Expedited Resolution**

The Procurement Officer or Departmental Manager responsible for the solicitation shall contact the complainant and all interested parties and attempt to resolve the allegations informally within ten (10) working days from date of complaint. If the allegations are successfully resolved by mutual agreement, documentation will be forwarded to the Office Service Manager of the resolution with specifics on each point addressed in the original complaint.

If the Procurement Officer or Departmental Manager is not successful in resolving the allegations, the complaint along with the comments will be forwarded to the Office Service Manager immediately. The Office Service Manager will review all documentation. All interested parties will be given written notice of the date, time, and place of the hearing and an opportunity to present evidence. A written decision will be issued within five (5) working days after the hearing along with notice of appeal rights.

**Appeals**

The complainant may appeal the Office Service Manager's decision by submitting a written appeal, within five (5) working days, to the Executive Director of **H-GAC**. The Executive Director, upon receipt of a written notice of appeal, shall contact the complainant and schedule a hearing within ten (10) working days. The Executive Director of **H-GAC** has the option of appointing a Hearing Officer to preside over the hearing. If appointed, the Hearing Officer shall conduct a hearing and forward a summary and recommended resolution to the Executive Director.

The decision reached by the Executive Director or his designee shall be final and conclusive. This decision will be forwarded to the complainant in writing within thirty (30) working days.

The **Contractor** may, if it elects to do so, appeal the final and conclusive decision of the Executive Director to a Court of competent jurisdiction.

**RESOLUTION OF CONTRACT DISPUTES**

Upon breach or default, **H-GAC** shall give the **Contractor** written notice of default. If the default is not remedied, within a reasonable specified time from date of notification, to the satisfaction and approval of **H-GAC**, default will be declared.

Upon breach of contract or default, **H-GAC** may exercise any and all of its rights afforded by law, including but not limited to those referenced in the General Contract Provisions.

**SOLICITATIONS OR AWARDS IN VIOLATION OF THE LAW**

Contracts awarded in violation of the competitive process or otherwise in violation of the law are voidable by **H-GAC**.

### 52. NATIONWIDE SALES OPPORTUNITIES

**HGACBuy** provides purchasing services to local governments qualifying non-profits throughout the nation, and desires to make established contracts available to them wherever and whenever practicable. Therefore, once a contract is awarded, **Contractor** is expected to expand the scope of its marketing effort to include sales to **End Users** in all areas of the United States, and/or to assign any **H-GAC** contract to another contractor(s) as deemed appropriate by **H-GAC** in the interest of its End Users.

- **Contractor** may sell through **HGACBuy** anywhere subject to compliance with applicable laws and regulations. If the market structure in which **Contractor** operates requires a contract assignment for any particular sale, **H-GAC** will expect **Contractor** to assign the contract to a Manufacturer or to another **Dealer(s)**. Such assignment must be approved by **H-GAC**.

- **Contractor’s** differential costs (e.g. transportation & delivery charges) and allowances (e.g. manufacturer’s sales incentives) related to any sale may be charged to buyer.
1. INTRODUCTION

It is the intent of this bid solicitation to acquire pricing that will be used to establish purchase order contracts for various types of fire apparatus. These specifications describe various categories and specific types of Fire Apparatus, including minimum design and construction characteristics considered necessary to perform desired functions. Any products bid hereunder must meet or exceed all requirements listed or referenced in this Invitation. The basic Product categories covered by this Invitation are:

A. Aerial Fire Apparatus (Boom/Platform, Ladder, Ladder/Platform)
B. Wildland Fire Apparatus (Brush Fire)
C. Pumper Fire Apparatus
D. Special Service Apparatus (Rescue, Re-Hab, Hazmat, Mobile Command Center, etc.)
E. Pumper-Tanker / Elliptical-Tanker Fire Apparatus
F. Aircraft Rescue & Fire-Fighting Vehicles

Specific Product items have been pre-listed on Form D to be bid. If options (see below) other than the Base Product Items on Form D are being offered, they should be listed on Form E as upgrades, downgrades, or modifications to the base Product Item on Form D, and should be priced using a differential amount based on the bid price for the base Product Item.

Note: All products listed on Form D shall be considered as base models/units. Bidders shall provide pricing on all options where applicable as they pertain but not limited to the following:

- Chassis/Cab Builder (manufacturer)
- Cab Designs (2/4 Door/Tilt Cab etc.)
- Cab/Body Sheet Metals (Galvanized, Formed/Extruded Aluminum, Stainless Steel)
- Rear Axle Configuration (Single/Tandem/Tandem Front Steering/Triple Rear)
- Fire Pump Capacities & Mounting Locations (1250/1500/2500 GPM Pump/rear and mid-mounted)
- Body Configurations (Walk-In/Non-Walk-In Body)
- Aerial Categories (Construction/Turntable Positions/Aerial Device Functions)
Note: Customer Quotations – If Requested by an End User, the contractor shall be prepared to provide itemized pricing of the base specification (product code) allowing End User verification of credits/deducts due as a result of upgrades/downgrades to features included in the base specification.

2. GENERAL

- Third Party Specification(s) By Reference
  This specification is based on the latest editions of NFPA 1901 Standard for Automotive Fire Apparatus, NFPA 1906 Standard for Wildland Fire Apparatus and NFPA 414 Standard for Aircraft Rescue and Fire-Fighting Vehicles.

- Form A’s
  An originally signed Form A from the all entities who are party to this submission and who should be offered a contract if this submission is successful. These entities should include the Apparatus Manufacturer, Franchised Texas Dealer and those dealers outside Texas who have current or past sales through the program (Note: All other sales outside Texas should be coordinated through the manufacturer when possible). In those cases where sales must go through a dealer due to franchise agreements, Form A’s will be accepted from those dealers. For those only bidding conversions (i.e. brush trucks, light rescues), Form A’s from in-state commercial chassis dealers for the underlying chassis make being quoted should be provided.

- Product Liability Insurance.
  The requirements for Product Liability Insurance in Section A are superceded as follows:
  For Brush Fire Apparatus, Mini-Pumpers, Class A Pumpers, Heavy Duty Rescues, and HazMat & Mobile Command Centers, Bidder must have in place Product Liability Insurance with a Single Occurrence limit of at least $1,000,000 per seating position. For Aerial Apparatus, the requirement is $5,000,000 plus an additional $1,000,000 for each seating position. [e.g. An aerial ladder truck with six (6) seating position would require Product Liability Insurance with a Single Occurrence limit of $11,000,000.] For Slip-In Pump/Tank Units, the requirement is a Single Occurrence limit of $1,000,000 total. The General Aggregate limit for all Apparatus categories must be at least two times the Single Occurrence limit.

Note: Product liability listed above shall be the responsibility of the manufacturer.

- Fire Apparatus Options, Accessories & Loose Equipment Offered.
  H-GAC bid specifications for fire apparatus include FORM E “Priced Options.” Equipment not offered in the bid response as Priced Options shall be classified as “Unpriced/unpublished” and may not be sold except as subject to the 25% restriction imposed by Texas statutes.

Note: All priced options (Form E) may be offered for separate purchase to End Users. Individual purchase orders for these options cannot exceed $50,000.00 (H-GACBuy Fee – 1.5%)

- Product Code
  Each base Product item covered by this Invitation has been pre-listed on Form D, and is identified by a unique H-GAC alphanumeric Product Code. Bidder shall decide which line items to bid and shall fill in a bid price in the appropriate cell on Form D.

- Training - On the initial delivery of the fire apparatus, the contractor shall supply a qualified representative to demonstrate the apparatus and provide initial instruction to representatives of the purchaser regarding the operation, care, and maintenance of the apparatus and equipment supplied (NFPA 1901. 4.4.3).

Note: Contractor shall quote as an option on Form E any optional instruction/training regarding service/maintenance that may be available for the delivered apparatus.

- Manuals – The contractor shall supply at the time of delivery, at least two (2) sets of complete operations and service documentation covering the completed apparatus as delivered and accepted (NFPA Sec. 4.19.2.1)

- Awards - Consistent with Texas bid award statutes, for each specific Form-D line item, H-GAC will recommend a single award to the lowest responsible Offeror. Once approved by our Board of Directors, Offerors will be notified of H-GAC management’s final award recommendations by email, and then followed by a final, formal signature request from our Contracts group.
 COMMITMENT

Offeror is required to make some basic commitments to insure the overall success of this program. By submission of a response, offeror commits to the following:

- **Corporate/Sales Commitment** – A commitment that HGACBuy has the support of senior management and that HGACBuy will be the primary government contracting vehicle when offering services/products awarded from this solicitation to eligible end users nationwide. A further commitment to aggressively market the program, both independently as well in partnership with HGACBuy.

- **HUB Participation** – It is H-GAC’s goal to have Historically Underutilized Business Enterprise (HUB) participation in providing services under a contract. IF Offeror(s) intends to employ subcontractors in providing services/products related to this solicitation, Offeror(s) shall make and demonstrate a good faith effort to include HUB participation under a contract. Offeror(s) good faith effort shall include, but is not limited to the following affirmative steps (ref. 2CFR 200.321):
  1. Placing qualified small and minority businesses and women’s business enterprises on solicitation list;
  2. Assuring that small and minority businesses and women’s business enterprises are solicited whenever they are potential sources;
  3. Dividing total requirements, when economically feasible, into smaller task or quantities to permit maximum participation by small and minority businesses, and women’s business enterprises;
  4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women’s business enterprises;
  5. Using the services and assistance as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce;

NOTE: The term HUB as used in this solicitation is understood to encompass all programs/business enterprises such as Small Disadvantaged Business (SDB), Disadvantage Business Enterprise (DBE), Minority Owned Business Enterprise (MBE), Women Owned Business Enterprise (WBE) and Disabled Veteran Business Enterprise (DVBE).

3. DETAILED PRODUCT SPECIFICATIONS

The specifications detailed below for the various categories of apparatus are to be considered the minimum requirements unless there is a conflict with descriptive information detailed on Form D. In that event, the requirements of Form D shall govern.

Note: Bidder shall supply a spec/quote sheet for each product code bid on Form D. These sheets should detail what features are included in the price quoted on Form D.

4. LEGAL REQUIREMENTS

a) In addition to NFPA 1901,1906 and 414 (latest editions), all apparatus offered shall comply with all applicable federal (i.e. FMVSS, SAE, DOT, TREA, EPA, ASTM, AWS, ASNT, UL, & NFPA + etc.) and state {Texas Department of Transportation, Division of Motor Vehicles, Motor Vehicles Division Code [Latest version]}) regulations and rules, and have all components incorporated into and/or on the apparatus as required for a Texas State Safety Inspection (i.e. front and rear mud flaps, inspection certificate, etc).

b) Any apparatus bid response shall include the cost of a Texas Safety Inspection, including the Vehicle Inspection Report (VIR) and the windshield sticker.

c) Bidders, shall have on file at H-GAC prior to, or included with the bid response, the correct license(s) as required by the State of Texas, Department of Transportation, Division of Motor Vehicles, Motor Vehicle Commission Code [latest edition] which is applicable to the bidder’s operations.

d) The prescribed licenses will include the manufacturer/bidder, and any and all dealers and their representatives as may be required by the Motor Vehicle Division.
Note: All units offered in this solicitation must be available to our Texas members through in-state licensed franchised motor vehicle dealers. Form A’s are required with the submission from each dealer (e.g. apparatus, chassis as required) in order to receive a contract. Form A’s will not be accepted after the bid has been submitted.

Note: It is the contractor’s responsibility to ensure all apparatus sales are in accordance with the motor vehicle laws of the state where the acquisition is made.

I. WILDLAND FIRE APPARATUS (BRUSH FIRE)

A. WILDLAND/BRUSH FIRE APPARATUS -

In addition to the latest edition of NFPA Standard 1906, Products bid hereunder must also comply with all H-GAC specifications and requirements herein. The wildland fire apparatus covered by this Invitation are defined by the Product Codes that have been pre-listed on FORM D.

1. Minimum Standard Features Required in Base Product Item Bid:

a) Wildland/Brush Fire Apparatus Bids:

• Flat Bed body style shall have mesh bulk head
• Composite Utility body shall be constructed of composite fiberglass laminate with closed cell structural PVC foam core. Comprising a laminate of ½” thick.
• Poly Utility body shall be ½” thickness copolymer sheet material.
• 150 gpm single stage, auxiliary engine-driven pump with pump panel (2 stage pumps to be quoted as optional on Form E). The pump operator's panel shall be located on the left side or rear of the apparatus.
• 300 gal polypropylene water tank (250 gal. on slip-on unit). Tank shall be polypropylene with lifetime warranty. Note: Other sizes shall be offered as Priced Options on FORM E. Provide sizes up through at least 400 gal.
• 1 Transverse preconnect hose bed (minimum)
• 20 cu ft Compartmentation including, but not limited to, left and right sides and rear (12 cu ft for slip-on units)
• Heater/Defroster and Air Conditioning in Cab area
• Base Cab/Chassis GVWR – 13,000 lbs.
• V8 Diesel Engine
• 5 speed manual transmission (automatic transmission to be quoted as optional on Form E)
• Completed apparatus must be NFPA 1906 Compliant

b) Self-contained, Slip-on Unit Bids:

• 100 gpm @ 100psi single stage, auxiliary engine-driven pump with pump panel
• 250 gal polypropylene water tank
• Hose reel, 200 ft. of 1” hose
• Slip-on Unit to be mounted on pickup supplied by End User OR H-GAC Contractor

2. Apparatus Accessories & Loose Equipment. Bid specification documents include Priced Option forms for bidder to list prices for specific optional engines, fire pumps, body changes, accessories, and loose equipment. Equipment not offered in the base bid or as an option shall be classified as "Unpublished Options" and subject to 25% cap permitted under "Non-Published" provisions for competitive bids. [See Terms & Conditions]

3. Options to Base Bid for additional apparatus. A thorough listing of options is recommended. Examples of options to include on FORM E are:

(a) Options to Brush Fire Bids only:

• Alternate GVWR Chassis
• Gas engine (as well as other engine sizes)
• 4-wheel drive

(b) Options to Slide-In Unit Bids only:
• Different pump sizes (e.g. 150 gpm @ 100 psi)
• Different tank sizes (+/- increments of 50 gallons.)

These options are in addition to any and all other options listed in this document or H-GAC Forms included.

II. SPECIAL SERVICE FIRE APPARATUS (RESCUE)

In addition to the latest edition of NFPA Standard 1901, Products bid hereunder must also comply with all H-GAC specifications and requirements herein. The Products covered by this Invitation are defined by the Product Codes listed on FORM D.

1. Standard Features Required in Base Bid for a special service fire apparatus.

(a) Custom Cabs:
• Minimum four (4) SCBA seats in Tilt & Split Tilt cabs
• Minimum three (3) SCBA seats in Stationary cabs

   Note: Additional SCBA seats are to be priced as options on Form E)
• Minimum 350 bhp diesel engine (optional engines to be priced on Form E)
• Allison EVS-3000 Automatic Transmission (optional transmissions to be priced on Form E)
• Front axle rating (min.) – 14,600 lbs. (stationary cabs), 16,000 lbs. (tilt cabs), 18,000 lbs. (split-tilt cabs)
• Single Rear axle rating (min.) – 24,000 lbs.
• Full Anti-Lock Braking System
• Power Steering
• ABS Braking System
• Heater/Defroster/Vent/Air Conditioning
• Constructed on standard straight frame rail or drop-pinch chassis.
• Fuel Tank – 50 gallon (minimum).

(b) Commercial Cabs:
• 2 Door Models (4 Door Models may be listed as options)
• 3 to 4 SCBA seats (depending on seating capacity) 4 Door Models only
• 300 to 330 bhp diesel engine (optional engines to be priced on Form E)
• Allison EVS-3000 Automatic Transmission (optional transmissions to be priced on Form E)
• Front axle rating (min.) – 12,000 lbs. (2-Door Cab)
• Single Rear axle rating (min.) – 21,000 lbs. (2-Door Cab)
• Heater/Defroster/Vent/Air Conditioning
• Constructed on standard straight frame rail chassis.
• Fuel Tank – 40 gallon (minimum).

(c) Commercial Cabs (Light /Medium)
• 2 Door Models (4 Door Models may be listed as options)
• 300 bhp diesel engine (optional engines to be priced on Form E)
• Automatic Transmission (optional transmissions to be priced on Form E)
• Front axle rating (min.) – 7,000 lbs. (2-Door Cab)
• Single Rear axle rating (min.) – 12,000 lbs. (2-Door Cab)
• Heater/Defroster/Vent/Air Conditioning
• Constructed on standard straight frame rail chassis.
• Fuel Tank – 40 gallon (minimum).
• ABS Braking System.
2. **Options to Base Bid for apparatus.** Contractors are encouraged to provide a thorough listing of options on Form E. Below are just a few examples of options to include on FORM E:

**Options to Walk-In Bids:**

(a) Haz-Mat Configuration
(b) 2 Person Command Center Configuration
(c) Walk-Through option

3. **Special Service Fire Apparatus**

**Equipment Storage**

(a) Non Walk-in - 640 ft³
(b) Walk-in bids - 320 ft³

4. **To be bid as options on Form E.**

(a) Optical Warning Devices
(b) Generators
(c) Breathing Air Systems
(d) Winches
(e) Additional Ground Ladders

**Note:** All optional apparatus models offered in any bid response shall be in compliance with NFPA 1901 (latest edition) for the specific apparatus offered.

### III. AERIAL FIRE APPARATUS

In addition to the latest edition of NFPA Standard 1901, Products bid hereunder must also comply with all H-GAC specifications and requirements herein. The Aerials (Booms/Platforms, Ladders, Ladder/Platforms) covered by this Invitation are defined by Product Codes that have been pre-listed on FORM D.

1. **Standard Features.** The following features must be included in all items bid pursuant to this Invitation:

   - Seating for a minimum of five (5) firefighters.
   - A Minimum of three (3) SCBA seats in stationary cabs, four (4) SCBA seats in all others.
   - For 75-99 ft., 500 lb. capacity apparatus (For Steel & Aluminum), a minimum 400 bhp diesel engine.
   - For all other Products, minimum 450 bhp diesel engine (w/EVS4000 Transmission)
   - All engines must meet current EPA standards.
   - Allison **EVS-3000** Automatic Transmission
   - Engine exhaust auxiliary brake
   - Full Anti-Lock Braking System
   - Power Steering
   - Air Brakes with min. 16 cfm compressor
   - 1500 gpm single stage fire pump
   - Polypropylene/fiberglass water tank:
     - For 75-99 ft. Aerials, Single Axle, with a rated capacity of 500/750 lbs. (steel or aluminum construction), a 300 gallon minimum polypropylene or fiberglass water tank.
     - For 75-99 ft. Aerials, Tandem Axle, with a rated capacity of 500/750 lbs. (steel or aluminum construction), a 500 gallon minimum polypropylene or fiberglass water tank.
For all 100’+ apparatus with platform, a 150 gallon minimum polypropylene or fiberglass water tank.
- Two (2) Transverse preconnect hose beds.
- Ground ladders mounted in totally enclosed compartment(s) with doors, and providing access from the rear of the apparatus.
- Left side pump operator’s control panel.
- Heater/Defroster in Cab area.
- Air Conditioning in Cab area.
- For 45-65 ft. Mini-Aerials, Tandem Axle (19,000 lb. GVW), 1250 gpm single stage fire pump, (steel or aluminum construction), 300 gallon minimum polypropylene or fiberglass water tank, aluminum body.

2. Requirements by Apparatus Type.
(a) Aerials Fire Apparatus with 1,500 gpm single-stage fire pumps shall be compliant with the following NFPA 1901 chapters regarding apparatus requirements:
   - Chapter 5: Pumper Fire Apparatus
   - Chapter 8: Aerial Fire Apparatus
- All optional apparatus models offered in any bid response shall be in compliance with NFPA 1901, latest edition for the specific apparatus offered.

Note: Optional deletion of fire pump shall be offered as a priced option on FORM E.

IV. PUMPER FIRE APPARATUS
In addition to the latest edition of NFPA Standard 1901, Products bid hereunder must also comply with all H-GAC specifications and requirements herein. The Pumper Fire Apparatus covered by this Invitation are defined by the Product Codes that have been pre-listed on Form D.

1. Standard Features Required in Base Bid Response.
- Commercial Cabs: 2 or 4 door cab with doors on left and right sides of apparatus
- Custom Cabs: 4 door cab with doors on left and right sides of apparatus
- Minimum three (3) SCBA seats in stationary cabs, four (4) SCBA seats in all others; there is no requirement for SCBA seating in 2-door Commercial Cabs
- Minimum 300 bhp diesel engine, 2-Door Commercial Cabs.
- Minimum 320 bhp diesel engine, 4-Door Commercial Cabs.
- Minimum 325 bhp diesel engine, Custom Cabs w/1250 gpm pump
- Minimum 350 bhp diesel engine, Custom Cabs w/1500 to 2500 gpm pump

Note: All engines offered shall meet current EPA standards.
- Allison EVS-3000 Automatic Transmission for apparatus w 1250 gpm pump
- Allison EVS-3000 Automatic Transmission for apparatus w/1500 to 2500 gpm pump
- Engine exhaust auxiliary brake shall be provided in all apparatus
- Full Anti-Lock Braking System
- Power Steering
- Air Brakes
- Minimum 750 gallon polypropylene or fiberglass water tank for pumper bodies, 500 gallon (mini-pumper)
- Minimum 1800 gallon polypropylene, fiberglass or stainless steel water tank for pumper/tanker bodies on single rear axle
- 1250 gpm single stage fire pump, Commercial Cabs.
- 1250, 1500 to 2500 gpm single stage fire pump, Custom Cabs
- Fuel Tank (minimum) – 40 gallon (commercial chassis), 50 gallon (custom chassis)

- Commercial Cabs (Light/Medium)
- 2 Door Models (4 Door Models may be listed as options)
- 300 bhp diesel engine (optional engines to be priced on Form E)
- Automatic Transmission (optional transmissions to be priced on Form E)
- Front axle rating (min.) – 7,000 lbs. (2-Door Cab)
• Single Rear axle rating (min.) – 12,000 lbs. (2-Door Cab)
• Heater/Defroster/Vent/Air Conditioning
• Constructed on standard straight frame rail chassis.
• Fuel Tank – 40 gallon (minimum).
• ABS Braking System.

2. Tanker Apparatus Pumps
Pumps, portable and PTO will be allowed on tankers. Minimum pump capability will be 250 gmp@150 psi, per NFPA 1901, 2009 Mobile Water Supply Apparatus, Chapter 14.
• 250, 350, 450, 500, 750 or 1000 gpm single state PTO or portable fire pump.
Note: Bidder shall list optional pumps as priced options on Form E.

3. Water Tanks
(a) Tank Construction.
Water tank capacity (pumpers) shall be a minimum rated 750 gal (2850 L) as provided in the base bid response. Mini-Pumpers 500 gallon. Other sizes shall be offered as Priced Options on FORM E.

Water Transfer (Mobile Water Supply). The bidder shall provide pricing for tanker configurations of 1,800 gallons to 4,000 gallons including chassis requirement changes to accommodate the extra weight.

V. AIRCRAFT RESCUE & FIRE FIGHTING VEHICLES
Products bid hereunder must comply with the latest Edition of NFPA Standard 414 (Standard for Aircraft Rescue and Fire-Fighting Vehicles). The Aircraft Rescue & Fire-Fighting Vehicles covered by this Invitation are defined by the Product Codes that have been pre-listed on Form D.

5. EVALUATION AND BID AWARDS
Bids will be evaluated by H-GAC Staff in compliance with stated requirements. Contracts will be awarded to the “lowest responsive responsible Bidder(s) providing best value” for each base line item offered. A minimum threshold score of 70 points will be required before a contract may be offered.

PRICING – An analysis of Bidder’s submitted bid price will be conducted for each base line item using Form D and Form E.
Bidders with the lowest total price for each line item will receive a maximum score of 60 points.

PAST PERFORMANCE – An evaluation will be conducted of the Bidder’s previous contract performance as an HGACBuy contractor based on the performance measured listed below. Maximum score is 25 points.

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timely response to request for information and/or request for quotes/pricing (Sec A, 48b)</td>
</tr>
<tr>
<td>Accurate preparation of Contract Pricing Worksheet(s) (Sec A 48e)</td>
</tr>
<tr>
<td>Timely delivery of product or services (as quoted at time of order placement) (Sec A, 25c)</td>
</tr>
<tr>
<td>Quality of products/service (Sec A, 25d, 44f)</td>
</tr>
<tr>
<td>Timely and accurate submission of Contractor’s Activity Report (Sec A, 48h)</td>
</tr>
<tr>
<td>Timely payment of order processing charge (Sec A, 44g, 44h)</td>
</tr>
</tbody>
</table>

NOTE: For Joint Bids, each Form A submitted in the Bidders response will be scored per the above criteria and an overall average will be taken of all Form A’s submitted to determine the Performance score for each submission.
MARKETING PLAN (Form H) – Bidder shall provide a written narrative explaining in some detail activities that will be undertaken to actively market and promote an H-GAC contract to local government and non-profit End Users. Plan may include items such as types of media to be used, frequency of outreach campaigns or designated staff resources assigned to such tasks. **Maximum score is 15 points.**

<table>
<thead>
<tr>
<th>Evaluation Criteria Scoring Table</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRICE</td>
<td>60</td>
</tr>
<tr>
<td>PERFORMANCE MEASURES</td>
<td>25</td>
</tr>
<tr>
<td>MARKETING PLAN</td>
<td>15</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

[END OF SECTION “B”]
This Section contains the following H-GAC FORMS:

<table>
<thead>
<tr>
<th>FORM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form A:</td>
<td>Offeror Identification and Authorized Signatory</td>
</tr>
<tr>
<td>Form B:</td>
<td>Historically Underutilized Business Enterprises</td>
</tr>
<tr>
<td>Form C:</td>
<td>Response Checklist</td>
</tr>
<tr>
<td>Form D:</td>
<td>Offered Items Pricing</td>
</tr>
<tr>
<td>Form E:</td>
<td>Published Options</td>
</tr>
<tr>
<td>Form G:</td>
<td>Special Statement of Warranty</td>
</tr>
<tr>
<td>Form H:</td>
<td>Marketing Plan</td>
</tr>
</tbody>
</table>

These FORMS are hereby made available in electronic format. They should be copied to Offeror's computer for completion and/or printout as required. The FORMS may not be changed or altered in any way, except as may be specified on the FORM.

ALL completed FORMS must also be submitted electronically on electronic media (DVD, CDRom, flash/thumb drive), excepting of course for signatures. The printed "Original" of the response will be considered as the official copy in case of any discrepancy between the electronic version and the printed Original.
**Invitation Title:** Fire Service Apparatus (All Types)

**Offeror Company:**

(Legal name of business which will appear on contract, if awarded)

**Offeror Status:**
- [ ] Manufacturer
- [ ] Dealer/Distributor
- [ ] Other

**Response Type(1):**
- [ ] Single Offeror Acting Alone Or As Lead
- [ ] Multiple Offerors Acting Jointly

**Contract Signatory(2):**

Title:

**Mailing Address(3):**

Street/PO Box  
City  
State & Zip

**Physical Address:**

Street  
City  
State & Zip

**Phone:**  
Fax:

**Email Address:**

**Federal Tax ID No.:**  
**Web Page URL:**

1. If Joint Offering, all parties must submit a signed Form A. A contract will be offered to each.
2. Person who will sign final contract documents if an award is made.
3. Address to which final contract documents would be sent for signature.

## Member Contact Information

**Contact Person(4):**

Title:

**Mailing Address:**

Street/PO Box  
City  
State & Zip

**Physical Address:**

Street  
City  
State & Zip

**Toll Free Phone:**  
Fax:

**Email Address:**

(4) Person who End Users will contact for product information and to get pricing quotes.

## The Signatory below, on behalf of Offeror:

- Acknowledges having thoroughly reviewed the Invitation;
- Attests to having the authority to sign this response and commit Offeror to honor all requirements;
- Makes, under penalty of perjury, all required Offeror Certifications as detailed in General Terms;
- Certifies that all information provided in this Response is true and correct.

**Signature:**  
**Title:**

**Printed Name:**  
**Date:**
Most, if not all, of the Members of HGACBuy are subject to various requirements relative to purchasing goods and services from Historically Underutilized Business Enterprises (HUBs)(See Note 1). These requirements are promulgated by federal and state governmental authorities, and include measureable criteria such as 'percentage of total dollars spent directed to HUBs', 'number of HUB contractors used', 'HUB subcontractors employed by primary contractors', etc. These requirements are generally formalized in goal oriented programs.

HGACBuy is committed to promoting full and equal business opportunities for HUB contractors, and to assisting Cooperative Purchasing Program (COOP) Members in meeting mandated HUB goals. In that regard, Contractor shall make a good faith effort to use the services of Certified/Listed (See Note 2) HUBs whenever possible.

As part of a good faith effort, Contractor agrees to work with and assist HGACBuy Members in meeting HUB targets and goals, as may be required by any rules, processes or programs they might have in place. Such assistance may include such things as compliance with reporting requirements, provision of documentation, consideration of 'Certified/Listed' subcontractors, provision of documented evidence that an active participatory role for a HUB entity was considered in a procurement transaction, etc.

Note 1: There are many designations other than "HUB" used across the country within various jurisdictions. Examples include terms such as Disadvantaged Business Enterprise (DBE), Minority Owned Business Enterprise (MBE), Woman Owned Business Enterprise (WBE), Small Disadvantaged Business (SDB), Small, Woman or Minority-owned Business (SWAM), etc. Regardless of the formal designation, the overall objective of the relevant programs is basically the same, i.e. to insure that disadvantaged and underutilized members of the business community receive a fair share of public spending. The term HUB as used herein shall be understood to encompass all such programs/business enterprises, no matter what terminology is used by the Member.

Note 2: The terms "Certified" and "Listed" as used in conjunction with HUB programs relate to the process of HUB qualification review. Jurisdictions usually require that companies claiming HUB status be reviewed and confirmed as meeting certain minimum requirements to claim that status, and that the review and confirmation process be carried out by certain designated entities. They are then "Certified" or "Listed" by having their name included on an official listing published by the Certifying or Listing Authority.

Accepted and Agreed By:

<table>
<thead>
<tr>
<th>Title:</th>
<th>Date:</th>
</tr>
</thead>
</table>

HUB Status Of Offeror

- [ ] Offeror is a HUB, as detailed below.
- [ ] Offeror is not a HUB.

Designation(s): [ ] HUB [ ] DBE [ ] MBE [ ] WBE [ ] Other

Certifying/Listing Authority(s):

Subcontracts

On a separate sheet, list any subcontractors that would be employed in providing products or services related to this procurement. Include subcontractor name, designation (HUB, DBE, etc.) and certifying/listing authority.

- [ ] Subcontractor List attached.
- [ ] No Subcontractors will be used.
### FORM C - RESPONSE CHECKLIST

**Title:** Fire Service Apparatus (All Types)

**Offeror:**

This *FORM* is provided to help insure that all required Response elements have been completed and included, or certified as being available upon request. **Responses that do not comply with all requirements may be considered non-compliant.** Offeror's signatory must review each item below, and certify by initialing in the space to the right.

<table>
<thead>
<tr>
<th>This Response Includes</th>
<th>Init.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> An &quot;Original&quot; hard copy of the <strong>COMPLETE</strong> submission, including all required FORMS, plus one <strong>COMPLETE</strong> copy, each in a separate <strong>hard-sided</strong> 3-ring binder.</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> A copy of the <strong>COMPLETE</strong> submission, including all required FORMS, in <strong>electronic format</strong> (CD, DVD, flash drive). <strong>Forms D &amp; E</strong> are to be provided in an excel format.</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> An originally signed <strong>Form A</strong> from the all entities who are party to this submission and who should be offered a contract if this submission is successful. These entities should include the <strong>Apparatus Manufacturer</strong>, <strong>Franchised Texas Dealer</strong> and those dealers outside Texas who have current or past sales through the program <em>(Note: All other sales outside Texas should be coordinated through the manufacturer when possible).</em> In those cases where sales must go through a dealer due to franchise agreements, <strong>Form A's</strong> will be accepted from those dealers. For those only bidding conversions (i.e. brush trucks, light rescues), <strong>Form A's</strong> from in-state commercial chassis dealers for the underlying chassis make being quoted should be provided.</td>
<td></td>
</tr>
<tr>
<td><strong>4</strong> A <strong>Form W-9 - Request for Taxpayer Identification Number and Certification</strong> shall be provided from each entity that has submitted a <strong>Form A</strong> for this submission (See Attachment)</td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> <strong>Form CIQ</strong> (Conflict of Interest Questionaire) completed and signed and provided from each entity that has submitted a <strong>Form A</strong> for this submission (See Attachment)</td>
<td></td>
</tr>
<tr>
<td><strong>6</strong> <strong>Form 1295 Form</strong> (Certificate of Interested Parties) must be filled out electronically with the Texas Ethics Commisions's online filing application, printed out, signed, notarized, and provided from each entity that has submitted a <strong>Form A</strong> for this submission (See Attachment)</td>
<td></td>
</tr>
<tr>
<td><strong>7</strong> <strong>Marketing Plan (Form H)</strong> - Bidder shall provide a written narrative explaining in some detail activities that will be undertaken to actively market and promote an H-GAC contract to local government and non-profit End Users.</td>
<td></td>
</tr>
<tr>
<td><strong>8</strong> The required list of <strong>References</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>9</strong> Details of &quot;<strong>Service Organization</strong>&quot;, including locations, hours, personnel and parts/service availability. <em>(Applies to hard goods only.)</em></td>
<td></td>
</tr>
<tr>
<td><strong>10</strong> Complete <strong>Warranty Documentation</strong> for all Products offered.</td>
<td></td>
</tr>
<tr>
<td><strong>11</strong> The manufacturer’s latest <strong>Specification Documents</strong> detailing standard features, operating characteristics, etc., for all products offered. <strong>Note: Bidder shall supply a spec/quote sheet for each product code bid on Form D.</strong> These sheets should detail what features are included in the price quoted on <strong>Form D</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>12</strong> If the <strong>Non-Resident Reciprocal Bid Act</strong> applies, a copy of your state statute and a determination of the status of Texas bidders/proposers in your home state. If not applicable, indicate &quot;N/A&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>13</td>
<td>If offer includes motor vehicles to be sold in Texas, copies of all current licenses as required by the Texas Motor Vehicle Commission.</td>
</tr>
<tr>
<td>14</td>
<td>A Bid/Proposal Bond, or Cashier’s Check in the amount of $3000. (A percentage bond is NOT acceptable.)</td>
</tr>
<tr>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>
Offeror Name: 

Invitation No.: FS12-17 - Fire Service Apparatus (All Types)

**Note:** All products listed below are to be considered as base model/units for purposes of this Invitation and any subsequent contract. The Bidder shall determine which Product Codes to bid and shall fill in a bid price in the appropriate cell. Bidder may then bid upgrades or downgrades to different product codes as options on Form E, with pricing equal to the differential amount between the base Product Item price and the upgrade or downgrade being offered. Bidders are to provide pricing for options and accessories as explained in Sections A and B, as well as specific apparatus variations as listed below:

1. Other available Cab/Chassis manufacturer choices for apparatus built on a commercial cab/chassis.
2. Different available cab designs (2/4 Door/Tilt Cab etc.)
3. Cab/Body sheet and structural metal choices (Galvanneal, Formed/Extruded Aluminum, Stainless Steel)
4. Available rear axle configurations (Single/Tandem/Tandem Front Steering/Triple Rear)
5. Different fire pumps and mounting locations (1250/1500/2500 GPM Pump/Rear and Mid-Mounted)
6. Various body configurations (Walk-In/Non-Walk-In Body) for Rescue, Re-Hab, Hazmat, Mobile Command Centers
7. Aerial Categories (Construction/Turntable Positions/Aerial Device Functions)

**IMPORTANT:** Bidder **MUST** submit copies of the following with their bid:

1. A copy of each participating bidder/dealer's TxMVD dealer license identifying the make/brand of apparatus being bid.
2. An originally signed Form A from the all entities who are party to this submission and who should be offered a contract if this submission is successful. These entities should include the Apparatus Manufacturer, Franchised Texas Dealer and those dealers outside Texas who have current or past sales through the program (Note: All other sales outside Texas should be coordinated through the manufacturer when possible). In those cases where sales must go through a dealer due to franchise agreements, Form A's will be accepted from those dealers. For those only bidding conversions (i.e. brush trucks, light rescues), Form A's from in-state commercial chassis dealers for the underlying chassis make being quoted should be provided.

3. A copy of the bidders and/or manufacturers's Texas Motor Vehicle Converter license (where applicable).

**Note:** The above requirements must be met prior to any contracts being issued.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Model &amp; Description</th>
<th>Base Offered Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB01</td>
<td>B-3-F450 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 325 gals water mounted on a Ford F450 Chassis 60” CA.</td>
<td></td>
</tr>
<tr>
<td>AB02</td>
<td>B-3- D3500 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 325 gals water mounted on a Dodge 3500 Chassis 60”CA.</td>
<td></td>
</tr>
<tr>
<td>AB03</td>
<td>B-4-F550 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 400 gal poly tank mounted on Ford F550 chassis 60”CA.</td>
<td></td>
</tr>
<tr>
<td>AB04</td>
<td>B-4-D5500 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motors 400 gal poly tank mounted on a Dodge 5500 chassis.</td>
<td></td>
</tr>
<tr>
<td>AB05</td>
<td>B-5-F550 Welded steel bed with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 500 gal poly tank mounted on Ford F550 chassis 84” CA.</td>
<td></td>
</tr>
<tr>
<td>AB06</td>
<td>B-5-D5500 Welded steel bed with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motors 500 gal poly tank mounted on a Dodge 5500 chassis 84” CA.</td>
<td></td>
</tr>
<tr>
<td>AB07</td>
<td>B-8-Ford Welded steel bed with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 800 gal poly tank mounted on a Ford F-750 Chassis.</td>
<td></td>
</tr>
<tr>
<td>AB08</td>
<td>B-24-F550 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 400 gal poly tank, single upswing door per side mounted on a Ford F550 60” CA.</td>
<td></td>
</tr>
<tr>
<td>AB09</td>
<td>B-24-D5500 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor, 400 gal poly tank single upswing door per side mounted on a Dodge 5500 60” CA.</td>
<td></td>
</tr>
<tr>
<td>AB10</td>
<td>B-24-F550 Welded steel body with crosswalk and pump and roll capabilities HPX200 pump driven by a 23HP briggs motor 400 gal poly tank, single upswing door per side.</td>
<td></td>
</tr>
</tbody>
</table>

D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| AD01 | B-27-F550 Rescue first response. Welded steel superstructure transverse crosswalk with pump and roll capabilities dual swing up doors per side HPX200 pump driven by a 23HP briggs motor 400 gal poly tank, mounted on a ford F550 chassis 84” CA. |
| AD02 | B-27-D5500 Rescue first response. Welded steel superstructure transverse crosswalk with pump and roll capabilities dual swing up doors per side HPX200 pump driven by a 23HP briggs motor 400 gal poly tank, mounted on a Dodge F550 chassis 84” CA. |
| AD03 | B-56-Ford Rescue first response. Welded steel superstructure transverse crosswalk with pump and roll capabilities dual swing up doors per side, dual HPX200 pump driven by 23HP briggs motors, 800 gal poly tank, mounted on a Ford F-750 chassis. |

B. Boise Mobile Equipment

B. Wildland Fire Apparatus (Brush Fire)

| BB01 | BME, Type 3, International 7400, 4WD, 4-Door ,Crew Cab. 600 Gallon Water Tank, 25 Gallon Foam Tank, Hale CBP 250 PTO Pump, Pump and Roll Capability, FoamPro 2001 Foam System, |
| BB02 | BME, Type 3, Freightliner M2-106, 4WD, 4-Door ,Crew Cab. 600 Gallon Water Tank, 25 Gallon Foam Tank, Hale CBP 250 PTO Pump, Pump and Roll Capability, FoamPro 2001 Foam System, |
| BB03 | BME, Type 3, Urban Interface (Model 34). International 7400, 4WD, 4-Door, Crew Cab. 500 Gallon Water Tank, 25 Gallon Foam Tank, Darley JMP 500 2-Stage Pump, Darley 1-1/2AGE 24 HP Kubota D902 Diesel Auxiliary Pump |
| BB04 | BME, Type 3, Urban Interface (Model 34) Freightliner M2-106, 4WD, 4-Door, Crew Cab. 500 Gallon Water Tank, 25 Gallon Foam Tank, Darley JMP 500 2-Stage Pump, Darley 1-1/2AGE 24 HP Kubota D902 Diesel Auxiliary Pump |
| BB05 | BME, Type 4, International 7400, 4WD, 4-Door, Crew Cab. 800 Gallon Water Tank, 25 Gallon Foam Tank, Rear Mounted Darley 1-1/2AGE 34HP Kubota Diesel Pump, Two (2) Hannay 150’ Hose Reels, NFPA Compliant Whelen Light Package |
| BB06 | BME, Type 4, Freightliner M2-106, 4WD, 4-Door, Crew Cab. 800 Gallon Water Tank, 25 Gallon Foam Tank, Rear Mounted Darley 1-1/2AGE 34HP Kubota Diesel Pump, Two (2) Hannay 150’ Hose Reels, NFPA Compliant Whelen Light Package |
| BB07 | BME, Type 6, Ford F550, 4WD, 4-Door 6.7L Diesel, 6-Speed A/T. 300 Gallon Water Tank Darley 1-1/2AGE 24HP Kubota D902 Diesel Auxiliary Pump |
| BB08 | BME, Type 6, Dodge 5500, 4WD, 4-Door 6.7L Diesel, 6-Speed A/T. 300 Gallon Water Tank Darley 1-1/2AGE 24HP Kubota D902 Diesel Auxiliary Pump |
| BB09 | BME, Type 6, (Flatbed) Ford F550, 4WD, 4-Door 6.7L Diesel, 6-Speed A/T. 300 Gallon Water Tank Darley 1-1/2AGE 24HP Kubota D902 Diesel Auxiliary Pump |
| BB10 | BME, Type 6, (Flatbed) Dodge 5500, 4WD, 4-Door 6.7L Diesel, 6-Speed A/T. 300 Gallon Water Tank Darley 1-1/2AGE 24HP Kubota D902 Diesel Auxiliary Pump |
| BB11 | BME, 10 Man Crew Carrier Vehicle, Freightliner M2-106, 2WD |
| BB12 | BME, 10 Man Crew Carrier Vehicle, International 4300, 2WD |

C. Pumper Fire Apparatus

| BC01 | BME, Commercial Pumper, Side Mount, Freightliner Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |
| BC02 | BME, Commercial Pumper, Side Mount, International 7400 Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |
| BC03 | BME, Commercial Pumper, Top Mount, Freightliner Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |
| BC04 | BME, Commercial Pumper, Top Mount, International 7400 Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |
| BC05 | BME, Custom Pumper, Side Mount, Spartan Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |
| BC06 | BME, Custom Pumper, Top Mount, Spartan Chassis, 1000 Gallon Water Tank, 1500 GPM Pump |

**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

| BD01 | BME, Walk Around, Light Rescue, Ford F550 |
| BD02 | BME, Walk Around, Medium Rescue, Freightliner M2-106, 2WD |
| BD03 | BME, Walk Around, Medium Rescue, International 4300 |
| BD04 | BME, Walk Around, Heavy Rescue, Freightliner M2-108 SD |
| BD05 | BME, Walk Around, Heavy Rescue, International 7400 |
| BD06 | BME, Walk Around, Heavy Rescue, Spartan Gladiator |

**E. Pumper/Tankers & Tankers**

| BE01 | BME, Commercial Tender, Freightliner Chassis, Single Axle, 2000 Gallon Water Tank, 750GPM Pump |
| BE02 | BME, Commercial Tender, International Chassis, Single Axle, 2000 Gallon Water Tank, 750GPM Pump |
| BE03 | BME, Commercial Tender, Freightliner Chassis, Tandem Axle, 3000 Gallon Water Tank, 750GPM Pump |
| BE04 | BME, Commercial Tender, International Chassis, Tandem Axle, 3000 Gallon Water Tank, 750GPM Pump |
| BE05 | BME, Custom Tender, Spartan Chassis, Single Axle, 2000 Gallon Water Tank, 750GPM Pump |
| BE06 | BME, Tender, Model 22, Freightliner, 2WD, 2-Door, Single Axle. 1500 Gallon Stainless Steel Elliptical Water Tank. |
| BE07 | BME, Tender, Model 22, International 7400, 2WD, 2-Door, Single Axle. 1500 Gallon Stainless Steel Elliptical Water Tank. |

**C. Custom Fire**

**B. Wildland Fire Apparatus (Brush Fire)**

| CB01 | CustomFIRE Initial Attack Fire Apparatus, Ford F-550 Chassis, 4x4, crew-cab, aluminum body, 300 gallons capacity |

**C. Pumper Fire Apparatus**

| CC01 | Freightliner, 2-door, CustomFIRE pumper, aluminum body, single axle, 1500 GPM pump, side mounted pumper |
| CC02 | Freightliner 2-door, CustomFIRE aluminum body, single axle, 1500 GPM pump, Full Response Enclosed Top Mount pumper |
| CC03 | Spartan 10” raised roof, 4-door, CustomFIRE aluminum body, single axle, 1500 GPM pump, rear mount pumper |

**D. Special Service Apparatus (Walk-In & Non-Walk In Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

| CD01 | Ford F550, 4-door, 4x4, CustomFire Aluminum, Non-Walk-In Body |
| CD02 | Spartan 10” 4-Door, Full-Tilt, Aluminum Cab, Tandem Axle, CustomFIRE Aluminum, Non-Walk-In Body |
| CD03 | M2 Freightliner, 2-Door, OEM Cab, Single Axle, CustomFIRE Aluminum, Walk-In Body |

**E. Pumper/Tankers & Tankers**

| CE01 | Freightliner 2-door, single axle, CustomFIRE tanker aluminum body, 500 gpm pump, (2,000 gallons) |
| CE02 | Freightliner 2-door, tandem axle, CustomFIRE tanker aluminum body, 500 gpm pump, (3,000 gallons) |
| CE03 | Spartan Gladiator MFD chassis with 10” raised roof, 4-door, tandem axle, CustomFIRE pumper-tanker, aluminum body, 1500 GPM pump, side mounted pumper (3,000 gallons) |
### D. DACO

#### B. Wildland Fire Apparatus (Brush Fire)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB01</td>
<td>Self-Contained Slip-In Unit</td>
</tr>
<tr>
<td>DB02</td>
<td>Brush Fire Apparatus, Ford F-550 Chassis, Steel Flatbed</td>
</tr>
<tr>
<td>DB03</td>
<td>Brush fire apparatus, Ford F-550 Chassis, Formed Aluminum Flatbed</td>
</tr>
<tr>
<td>DB04</td>
<td>Brush fire apparatus, Ford F-550 Chassis, Steel Utility Bed</td>
</tr>
<tr>
<td>DB05</td>
<td>Brush fire apparatus, Ford F-550 Chassis, Formed Aluminum Utility Bed</td>
</tr>
<tr>
<td>DB06</td>
<td>Brush fire apparatus Freightliner M-2 4 x 4 Chassis Steel flatbed.</td>
</tr>
<tr>
<td>DB07</td>
<td>Brush fire apparatus Freightliner M-2 4 x 4 Chassis Formed Aluminum Flatbed.</td>
</tr>
<tr>
<td>DB08</td>
<td>Brush fire apparatus Freightliner M-2 4 x 4 Chassis Formed Aluminum Utility Bed.</td>
</tr>
<tr>
<td>DB09</td>
<td>Brush Fire Apparatus, Dodge 5500 Chassis, Steel Flatbed</td>
</tr>
<tr>
<td>DB10</td>
<td>Brush Fire Apparatus, Dodge 5500 Chassis, Formed Aluminum Flatbed</td>
</tr>
<tr>
<td>DB11</td>
<td>Brush Fire Apparatus, Dodge 5500 Chassis, Formed Aluminum Utility Bed</td>
</tr>
</tbody>
</table>

#### E. Danko

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB01</td>
<td>Skid Unit, 250 gallon-Waterous 2515 pump-18HP Briggs engine-Booster reel- stainless steel plumbing</td>
</tr>
<tr>
<td>EB02</td>
<td>High pressure skid unit</td>
</tr>
<tr>
<td>EB03</td>
<td>Flatbed, Ford F450 4x4 chassis, diesel, aluminum flatbed, compartments, LED lighting, 300 gal poly tank, booster reel, stainless plumbing</td>
</tr>
<tr>
<td>EB04</td>
<td>Flatbed, Dodge 4500, 4x4 chassis, diesel, aluminum flatbed, compartments, LED lighting, 300 gal poly tank, booster reel, stainless plumbing</td>
</tr>
<tr>
<td>EB05</td>
<td>Treadbrite quick attack body, Ford F450, 4x4 diesel, LED lighting, 300 gal poly tank, Waterous pump, Briggs engine, booster reel</td>
</tr>
<tr>
<td>EB06</td>
<td>Treadbrite quick attack body, Dodge 4500, 4x4 diesel, LED lighting, 300 gal poly tank, Waterous pump, Briggs engine, booster reel</td>
</tr>
<tr>
<td>EB07</td>
<td>Large Flatbed, Freightliner/M2, 1000 gallon water, 250-500 GPM pump, LED lighting</td>
</tr>
<tr>
<td>EB08</td>
<td>Large Flatbed, I-H chassis, 1000 gallon water, 250-500 GPM pump, LED lighting</td>
</tr>
<tr>
<td>EB09</td>
<td>Large Flatbed, Peterbilt chassis, 1000 gallon water, 250-500 GPM pump, LED lighting</td>
</tr>
<tr>
<td>EB10</td>
<td>Large Flatbed, Kenworth chassis, 1000 gallon water, 250-500 GPM pump, LED lighting</td>
</tr>
<tr>
<td>EB11</td>
<td>Danko Quick Response/Mini Pumper, Ford F450 4x4 diesel, painted body, 300 gallon water, 150GPM up to 1500GPM pump.</td>
</tr>
<tr>
<td>EB12</td>
<td>Danko Quick Response/Mini Pumper, Dodge 4500, 4x4 diesel, painted body, 300 gallon water, 150GPM up to 1500GPM pump.</td>
</tr>
</tbody>
</table>

#### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED01</td>
<td>Ford F450, 4x4, diesel 2-Door Chassis, Non-Walk-In Rescue Body, 10’ or 12’ painted body, LED lighting.</td>
</tr>
<tr>
<td>ED02</td>
<td>Dodge 4500, 4x4, diesel 2-Door Chassis, Non-Walk-In Rescue Body, 10’ or 12’ painted body, LED lighting.</td>
</tr>
</tbody>
</table>

#### E. Pumper/Tankers & Tankers

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE01</td>
<td>IHC, 2-Door Chassis, Pumper Tanker, Aluminum Body, Single Axle, 750 Hale GPM Pump, 2000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE02</td>
<td>Freightliner, 2-Door Chassis, Pumper Tanker, Aluminum Body, Single Axle, 750 Hale GPM Pump, 2000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE03</td>
<td>Kenworth, 2-Door Chassis, Pumper Tanker, Aluminum Body, Single Axle, 750 Hale GPM Pump, 2000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE05</td>
<td>IHC, 2-Door Chassis, Pumper Tanker, Aluminum Body, Tandem Axle, 750 Hale GPM Pump, 3000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE06</td>
<td>Freightliner, 2-Door Chassis, Pumper Tanker, Aluminum Body, Tandem Axle, 750 Hale GPM Pump, 3000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE07</td>
<td>Kenworth, 2-Door Chassis, Pumper Tanker, Aluminum Body, Tandem Axle, 750 Hale GPM Pump, 3000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>EE08</td>
<td>Peterbilt, 2-Door Chassis, Pumper Tanker, Aluminum Body, Tandem Axle, 750 Hale GPM Pump, 3000 Gal. Poly Tank, Swivel dump valve, Hosebed, LED lighting</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EE09</td>
<td>IHC, 2-Door Chassis, Tanker, Aluminum Body, Single Axle, 250 GPM Waterous Pump, Kubota diesel engine, 2000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE10</td>
<td>Freightliner 2-Door Chassis, Tanker, Aluminum Body, Single Axle, 250 GPM Waterous Pump, Kubota diesel engine, 2000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE11</td>
<td>Kenworth, 2-Door Chassis, Tanker, Aluminum Body, Single Axle, 250 GPM Waterous Pump, Kubota diesel engine, 2000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE12</td>
<td>Peterbilt, 2-Door Chassis, Tanker, Aluminum Body, Single Axle, 250 GPM Waterous Pump, Kubota diesel engine, 2000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE13</td>
<td>IHC, 2-Door Chassis, Tanker, Aluminum Body, Tandem Axle, 250 GPM Waterous Pump, Kubota diesel engine, 3000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE14</td>
<td>Freightliner, 2-Door Chassis, Tanker, Aluminum Body, Tandem Axle, 250 GPM Waterous Pump, Kubota diesel engine, 3000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE15</td>
<td>Kenworth, 2-Door Chassis, Tanker, Aluminum Body, Tandem Axle, 250 GPM Waterous Pump, Kubota diesel engine, 3000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
<tr>
<td>EE16</td>
<td>Peterbilt, 2-Door Chassis, Tanker, Aluminum Body, Tandem Axle, 250 GPM Waterous Pump, Kubota diesel engine, 3000 Gal Poly Tank, stainless plumb, Swivel dump, LED lights</td>
</tr>
</tbody>
</table>

**F. Darley**

**A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)**

<table>
<thead>
<tr>
<th>FA01</th>
<th>Spartan Single Rear Axle Chassis, Poly Body, 1500 GPM Midship CAFS Pump, Rear Mount 78 ft Steel Aerial, 500 Gallon Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA02</td>
<td>Spartan Tandem Rear Chassis, Poly Body, 1500 GPM Midship CAFS Pump, Rear Mount 109 ft Steel Aerial, 300 Gallon Tank</td>
</tr>
</tbody>
</table>

**B. Wildland Fire Apparatus (Brush Fire)**

| FB01  | Darley Wildland Attack Unit, Ford F550, Poly Body with Foam System |

**C. Pumper Fire Apparatus**

<table>
<thead>
<tr>
<th>FC01</th>
<th>IH 2-Door Single Rear Axle Chassis, Poly Body, 1500 GPM CAFS Midship Pump, 1000 Gallon Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC02</td>
<td>Spartan Single Rear Axle Chassis, Poly Body, 1500 GPM CAFS Midship Pump, 1000 Gallon Tank</td>
</tr>
<tr>
<td>FC03</td>
<td>Spartan Tandem Rear Axle Chassis, Poly Body, 1500 GPM Midship Pump, 2500 Gallon Tank</td>
</tr>
</tbody>
</table>

**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

<table>
<thead>
<tr>
<th>FD01</th>
<th>IH 2-Door Single Rear Axle, Heavy Rescue Poly Body, Non-Walk-In Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD02</td>
<td>Spartan Single Rear Axle, Heavy Rescue Poly Body, Non-Walk-In Body</td>
</tr>
</tbody>
</table>

**E. Pumper/Tankers & Tankers**

<table>
<thead>
<tr>
<th>FE01</th>
<th>Spartan Single Rear Axle Chassis, Poly Body, 1000 GPM Midship Pump, 2000 Gallon Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE02</td>
<td>IH 2-Door Tandem Rear Axle Chassis, Poly Body, 1250 GPM Midship Pump, 2500 Gallon Tank</td>
</tr>
<tr>
<td>FE03</td>
<td>Spartan Tandem Rear Axle Chassis, Poly Body, 1500 GPM Midship Pump, 3500 Gallon Tank</td>
</tr>
</tbody>
</table>

**G. Deep South**

**B. Wildland Fire Apparatus (Brush Fire)**

| GB01  | Deep South Wildland Fire Apparatus, Ford Gas F-550 Regular Cab, 4X4, - 9' Alum. Flatbed Fire Body w/skid unit-150 GPM pump, 250 gallon tank |
| GB02 | Deep South Wildland Fire Apparatus, IHC 4400 Regular Cab, 4X2, 15’ Alum. Flatbed Fire Body w/skid unit 150 GPM pump, 250 gallon tank. |
| GB03 | Skid Unit, 100 GPM pump, 250 gallon water tank, Hose reel, 200’ of 1” redline |
| GB04 | Deep South Wildland Fire Apparatus, Ford Diesel F-550, Regular Cab, 4x4, 8’ Factory Truck Bed w/skid unit, 150 GPM pump, 250 gallon water tank |

### C. Pumper Fire Apparatus


### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| GD01 | Quick Response Rescue / Fire Apparatus, Ford Gas F-550 Regular cab, 4X4, 9’ – 1/8” Alum. 68” High Rescue / Fire Body. |
| GD02 | Medium-Duty "Walk-Around" Rescue Body / KW T-370 2- door 12’ – 1/8” Alum. 84” High Rescue / Fire Body. |
| GD03 | Heavy Duty "Walk-Around" Rescue Body/Spartan MetroX 4 Door, 18’ Alum. 84” High Rescue/Fire Body. |

### E. Pumper/Tankers & Tankers

| GE01 | Classic Series Mild Steel Tank / KW T-370 2 door - 3/16” Semi-Elliptical 1800 gallon coated mild steel tank body & subframe, 500 GPM PTO pump. |
| GE02 | Classic Series Poly Tank / KW T-370 2 door. 1800 gallon Poly Tank 1/8” Aluminum Body & Subframe, 500 GPM PTO pump. |

### H. Emergency One (E-One)

### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| HA01 | E-One Typhoon, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Single Axle, 1500 GPM Single Stage Pump, 500 Gallon Tank, Welded Extruded Aluminum HP75 - 75 FT. 550# Tip Load, Rear Mount Telescoping Ladder |
| HA02 | E-One Cyclone II, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Single Axle, 1500 GPM Single Stage Pump, 500 Gallon Tank, Welded Extruded Aluminum HP78 - 78 FT. 650# Tip Load, Rear Mount Telescoping Ladder |
| HA03 | E-One Quest, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Single Axle, 1500 GPM Single Stage Pump, 500 Gallon Tank, Welded Extruded Aluminum HP78 - 78 FT. 825# Tip Load, Rear Mount Telescoping Ladder |
| HA04 | E-One Cyclone II, 4 Door Full Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Single Axle, No Pump, No Tank, Welded Extruded Aluminum Metro 100 - 100 FT. 300# Tip Load, Rear Mounted Telescoping Ladder. |
| HA05 | E-One Cyclone II, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 500 Gallon Tank, Welded Extruded Aluminum HP100 - 100 FT. 550# Tip Load, Rear Mounted Telescoping Ladder |
| HA06 | E-ONE Quest, 4 Door Full Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 300 Gallon Tank, Welded Extruded Aluminum CR137 - 137 FT. 300-800# Tip Load, Rear Mount Telescoping Ladder |
| HA07 | E-One Cyclone II, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 300 Gallon Tank, Welded Extruded Aluminum L193 - 95' 1305# Tip Load, Mid-Mounted Telescoping Ladder Platform |
### B. Wildland Fire Apparatus (Brush Fire)

| HA08 | E-One Cyclone II, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 300 Gallon Tank, Welded Extruded Aluminum L095- 92' 1025# Tip Load, Rear Mounted Telescoping Ladder with Platform |
| HA09 | E-ONE Cyclone II, 4 Door full Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 300 Gallon Tank, Welded Extruded Aluminum HP100 - 100 FT, 1305# Tip Load, Rear Mounted Telescoping Ladder |
| HA10 | E-One Cyclone II, 4-Door Full-Tilt Welded Extruded Aluminum Cab, Six (6) Man Seating, Welded Extruded Aluminum Body, Tandem Axle, 1500 GPM Single Stage Pump, 300 Gallon Tank, Welded Extruded Aluminum HP100 - 105 FT, 575# Tip Load, Rear Mounted Telescoping Ladder |
| HA11 | E-One Cyclone II, 4-Door Full-Tilt Aluminum Cab, Extruded Aluminum Body, Tandem/Axle, 2000 GPM Single Stage Pump, 300 Gallon Tank, Bronto 100’ Rear Mounted Telescoping & Articulating Steel Boom with Platform |

### C. Pumper Fire Apparatus

| HC01 | Freightliner M2, 2-Door Commercial Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |
| HC02 | International 4400, 2-Door Commercial Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |
| HC03 | Kenworth T370, 2-Door Commercial Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |
| HC04 | E-One Typhoon, 4-Door Custom Full-Tilt Welded Aluminum Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |
| HC05 | E-ONE Cyclone II, 4 Door Custom Full Tilt Welded Aluminum Cab, Rear Engine Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |
| HC06 | E-ONE Quest, 4 Door Custom Full Tilt Welded Aluminum Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Rear Mount Pump Module |
| HC07 | E-One Typhoon Urban Interface Pumper, 4-Door Custom Full-Tilt Welded Aluminum Cab, Pumper, Welded Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mount Pump Module |

### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| HD01 | Freightliner M2, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD02 | International 4400, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD03 | Kenworth T370, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD04 | Ford F550, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD05 | International Terra Star, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD06 | E-One Typhoon, 4-Door Custom, Full-Tilt, Welded Aluminum Cab, Single Axle, Welded Extruded Aluminum Body, Non-Walk-In Rescue |
| HD07 | Freightliner M2, 2-Door, OEM Cab, Single Axle, Welded Stainless Body, Walk-In Rescue |
| HD08 | International 4400, 2-Door, OEM Cab, Single Axle, Welded Stainless Body, Walk-In Rescue |
| HD09 | Kenworth T370, 2-Door, OEM Cab, Single Axle, Welded Extruded Aluminum Body, Walk-In Rescue |
| HD10 | E-One Cyclone II, 4-Door Custom, Full-Tilt, Welded Aluminum Cab, Single Axle, Welded Extruded Aluminum Body, Walk-In Rescue |

### E. Pumper/Tankers & Tankers
| HE01  | Freightliner M2, 2-Door, Commercial Cab, Pumper/Tanker, Welded Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pump Module |
| HE02  | International, 2-Door, Commercial Cab, Pumper/Tanker, Welded Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pump Module |
| HE03  | Kenworth T370, 2-Door, Commercial Cab, Pumper/Tanker, Welded Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pump Module |
| HE04  | E-ONE CYCLONE II, 4-Door, Custom Full-Tilt, Welded Aluminum Cab, Pumper/Tanker, Welded Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pump Module |
| HE05  | International 4400, 2-Door Commercial Cab, 2000 Gallon Tanker, Wet Side Body, Single Axle, 500 GPM Pump |
| HE06  | Freightliner M2, 2-Door Commercial Cab, 2000 Gallon Tanker, Wet Side Body, Single Axle, 500 GPM Pump |
| HE07  | Kenworth T370, 2-Door Commercial Cab, 2000 Gallon Tanker, Wet Side Body, Single Axle, 500 GPM Pump |
| HE08  | International, 2-Door Commercial Cab, rear 3000 Gallon Tanker, Wet Side Body, Tandem Axle, 500 GPM Pump |
| HE09  | Freightliner M2, 2-Door Commercial Cab, rear 3000 Gallon Tanker, Wet Side Body, Tandem Axle, 500 GPM Pump |
| HE10  | Kenworth T370, 2-Door Commercial Cab, rear 3000 Gallon Tanker, Wet Side Body, Tandem Axle, 500 GPM Pump |
| HE12  | International, 2-Door, Commercial Cab, 3500 Gallon Elliptical Vacuum Tanker, Welded Extruded Aluminum Body, Tandem Axle, 500 GPM Pump |

**F. Airport Rescue Fire-Fighting Vehicles**

| HF01  | E-ONE Titan Force 4x4 P701-Class 4 ARFF, Coil Spring Suspension, 1585 water/205 foam gallons, 500 lbs dry chemical, NFPA 414 & FAA Compliant |
| HF02  | E-ONE Titan Force 6x6 P711, Class 5 ARFF, Coil Spring Suspension, 3170 water/420 foam gallons, 500 lbs dry chemical, NFPA 414 & FAA Compliant |

**I. Emergency Vehicles, Inc. (EVI)**

**D. Special Service Apparatus (Walk-In & Non-Walk In Bodies) Multi-use: Rescue, Re-Hab, Hazmat,**

| ID01  | Ford F-550 2-Door, Single Axle | 10’ Non-Walk-In Rescue (Aluminum) |
| ID02  | Ford F-550 2-Door, Single Axle | 12’ Non-Walk-In Rescue (Aluminum) |
| ID03  | Ford F-550 4-Door, Single Axle | 12’ Non-Walk-In Rescue (Aluminum) |
| ID04  | Ford F-550 2-Door, Single Axle | 12’ Walk-In Rescue (Aluminum) |
| ID05  | Freightliner M2, 2-Door, Single Axle | 16’ Non-Walk-In Rescue (Aluminum) |
| ID06  | International 4400, 2-Door, Single Axle | 16’ Non-Walk-In Rescue (Aluminum) |
| ID07  | Freightliner M2, 4-Door, Single Axle | 16’ Non-Walk-In Rescue (Aluminum) |
| ID08  | Freightliner M2, 2-Door, Single Axle | 16’ Walk-In Rescue (Aluminum) |
| ID09  | International 4400, 2-Door, Single Axle | 16’ Walk-In Rescue (Aluminum) |
| ID10  | Freightliner M2, 4-Door, Single Axle | 18’ Walk-In Rescue (Aluminum) |
| ID11  | International 4400, 4-Door, Single Axle | 18’ Walk-In Rescue (Aluminum) |
| ID12  | Freightliner M2, 2-Door, Single Axle | 18’ Crew-Body Rescue (Aluminum) |
| ID13  | Freightliner M2, 2-Door, Single Axle | 18’ Mobile Command Center (Aluminum) |
| ID14  | Spartan, 4-Door Full Tilt, Single Axle | 21’ Non-Walk-In Rescue (Aluminum) |
| ID15  | Spartan, 4-Door Full Tilt, Single Axle | 21’ Walk-In Rescue (Aluminum) |
| ID16  | Freightliner M2, 4-Door, Single Axle | 25’ Walk-In Rescue (Aluminum) |
| ID17  | International 4400, 4-Door, Single Axle | 25’ Walk-In Rescue (Aluminum) |
| ID18  | Freightliner M2, 4-Door, Tandem Axle | 25’ Walk-In Rescue (Aluminum) |
| ID19  | International 4400, 4-Door, Tandem Axle | 25’ Walk-In Rescue (Aluminum) |
| ID20  | Spartan, 4-Door, Full Tilt, Tandem Axle | 30’ Walk-In Rescue (Aluminum) |
| ID21  | Freightliner M2, 2-Door, Tandem Axle | 130’ Walk-In Command Center (Aluminum) |
| ID22  | Ford F-550 2-Door, Single Axle | 14’ Crew-Body Rescue (Aluminum) |
| ID23 | Ford F-550 4-Door, Single Axle | 12' 1250 GPM Mini-Pumper (Aluminum) |
| ID24 | Ford F-550 2-Door, Single Axle | 10' Quick Attack (Aluminum) |
| ID25 | Ford Excursion SUV Single Axle | Command Vehicle |
| ID26 | Ford F-350 4-Door Pick Up, Single Axle | Command Vehicle |
| ID27 | Ford F-550 2-Door, Single Axle | 16' Walk-In Special Service Unit (Aluminum) |
| ID28 | Ford Transit 350, Single Axle | Command Unit |
| ID29 | Freightliner M2 2-Door, Single Axle | 32' Walk-In Command Center (Aluminum) |
| ID30 | Spartan, 3-Door, Single Axle | 24' Crew-Body Haz-Mat Unit (Aluminum) |
| ID31 | Spartan, 3-Door, Single Axle | 24' Non-Walk-In Haz-Mat Unit (Aluminum) |
| ID32 | Spartan, 4-Door Tandem Axle | 26' Non-Wak-In Rescue (Aluminum) |
| ID33 | International 4400 2-Door, Single Axle | 15' Air-Light Unit (Aluminum) |
| ID34 | Ford F-550 Super Cab, Single Axle | 10' ESU Unit (Aluminum) |

### J. Ferrara

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| JA01 | Cinder, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted Telescoping Ladder |
| JA02 | Igniter, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted Telescoping Ladder |
| JA03 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 57' Rear Mounted Telescoping Ladder |
| JA04 | Cinder, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted Telescoping Ladder |
| JA05 | Igniter, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted Telescoping Ladder |
| JA06 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Single Axle, 77' Rear Mounted Telescoping Ladder |
| JA07 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 107' Rear Mounted Telescoping Ladder |
| JA08 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 127' Rear Mounted Telescoping Ladder |
| JA09 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 100' Mid-Mounted Telescoping Ladder |
| JA10 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 85' Mid-Mounted Telescoping Ladder with Platform |
| JA11 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 85' Rear Mounted Telescoping Ladder with Platform |
| JA12 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 100' Rear Mounted Telescoping Ladder with Platform |
| JA13 | Inferno, 4-Door Full-Tilt OEM Cab, Extruded Aluminum Body, Tandem Axle, 100' Mid-Mounted Telescoping Ladder with Platform |

#### B. Wildland Fire Apparatus (Brush Fire)

| JB01 | Self-Contained Slip-In Unit |
| JB02 | Ferrara Brush Fire Apparatus, Ford Truck, Extruded Aluminum Flatbed |
| JB03 | Ferrara Brush Fire Apparatus, Dodge Truck, Extruded Aluminum Flatbed |

#### C. Pumper Fire Apparatus

| JC01 | Freightliner M2, 2-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |
| JC02 | Freightliner M2, 4-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |
| JC03 | International 4400, 2-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |
| JC04 | International 4400, 4-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |
| JC05 | Custom Cinder, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump, Mid-Mounted Pumper |
| JC06 | Custom Igniter, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump, Mid-Mounted Pumper |
**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JC07</td>
<td>Custom Inferno, 4-Door, Full-Tilt Cab, Extruded Aluminum Body, Single Axle, 1500 GPM Pump, Mid-Mounted Pumper</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JD01</td>
<td>Ford 550, 2-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT Rescue</td>
<td></td>
</tr>
<tr>
<td>JD02</td>
<td>Ford 550, 2-door Super Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT Rescue</td>
<td></td>
</tr>
<tr>
<td>JD03</td>
<td>Ford 550, 4-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In LIGHT Rescue</td>
<td></td>
</tr>
<tr>
<td>JD04</td>
<td>Freightliner M2, 2-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In MEDIUM Rescue</td>
<td></td>
</tr>
<tr>
<td>JD05</td>
<td>Freightliner M2, 4-door Cab, Single Axle, Extruded Aluminum Body, NON-Walk-In MEDIUM Rescue</td>
<td></td>
</tr>
<tr>
<td>JD06</td>
<td>Freightliner M2, 2-door Cab, Single Axle, Extruded Aluminum Body, Walk-In MEDIUM Rescue</td>
<td></td>
</tr>
<tr>
<td>JD07</td>
<td>Freightliner M2, 4-door Cab, Single Axle, Extruded Aluminum Body, Walk-In MEDIUM Rescue</td>
<td></td>
</tr>
<tr>
<td>JD08</td>
<td>Cinder, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD09</td>
<td>Cinder, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD10</td>
<td>Igniter, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD11</td>
<td>Igniter, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD12</td>
<td>Inferno, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, NON Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD13</td>
<td>Inferno, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In HEAVY Rescue</td>
<td></td>
</tr>
<tr>
<td>JD14</td>
<td>Inferno, 4-Door, Full-Tilt, OEM Cab, Single Axle, Extruded Aluminum Body, Incident Command Vehicle</td>
<td></td>
</tr>
</tbody>
</table>

**E. Pumper/Tankers & Tankers**

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JE01</td>
<td>M2 Freightliner, 2-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)</td>
<td></td>
</tr>
<tr>
<td>JE02</td>
<td>M2 Freightliner, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)</td>
<td></td>
</tr>
<tr>
<td>JE03</td>
<td>Custom Cinder 2, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)</td>
<td></td>
</tr>
<tr>
<td>JE04</td>
<td>Custom Igniter, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)</td>
<td></td>
</tr>
<tr>
<td>JE05</td>
<td>Custom Inferno, 4-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted Pumper/Tanker (3000 Gallons)</td>
<td></td>
</tr>
</tbody>
</table>

**K. Firematic**

**B. Wildland Fire Apparatus (Brush Fire)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KB01</td>
<td>Firematic, RALLY B.R.A.T. * Ford F550, 4WD, 4-Door, Aluminum flatbed body, 400 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB02</td>
<td>Firematic, Rally B.R.A.T. ® Ford F550, 4WD, 4-Door, Aluminum compartment body, 400 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB03</td>
<td>Firematic, Rally B.R.A.T. ® Ford F350, 4WD, 2-Door, Aluminum flatbed body, 250 Gallon Water Tank, Hale HPX200 Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB04</td>
<td>Firematic, Army 2.5 ton Brush Breaker, 6WD, 2-Door, Steel flatbed and tube body, 600 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability</td>
<td></td>
</tr>
<tr>
<td>KB05</td>
<td>Firematic, Army 5 ton Brush Breaker, 6WD, 2-Door, Steel flatbed and tube body, 1000 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB06</td>
<td>Firematic, Rally B.R.A.T. ® Dodge 5500, 4WD, 4-Door, Aluminum flatbed body, 400 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB07</td>
<td>Firematic, B.R.A.T. ® Ford F550, 4WD, 4-Door, Aluminum flatbed body, Aluminum investment protection cage, 400 Gallon Water Tank, Hale 30FS/Deutz Diesel Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
<tr>
<td>KB08</td>
<td>Firematic, Rally Grass Rig Ford F450, 4WD, 2-Door, Aluminum flatbed body with walkway, 300 Gallon Water Tank, Hale HPX200 Pump, Pump and Roll Capability, Super Single wheels and tires</td>
<td></td>
</tr>
</tbody>
</table>

**C. Pumper Fire Apparatus**

| KC01       | Firematic, B.R.A.T. ® 1000. Commercial Pumper, Aluminum compartment body, Mid Mount, Ford F550 4x4, 300 Gallon Water Tank, 1250 GPM Pump |
| KC02       | Firematic, Rally B.R.A.T. ® 1000. Commercial Pumper, Aluminum flatbed body, Mid Mount, Ford F550 4x4, 300 Gallon Water Tank, 1250 GPM Pump |
| KC03       | Firematic, Brute Commercial Pumper, Aluminum compartment body, Front Mount, Freightliner 4x4, 700 Gallon Water Tank, 1250 GPM Pump |
| KC04       | Firematic, Brute Commercial Pumper, Aluminum compartment body, Front Mount, International 7400 4x4, 700 Gallon Water Tank, 1000 GPM Pump |
| KC05       | Firematic, Brute Commercial Pumper, Aluminum compartment body, Mid Mount, 750 Gallon Water Tank, 1250 GPM Pump |

**D. Special Service Apparatus (Walk-In & Non-Walk In Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

| KD01       | Firematic, Rescue B.R.A.T. ® Non Walk In, Aluminum Body Light Rescue, Ford F550 |
| KD02       | Firematic, Rescue B.R.A.T. ® Walk In, Aluminum Body Light Rescue, Ford F550 |
| KD03       | Firematic, Commercial Rescue, non Walk In, Aluminum Body |
| KD04       | Firematic, Commercial Rescue, Walk In, Aluminum Body |

**L. HME**

**A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)**

| LA01       | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, Stainless Steel Body, 1500 GPM Single Stage Pump, 400 Gallon Tank, Steel Ladder HAF80L, 1000# Tip Load, Rear Mounted Telescoping Ladder |
| LA02       | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, Stainless Steel Body, 1500 GPM Single Stage Pump, 400 Gallon Tank, Steel Ladder HAF80L, 1000# Tip Load, Rear Mounted Telescoping Ladder |
| LA03       | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Tandem Axle, Stainless Steel Body, 1500 GPM Single Stage Pump, 400 Gallon Tank, Steel Ladder HAF111L, 1000# Tip Load, Rear Mounted Telescoping Ladder |
| LA04       | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Tandem Axle, Stainless Steel Body, 1500 GPM Single Stage Pump, 400 Gallon Tank, Steel Ladder HAF111L, 1000# Tip Load, Rear Mounted Telescoping Ladder |
| LA05       | HME SFO, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, Stainless Steel Body, 1500 GPM Single Stage Pump, 500 Gallon Tank, HAF51T, 1000# Tip Load, Rear Mounted Steel Boom |

**B. Wildland Fire Apparatus (Brush Fire)**

| LB01       | HME Ford F-550 4x4 Initial Attack MiniEvo, 1500 GPM Side Mounted Pump, Stainless Steel Body, Single Axle, 400 Gallons |
| LB02       | HME SFO Initial Attack Type I, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, 1250 GPM Side Mounted Pump, Stainless Steel Body, Single Axle, 850 Gallons |
| LB03       | HME International 7400 4x4 Quick Attack Type III/34D, 500 GPM Side Mounted Pump, Stainless Steel Body, Single Axle, 500 Gallons |

**C. Pumper Fire Apparatus**
| LC01 | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC02 | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC03 | HME SFO, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC04 | HME International 7400 2-Door Commercial Cab, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC05 | HME International 7400 4-Door Commercial Cab, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC06 | HME Freightliner M2 2-Door Commercial Cab, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC07 | HME Freightliner M2 4-Door Commercial Cab, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 1045 Gallons |
| LC08 | HME SFO R.A.T., 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 500 Gallons |
| LC09 | HME 1871W R.S.V.P., 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Side Mounted Pump, 750 Gallons |

D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| LD01 | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 14' Stainless Steel Body, Non-Walk-In Rescue |
| LD02 | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 14’ Stainless Steel Body, Non-Walk-In Rescue |
| LD03 | HME SFO, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 14’ Stainless Steel Body, Non-Walk-In Rescue |
| LD04 | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 18’ Stainless Steel Body, Non-Walk-In Rescue |
| LD05 | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 18’ Stainless Steel Body, Non-Walk-In Rescue |
| LD06 | HME SFO, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Single Axle, 18’ Stainless Steel Body, Non-Walk-In Rescue |
| LD07 | HME Ford F-550 4x4 4-Door Light Rescue PackRat, Non-Walk-In Stainless Steel Rescue Body |

E. Pumper/Tankers & Tankers

| LE01 | HME Spectr, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |
| LE02 | HME 1871W, 4-Door Custom Full-Tilt Extruded Aluminum Cab, Six (6) Man Seating, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |
| LE03 | HME Freightliner M2 2-Door Commercial Cab, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |
| LE04 | HME Freightliner M2 4-Door Commercial Cab, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |
| LE05 | HME International 7400 2-Door Commercial Cab, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |
| LE06 | HME International 7400 4-Door Commercial Cab, Stainless Steel Body, Tandem Axle, 1250 GPM Side Mounted Pumper/Tanker, 3000 Gallons |

M. KME

A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

<p>| MA01 | KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 79' 500# Rear Mounted Telescoping Steel Ladder |</p>
<table>
<thead>
<tr>
<th>MA02</th>
<th>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 103', 4 Section, 500# Rear Mounted Telescoping Steel Ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA03</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 79’ 750# Rear Mounted Telescoping Steel Ladder</td>
</tr>
<tr>
<td>MA04</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 123' 500# Rear Mounted Telescoping Steel Ladder</td>
</tr>
<tr>
<td>MA05</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 102’ 1000# Rear Mounted Telescoping Ladder with Platform</td>
</tr>
<tr>
<td>MA06</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100’ 1000# Mid-Mounted Telescoping Ladder with Platform</td>
</tr>
<tr>
<td>MA07</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 100' 500# Tractor (Mid-Mount), Telescoping Steel Ladder</td>
</tr>
<tr>
<td>MA08</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 55' Water Tower (FireStix)</td>
</tr>
<tr>
<td>MA09</td>
<td>International 4400, 4-Door, Formed Aluminum Body, Single Axle, 55’ Water Tower (FireStix)</td>
</tr>
<tr>
<td>MA10</td>
<td>KME, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 100’ 4 Section 500# Steel Telescoping Ladder</td>
</tr>
</tbody>
</table>

### B. Wildland Fire Apparatus (Brush Fire)

<table>
<thead>
<tr>
<th>MB01</th>
<th>Ford F-550, 4 x 4, 2-Door, Skid Mounted Pumper Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB02</td>
<td>Ford F-550, 4 x 4, 2-Door, Flatbed Style Skid Mounted Pumper</td>
</tr>
<tr>
<td>MB03</td>
<td>Ford F-550, 4 x 4, 2-Door, Aluminum Minipumper Body, 300 gal. Tank, 1000 gpm Midship PTO Pump</td>
</tr>
<tr>
<td>MB04</td>
<td>Int'l 7300 4 x 4, 4-Door, Aluminum Minipumper Body, 500 gal. Tank, 1000 gpm Midship PTO Pump, 26,000lb GVWR</td>
</tr>
<tr>
<td>MB05</td>
<td>International 7400, 4x4, 4-Door, Ridgerunner, Dual Pump, 500/20 Gals Water/Foam, NFPA 1901/1906</td>
</tr>
<tr>
<td>MB06</td>
<td>International 7400, 4 x 4, 4-Door, OEM Interface Pumper, Formed Alum Body, Single Axle, 750 GPM, 500 Gallon Water</td>
</tr>
</tbody>
</table>

### C. Pumper Fire Apparatus

<table>
<thead>
<tr>
<th>MC01</th>
<th>International 4400, 2-Door, OEM Pumper, Formed Aluminum Body, Single Axle, 1250 GPM Pump, 1000 Gal Tank-Legacy Series Pumper</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC02</td>
<td>International 4400, 2-Door, OEM Pumper, Formed Aluminum Body, Single Axle, 1250 GPM Pump, 1000 Gal Tank-Challenger Series Pumper</td>
</tr>
<tr>
<td>MC03</td>
<td>International 4400, 2-Door, OEM Pumper, Formed Aluminum Body, Single Axle, 1250 GPM Pump, 750 Gal Tank-Flex Pumper</td>
</tr>
<tr>
<td>MC04</td>
<td>KME Custom, 4-Door, Full-Tilt, Aluminum Cab, Formed Aluminum Body, Single Axle, 1250 GPM Pump, 750 Gal Tank-Flex Pumper</td>
</tr>
<tr>
<td>MC05</td>
<td>KME Custom, 4-Door, Full-Tilt, Aluminum Cab, Alum Body, Single Axle, 1250 GPM Pump, Rear-Mounted Pumper</td>
</tr>
<tr>
<td>MC06</td>
<td>KME Custom, 4-Door, Full-Title, Aluminum Cab, Alum Body, Single Axle, 2000 GPM Pump, 1000 Gal Tank-Flex Pumper</td>
</tr>
<tr>
<td>MC07</td>
<td>International 4400, 2-Door, Alum Body, Single Axle, 1250 GPM Pump, Rear-Mounted Pumper</td>
</tr>
</tbody>
</table>

### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

<table>
<thead>
<tr>
<th>MD01</th>
<th>Ford F-550 4 x 2 Chassis, 2 Door, Light Duty Walk-Around Rescue</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD02</td>
<td>Int'l 4300 4 x 2, 2-Door, Medium Duty Walk-Around Rescue</td>
</tr>
<tr>
<td>MD03</td>
<td>International 4400, 4 x 2, 2-Door, Medium Duty Walk-In Rescue</td>
</tr>
<tr>
<td>MD04</td>
<td>KME Custom, 4-Door, Full-Tilt, Aluminum Cab, Alum Body, Single Axle, Heavy Duty Walk-Around Rescue</td>
</tr>
<tr>
<td>MD05</td>
<td>International 4400, 2-Door, Air/Light Special Service Walk-Around Rescue</td>
</tr>
<tr>
<td>MD06</td>
<td>KME Custom, 4-Door, Full-Tilt, Aluminum Cab, Alum Body, Single Axle, Heavy Duty Combination Walk-in / Walk-Around Rescue</td>
</tr>
<tr>
<td>MD07</td>
<td>International 4400 4x2, 2-Door, 10 person Crew Carrier</td>
</tr>
</tbody>
</table>

### E. Pumper/Tankers & Tankers

| ME01  | International 4400, 2-Door, Aluminum Treadplate Body, Single Axle, 1250 GPM Pump, Painted 1800 Gal Elliptical Tank-LE Series Tanker |

Page 18 of 37
F. Airport Rescue Fire-Fighting Vehicles

MF01 Ford F550, 4 x 4, 4-Door, Class 1 RIV, 120 GAL AFFF Pre-mix

MF02 Ford F550, 4 x 4, 4-Door, Class 2 RIV, 500 GPM Pump, 300/40 Gal Water/Foam Tank

MF03 International 7400 4 x 4, 2-Door, Class 3 RIV, 500 GPM Pump, 500/75 Gal Water/Foam Tank

MF04 KME Custom Class 4 ARFF, 4 x 4, 2000 GPM, 1500/200 Gal Water/Foam Tank

MF05 KME Custom Class 5 ARFF, 6 x 6, 2000 GPM, 3000/400 Gal Water/Foam Tank

G. N. Marion

A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

NA01 Spartan 4-Door, Aluminum Tilt Cab, Extruded Aluminum Body, 1500 GPM Pump, rear mount, 75’ 3-section, telescopic steel ladder, Single Axle, 500#, 300 Gal. Tank

NA02 Spartan 4-Door, Aluminum Tilt Cab, Extruded Aluminum Body, 1500 GPM Pump, Rear Mount, 110’ 4-section telescopic steel ladder, Tandem Axle, 750#, 300 Gal. Tank

C. Pumper Fire Apparatus

NC01 IH 4400, 2-Door, Pumper, Extruded Aluminum Body, Single axle,1250 GPM Pump, Side Mounted, 750 Gal. Tank

NC02 Freightliner M2, 2-Door, Pumper, Extruded Aluminum Body, Single Axle,1250 GPM Pump, Side Mounted, 750 Gal. Tank

NC03 Spartan 4-Door, Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side Mounted, 750 Gal. Tank

D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

ND01 Ford F550, 2-Door, Aluminum Extruded Body, Single Axle, Non-Walk-in, Roll up doors, Rescue 12’

ND02 IH4400, 2-Door, Aluminum Extruded Body, Single Axle, Non-Walk-in, Roll up doors, Rescue 17’

ND03 Spartan 4-Door, Aluminum Tilt Cab, 10” Raised Roof, Aluminum Extruded Body, Single Axle, Non-Walk-in, Roll up doors, Rescue 17’

ND04 IH4400, 2-Door, Aluminum Extruded Body, Single Axle, Walk-in, Roll up doors, Rescue 19’

ND05 Spartan 4-Door, Aluminum Tilt Cab, 10” Raised Roof, Aluminum Extruded Body, Walk-in, Single Axle, Roll up doors, Rescue 19’

E. Pumper/Tankers & Tankers

NE01 IH4400, 2-Door, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, 1800 Gal. Tank, Single Dump Valve

NE02 IH7400, 2-Door, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, 3000 Gal. Tank, 3 Dump Valves
### O. Maintainer Custom Bodies, Inc. (MCB)

#### B. Wildland Fire Apparatus

| OB01 | MCB Performer Series Quick-Attack, 300 Gallon Tank & Waterax B2X Pump, 10’ Aluminum Rescue Style Body on Ford F-550 Diesel, 2-Door, 60CA, 4X4 chassis. |

#### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| OD01 | MCB Responder Series 10’ All Aluminum Walk-around rescue on Ford F-550 Diesel, 4-Door, 4X4, 84”CA chassis |
| OD02 | MCB Responder Series 15’ All Aluminum Walk-around rescue on Ford F-550 Diesel, 2-Door, 4X4, 120”CA chassis |
| OD03 | MCB Responder Series 18’ All Aluminum Walk-around rescue on IH 4400 Series 2-Door 4X2 |
| OD04 | MCB Responder Series 22’ All Aluminum Walk-around rescue on IH 4400 Series 2-Door 4X2 |
| OD05 | MCB Responder Series 28’ All Aluminum Walk-around rescue on IH 7500 Series 2-Door 4X2 |
| OD06 | MCB Responder Series 10’ All Aluminum Walk-in rescue on Ford F-550 Diesel, 4-Door, 4X4, 84”CA chassis |
| OD07 | MCB Responder Series 15’ All Aluminum Walk-in rescue on Ford F-550 Diesel, 2-Door, 4X4, 120”CA chassis |
| OD08 | MCB Responder Series 18’ All Aluminum Walk-in rescue on IH 4400 Series 2-Door 4X2 |
| OD09 | MCB Responder Series 22’ All Aluminum Walk-in rescue on IH 4400 Series 2-Door 4X2 |
| OD10 | MCB Responder Series 15’ All Aluminum Walk-in 15-Passenger Crew Carrier Body on 4400 Series 2-Door 4X2 |
| OD11 | MCB Responder Series 14’ All Aluminum Combination rescue on Ford F-550 Diesel, 2-Door, 4X4, 84”CA chassis |
| OD12 | MCB Responder Series 15’ All Aluminum Combination rescue on Ford F-550 Diesel, 2-Door, 4X4, 120”CA chassis |
| OD13 | MCB Responder Series 18’ All Aluminum Combination rescue on IH 4400 Series 2-Door 4X2 |
| OD14 | MCB Responder Series 22’ All Aluminum Combination rescue on IH 4400 Series 2-Door 4X2 |
| OD15 | MCB Responder Series 28’ All Aluminum Mobile Command Center on IH 7600 2-Door 4X2 |
| OD16 | MCB Responder Series 28’ All Aluminum Mobile Command Center on Spartan MetroStar-X 2-Door 4X2 |

#### P. Metro Fire Apparatus Specialists

#### B. Wildland Fire Apparatus (Brush Fire)

| PB01 | Self Contained Slide In Unit, 250 gallon |
| PB02 | Metro Brush Truck, Ford F450 2Dr, Aluminum Flat Bed, 300 Tank |
| PB03 | Metro Brush Truck, Ford F550 2Dr, Aluminum Flat Bed, 300 Tank |
| PB04 | Metro Brush Truck, Ford F650 2Dr, Aluminum Flat Bed, 300 Tank |

#### C. Pumper Fire Apparatus

| PC01 | Metro Mini-Pumper, Ford F550 2Dr, Aluminum Body, 1250gpm pump, 500 Tank |
| PC02 | Metro CAFS Mini-Pumper, Ford F550 2Dr, Aluminum Body, 1250gpm pump, 500 Tank |

#### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| PD01 | Metro Light Rescue, Ford F550 2Dr, Aluminum Body, Non-Walk-In |
| PD02 | International 4400, 2-Door, OEM Cab, Single Axle, Aluminum Body, Non-Walk-In Rescue |
| PD03 | Spartan, Full-Tilt, Aluminum Cab, Single Axle, Aluminum Body, Non-Walk-In Body |
| PD04 | International 4400, 2-Door, OEM Cab, Single Axle, Aluminum Body, Walk-In Rescue |
### B. Wildland Fire Apparatus (Brush Fire)

| QB01 | Midwest Fire Brush Unit - F-550 Diesel, Aluminum Flatbed, Pump and Roll Capabilities, 400 GPM portable pump, 250 gallons, Regular Cab, 60" CA |
| QB02 | Midwest Fire Brush Unit - F-550 Diesel, Aluminum Flatbed, Pump and Roll Capabilities, 400 GPM portable pump, 250 gallons, Regular Cab, 84" CA |
| QB03 | Midwest Fire *All-Poly* Quick Attack - F-550 Diesel, Regular Cab, 400 GPM portable pump, 250 gallons, ROM Doors, 84" CA |

### C. Pumper Fire Apparatus

| QC01 | Midwest Fire *All-Poly* Pumper, 1000 Gallon, Rescue Style Lockers, Freightliner M2 Regular Cab, 1250 GPM Pump, Side Mounted Pump, Single Axle |
| QC02 | Midwest Fire *All-Poly* Pumper, 1000 Gallon, Rescue Style Lockers, Freightliner M2 Crew Cab, 1250 GPM Pump, Side Mounted Pump, Single Axle |

### E. Pumper/Tankers & Tankers

| QE01 | Midwest Fire *All-Poly* Tanker-Pumper, 2000 Gallon, Freightliner M2, 1000 GPM PTO, Pump and Roll, Single Axle |
| QE02 | Midwest Fire *All-Poly* Tanker-Pumper, 3000 Gallon, Freightliner M2, 1000 GPM PTO, Pump and Roll, Tandem Axle |
| QE03 | Midwest Fire *All-Poly* Tanker, 2000 Gallon, Freightliner M2, 750 GPM PTO pump, Pump and Roll, Single Axle, Under 30' |
| QE04 | Midwest Fire *All-Poly* Tanker, 3000 Gallon, Freightliner M2, 250 GPM portable pump, pump and roll |

### R. Nevada Pacific Fire & Safety Inc.

### B. Wildland Fire Apparatus (Brush Fire)

| RB01 | Brush Fire Apparatus, Ford F-450, 2 door, gas engine Steel Flatbed |
| RB02 | Brush Fire Apparatus Ford F-550, 2 Door, Gas Engine, Steel Flatbed w/ work stations |
| RB03 | Brush Fire Apparatus, Ford F-550 2 Dr, Diesel engine Extruded Aluminum Flatbed w/ Aluminum compartments |
| RB04 | Brush Fire Apparatus, Ford F-550, 2 Dr, Diesel engine Ply-Utility Body |
| RB05 | Brush Fire Apparatus, Ford F-550 2 Door, Diesel Engine, with Aluminum Flatbed w/ work stations, Aluminum Compartments |
| RB06 | Ford F-550 XL 4x4, 2-Dr, Gas Engine, 60” CA, Brush Truck, Aluminum flatbed and compartments 300 Gallon Tank, Water Pump, 200gpm Pump. |
| RB07 | Ford F-550 XL 4x4, 2-Dr.,60” CA, Gas engine Brush Truck, Aluminum flatbed w/ Poly Compart., 300 Gallon Tank, 240 gpm water pump. |
| RB08 | Ford F-550 XL 4x4 Crew Cab, Diesel Engine, 60” CA, 9’ Multi-Purpose Brush Truck, Aluminum flatbed 300 Gallon Tank, 300 gpm Water Pump. |
| RB09 | Ford F-550 XL 4x4, 2-Dr, Diesel Engine, 165” WB, 12’ Rescue Brush Truck, 300 Gallon Tank, Diesel Driven 220 gpm Water Pump. |
| RB10 | Brush Fire Apparatus, Ford F-550, 60” CA, Crew Cab, Diesel Engine Steel Flatbed W/ work stations and Aluminum cabinets, 300 gal drop in tank 200 gpm pump |
| RB11 | Brush Fire Apparatus, Ford F-550, Crew Cab, Diesel Engine 60” CA Aluminun Flatbed with work stations and Poly cabinets, 300 gal drop in tank 200 gpm pump |
| RB12 | Brush Fire Apparatus, Ford F-550, 60" CA, 2 Door, Gas Engine, Steel Flatbed W/ work stations and Aluminum cabinets, 300 gal drop in tank 200 gpm pump |
| RB13 | Self-Contained Slip-In Unit, Fire skid unit 11hp Honda pump 200gal tank hose reel with hose (option foam cell system & gallon tank sizes). |
| RB14 | Self-Contained Slip-In-Unit, Fire skid unit 19 hp diesel pump 300 gal tank hose reel with hose, (option foam cell system & gallon tank sizes) |
| RB15 | Self-Contained Slip-In-Unit, Fire skid unit 20 hp gasoline pump 400 gal tank hose reel with hose, (option foam cell system & gallon tank sizes) |
| RB16 | Self-Contained Slip-In-Unit, Fire skid unit 20 hp gasoline pump 400 gal tank hose reel with hose, (option foam cell system & gallon tank sizes) |
| RB17 | Self-Contained Slip-In-Unit, Fire skid unit CAFS 400gal tank(STORED ENERGY) hose reel with hose (option foam cell system & purple K, & gallon tank sizes). |
| RB18 | Self-Contained Glider Kit Aluminum flatbed, Poly compartments, 300 gal Tank 200gpm pump. |
| RB19 | Self-Contained Glider Kit Aluminum flat bed, w/ Poly compartments, 300 gal Tank, 200gpm pump. |
| RB20 | Self-Contained Glider Kit Aluminum flatbed, Aluminum compartments, 300 gal Tank 200gpm pump. |
| RB21 | Brush fire apparatus Freighliner M2-106 4WD standard cab with aluminum flatbed, aluminum compartments, 800 gallon tank, Diesel 300 gpm pump. Emergency lighting packag. |
| RB22 | Brush fire apparatus Freighliner M2-106 4WD EXTENDED cab with aluminum flatbed, aluminum compartments, 800 gallon tank, Diesel 300 gpm pump. Emergency lighting packag. |
| RB23 | Brush fire apparatus Freighliner M2-106 4WD EXTENDED CREW CAB with aluminum flatbed, aluminum compartments, 800 gallon tank, Diesel 300 gpm pump. Emergency lighting packag. |

### S. OshKosh

#### F. Airport Rescue Fire-Fighting Vehicles

| SF01 | Oshkosh Striker 4x4, 2-Door, Aluminum Cab, 5 Passenger Seating maximum, Roof Turret (375/750 gpm), bumper Turret (300 gpm), Two Handlines (Foam/Water), Water Tank Capacity (1500 gal.), Foam Tank Capacity (210 gal.), Fire Pump (Power divider driven Waterous CRQA, Single Stage Centrifugal, 1950 gpm at 240 psi) |
| SF02 | Oshkosh Striker 6x6, 2-Door, Aluminum Cab, 5 Passenger Seating maximum, Roof Turret (600/1200 gpm), bumper Turret (300 gpm), Two Handlines (Foam/Water), Water Tank Capacity (3000 gal.), Foam Tank Capacity (420 gal.), Fire Pump (Power divider driven Waterous CRQA, Single Stage Centrifugal, 1950 gpm at 240 psi) |
| SF03 | Oshkosh Striker 8x8, 2-Door, Aluminum Cab, 5 Passenger Seating, Roof Turret (600/1200 gpm), bumper Turret (300 gpm), Two Handlines (Foam/Water), Water Tank Capacity (4500 gal.), Foam Tank Capacity (420 gal.), Fire Pump (Power divider driven Waterous CRQA, Single Stage Centrifugal, 1950 gpm at 240 psi) |
| SF04 | Oshkosh Stinger Class 2 ARFF vehicle; 2-Door Ford 4x4 F550 Cab/chassis, 2 Passenger Seating, Bumper Turret, one (1) twin agent handline, Water Tank Capacity (300 gal.), Foam Tank Capacity (40 gal.), Dry Chemical 500 pounds. |

### T. Pierce

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| TA01 | Pierce Saber Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 75' Rear-Mounted Telescoping Ladder (500#) |
| TA02 | Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 75' Rear-Mounted Telescoping Ladder (500#) |
| TA03 | Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 75' Rear-Mounted Telescoping Ladder (500#) |
| TA04 | Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 107' Rear-Mounted Telescoping Ladder |
| TA05 | Pierce Enforcer Chassis, 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Rear Axle, 107' Rear-Mounted Telescoping Ladder |
### Pierce Enforcer Chassis
- **TA06**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Rear Axle, 110' Rear-Mounted Telescoping Platform
- **TA07**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 105' Rear-Mounted Telescoping Ladder (#500)
- **TA08**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100' Mid-Mounted Telescoping Ladder (#500)
- **TA09**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 85' Rear-Mounted Telescoping Ladder with Platform (750#)
- **TA10**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 95' Mid-Mounted Telescoping Ladder with Platform (750#)
- **TA11**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100' Rear-Mounted Telescoping Ladder with Platform (750#)
- **TA12**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 100' Tractor Drawn - Mid-Mounted Telescoping Ladder (#500)
- **TA13**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 107' Tractor Drawn - Mid-Mounted Telescoping Ladder (#500)

### Pierce Arrow Chassis
- **TA04**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Tandem Axle, 100' Mid-Mounted Telescoping Ladder (#500)
- **TA05**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 85' Mid-Mounted Telescoping Ladder (#500)
- **TA06**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 95' Mid-Mounted Telescoping Ladder (#500)
- **TA07**: 4-Door Full Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 100' Mid-Mounted Telescoping Ladder (#500)

### B. Wildland Fire Apparatus (Brush Fire)
- **TB01**: Pierce Brush Fire Apparatus, Ford F450, Formed Aluminum Utility Body
- **TB02**: Pierce Brush Fire Apparatus, Ford F-550 Mini Pumper 500 gpm, 300 tank
- **TB03**: Freightliner 4-Door 4 x 4 Wildland, 500 water, 1000 gpm Pump

### C. Pumper Fire Apparatus
- **TC01**: M2 Freightliner, 2-Door, OEM Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC02**: IHC, 2-Door, OEM Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC03**: KW, 2-Door, OME Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC04**: Peterbilt, 2-Door, OME Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC05**: Pierce Saber, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC06**: Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper
- **TC07**: Pierce Dash CF, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1250 GPM Pump, PUC Body Pumper

### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center
- **TD01**: Ford F-550 4-Door, 12’ Non-Walk-in Formed Aluminum Body
- **TD02**: M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body
- **TD03**: IHC, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body
- **TD04**: Kenworth, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body
- **TD05**: Peterbilt, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body
- **TD06**: Pierce Saber, Full-Tilt, Aluminum Cab, Single Axle, Formed Aluminum Body, Non-Walk-In HDR Body
- **TD07**: Pierce Enforcer 4-Door, Aluminum Cab, Single Axle, Formed Aluminum Body, Non Walk-in HDR Body
- **TD08**: M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body
- **TD09**: IHC, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body
- **TD10**: Kenworth, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body
- **TD11**: Peterbilt, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body
- **TD12**: Pierce Enforcer 4-Door, Full Tilt, Aluminum Cab, Single Axle, Formed Aluminum Body, Walk-in HDR Body
- **TD13**: Pierce Velocity 4-Door Aluminum Cab, Tandem Axle Walk-in HDR Body
### E. Pumper/Tankers & Tankers

| TE01 | Freightliner 2 Door, Single Axle Tanker, Aluminum Body w/2000 water & 500 pump |
| TE02 | International 2dr Single Axle Tanker, Aluminum Body w/2000 water & 500 pump |
| TE03 | Kenworth 2dr Single Axle Tanker, Aluminum Body w/2000 water & 500 pump |
| TE04 | Peterbilt 2dr Single Axle Tanker, Aluminum w/2000 water & 500 pump |
| TE05 | Pierce Saber, 4-Door, Full-Tilt, Aluminum Cab, Pumper/Tanker, Aluminum Body, Single Axle, 1000 GPM Pump, Mid-Mounted |
| TE06 | Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Pumper/Tanker, Aluminum Body, Tandem Axle, 1000 GPM Pump, Mid-Mounted |
| TE07 | Freightliner 2dr, Tandem Axle Tanker, Aluminum Body w/3000 water & 500 pump |
| TE08 | International 2dr Tandem Axle Tanker, Aluminum Body w/3000 water & 500 pump |
| TE09 | Kenworth 2dr Tandem Axle Tanker, Aluminum Body w/3000 water & 500 pump |
| TE10 | Peterbilt 2dr Tandem Axle Tanker, Aluminum w/3000 water & 500 pump |
| TE11 | Pierce Saber, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Single Axle, 1000 GPM Pump, Mid-Mounted Elliptical Tanker |
| TE12 | Pierce Enforcer, 4-Door, Full-Tilt, Aluminum Cab, Aluminum Body, Tandem Axle, 1000 GPM Pump, Mid-Mounted Elliptical Tanker |

### F. Airport Rescue Fire-Fighting Vehicles

| UF01 | Rosenbauer Panther 1500, 2-Door, Aluminum Cab, High Performance Off Road suspension, 3 Passenger Seating, Roof Turret (375/750 gpm), bumper Turret (300 gpm), One (1) left side pre-connected Handline (Foam/Water) one (1) right side twin agent handline, Water Tank Capacity (1500 gal.), Foam Tank Capacity (200 gal.), Dry Chemical 500 pounds, Fire Pump (Power divider driven Rosenbauer N80, Dual Stage Centrifugal high pressure, 2100 gpm) |
| UF02 | Rosenbauer Panther 3000, 2-Door, Aluminum Cab, High Performance Off Road suspension, 3 Passenger Seating, Roof Turret (600/1200 gpm), bumper Turret (300 gpm), One (1) left side pre-connected Handline (Foam/Water) one (1) right side twin agent handline, Water Tank Capacity (3000 gal.), Foam Tank Capacity (400 gal.), Dry Chemical 500 pounds, Fire Pump (Power divider driven Rosenbauer N80, Dual Stage Centrifugal high pressure, 3100 gpm) |
| UF03 | Rosenbauer Panther 3000 with HRET, 2-Door, Aluminum Cab, High Performance Off Road suspension, 2 Passenger Seating, 1000 gpm High Reach Extendable turret (500/1000 gpm), bumper Turret (300 gpm), One (1) left side pre-connected Handline (Foam/Water) one (1) right side twin agent handline, Water Tank Capacity (3000 gal.), Foam Tank Capacity (400 gal.), Dry Chemical 500 pounds, Fire Pump (Power divider driven Rosenbauer N80, Dual Stage Centrifugal high pressure, 2100 gpm) |
| UF04 | Rosenbauer Airwolf C2 2-Door Ford 4x4 F550 Cab/chassis, 2 Passenger Seating, bumper Turret, one (1) twin agent handline, Water Tank Capacity (300 gal.), Foam Tank Capacity (40 gal.), Dry Chemical 500 pounds, Fire Pump 250 gpm |
| UF05 | Rosenbauer Airwolf C3 2-Door International 7400 4x4 Cab/chassis, 2 Passenger Seating, bumper Turret, one (1) twin agent handline, Water Tank Capacity (500 gal.), Foam Tank Capacity (60 gal.), Dry Chemical 500 pounds, Fire Pump 250 gpm |

### U. Rosenbauer

### V. Rosenbauer Minnesota LLC

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| VA01 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 78' Rear Mount Steel Ladder |
| VA02 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 78' Rear Mount Steel Ladder |
| VA03 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 100' Rear Mount Steel Ladder |
| VA04 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 109' Rear Mount Steel Ladder |
| VA05 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 100' Mid-Mount Steel Ladder |
| VA06 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 101' Rear Mount Steel Platform |

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VA07 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 104' Rear Mount Steel Platform
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VA08 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 100' Mid Mount Steel Platform
VA09 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 104' Tractor Drawn Steel Ladder
VA10 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 65' Rear Mount Steel Ladder
VA11 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 51' Rear Mount Boom
VA12 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 68' Rear Mount Boom
VA13 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Single Axle, 102' Raptor Rear Mount Ladder
VA14 | Rosenbauer Commander, 4-Door Tilt Cab, Extruded Aluminum Body, Tandem Axle, 114' Articulating-Telescoping T-REX Platform

B. Wildland Fire Apparatus

VB01 | IH 4400, 4x4, 2-Door, OEM Timberwolf, Pump, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Rear Mount

C. Pumper Fire Apparatus

VC01 | M2 Freightliner, 2-Door, OEM, Pump, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side-Mounted Pump
VC02 | IH4400, 2-Door, OEM, Pump, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side-Mounted Pump
VC03 | Peterbilt, 2-Door, OEM, Pump, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side-Mounted Pump
VC04 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Pump, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Side-Mounted Pump
VC05 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Pump, Extruded Aluminum Body, Single Axle, 1500 GPM Pump, Side-Mounted Pump
VC06 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Pump, Extruded Aluminum Body, Single Axle, 1500 GPM Pump, Rear-Mounted Pump
VC07 | Ford F550, 4x2, 2-Door OEM Cab, Mini Pump, Formed Aluminum Body, 500 GPM PTO Pump, Side Mounted

D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

VD01 | M2 Freightliner, 2-Door, OEM Cab, Single Axle, Extruded Aluminum Body, Non-Walk-In Body
VD02 | IH4400, 2-Door, OEM Cab, Single Axle, Extruded Aluminum Body, Non-Walk-In Body
VD03 | M2 Freightliner, 2-Door, OEM Cab, Tandem Axle, Extruded Aluminum Body, Non-Walk-In Body
VD04 | Ford F-550, 2-Door, OEM Cab, Single Axle, Extruded Aluminum Body, Non-Walk-In Body
VD05 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Single Axle, Extruded Aluminum Body, Non-Walk-In Body
VD06 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Tandem Axle, Extruded Aluminum Body, Non-Walk-In Body
VD07 | M2 Freightliner, 2-Door, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In Body
VD08 | IH4400, 2-Door, OEM Cab, Single Axle, Extruded Aluminum Body, Walk-In Body
VD09 | M2 Freightliner, 2-Door, OEM Cab, Tandem Axle, Extruded Aluminum Body, Walk-In Body
VD10 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Single Axle, Extruded Aluminum Body, Walk-In Body
VD11 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Tandem Axle, Extruded Aluminum Body, Walk-In Body

E. Pumper/Tankers & Tankers
| VE01 | M2 Freightliner, 2-Door, OEM Cab, Pumper/Tanker, Extruded Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| VE02 | IH4400, 2-Door, OEM Cab, Pumper/Tanker, Extruded Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| VE03 | M2 Freightliner, 2-Door, OEM Cab, Pumper/Tanker, Extruded Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| VE04 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Pumper/Tanker, Extruded Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| VE05 | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Pumper/Tanker, Extruded Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |

**W. Rosenbauer South Dakota LLC**

**A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)**

| WA01 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Single Axle, 78’ Rear Mount Steel Ladder |
| WA02 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 78’ Rear Mount Steel Ladder |
| WA03 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 100’ Rear Mount Steel Ladder |
| WA04 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 109’ Rear Mount Steel Ladder |
| WA05 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 100’ Rear Mount Steel Platform |
| WA06 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 101’ Rear Mount Steel Platform |
| WA07 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 104’ Rear Mount Steel Platform |
| WA08 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Tandem Axle, 100’ Mid-Mount Steel Platform |
| WA09 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Single Axle, 65’ Rear Mount Steel Ladder |
| WA10 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Single Axle, 51’ Rear Mount Boom |
| WA11 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Single Axle, 68’ Rear Mount Boom |
| WA12 | Rosenbauer Commander 4-Door Tilt Cab, Formed Aluminum Body, Single Axle 75/Mid Mount Steel Ladder |
| WA13 | Rosenbauer Commander 4-door Tilt Cab, Formed Aluminum Body, Single Axle, 75’ Mid Mount Steel Platform |
| WA14 | M2 Freightliner, 2-Door OEM Cab, Formed Aluminum Body, Single Axle, 51’ Rear Mount Boom |

**B. Wildland Fire Apparatus**

| WB01 | M2 Freightliner, 4x4, 2-Door OEM Cab, WILDLAND Pumper, FX Formed Aluminum Body, Single Axle, 1000 GPM Pump, Side Mounted |
| WB02 | M2 Freightliner, 4x4, 2-Door OEM Cab, WILDLAND CT Pumper, Formed Stainless Steel Body, Single Axle, 1000 GPM Pump, Rear Mounted |
| WB03 | IH4400, 4x4, 2-Door OEM Cab, WILDLAND Pumper, FX Formed Aluminum Body, Single Axle, 1000 GPM Pump, Side Mounted |
| WB04 | IH4400, 4x4, 2-Door OEM Cab, WILDLAND CT Pumper, Formed Stainless Steel Body, Single Axle, 1000 GPM Pump, Rear Mounted |
| WB05 | M2 Freightliner, 4x4, 2-Door OEM Cab, MAVERICK Pumper, Aluminum Body, Single Axle, 1000 GPM Pump, 1500 Gallon Tank |
| WB06 | IH4400, 4x4, 2-Door OEM Cab, MAVERICK Pumper, Aluminum Body, Single Axle, 1000 GPM Pump, 1500 Gallon Tank |
| WB07 | Ford F550, 4x4, 2-Door OEM Cab, Wildland Aluminum Huck Bolt Body, 200 GPM Pump, 300 Gallon Tank |

**C. Pumper Fire Apparatus**

| WC01 | M2 Freightliner, 2-Door OEM Cab, Pumper, Formed Aluminum Body, Single Axle 1250 GPM Pump, Side Mounted |
| WC02  | IH4400, 2-Door OEM Cab, Pumper, Formed Aluminum Body, Single Axle, 1250GPM Pump, Side Mounted |
| WC03  | Peterbilt, 2-Door OEM Cab, Pumper, Formed Aluminum Body, Single Axle, 1250 GPM Pump, Side Mounted |
| WC04  | M2 Freightliner, 2-Door OEM Cab, Firestar Pumper, Formed Aluminum Body, Single Axle 1250 GPM Pump, Side Mounted |
| WC05  | Rosenbauer Commander, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 1250 GPM Pump, Side Mounted |
| WC06  | Rosenbauer Commander, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 1250 GPM Pump, Rear Mounted |
| WC07  | Rosenbauer Commander, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 1500 GPM Pump, Side Mounted |
| WC08  | Rosenbauer Commander, 4-Door Full-Tilt Aluminum Cab, Formed Aluminum Body, Single Axle, 1500 GPM Pump, Rear Mounted |
| WC09  | Rosenbauer Warrior, 4-Door Full-Tilt, Aluminum Cab, Formed Aluminum Body, Single Axle, 1250 GPM Pump, Side Mounted |
| WC10  | Ford F550, 4x2, 2-Door OEM Cab, Mini Pumper, Formed Aluminum Body, 500 GPM PTO Pump, Side Mounted |
| WC11  | IH TERRASTAR, 4x4, 2-Door OEM Cab, Mini Pumper, Formed Aluminum Body, 500 GPM PTO Pump, Side Mounted |

D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| WD01  | M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body |
| WD02  | IH4400, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body |
| WD03  | Rosenbauer Commander, 4-Door, Full-Tilt, Aluminum Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body |
| WD04  | Rosenbauer Commander, 4-Door, Full-Tilt, Aluminum Cab, Tandem Axle, Formed Aluminum Body, Non-Walk-In Body |
| WD05  | M2 Freightliner, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body |
| WD06  | IH4400, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Walk-In Body |
| WD07  | Rosenbauer Commander, 4-Door, Full-Tilt, Aluminum Cab, Single Axle, Formed Aluminum Body, Walk-In Body |
| WD08  | Rosenbauer Commander, 4-Door, Full-Tilt, Aluminum Cab, Tandem Axle, Formed Aluminum Body, Walk-In Body |
| WD09  | Ford F-550, 2-Door, OEM Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Body |

E. Pumper/Tankers & Tankers

| WE01  | M2 Freightliner, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| WE02  | M2 Freightliner, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| WE03  | IH4400, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| WE04  | IH7400, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| WE05  | Kenworth T300, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| WE06  | Kenworth T300, 2-Door, OEM Cab, Pumper/Tanker, Formed Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| WE07  | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Pumper/Tanker, Formed Aluminum Body, 1800 Gallon Tank, Single Axle, 1250 GPM Pump, Mid-Mounted |
| WE08  | Rosenbauer Commander, 4-Door Full-Tilt, Aluminum Cab, Pumper/Tanker, Formed Aluminum Body, 2000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| WE09  | M2 Freightliner, 2-Door, OEM Cab, Wet Side Tanker, Formed Aluminum Body, 3000 Gallon Tank, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
### X. Seagrave

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| XA01 | Seagrave Marauder II Custom 4-Door Full Tilt Stainless Steel Cab and Body, Single Axle, 75' Rear Mount Ladder (Meanstick) Telescoping Ladder (500#) |
| XA02 | Seagrave Marauder II Custom 4-door Full Tilt Stainless Steel Cab and Body, Tandem Axle, 100’ Rear Mount Ladder Telescoping (500#) |
| XA03 | Seagrave Marauder II Custom 4-door Full Tilt Stainless Steel Tractor and Body, Single Axle, 100’ Tractor Drawn Aerial - Mid Mounted Telescoping Ladder (250#) |
| XA04 | Seagrave Marauder II Custom 4-door Full Tilt Stainless Steel Tractor and Body, Single Axle, 100’ Tractor Drawn Aerial - Mid Mounted Telescoping Ladder (500#) |
| XA05 | Seagrave Marauder II Custom 4-door Full Tilt Stainless Steel Cab and Body, Tandem Axle, 105’ Rear Mount Telescoping Ladder Platform (1200#) |
| XA06 | Seagrave Marauder II Custom 4-door Full Tilt Stainless Steel Cab and Body, Tandem Axle, 75’ Mid Mounted Telescoping Platform (1000#) - Aerialscope |
| XA07 | Seagrave Marauder II Custom 4-Door Full Tilt Stainless Steel Cab and Body, Tandem Axle, 95’ Mid Mount Telescoping Platform (1000#) - Aerialscope |

#### B. Wildland Fire Apparatus (Brush Fire)

| XB01 | Ford F550, 2-Door, OEM Cab, 4x4, Brush Truck, Aluminum Bed with Aluminum Compartments |
| XB02 | Freightliner, 4-Door, OEM Cab, 4 x 4, Wildland Pumper, Polyprene Body, 1250 GPM Pump, Side Mount |
| XB03 | Freightliner, 4-Door, OEM Cab, 4 x 4, Wildland Pumper, Stainless Steel Body, 1250 GPM Pump, Side Mount |

#### C. Pumper Fire Apparatus

| XC01 | Seagrave Marauder II, Custom 4-Door Full Tilt Stainless Steel Cab and Body, Single Rear Axle, 1500 GPM Pump, Mid Mounted Pump |
| XC02 | Freightliner, 4-Door, OEM Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted Pump |
| XC03 | Freightliner, 2-Door, OEM Cab, Polyprene Body, Single Axle, 1250 GPM Pump, Mid Mounted Pump |

#### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| XD01 | Seagrave Marauder II Custom 4-Door Full Tilt Stainless Steel Cab and Body, Single Axle, Non-Walk-In Body |
| XD02 | Freightliner, 2-Door, OEM Cab, Single Axle, Polyprene Rescue, Non-Walk-In Body |

#### E. Pumper/Tankers & Tankers

| XE01 | Seagrave Marauder II Custom 4-Door Full Tilt Stainless Steel Cab and Body, Tandem Axle, 1500 GPM Pump, Mid Mounted Pump, 2000 Gallon Tank |
| XE02 | Freightliner, 2-Door, OEM Cab, Polyprene Body, Single Axle, PTO Pump, Side Mount, 2000 Gallon Tank |
| XE03 | Freightliner, 2-Door, OEM Cab, Polyprene Body, Tandem Axle, PTO Pump, Side Mount, 3000 Gallon Tank |
| XE04 | Freightliner, 2-Door, OEM Cab, Polyprene Body, Tandem Axle, Gas Pump, 3000 Gallon Tank |

### Y. Skeeter

#### B. Wildland Fire Apparatus (Brush Fire)

| YB01 | Slip In Unit: Complete Slip in firefighting package for flatbed or pickup bed. Heavy Duty frame, 200 GPM pump, 300 gallon poly tank. 150’ hose reel. Hose Tray. Stainless steel plumbing. |
| YB02 | Skeeter Type 3 or 4 F-650: Brush unit, Large (33,000 gvw). Custom firefighting body. 750 gallon poly tank. 200-750 gpm pump. 150’ hose reel. Stainless steel plumbing. Hose tray. Tool tray. Side body compartments. |
### Z. Smeal

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA01</td>
<td>75’ Rear Mount Telescoping Ladder (NLR-75), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA02</td>
<td>75’ Rear Mount Telescoping Ladder (PLR-75), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA03</td>
<td>75’ Mid Mount Telescoping Ladder (PLM-75), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA04</td>
<td>100' Mid Mount Telescoping Ladder (PLM-100), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA05</td>
<td>105’ Rear Mount Telescoping Ladder (NLR-105), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA06</td>
<td>110’ Rear Mount Telescoping Ladder (PLR-110), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA07</td>
<td>125’ Rear Mount Telescoping Ladder (NLR-125), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA08</td>
<td>85’ Mid-Mount Telescoping Ladder with Platform (NPM-85), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA09</td>
<td>93’ Mid-Mount Telescoping Ladder with Platform (PPM-93), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA10</td>
<td>100’ Rear-Mount Telescoping Ladder with Platform (NPR-100), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA11</td>
<td>100’ Rear-Mount Telescoping Ladder with Platform (PPR-100), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA12</td>
<td>100’ Mid-Mount Telescoping Ladder with Platform (NPM-100), Aluminum Body, Spartan Gladiator, 4-Door Tilt Cab, Tandem Axle</td>
</tr>
<tr>
<td>ZA13</td>
<td>100’ Tractor Drawn Telescoping Ladder (PLT)-100, Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Single Axle</td>
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<tr>
<td>ZA14</td>
<td>105’ Tractor Drawn Telescoping Ladder (PLT)-105, Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Single Axle</td>
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<tr>
<td>ZA15</td>
<td>105’ Tractor Drawn Telescoping Ladder Quint (PLTQ)-105, Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
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<tr>
<td>ZA16</td>
<td>54’ Rear Mount Articulating Water Tower (Sqrt-54), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA17</td>
<td>50’ Rear Mount Water Tower w/ Ladder (T Sqrt-50), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA18</td>
<td>65’ Rear Mount Water Tower w/ Ladder (T Sqrt-65), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA19</td>
<td>55’ Rear Mount Articulating Platform (Snorkel-55), Aluminum Body, Spartan Metro Star 4-Door Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZA20</td>
<td>136’ Rear Mount Articulating &amp; Telescoping Platform (GIM-136), Aluminum Body, Spartan Gladiator 4-Door Tilt Cab, Tandem Axle</td>
</tr>
</tbody>
</table>

#### B. Wildland Fire Apparatus (Brush Fire)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZB01</td>
<td>International 4-Door Chassis 4x4, OEM Cab, Aluminum Body, Single Axle, 500 GPM Pump, Mid-Mounted Type III Heavy Wildland Engine.</td>
</tr>
<tr>
<td>ZB02</td>
<td>Spartan Metrostar 4-Door Chassis, Aluminum Body, Single Axle, 1500 GPM Pump, Mid-Mounted Type I Wildland Urban Interface Engine.</td>
</tr>
</tbody>
</table>

#### C. Pumper Fire Apparatus

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZC01</td>
<td>Pumper, Midship, 1250 GPM, Aluminum Body, Freightliner 2-Door Chassis, OEM Cab</td>
</tr>
<tr>
<td>ZC02</td>
<td>Pumper, Midship, 1250 GPM, Aluminum Body, Freightliner 4-Door Chassis, OEM Cab</td>
</tr>
<tr>
<td>ZC03</td>
<td>Pumper, Midship, 1250 GPM, Custom Series, Aluminum Body, Spartan Metro Star-X 4-Door Chassis, Aluminum Tilt Cab</td>
</tr>
<tr>
<td>ZC04</td>
<td>Pumper, Midship, 1250 GPM, Custom Series, Aluminum Body, Spartan Metro Star 4-Door Chassis, Aluminum Tilt Cab</td>
</tr>
<tr>
<td>ZC05</td>
<td>Pumper, Midship, 1250 GPM, Custom Series, Aluminum Body, Spartan Gladiator 4-Door Chassis, Aluminum Tilt Cab</td>
</tr>
<tr>
<td>ZE01</td>
<td>Pumper/Tanker, Midship, 1500 GPM, 1500 Gallon, Custom Series, Aluminum Body, Spartan, Gladiator 4-Door Chassis, OEM Cab, Aluminum Tilt Cab, Single Axle</td>
</tr>
<tr>
<td>ZE02</td>
<td>Pumper/Tanker, Midship, 1250 GPM, 3000 Gallon, Custom Series, Aluminum Body, Spartan, Gladiator 4-Door Chassis, OEM Cab, Aluminum Tilt Cab, Tandem Axle</td>
</tr>
</tbody>
</table>

### E. Pumper/Tankers & Tankers

### AA. Spartan ERV

#### A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)

| AAA01 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Single Axle, 75' 500# Steel Rear Mounted Telescoping Ladder |
| AAA02 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Tandem Axle 75' 500# Steel Rear Mounted Telescoping Ladder |
| AAA03 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Tandem Axle, 103' 500# Rear Mounted Telescoping Ladder |
| AAA04 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Tandem Axle, 100' 500# Steel Rear Mounted Telescoping Ladder/Platform |
| AAA05 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Tandem Axle, 100' 500# Steel Mid Mounted Telescoping Ladder/Platform |
| AAA06 | Spartan 4-Door Full-Tilt Aluminum Cab, Aluminum Body, Single Axle, 100' 500# Steel Tractor Mid Mounted Telescoping Ladder |

#### B. Wildland Fire Apparatus (Brush Fire)

| AAB01 | Ford F550, 4x2, Aluminum Flat Bed Body |
| AAB02 | International 2-Door, 4x2, Aluminum Flat Bed Body |
| AAB03 | International 2-Door 4x2, Wildland Interface, Aluminum Body |

#### C. Pumper Fire Apparatus

| AAC01 | Ford F-550 2-Door, Pumpers, 4x2, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted |
| AAC02 | Kenworth 2-Door, Pumpers, 4x2, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted |
| AAC03 | Kenworth 2-Door, Pumpers, 4x2, Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted |
| AAC04 | Spartan 4-Door Custom Full-Tilt Aluminum Cab, 4x2, Pumpers, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted |
| AAC05 | Spartan 4-Door Custom Full-Tilt Aluminum Cab, Pumpers, 4x2, Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted |

#### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| AAD01 | Ford F550 2-Door, 4x2, Non-Walk-In Rescue, Single Axle, Aluminum Body |
| AAD02 | International 4400, 2-Door, 4x2, Single Axle, Aluminum Body, Non-Walk-In Rescue |
| AAD03 | Spartan, Full-Tilt, Aluminum Cab, 4x2, Single Axle, Aluminum Body, Non-Walk-In Body |
| AAD04 | International 4400, 2-Door, 4x2, Single Axle, Aluminum Body, Walk-In Rescue |
| AAD05 | Spartan, Full-Tilt, Aluminum Cab, 4x2, Single Axle, Aluminum Body, Walk-In Body |

#### E. Pumper/Tankers & Tankers

| AAE01 | Kenworth 2-Door, 4x2, Pumper/Tanker, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted |
| AAE02 | Kenworth 2-Door, 4x2, Pumper/Tanker, Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted |

### BB. Sunbelt Fire, Inc.

#### B. Wildland Fire Apparatus (Brush Fire)

| BBB01 | Ford F450, 2-door, Aluminum Fabricated Flatbed Body, 9' Flatbed Wildland Vehicle |
| BBB02 | Dodge 5500, 2-door, Aluminum Fabricated Flatbed Body, 9' Flatbed Wildland Vehicle |
| BBB03 | Ford F450, 2-door, Aluminum Extruded Body, 10' Quick Attack Wildland Vehicle |
| BBB04 | Dodge 5500, 2-door, Aluminum Extruded Body, 10' Quick Attack Wildland Vehicle |
| BBB05 | Skid Unit for Slide-in Style Body |

**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

| BBD01 | Ford F450, 2-door, Aluminum Extruded Body, 10' Light Rescue Vehicle |
| BBD02 | Dodge 5500, 2-door, Aluminum Extruded Body, 10' Light Rescue Vehicle |
| BBD03 | Freightliner M2, 2-door Aluminum Extruded Body, 18' Walk-in Rehabilitation Vehicle |
| BBD04 | IHC 4400, 2-door Aluminum Extruded Body, 18' Walk-in Rehabilitation Vehicle |
| BBD05 | Freightliner M2, 2-door Aluminum Extruded Body, 18' Non-Walk-in Rescue Vehicle |
| BBD06 | IHC 4400, 2-door Aluminum Extruded Body, 18' Non-Walk-in Rescue Vehicle |
| BBD07 | Freightliner M2, 2-door Aluminum Extruded Body, 18' Command Vehicle |
| BBD08 | IHC 4400, 2-door Aluminum Extruded Body, 18' Command Vehicle |

**E. Pumper/Tankers & Tankers**

| BBE01 | Freightliner M2, 2-door, Wetside Tanker, 2000 gallon Tank, 1250 GPM pump |
| BBE02 | Navistar 4400, 2-door, Wetside Tanker, 2000 gallon Tank, 1250 GPM pump |
| BBE03 | Kenworth T370, 2-door, Wetside Tanker, 2000 gallon Tank, 1250 GPM pump |
| BBE04 | Freightliner M2, 2-door, Wetside Tanker, 3000 gallon Tank, 1250 GPM pump |
| BBE05 | Navistar 4400, 2-door, Wetside Tanker, 3000 gallon Tank, 1250 GPM pump |
| BBE06 | Kenworth T370, 2-door, Wetside Tanker, 3000 gallon Tank, 1250 GPM pump |

**CC. Super Vac**

**B. Wildland Fire Apparatus (Brush Fire)**

| CCB01 | Ford F550, 2-Door, OEM Cab, 4x4, Single Axle, Aluminum Body, 100 GPM, 250 Gal Tank Slip-In, Wildland |
| CCB02 | International 7400, 4-Door, OEM Cab, 4x4, Aluminum Body, Single Axle, 500 GPM, 500 Gal, Mid-Mounted Wildland Pumper |

**C. Pumper Fire Apparatus**

| CCC01 | International 4400, 2-Door, OEM Cab, 4x2, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |
| CCC02 | Spartan 4-Door Chassis, Aluminum Tilt Cab, 4x2, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper |

**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center**

| CCD01 | Ford F550, 2-Door, OEM Cab, 4x2, Single Axle, Aluminum Body, Non-Walk-In Rescue |
| CCD02 | International 4400, 2-Door, OEM Cab, 4x2, Single Axle, Aluminum Body, Non-Walk-In Rescue |
| CCD03 | Spartan 4-Door Chassis, Aluminum Tilt Cab, 4x2, Single Axle, Aluminum Body, Non-Walk-In Body |
| CCD04 | International 4400, 2-Door, OEM Cab, 4x2, Single Axle, Aluminum Body, Walk-In Rescue |
| CCD05 | Spartan 4-Door Chassis, Aluminum Tilt Cab, 4x2, Single Axle, Aluminum Body, Walk-In Body |

**DD. Sutphen Corporatation (Sutphen)**

**A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)**

<p>| DDA01 | Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Single Axle, SA 75' Mid Mounted 1000# Telescoping Aluminum Box Boom with Climbing Ladder |
| DDA02 | Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Single Axle, SL 75' Mid Mounted 1000# Aluminum Ladder |
| DDA03 | Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Tandem Axle, SL 100' Mid Mounted 750# Aluminum Ladder |</p>
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDA04</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Single Axle, 70' Mid Mounted 1000# Telescoping Aluminum Box Boom with Platform</td>
</tr>
<tr>
<td>DDA05</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Tandem Axle, SP 92' Mid Mounted 1000# Telescoping Aluminum Box Boom with Platform</td>
</tr>
<tr>
<td>DDA06</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Tandem Axle, SPH 100' Mid Mounted 1000# Telescoping Aluminum Box Boom with Platform</td>
</tr>
<tr>
<td>DDA07</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Tandem Axle, SP 110' Mid Mounted 1000# Telescoping Aluminum Box Boom with Platform</td>
</tr>
<tr>
<td>DDA08</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Single Axle, SLR 75' Rear Mounted 750# Aluminum Ladder</td>
</tr>
<tr>
<td>DDA09</td>
<td>Sutphen Monarch, 4-Door Full-Tilt Aluminum Cab, Stainless Steel Body, Tandem Axle, SLR 108' Rear Mounted 750# Aluminum Ladder</td>
</tr>
</tbody>
</table>

**B. Wildland Fire Apparatus (Brush Fire)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDB01</td>
<td>International 7400, 4x4 4-Door Commercial Cab, Type 3 Pumper, Extruded Aluminum Body, Single Axle, 750 GPM Pump, Two Stage, Mid-Mounted</td>
</tr>
<tr>
<td>DDB02</td>
<td>Sutphen Monarch, 4 Door Custom Full Tilt Aluminum Cab, Wildlan Urban Interface Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted</td>
</tr>
</tbody>
</table>

**C. Pumper Fire Apparatus**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDC01</td>
<td>International 4400, 2-Door Commercial Cab, Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Single Stage, Mid-Mounted</td>
</tr>
<tr>
<td>DDC02</td>
<td>Sutphen Guardian, 4 Door Custom Full Tilt Aluminum Cab, Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted</td>
</tr>
<tr>
<td>DDC03</td>
<td>Sutphen Shield, 4 Door Custom Full Tilt Aluminum Cab, Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted</td>
</tr>
<tr>
<td>DDC04</td>
<td>Sutphen Monarch, 4 Door Custom Full Tilt Aluminum Cab, Pumper, Extruded Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted</td>
</tr>
</tbody>
</table>

**D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDD01</td>
<td>Sutphen Monarch, 4 Door Custom Full Tilt Aluminum Cab, Single Axle, Formed Aluminum Body, Non-Walk-In Rescue</td>
</tr>
</tbody>
</table>

**E. Pumper/Tankers & Tankers**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDE01</td>
<td>International, 2-Door, Commercial Cab, Pumper/Wetside Tanker, Stainless Steel Body, Single Axle, 1250 GPM Pump, Mid-Mounted</td>
</tr>
<tr>
<td>DDE02</td>
<td>International, 2-Door, Commercial Cab, Pumper/Elliptical Tanker, Stainless Steel Body, Single Axle, 1250 GPM Pump, Mid-Mounted</td>
</tr>
<tr>
<td>DDE03</td>
<td>International, 2-Door, Commercial Cab, Pumper/Wetside Tanker, Stainless Steel Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted</td>
</tr>
<tr>
<td>DDE04</td>
<td>International, 2-Door, Commercial Cab, Pumper/Elliptical Tanker, Stainless Steel Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted</td>
</tr>
<tr>
<td>DDE05</td>
<td>Sutphen Monarch, 4 Door Custom Full Tilt Aluminum Cab, Pumper Tanker, Extruded Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid Mounted</td>
</tr>
</tbody>
</table>

**EE. Toyne**

**A. Aerials (Booms/Platforms, Ladders, Ladder/Platforms)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEA01</td>
<td>Toyne, single axle, Spartan chassis, 75' rear mount aerial, Aluminum body, 300 gallons, side stack hosebed, 1500 gpm pump</td>
</tr>
<tr>
<td>EEA02</td>
<td>Toyne tandem axle, Spartan chassis, 100' rear mount aerial with aluminum body, 300 gallons of water, side stack hosebed, 1500 gpm pump</td>
</tr>
<tr>
<td>EEA03</td>
<td>Toyne tandem axle, Spartan chassis, rear mount 100' platform, aluminum body, 300 gallons of water, center hosebed, 1500 gpm pump</td>
</tr>
</tbody>
</table>

**B. Wildland Fire Apparatus (Brush Fire)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB01</td>
<td>Toyne, Ford F550, Aluminum Body, 1000 gpm midship pump, 300 gallons of water</td>
</tr>
</tbody>
</table>

**C. Pumper Fire Apparatus**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEC01</td>
<td>Freightliner M2, 2-Door Commercial Cab, Pumper, Aluminum Body, Single Axle, 1250 GPM Pump, Single Stage, Mid-Mounted, 750 gallons of water</td>
</tr>
<tr>
<td>EEC02</td>
<td>International 4400, 2-Door Commercial Cab, Pumper, Aluminum Body, Single Axle, 1250 GPM Pump, Single Stage, Mid-Mounted, 750 gallons of water</td>
</tr>
</tbody>
</table>
### EEC03
Kenworth, 2-Door Commercial Cab, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted, 750 gallons of water

### EEC04
Spartan 4 door custom full tilt aluminum cab, PRV pumper, Welded SS body, single axle, 2000 gpm pump, mid mounted, 1000 gallons of water

### EEC05
Spartan, 4 Door Custom Full Tilt Aluminum Cab, Pumper, Aluminum Body, Single Axle, 1250 GPM Pump, Mid Mounted, 750 gallons of water

### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

<table>
<thead>
<tr>
<th>EED01</th>
<th>International 4400, 2-Door, Commercial Cab, Single Axle, Aluminum Body, Non-Walk-In Rescue</th>
</tr>
</thead>
<tbody>
<tr>
<td>EED02</td>
<td>Spartan, 4-Door, Full-Tilt, Aluminum Cab, Single Axle, Aluminum Body, Non-Walk-In Body</td>
</tr>
</tbody>
</table>

### E. Pumper/Tankers & Tankers

<table>
<thead>
<tr>
<th>EEE01</th>
<th>International, 2-Door, Commercial Cab, Pumper/Tanker, Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE02</td>
<td>Spartan, 4-Door, Custom Full-Tilt, Aluminum Cab, Pumper/Tanker, Aluminum Body, Tandem Axle, 1250 GPM Pump, Mid-Mounted, 2500 gallons</td>
</tr>
<tr>
<td>EEE03</td>
<td>International, 2-Door, Commercial Cab, Elliptical Tanker, welded stainless steel Body, Tandem Axle, 1250 GPM Pump, 2000 gallon</td>
</tr>
</tbody>
</table>

### FF. U S Tanker

| FFB01 | Ford F550, Aluminum Flat Bed Body, Type 6 |

### D. Special Service Apparatus (Walk-In & Non Walk-In Bodies) Multi-Use: Rescue, Re-Hab, Hazmat, Mobile Command Center

| FFD01 | Non-Walk-In Rescue, Ford F550 2-Door, Single Axle, Aluminum Body |

### E. Pumper/Tankers & Tankers

<table>
<thead>
<tr>
<th>FFE01</th>
<th>Elliptical Tanker, Kenworth 2-Door, Stainless Steel Body, Single Axle 1250 GPM Pump, Mid-Mounted, 2000-gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFE02</td>
<td>Elliptical Tanker, Kenworth 2-Door, Stainless Steel Body, Tandem Axle 1250 GPM Pump, Mid-Mounted, 3000-gallons</td>
</tr>
<tr>
<td>FFE03</td>
<td>Wet Side Tanker, Kenworth 2-Door, Stainless Steel Body, Single Axle, 1250 GPM Pump, Mid-Mounted, 2000-gallons</td>
</tr>
<tr>
<td>FFE04</td>
<td>Wet Side Tanker, Kenworth 2-Door, Stainless Steel body, Tandem Axle, 1250 GPM Pump, Mid-Mounted, 3000-gallons</td>
</tr>
</tbody>
</table>

### GG. Unruh Fire, Inc.

### B. Wildland Fire Apparatus (Brush Fire)

<table>
<thead>
<tr>
<th>GGB01</th>
<th>Unruh Fire 11 ft Attack Brush, extruded aluminum brush body with crosswalk, dual topside storage compartments, 400 gallon polypropylene tank, 85 GPM @ 150 PSI to 245 GPM @ 25 PSI pump with 23 hp gas engine, Steel hose reel with 100 ft hose and nozzle, F550, 4x4</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGB02</td>
<td>Unruh Fire 9 ft Attack brush, extruded aluminum brush body with work stations, dual topside storage compartments, 400 gallon polypropylene tank, 85 GPM @ 150 PSI to 245 GPM @ 25 PSI pump with 23 hp gas engine, Steel hose reel with 100 ft hose and nozzle, F550, 4x4</td>
</tr>
<tr>
<td>GGB03</td>
<td>Unruh Fire 9 ft Attack Brush, extruded aluminum flatbed brush body, dual topside storage compartments, 400 gallon polypropylene tank, 85 GPM @ 150 PSI to 245 GPM @ 25 PSI pump with 23 hp gas engine, Steel hose reel with 100 ft hose and nozzle, F550, 4x4</td>
</tr>
</tbody>
</table>

### D. Special Service Apparatus (Walk-In & Non-Walk-in Bodies) Multi-use: Rescue, Re-Hab, Hazmat, Mobile Command Center

<p>| GGD01 | Unruh Fire 9 ft Rapid Rescue, extruded aluminum dry rescue body, compartments with 7 roll up doors, 1 transverse slide tray and a 1000 lb capacity rear slide tray on a F550 4x4 |</p>
<table>
<thead>
<tr>
<th>Vehicle Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGD02</td>
<td>Unruh Fire 11 ft Rapid Rescue, extruded aluminum dry rescue body, compartments with 7 roll up doors, 1 transverse slide tray and a 1000 lb rear slide tray on a F550, 4x4</td>
</tr>
<tr>
<td>GGD03</td>
<td>Unruh Fire 9 ft Rapid Rescue, extruded aluminum wet rescue body with 6 roll up door compartments, 300 gallon polypropylene tank, 85 GPM @ 150 PSI to 245 GPM @ 25 PSI pump with 23 hp gas engine, Steel hose reel with 100 ft hose and nozzle, F550, 4x4</td>
</tr>
<tr>
<td>GGD04</td>
<td>Unruh Fire 11 ft Rapid Rescue, extruded aluminum wet rescue body, compartments with 6 roll up doors, 300 gallon polypropylene tank, 85 GPM @ 150 PSI to 245 GPM @ 25 PSI pump with 23 hp gas engine, Steel hose reel with 100 ft hose and nozzle, F550, 4x4</td>
</tr>
</tbody>
</table>

**F. Airport Rescue Fire-Fighting Vehicles**

<table>
<thead>
<tr>
<th>Vehicle Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GGF01</td>
<td>Unruh Fire 12 ft Renegade Rescue, extruded aluminum body with 6 roll up door compartments, 300 gallon Polypropylene tank with foam cell, 500 lbs dry chemical, engine driven pump, dual agent hose reel, F550, 4x4</td>
</tr>
<tr>
<td>GGF02</td>
<td>Unruh Fire 12 ft Renegade Rescue, extruded aluminum body with 6 roll up door compartments, 300 gallon stored energy CAFS, 500 lbs dry chemical, 4 nitrogen cylinders, dual agent hose reel.</td>
</tr>
</tbody>
</table>

**HH. Weis Fire & Safety Equipment Co.**

**B. Wildland Fire Apparatus (Brush Fire)**

<table>
<thead>
<tr>
<th>Vehicle Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHB01</td>
<td>Weis Fire Quick Attack 300, Rear Mount Pump Controls, 9’ EXT Alum Fire Body with Walkway, on Ford F-350, 60” CA</td>
</tr>
<tr>
<td>HHB02</td>
<td>Weis Fire Quick Attack 300, Top Mount Pump Controls, 9’ EXT Alum Fire Body with Walkway, on Ford F-350 60” CA</td>
</tr>
<tr>
<td>HHB03</td>
<td>Weis Fire Quick Attack 300, Rear Mount Pump Controls, 9’ EXT Alum Fire Body with Walkway, on Ford F-450 60” CA</td>
</tr>
<tr>
<td>HHB04</td>
<td>Weis Fire Quick Attack 300, Top Mount Pump Controls, 9’ EXT Alum Fire Body with Walkway, on Ford F-450 60” CA</td>
</tr>
<tr>
<td>HHB05</td>
<td>Weis Fire Quick Attack 400, Rear Mount Pump Controls, 11’ EXT Alum Fire Body with Walkway, on Ford F-550 84” CA</td>
</tr>
<tr>
<td>HHB06</td>
<td>Weis Fire Quick Attack 400, Top Mount Pump Controls, 11’ EXT Alum Fire Body with Walkway, on Ford F-550 84” CA</td>
</tr>
<tr>
<td>HHB07</td>
<td>Weis Fire Quick Attack 500, Rear Mount Pump Controls, 11’ EXT Alum Fire Body with Walkway, on Ford F-550 84” CA</td>
</tr>
<tr>
<td>HHB08</td>
<td>Weis Fire Quick Attack 500, Top Mount Pump Controls, 11’ EXT Alum Fire Body with Walkway, on Ford F-550 84” CA</td>
</tr>
</tbody>
</table>
Offeror Name:

<table>
<thead>
<tr>
<th>Code or Part No.</th>
<th>Option Description</th>
<th>Offered Price</th>
</tr>
</thead>
</table>

1) Bid each Option on a single separate line. Bidder is responsible to identify each item with a specific code or part number.

2) Use a single **Form E** for ALL items. Add/Insert additional lines as necessary.

3) Completely describe each option, including manufacturer's code or part numbers as appropriate. Each item listed MUST have a unique code or part number.

4) Options which replace standard equipment on a base bid Item on Form D should be priced net of any credit due for the replaced item.

5) Options which are shown as upgrades/downgrades of a base bid item on Form D should be priced at the differential amount between the base bid item and the option.

6) You encourage to offer specific manufacturer's catalogs (eg. Whelan, Fed Signal, etc.) as options, with 'List Less' or 'Cost Plus' percentages for pricing. Copy of catalog should be supplied w/bid.

Note: Bidder must identify each option bid with an identifying Code or Part No. that should be referenced on all Contract Pricing Worksheets.
**FORM G: SPECIAL STATEMENT OF WARRANTY**

**FS12-17**

“Fire Service Apparatus (All Types)”

This form shall be completed by the **Manufacturer** and signed by one of its Corporate Officers. No agent signature shall be acceptable on this document. The **Manufacturer**, warrants each newly manufactured Fire Apparatus, to the original user/purchaser only for the specified periods stated below, from the date of acceptance, ordinary wear and tear excepted:

<table>
<thead>
<tr>
<th>Component</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cab &amp; Chassis</td>
<td>One (1) year, parts &amp; labor</td>
</tr>
<tr>
<td>Chassis Frame Rails</td>
<td>Five (5) years, parts &amp; labor</td>
</tr>
<tr>
<td>Diesel Engine</td>
<td>Five (5) years, parts &amp; labor</td>
</tr>
<tr>
<td>Transmission</td>
<td>Five (5) years, parts &amp; labor</td>
</tr>
<tr>
<td>Fire Pump</td>
<td>One (1) year, parts &amp; labor</td>
</tr>
<tr>
<td>Fire Pump Panel Gauge</td>
<td>One (1) year, parts &amp; labor</td>
</tr>
<tr>
<td>Water Tank</td>
<td>Twenty (20) years, parts &amp; labor</td>
</tr>
<tr>
<td>Apparatus Body</td>
<td>One (1) year, parts &amp; labor</td>
</tr>
<tr>
<td></td>
<td>Ten (10) years, rust/corrosion penetration</td>
</tr>
<tr>
<td></td>
<td>Ten (10) years or 100,000 miles, structural warranty</td>
</tr>
<tr>
<td></td>
<td>Three (3) years, paint</td>
</tr>
<tr>
<td>Aerial Device</td>
<td>Twenty (20) years, structural</td>
</tr>
<tr>
<td></td>
<td>Two (2) years, hydraulic components</td>
</tr>
<tr>
<td></td>
<td>One (1) year, parts and labor</td>
</tr>
<tr>
<td></td>
<td>One (1) year, waterway</td>
</tr>
</tbody>
</table>

The **Manufacturer's** obligations under this warranty shall be specifically limited to replacing or repairing, as the **Manufacturer** may elect, any part or parts of such product which to the Manufacturer's examination discloses to be defective in material or workmanship.

Any part or parts considered to be covered by the conditions of this warranty shall be returned, freight prepaid, to the **Manufacturer's** factory located at

or to such other location as may be approved in advance by the **Manufacturer**. Replaced or repaired parts determined to be included within the warranty shall be F.O.B. to the End User's physical location. Freight and labor to reinstall parts shall be paid by the **Manufacturer**.

The **Manufacturer's** warranty shall not apply to the following:
- Wear items.
- Normal adjustments and maintenance services.
- Failures resulting from the product being operated in a manner not in accordance with the operation manual or for a purpose not recommended by the **Manufacturer**.
- Any product which shall have been repaired, modified, or altered in any way so as to have been adversely affected the units stability or reliability.
- Items subjected to misuse, negligence, accident, or improper maintenance.
- Loss of time or use of the product, inconvenience or other incidental expenses.

Any trade accessory that has its own warranty shall have said warranty document attached with the bid response. If a separate warranty equal or exceeding is not attached, then the **Manufacturer** warrants any trade accessory not specifically covered by a separate warranty.

Nothing contained in this warranty shall make the **Manufacturer**, liable beyond the express limitations hereof, for loss, injury, or damage of any kind to any person or entity resulting from any defect or failure of the product (except as covered by Product liability insurance).

**THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATIONS, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**MANUFACTURER:**

| Corporate Officer Signature: |
| Printed Name and Title: |

**WARRANTY ADMINISTRATOR:**

| Printed Name and Title: |
| Date: |
Bidder shall provide a written narrative explaining in some detail activities that will be undertaken to actively market and promote an H-GAC contract to local government and non-profit End Users.
This is a sample of the contract that will be sent to you for execution IF you are recommended for a contract award.
Do NOT complete and return with your Response.

A CONTRACT BETWEEN HOUSTON-GALVESTON AREA COUNCIL, Houston, Texas AND 

This Contract is made and entered into by the Houston-Galveston Area Council of Governments, hereinafter referred to as H-GAC, having its principal place of business at 3555 Timmons Lane, Suite 100, Houston, Texas 77027, AND, hereinafter referred to as the CONTRACTOR, having its principal place of business at 

ARTICLE 1: SCOPE OF SERVICES
The parties have entered into a _____ Contract to become effective as of _____, and to continue through _____ (the "Contract"), subject to extension upon mutual agreement of the CONTRACTOR and H-GAC. H-GAC enters into the Contract as Agent for participating governmental agencies, each hereinafter referred to as END USER, for the purchase of ____ offered by the CONTRACTOR. The CONTRACTOR agrees to sell _____ through the H-GAC Contract to END USERS.

ARTICLE 2: THE COMPLETE AGREEMENT
The Contract shall consist of the documents identified below in order of precedence:

1. The text of this Contract form, including but not limited to, Attachment A
2. General Terms and Conditions
3. Bid Specifications No:_______, including any relevant suffixes
4. CONTRACTOR's Response to Bid No:_______, including but not limited to, prices and options offered

All of which are either attached hereto or incorporated by reference and hereby made a part of this Contract, and shall constitute the complete agreement between the parties hereto. This Contract supersedes any and all oral or written agreements between the parties relating to matters herein. Except as otherwise provided herein, this Contract cannot be modified without the written consent of both parties.

ARTICLE 3: LEGAL AUTHORITY
CONTRACTOR and H-GAC warrant and represent to each other that they have adequate legal counsel and authority to enter into this Contract. The governing bodies, where applicable, have authorized the signatory officials to enter into this Contract and bind the parties to the terms of this Contract and any subsequent amendments thereto.

ARTICLE 4: APPLICABLE LAWS
The parties agree to conduct all activities under this Contract in accordance with all applicable rules, regulations, directives, issuances, ordinances, and laws in effect or promulgated during the term of this Contract.

ARTICLE 5: INDEPENDENT CONTRACTOR
The execution of this Contract and the rendering of services prescribed by this Contract do not change the independent status of H-GAC or CONTRACTOR. No provision of this Contract or act of H-GAC in performance of this Contract shall be construed as making CONTRACTOR the agent, servant or employee of H-GAC, the State of Texas or the United States Government. Employees of CONTRACTOR are subject to the exclusive control and supervision of CONTRACTOR. CONTRACTOR is solely responsible for employee payrolls and claims arising therefrom.

ARTICLE 6: END USER AGREEMENTS
H-GAC acknowledges that the END USER may choose to enter into an End User Agreement with the CONTRACTOR through this Contract and that the term of said Agreement may exceed the term of the H-GAC Contract. However this acknowledgement is not to be construed as H-GAC's endorsement or approval of the End User Agreement terms and conditions. CONTRACTOR agrees not to offer to, agree to or accept from END USER any terms or conditions that conflict with or contravene those in CONTRACTOR's H-GAC contract. Further, termination of this Contract for any reason shall not result in the termination of the underlying End User Agreements entered into between CONTRACTOR and any END USER which shall, in each instance, continue pursuant to their stated terms and duration. The only effect of termination of this Contract is that CONTRACTOR will no longer be able to enter into any new End User Agreements with END USERS pursuant to this Contract. Applicable H-GAC order processing charges will be due and payable to H-GAC on
ARTICLE 7:  SUBCONTRACTS & ASSIGNMENTS
CONTRACTOR agrees not to subcontract, assign, transfer, convey, sublet or otherwise dispose of this Contract or any right, title, obligation or interest it may have therein to any third party without prior written notice to H-GAC. H-GAC reserves the right to accept or reject any such change. CONTRACTOR shall continue to remain responsible for all performance under this Contract regardless of any subcontract or assignment. H-GAC shall be liable solely to CONTRACTOR and not to any of its Subcontractors or Assignees.

ARTICLE 8:  EXAMINATION AND RETENTION OF CONTRACTOR’S RECORDS
CONTRACTOR shall maintain during the course of its work, complete and accurate records of items that are chargeable to END USER under this Contract. H-GAC, through its staff or its designated public accounting firm, the State of Texas, or the United States Government shall have the right at any reasonable time to inspect copy and audit those records on or off the premises of CONTRACTOR. Failure to provide access to records may be cause for termination of this Contract. CONTRACTOR shall maintain all records pertinent to this Contract for a period of not less than five (5) calendar years from the date of acceptance of the final contract closeout and until any outstanding litigation, audit or claim has been resolved. The right of access to records is not limited to the required retention period, but shall last as long as the records are retained. CONTRACTOR further agrees to include in all subcontracts under this Contract, a provision to the effect that the subcontractor agrees that H-GAC’S duly authorized representatives, shall, until the expiration of five (5) calendar years after final payment under the subcontract or until all audit findings have been resolved, have access to, and the right to examine and copy any directly pertinent books, documents, papers, invoices and records of such subcontractor involving any transaction relating to the subcontract.

ARTICLE 9:  REPORTING REQUIREMENTS
CONTRACTOR agrees to submit reports or other documentation in accordance with the General Terms and Conditions of the Bid Specifications. If CONTRACTOR fails to submit to H-GAC in a timely and satisfactory manner any such report or documentation, or otherwise fails to satisfactorily render performance hereunder, such failure may be considered cause for termination of this Contract.

ARTICLE 10:  MOST FAVORED CUSTOMER CLAUSE
If CONTRACTOR, at any time during this Contract, routinely enters into agreements with other governmental customers within the State of Texas, and offers the same or substantially the same products/services offered to H-GAC on a basis that provides prices, warranties, benefits, and or terms more favorable than those provided to H-GAC, CONTRACTOR shall notify H-GAC within ten (10) business days thereafter of that offering and this Contract shall be deemed to be automatically amended effective retroactively to the effective date of the most favorable contract, wherein CONTRACTOR shall provide the same prices, warranties, benefits, or terms to H-GAC and its END USER. H-GAC shall have the right and option at any time to decline to accept any such change, in which case the amendment shall be deemed null and void. If CONTRACTOR is of the opinion that any apparently more favorable price, warranty, benefit, or term charged and/or offered a customer during the term of this Contract is not in fact most favored treatment, CONTRACTOR shall within ten (10) business days notify H-GAC in writing, setting forth the detailed reasons CONTRACTOR believes aforesaid offer which has been deemed to be a most favored treatment, is not in fact most favored treatment. H-GAC, after due consideration of such written explanation, may decline to accept such explanation and thereupon this Contract between H-GAC and CONTRACTOR shall be automatically amended, effective retroactively, to the effective date of the most favored agreement, to provide the same prices, warranties, benefits, or terms to H-GAC.

The Parties accept the following definition of routine: A prescribed, detailed course of action to be followed regularly; a standard procedure. EXCEPTION: This clause shall not be applicable to prices and price adjustments offered by a bidder, or contractor, which are not within bidder’s control [example; a manufacturer’s bid concession], or to any prices offered to the Federal Government and its agencies.

ARTICLE 11:  SEVERABILITY
All parties agree that should any provision of this Contract be determined to be invalid or unenforceable, such determination shall not affect any other term of this Contract, which shall continue in full force and effect.

ARTICLE 12:  DISPUTES
Any and all disputes concerning questions of fact or of law arising under this Contract, which are not disposed of by agreement, shall be decided by the Executive Director of H-GAC or his designee, who shall reduce his decision to writing and provide notice thereof to CONTRACTOR. The decision of the Executive Director or his designee shall be final and conclusive unless,
within thirty (30) days from the date of receipt of such notice, CONTRACTOR requests a rehearing from the Executive Director of H-GAC. In connection with any rehearing under this Article, CONTRACTOR shall be afforded an opportunity to be heard and offer evidence in support of its position. The decision of the Executive Director after any such rehearing shall be final and conclusive. CONTRACTOR may, if it elects to do so, appeal the final and conclusive decision of the Executive Director to a court of competent jurisdiction. Pending final decision of a dispute hereunder, CONTRACTOR shall proceed diligently with the performance of this Contract and in accordance with H-GAC's final decision.

ARTICLE 13: LIMITATION OF CONTRACTOR'S LIABILITY
Except as specified in any separate writing between the CONTRACTOR and an END USER, CONTRACTOR's total liability under this Contract, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to its order processing charge. In no event will H-GAC be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. CONTRACTOR understands and agrees that it shall be liable to repay and shall repay upon demand to END USER any amounts determined by H-GAC, its independent auditors, or any agency of State or Federal government to have been paid in violation of the terms of this Contract.

ARTICLE 14: LIMIT OF H-GAC'S LIABILITY AND INDEMNIFICATION OF H-GAC
H-GAC's liability under this Contract, whether for breach of contract, warranty, negligence, strict liability, in tort or otherwise, is limited to its order processing charge. In no event will H-GAC be liable for any loss of use, loss of time, inconvenience, commercial loss, lost profits or savings or other incidental, special or consequential damages to the full extent such use may be disclaimed by law. Contractor agrees, to the extent permitted by law, to defend and hold harmless H-GAC, its board members, officers, agents, officials, employees, and indemnities from any and all claims, costs, expenses (including reasonable attorney fees), actions, causes of action, judgments, and liens arising as a result of CONTRACTOR's negligent act or omission under this Contract. CONTRACTOR shall notify H-GAC of the threat of lawsuit or of any actual suit filed against CONTRACTOR relating to this Contract.

ARTICLE 15: TERMINATION FOR CAUSE
H-GAC may terminate this Contract for cause based upon the failure of CONTRACTOR to comply with the terms and/or conditions of the Contract; provided that H-GAC shall give CONTRACTOR written notice specifying CONTRACTOR'S failure. If within thirty (30) days after receipt of such notice, CONTRACTOR shall not have either corrected such failure, or thereafter proceeded diligently to complete such correction, then H-GAC may, at its option, place CONTRACTOR in default and the Contract shall terminate on the date specified in such notice. CONTRACTOR shall pay to H-GAC any order processing charges due from CONTRACTOR on that portion of the Contract actually performed by CONTRACTOR and for which compensation was received by CONTRACTOR.

ARTICLE 16: TERMINATION FOR CONVENIENCE
Either H-GAC or CONTRACTOR may cancel or terminate this Contract at any time by giving thirty (30) days written notice to the other. CONTRACTOR may be entitled to payment from END USER for services actually performed; to the extent said services are satisfactory to END USER, CONTRACTOR shall pay to H-GAC any order processing charges due from CONTRACTOR on that portion of the Contract actually performed by CONTRACTOR and for which compensation is received by CONTRACTOR.

ARTICLE 17: CIVIL AND CRIMINAL PROVISIONS AND SANCTIONS
CONTRACTOR agrees that it will perform under this Contract in conformance with safeguards against fraud and abuse as set forth by H-GAC, the State of Texas, and the acts and regulations of any funding entity. CONTRACTOR agrees to notify H-GAC of any suspected fraud, abuse or other criminal activity related to this Contract through filing of a written report promptly after it becomes aware of such activity.

ARTICLE 18: GOVERNING LAW & VENUE
This Contract shall be governed by the laws of the State of Texas. Venue and jurisdiction of any suit or cause of action arising under or in connection with this Contract shall lie exclusively in Harris County, Texas. Disputes between END USER and CONTRACTOR are to be resolved in accord with the law and venue rules of the state of purchase. CONTRACTOR shall immediately notify H-GAC of such disputes.
ARTICLE 19: PAYMENT OF H-GAC ORDER PROCESSING CHARGE
CONTRACTOR agrees to sell its products to END USERS based on the pricing and other terms of this Contract, including, but not limited to, the payment of the applicable H-GAC order processing charge. On notification from an END USER that an order has been placed with CONTRACTOR, H-GAC will invoice CONTRACTOR for the applicable order processing charge. Upon delivery of any product/service by CONTRACTOR and acceptance by END USER, CONTRACTOR shall, within thirty (30) calendar days or ten (10) business days after receipt of payment, whichever is less, pay H-GAC the full amount of the applicable order processing charge, whether or not CONTRACTOR has received an invoice from H-GAC. For sales made by CONTRACTOR based on this contract, including sales to entities without Interlocal Contracts, CONTRACTOR shall pay the applicable order processing charges to H-GAC. Further, CONTRACTOR agrees to encourage entities who are not members of H-GAC’s Cooperative Purchasing Program to execute an H-GAC Interlocal Contract. H-GAC reserves the right to take appropriate actions including, but not limited to, contract termination if CONTRACTOR fails to promptly remit H-GAC’s order processing charge. In no event shall H-GAC have any liability to CONTRACTOR for any goods or services an END USER procures from CONTRACTOR.

ARTICLE 20: LIQUIDATED DAMAGES
Any liquidated damages terms will be determined between CONTRACTOR and END USER at the time END USER’s purchase order is placed.

ARTICLE 21: PERFORMANCE BONDS FOR INDIVIDUAL ORDERS
Except as described below for fire apparatus, CONTRACTOR agrees to provide a Performance Bond at the request of END USER within ten (10) days of receipt of END USER’s purchase order.

It shall be standard procedure for every order received for fire apparatus that a Performance Bond in the amount of the order be provided to the END USER. Failure of CONTRACTOR to provide such performance bond within ten (10) days of receipt of END USER’s order may constitute a total breach of contract and shall be cause for cancellation of the order at END USER’s sole discretion. END USER may choose to delete the requirement for a Performance Bond at END USER’s sole discretion. If the bond requirement is waived, END USER shall be entitled to a price reduction commensurate with the cost that would have been incurred by CONTRACTOR for the bond.

ARTICLE 22: CHANGE OF CONTRACTOR STATUS
CONTRACTOR shall immediately notify H-GAC, in writing, of ANY change in ownership, control, dealership/franchisee status, Motor Vehicle license status, or name, and shall also advise whether or not this Contract shall be affected in any way by such change. H-GAC shall have the right to determine whether or not such change is acceptable, and to determine what action shall be warranted, up to and including cancellation of Contract.

ARTICLE 23: LICENSING REQUIRED BY TEXAS MOTOR VEHICLE BOARD [IF APPLICABLE]
CONTRACTOR will for the duration of this Contract maintain current licenses that are required by the Texas Motor Vehicle Commission Code. If at any time during this Contract period, any CONTRACTOR’S license is not renewed, or is denied or revoked, CONTRACTOR shall be deemed to be in default of this Contract unless the Motor Vehicle Board issues a stay or waiver. Contractor shall promptly provide copies of all current applicable Texas Motor Vehicle Board documentation to H-GAC upon request.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their duly authorized representatives.

Signed for Houston-Galveston Area Council, Houston, Texas:______________________________________________
Jack Steele, Executive Director

Attest for Houston-Galveston Area Council, Houston, Texas:_______________________________________________
Deidre Vick, Director of Public Services
Date:____________________, 20___

Signed for________________________________ ______________________________________________
Printed Name & Title:_____________________________________________  Date:____________________, 20___

Attest for_________________________________ ______________________________________________
Printed Name & Title:_____________________________________________  Date:___________________, 20___
PROPOSAL PREPARED FOR:
City of Sacramento
5770 Freeport Blvd, Suite 2
Sacramento, CA 95822

We hereby propose and agree to furnish, after your acceptance of this proposal and the proper execution by the CITY OF SACRAMENTO, hereinafter called “Customer” and an officer of Golden State Fire Apparatus, Inc., hereinafter called “GSFA”, the following fire apparatus and equipment, hereinafter called “Product”:

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>A One (1) Pierce Manufacturing, Inc. 105’ Velocity Ladder Truck</td>
<td>1,115,035.00</td>
</tr>
<tr>
<td>B Discount for HGAC contract FS12-17, Product Code TA06</td>
<td>(55,675.00)</td>
</tr>
<tr>
<td>C Discount For 100% Pre-Payment at Time of Order</td>
<td>(39,504.00)</td>
</tr>
</tbody>
</table>

SUBTOTAL 1,019,856.00

State Sales Tax @ 8.25% 84,138.12
California Tire Fee 17.50

GRAND TOTAL 1,104,011.62

PROPOSAL SUMMARY
This proposal includes the following items in accordance with the specifications hereto attached:

- Fire apparatus and equipment
- 100% performance bond
- Factory final inspection trip
- Pre-delivery inspection/services by GSFA
- Delivery to GSFA service center in Sacramento
- Final delivery from service center to Customer
- Demonstration and familiarization of the Product
- California Tire Fee

PRODUCT COMPLETION
Product shall be built in accordance with the specifications hereto attached, delays due to acts of God, strikes, war, or intentional conflict, failures to obtain chassis, materials, unusual weather conditions or other causes beyond GSFA’s control not preventing, within approximately 395 CALENDAR DAYS after receipt of this order and the acceptance thereof at our Sacramento, California office. Within thirty (30) calendar days after receipt of this order and acceptance thereof, GSFA shall submit to Customer a production schedule including tentative pre-construction conference, final inspection and final delivery dates.

DELIVERY LOCATION
Product shall be shipped in accordance with the specifications hereto attached and be delivered to you at SACRAMENTO, CALIFORNIA. Proof of insurance must be demonstrated by the Customer to GSFA prior to transferring of the Product(s).
TERMS AND CONDITIONS

1. Payment Terms, 100% Pre-Payment at Time of Order – If applicable, Customer shall pay the Grand Total within fifteen (15) calendar days of date on invoice to GSFA. Proposed delivery timeframe for the Product shall not begin until full payment is received. If payment is late, a daily finance charge of $250.00 may be added to the final invoice until such payment is received. If payment is not made, $39,504.00 plus state sales tax shall be added to the final invoice and due GSFA at time of delivery. Due to insurance liability, the Product(s) will not be left at the Customer’s location without full acceptance and payment or prior written agreement between the Customer and GSFA.

2. Multiple Unit Purchase – If applicable, for any multiple unit purchase the Grand Total pricing is only valid if the quantity of Products being proposed are purchased at the same time, on the same Purchase Order (PO) or signed contract.

3. State Sales Tax – A sale occurs when the Customer takes title to or possession of an item (not when payment is received by GSFA). Consequently, this proposal is subject to the applicable state sales tax rate in effect when the Product is delivered to the Customer per the delivery terms. Customer is responsible for payment of any additional taxes required, likewise Customer is entitled to a refund if the tax rate is lowered!

4. Purchase Orders – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.

5. Proposal Expiration – Unless accepted by the expiration date above, GSFA reserves the right to withdraw this proposal.

6. Cancellation/Termination – In the event this proposal is accepted and a signed Purchase Order (PO) or signed contract is issued and then cancelled or terminated by Customer before completion, GSFA may charge a cancellation fee. The following charge schedule based on costs incurred may be applied: (a) 10% of the Purchase Price after order is accepted and entered by GSFA; (b) 20% of the Purchase Price after completion of approval drawings; and; (c) 50% of the Purchase Price upon any material requisition. The cancellation fee shall increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. GSFA endeavors to mitigate any such costs through the sale of such Product to another purchaser; however, the Customer shall remain liable for the difference between the Purchase Price and, if applicable, the sale price obtained by GSFA upon sale of the Product to another purchaser, plus any costs incurred by GSFA to conduct any such sale.

7. Stock / Demo Units – If applicable, all stock/demo units are available for sale on an as is, first come and first served basis. The first Customer to issue a signed Purchase Order (PO) or signed contract shall obtain the Product!

8. Proposal Acceptance Statement – To ensure the above stated terms and conditions of this proposal and the specifications hereto attached are understood and adhered to, GSFA requires an authorized individual from the Customer to sign and date this proposal and include it with any Purchase Order (PO). Upon signing of this proposal, the stated terms and conditions of this proposal and the specifications hereto attached shall be considered binding and accepted by the Customer. No additional terms or conditions shall be binding upon GSFA unless agreed to in writing and signed by a duly authorized officer of GSFA. The terms and acceptance of this proposal shall be governed by the laws of the State of California.

Thank you for allowing Golden State Fire Apparatus, Inc. the opportunity to provide this proposal. If you have any questions regarding the options presented or need additional options please contact me.

Sincerely,

Ryan Wright
Golden State Fire Apparatus, Inc.

I, ________________________________________, the authorized representative of CITY OF SACRAMENTO, agree to purchase the proposed Product(s) and agree to the terms and conditions of this proposal and the specifications hereto attached.

SIGNATURE: __________________________________________ DATE: __________________

7400 Reese Road, Sacramento, CA 95828 | Office 916.330.1638 | Fax 916.330.1649
**CONTRACT PRICING WORKSHEET**

For MOTOR VEHICLES Only

- **Contract No.:** FS12-17
- **Date Prepared:** 11/2/2017

_This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly._

<table>
<thead>
<tr>
<th>Buying Agency:</th>
<th>City of Sacramento</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Person:</td>
<td>Alison Crandall</td>
</tr>
<tr>
<td>Phone:</td>
<td>(916) 808-1163</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:ACrandall@cityofsacramento.org">ACrandall@cityofsacramento.org</a></td>
</tr>
</tbody>
</table>

| Contractor: | GOLDEN STATE FIRE APPARATUS INC. |
| Prepared By: | RYAN WRIGHT |
| Phone:       | (916) 330-1638 |
| Fax:         |                |
| Email:       | ryan@goldenstatefire.com |

| Product Code: | TA06 |
| Description:  | Pierce Enforcer Chassis, Tandem Axle, 105' Rear-Mounted Telescoping Ladder (500#) |

**A. Product Item Base Unit Price Per Contractor's H-GAC Contract:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>107759</td>
</tr>
</tbody>
</table>

**B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.**

(Note: Published Options are options which were submitted and priced in Contractor's bid.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>107759</td>
</tr>
</tbody>
</table>

**C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.**

(Note: Unpublished options are items which were not submitted and priced in Contractor's bid.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>87047.06</td>
</tr>
</tbody>
</table>

**Check:** Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B).

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>87047.06</td>
</tr>
</tbody>
</table>

For this transaction the percentage is: **9%**

**D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)**

<table>
<thead>
<tr>
<th>Quantity Ordered</th>
<th>1</th>
<th>Subtotal of A + B + C:</th>
<th>1044626.06</th>
</tr>
</thead>
</table>

**Subtotal D:** 1044626.06

**E. H-GAC Order Processing Charge (Amount Per Current Policy)**

**Subtotal E:** 400

**F. Trade-Ins / Other Allowances / Special Discounts / Freight / Installation**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTORY INSPECTION TRIPS</td>
<td>6,000.00</td>
</tr>
<tr>
<td>DELIVERY / DEALER PREPARATION</td>
<td>5,400.00</td>
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<tr>
<td>PERFORMANCE BOND</td>
<td>2,951.44</td>
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<tr>
<td>DISCOUNT FOR PRE-PAYMENT</td>
<td>-39504</td>
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<tr>
<td>STATE SALES TAX</td>
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</tbody>
</table>

**Subtotal F:** 58985.56

**Delivery Date:** January of 2019

**G. Total Purchase Price (D+E+F):** 1104011.62
<table>
<thead>
<tr>
<th>Number</th>
<th>Qty</th>
<th>Description</th>
<th>Published Options</th>
<th>Unpublished Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>114</td>
<td>1</td>
<td>Aluminum Wheels, front</td>
<td>$2,187.00</td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>1</td>
<td>Aluminum Wheels Tandem Axle</td>
<td>$4,527.00</td>
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<tr>
<td>164</td>
<td>4</td>
<td>Upgrade SCBA Bracket to Hands Free</td>
<td>$2,924.00</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>1</td>
<td>Upgrade Enforcer to Velocity</td>
<td>$42,482.00</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>1</td>
<td>Radio with Weatherband</td>
<td>$1,168.00</td>
<td></td>
</tr>
<tr>
<td>197</td>
<td>1</td>
<td>Intercom System (up to 6 position, 2 with radio, 6 headsets non-wireless)</td>
<td>$5,216.00</td>
<td></td>
</tr>
<tr>
<td>203</td>
<td>1</td>
<td>Kussmaul Charger</td>
<td>$1,746.00</td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>1</td>
<td>Auto-eject 20 amp</td>
<td>$516.00</td>
<td></td>
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<tr>
<td>215</td>
<td>1</td>
<td>LED pump-body</td>
<td>$1,834.00</td>
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</tr>
<tr>
<td>219</td>
<td>1</td>
<td>12 volt LED HiViz Brow</td>
<td>$3,563.00</td>
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</tr>
<tr>
<td>220</td>
<td>2</td>
<td>12 volt HiViz LED Side body</td>
<td>$3,618.00</td>
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<tr>
<td>262</td>
<td>23</td>
<td>Mate Flex in Enclosed Compartments Per Shelf</td>
<td>$2,944.00</td>
<td></td>
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<tr>
<td>263</td>
<td>6</td>
<td>Adjustable Compartment shelves</td>
<td>$1,140.00</td>
<td></td>
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<tr>
<td>265</td>
<td>1</td>
<td>Swing-out tool board</td>
<td>$1,665.00</td>
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<tr>
<td>266</td>
<td>4</td>
<td>Slide-out floor tray</td>
<td>$3,212.00</td>
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<tr>
<td>267</td>
<td>6</td>
<td>Adjustable slide-out tray</td>
<td>$5,394.00</td>
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<tr>
<td>273</td>
<td>2</td>
<td>SCBA Cylinder storage in fender panel double (each)</td>
<td>$1,716.00</td>
<td></td>
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<tr>
<td>366</td>
<td>1</td>
<td>Air Horns with 2 foot switches</td>
<td>$1,517.00</td>
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<tr>
<td>368</td>
<td>1</td>
<td>Q2B Siren</td>
<td>$4,051.00</td>
<td></td>
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<tr>
<td>372</td>
<td>1</td>
<td>Traffic Directing light bar</td>
<td>$1,919.00</td>
<td></td>
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<tr>
<td>466</td>
<td>1</td>
<td>Thermal Imager Camera with charger</td>
<td>$14,420.00</td>
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<tr>
<td>DTF</td>
<td>1</td>
<td>Fire Fighting Equipment and Mounting</td>
<td>$125,106.19</td>
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<tr>
<td>DTF</td>
<td>1</td>
<td>Delete Fire Pump / Discharges / Water Tank</td>
<td>$78,280.00</td>
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<tr>
<td>0002045</td>
<td>1</td>
<td>Mud Flaps, w/ logo front &amp; rear</td>
<td>$516.23</td>
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<tr>
<td>0544802</td>
<td>1</td>
<td>Chocks, Wheel, SAC-44-E, Folding</td>
<td>$484.49</td>
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<tr>
<td>0544806</td>
<td>1</td>
<td>Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal</td>
<td>$338.49</td>
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<td>0542809</td>
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<td>Brake Lines, Wire Braided</td>
<td>$2,272.61</td>
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<tr>
<td>0000858</td>
<td>1</td>
<td>Inlet/Outlet, Air, w/ Disconnect Fitting</td>
<td>$564.25</td>
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<tr>
<td>0090176</td>
<td>1</td>
<td>Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 5 speed</td>
<td>$122.37</td>
<td></td>
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<tr>
<td>0027843</td>
<td>1</td>
<td>Fluid, 4000 Series Trans, Allison Approved TES-295 Synthetic, IPOS, Custom</td>
<td>$240.31</td>
<td></td>
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<tr>
<td>0512716</td>
<td>1</td>
<td>Scuffplate, Rear of Engine Tunnel</td>
<td>$287.78</td>
<td></td>
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<tr>
<td>0562516</td>
<td>1</td>
<td>Tint, Windows, Crew Cab Doors Only, 14%, Vel/Imp/AXT/SFR/ENF</td>
<td>$371.84</td>
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<tr>
<td>0634206</td>
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<td>Mounting Provisions, 1/4&quot; Alum, Full Engine Tunnel, Saber FR/Enforcer</td>
<td>$430.38</td>
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<tr>
<td>0530840</td>
<td>2</td>
<td>Box, Storage, Aluminum, Latex Gloves</td>
<td>$103.96</td>
<td></td>
</tr>
<tr>
<td>Item Code</td>
<td>Description</td>
<td>Quantity</td>
<td>Unit Cost</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>0633630</td>
<td>Map Box, 5 Bin/30 Deg Slant, 3.00&quot; Bins</td>
<td>1</td>
<td>$485.71</td>
<td></td>
</tr>
<tr>
<td>0612089</td>
<td>Cabinet, EMS, Rear Facing, DS, 24.50 W x 34 H x 22 D, Ext Acc Only, Sp Mtg, SFR/Enf</td>
<td>1</td>
<td>$2,218.07</td>
<td></td>
</tr>
<tr>
<td>0612087</td>
<td>Cabinet, EMS, Rear Facing, PS, 24.50 W x 34 H x 22 D, Ext Acc Only, Sp Mtg, SFR/Enf</td>
<td>1</td>
<td>$2,218.07</td>
<td></td>
</tr>
<tr>
<td>0042264</td>
<td>Shelf, Adjustable, EMS Compt, 1.25&quot; Lip</td>
<td>2</td>
<td>$252.18</td>
<td></td>
</tr>
<tr>
<td>0680605</td>
<td>Rack, Storage, Alum, Latex Gloves (3)</td>
<td>1</td>
<td>$231.11</td>
<td></td>
</tr>
<tr>
<td>0556186</td>
<td>Handlights, (4) Streamlight, Survivor C4 LED, 12v, Orange, 90503 Steady Charge</td>
<td>1</td>
<td>$1,141.10</td>
<td></td>
</tr>
<tr>
<td>0545919</td>
<td>Handlight, Streamlight, Vulcan 44001 Yellow, 12v Charger Base, shoulder strap</td>
<td>2</td>
<td>$486.67</td>
<td></td>
</tr>
<tr>
<td>0548016</td>
<td>Wiring, Spare, 30 A 12V DC 2nd</td>
<td>2</td>
<td>$202.81</td>
<td></td>
</tr>
<tr>
<td>0548004</td>
<td>Wiring, Spare, 15 A 12V DC 1st</td>
<td>4</td>
<td>$507.24</td>
<td></td>
</tr>
<tr>
<td>0686687</td>
<td>Wiring, Spare, 12V DC, Customer Install Radio, 30A Sw Bat, 7.5A Ign &amp; Grnd</td>
<td>2</td>
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**Base Bid** $849,820.00

**Published Options** $107,759.00

**Total Published Options** $957,579.00

**Unpublished Options** $87,047.06 9.09%

**Total Options w/o HGAC Fee** $1,044,626.06
Golden State Fire Apparatus Inc is pleased to submit a proposal to City of Sacramento for a **Pierce®105' Heavy Duty Aerial Ladder** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

**PIERCE MANUFACTURING** was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 60 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 51,000 apparatus, including more than 27,000 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 757,000 total square feet of floor space situated on approximately 97 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

**GENERAL DESIGN AND CONSTRUCTION**

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.

**QUALITY AND WORKMANSHIP**

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding
Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least ten (10) fire departments/municipalities that have purchased vehicles for a second time is provided.

**DELIVERY**

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

**MANUAL AND SERVICE INFORMATION**

At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

**SAFETY VIDEO**

At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.
PERFORMANCE TESTS
A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT
Pierce dealership support will be provided by Golden State Emergency Vehicle by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within fifty (50) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of $5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU’s and descriptions offered on all Pierce apparatus. Published component catalogs, which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVT’s, and offers hands-on repair and maintenance training classes multiple times a year.

COMMERCIAL GENERAL LIABILITY INSURANCE
Certification of insurance coverage will be enclosed.

SINGLE SOURCE MANUFACTURER
Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and
operators panel) body and aerial device will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

**NFPA 2016 STANDARDS**

This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

**NFPA COMPLIANCY**

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

**VEHICLE INSPECTION PROGRAM CERTIFICATION**

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third-party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: all design, production,
operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.

**INSPECTION CERTIFICATE**

A third party inspection certificate for the aerial device will be furnished upon delivery of the aerial device. The certificate will be Underwriters Laboratories Inc. Type 1 and will indicate that the aerial device has been inspected on the production line and after final assembly.

Visual structural inspections will be performed on all welds on both aluminum and steel ladders.

On critical weld areas, or on any suspected defective area, the following tests will be conducted:

- Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.
- A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.
- Ultrasonic inspection will conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

In addition to the tests above, functional tests, load tests, and stability tests will be performed on all aerials. These tests will determine any unusual deflection, noise, vibration, or instability characteristics of the unit.

**GENERATOR TEST**

If the unit has a generator, the generator will be tested, approved, and certified by Underwriters Laboratories at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

**INSPECTION TRIP(S)**

The bidder will provide one (1) factory inspection trip(s) for four (4) City of Sacramento customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.
PRODUCT CHANGES AND IMPROVEMENTS
Our components and processes, as described in this proposal document, are as accurate as known at the
time of bid submission, but are subject to change for the purpose of product or process improvements, or
changes in industry standards providing the change does not affect the meaning or definition of the bid
specifications.

PERFORMANCE BOND, 1 YEAR
The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the
total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to
the Owner and issued by a surety company included within the Department of Treasury's Listing of
Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of
A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a
minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also
includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty
period included within this proposal. Owner agrees that the penal amount of this bond will be
simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and
delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to
the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the
date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty
period, whichever is shorter.

APPROVAL DRAWING
A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before
construction begins. The Pierce sales representative will also be provided with a copy of the same
drawing. The finalized and approved drawing will become part of the contract documents. This
drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments,
major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser
showing any changes made to the approval drawing.

FINAL DRAWING
There will be a revised drawing of the truck with all the changes made during production provided at
pickup.

VELOCITY CHASSIS
The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided
will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body
builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for
heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab.

**MAXIMUM OVERALL HEIGHT**
The maximum overall height of the apparatus will be 141.00" (11'-9.00").

**WHEELBASE**
The wheelbase of the vehicle will be 248.50".

**GVW RATING**
The gross vehicle weight rating will be 68,050 lbs.

**FRAME**
The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38” tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75” over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

**FRAME REINFORCEMENT**
In addition, a mainframe inverted "L" liner will be provided. It will be heat-treated steel measuring 12.00" x 3.00" x 0.25". Each liner will have a section modulus of 7.795 cubic inches, yield strength of 110,000 psi, and rbm of 857,462 in-lb. Total rbm at wheelbase center will be 3,976,502 in-lb.

The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

**FRONT NON DRIVE AXLE**
The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 20,050 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.
There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be 0 degrees for optimum tire life.

The ball joint bearing will be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.

**FRONT SUSPENSION**

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

**FRONT SHOCK ABSORBERS**

KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.
FRONT OIL SEALS
Oil seals with viewing window will be provided on the front axle.

FRONT TIRES
Front tires will be Goodyear 385/65R22.5 radials, 18 ply G296 MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10)stud, 11.25" bolt circle.

REAR AXLE
The rear axle will be a Meritor™, Model RT-46-160, tandem axle assembly with a capacity of 48,000 lb.

An inter-axle differential, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.

AXLE RATIO OF VEHICLE
The rear axle will be geared for a top speed of 68 mph. The engine will be electronically limited to a top speed of 60 mph.

REAR SUSPENSION
Rear suspension will be a Ridewell Dynalastic Model 202S with a ground rating of 48,000 lb. The suspension will have the following features:

- Individually articulating torque beams pivoted to a compensator providing independent axle movement and steady load distribution
- Utilizes Ultra Torque Rod Plus torque rods

REAR OIL SEALS
Oil seals will be provided on the rear axle(s).

REAR TIRES
Rear tires will be eight (8) Goodyear 12R22.50 radials, load range H, Endurance RSA, highway tread, rated for 54,240 lb maximum axle load and 75 mph maximum speed.

The tires will be mounted on Alcoa© 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE
All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
TIRE PRESSURE MANAGEMENT
There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of 10 tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

MUD FLAPS
Mud flaps with a Pierce logo will be installed behind the front and rear wheels.

WHEEL CHOCKS
There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

WHEEL CHOCK BRACKETS
There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire.

ANTI-LOCK BRAKE SYSTEM
The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels (rear tandem wheels). A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

BRAKES
The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00” ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.
The rear brakes will be Meritor™ 16.50” x 7.00” cam operated with automatic slack adjusters. Dust shields will be provided.

**BRAKE SYSTEM AIR COMPRESSOR**
The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

**BRAKE SYSTEM**
The brake system will include:

- Bendix dual brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 6,653 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, will be provided with an automatic spring brake application at 40 psi
- A pressure protection valve will be provided to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa).
- 1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

**BRAKE SYSTEM AIR DRYER**
The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.

**BRAKE LINES**
Wire braided reinforced rubber brake lines will be provided for the chassis air brake system, up to the individual line coupler fittings, located in the chassis frame forward of the front axle.

The coupler fittings will be the separation point for all air lines going to the front of the chassis and into the cab.

The air lines going into the cab will be nylon, wrapped in loom.

The area where the nylon air lines run will be well protected inside the frame rails.
The brake lines will not be painted.

**AIR INLET/OUTLET**

One (1) air inlet/outlet will be installed with the female coupling located in the driver's side cab step area. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.

A mating male fitting will be provided with the loose equipment.

The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

**ALL WHEEL LOCK-UP**

An additional all wheel lock-up system will be installed which applies air to the front brakes only. The standard spring brake control valve system will be used for the rear.

A locking switch will be provided to help prevent accidental activation of the front wheel lock control.

**MANUAL MOISTURE EJECTOR(S)**

Five (5) manual moisture ejectors will be installed in the brake system. The moisture ejector will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible. A loop will be provided at the moisture ejector, to allow for ease of pulling the drain. Each moisture ejector will have a label directly under the ejector, stating air tank drain. Nylon tubing, .38" diameter, will be routed from the air tank to the moisture ejector. The nylon tubing will be covered with protective split loom. The moisture ejector(s) will be provided on the each tank. Pull cables to be located at the area forward of the wheel chocks on the drivers side See photo #32. reservoir(s).

**ENGINE**

The chassis will be powered by an electronically controlled engine as described below:

<table>
<thead>
<tr>
<th>Make:</th>
<th>Cummins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model:</td>
<td>ISX12</td>
</tr>
<tr>
<td>Power:</td>
<td>500 hp at 1800 rpm</td>
</tr>
<tr>
<td>Torque:</td>
<td>1645 lb-ft at 1200 rpm</td>
</tr>
<tr>
<td>Governed Speed:</td>
<td>2100 rpm</td>
</tr>
<tr>
<td>Emissions Level:</td>
<td>EPA 2016</td>
</tr>
<tr>
<td>Fuel:</td>
<td>Diesel</td>
</tr>
<tr>
<td>Cylinders:</td>
<td>Six (6)</td>
</tr>
<tr>
<td>Displacement:</td>
<td>729 cubic inches (11.9L)</td>
</tr>
</tbody>
</table>
**Starter:** Delco 39MT™

**Fuel Filters:** Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.

The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

**HIGH IDLE**
A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

**ENGINE BRAKE**
A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

**CLUTCH FAN**
A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.

**ENGINE AIR INTAKE**
An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of the apparatus, on the passenger side of the
engine. The ember separator will be mounted in the air intake with flame retardant, roto-molded polyethylene housing. It will be easily accessible by the hinged access panel at the front of the vehicle.

**EXHAUST SYSTEM**
The exhaust system will include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the SCR device and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and SCR to minimize the transfer of heat to the cab. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

**EXHAUST MODIFICATION**
The exhaust pipe will be brought out from under the body at a 35 degree angle to the rear.

The diffuser will not be cut straight to the body, and the outer edge will be flush with the body rubrail. There will be a minimum of 2.50" from the exhaust pipe to the under side of the body heat shield. The last 7.00" of the exhaust will be free of hangers and/or clamps.

**RADIATOR**
The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. No solder joints or leaded material of any kind will be acceptable in the core assembly. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy shall be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions.

There will be a full steel frame around the entire radiator core assembly. The radiator core assembly will be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators.

The radiator assembly will include an integral deaeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level
inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

**COOLANT LINES**
Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.

**FUEL TANK**
A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be located in a low point of the tank for drainage.

A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet.

The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

**DIESEL EXHAUST FLUID TANK**
A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body forward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the driver's side of the body and be covered with a hinged, spring loaded, polished stainless steel door that is marked "Diesel Exhaust Fluid Only".
The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

**AUXILIARY FUEL PUMP**
An auxiliary electric fuel pump will be added to the fuel line for priming the engine. A switch located on the cab instrument panel will be provided to operate the pump.

**FUEL COOLER**
An air to fuel cooler will be installed in the engine fuel return line.

The fuel filler door will include a holder for the fuel fill cap.

**FUEL SEPARATOR**
The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.

**TRANSMISSION**
An Allison 5th generation, Model EVS 4000P, electronic, torque converting, automatic transmission will be provided.

The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with red light and buzzer will be installed on the cab instrument panel.

**TRANSMISSION SHIFTER**
A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be:

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.51 to 1.00</td>
</tr>
<tr>
<td>2nd</td>
<td>1.91 to 1.00</td>
</tr>
<tr>
<td>3rd</td>
<td>1.43 to 1.00</td>
</tr>
<tr>
<td>4th</td>
<td>1.00 to 1.00</td>
</tr>
<tr>
<td>5th</td>
<td>0.75 to 1.00</td>
</tr>
</tbody>
</table>
TRANSMISSION COOLER
A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

DOWNSHIFT MODE (W/ENGINE BRAKE)
The transmission will be provided with an aggressive downshift mode.

This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.

TRANSMISSION FLUID
The transmission will be provided with TranSynd, or other Allison approved TES-295 heavy duty synthetic transmission fluid.

DRIVELINE
Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft. The slip joint will be coated with Glidecoat® or equivalent.

STEERING
Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL
The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON
The steering wheel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

<table>
<thead>
<tr>
<th>6th</th>
<th>0.64 to 1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>4.80 to 1.00</td>
</tr>
</tbody>
</table>
Bumper
A one (1) piece, ten (10) gauge 304-2B polished stainless steel bumper, minimum of 10.00" high, will be attached to the front of the chassis frame.

A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.

Gravel Pan
A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.

Lift and Tow Mounts
Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems.

The lift and tow mounts with eyes will be painted the same color as the frame.

Tow Hooks
No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes.

License Plate Bracket
A non-illuminated license plate bracket will be mounted on the front bumper. The bracket will be formed from bright stainless steel.

CAB
The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be of heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be
constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The overall height (from the cab roof to the ground) will be approximately 102.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 52.95" in the center position and 58.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

**INTERIOR CAB INSULATION**

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.
FENDER LINERS
Full-circular, aluminum inner fender liners in the wheel wells will be provided.

PANORAMIC WINDSHIELD
A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS
Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather.

The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD
A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

ENGINE TUNNEL
To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The undersize of the tunnel will be covered with 1.00" thick polyether foam that is reinforced with an aluminized face. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The
insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of the NFPA 1901 standards.

**CAB REAR WALL EXTERIOR COVERING**
The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

**CAB LIFT**
A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure.

The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2' (coiled) to 6' (extended).

The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab.

The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

**Cab Lift Interlock**
The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

**CAB TILT CIRCUIT**
The cab tilt mechanism will be operational with the battery switch only and with parking brake set.
GRILLE
A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.

DOOR JAMB SCUFFPLATES
All cab door jambas will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.

SCUFFPLATES
A polished stainless steel scuffplate will be provided behind the handrails for all cab and crew cab door entrances.

FRONT CAB TRIM
Bright finished wrap-around housings will be provided on each side of the front cab face for mounting of the headlights and front directional lights. The housings will mate up to the side edge of the forward grille, and then extend around the front corners of the cab rearward, providing for a streamlined automotive appearance.

SIDE OF CAB MOLDING
Chrome molding will be provided on both sides of cab.

MIRRORS
A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

CAB DOORS
To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 76.46" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum.

The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door will also be provided with an interior flush, open style paddle handle that will be readily operable
from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. The keys will be Model 751. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab and crew cab door.

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

**CAB DOOR PANELS**

The inner cab door panels will be constructed out of brushed stainless steel. The cab door panels will be removable.

**RECESSED POCKET WITH ELASTIC COVER**

To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console.

**ELECTRIC WINDOW CONTROLS**

Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.

**CAB STEPS**

The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be
replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.

A Hansen LED backlit knurled aluminum handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress. The handrails will be lit with white LED lights. The lights will be activated when the parking brake is applied.

**STEP LIGHTS**
For reduced overall maintenance costs compared to incandescent lighting, there will be four (4) white LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

The lights will be activated when the adjacent door is opened.

**FENDER CROWNS**
Stainless steel fender crowns will be installed at the cab wheel openings.

**GRAB HANDLE(S)**
There will be two (2) black offset rubber covered grab handle(s) mounted one (1) on each crew cab door post (hinged side) to assist in entering the cab and/or crew cab. The grab handle(s) will be securely mounted.

**Window Tint**
The rollup window in the right side crew cab door will be tinted privacy dark gray.

**Window Tint**
The rollup window in the left side crew cab door will be tinted privacy dark gray.

**STORAGE COMPARTMENTS**
Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be approximately 10.71" wide x 30.00" high x 14.00" deep with a clear door opening of 9.50" wide x 28.00" high.

The doors will be a painted single pan construction with one (1) D-ring latch. A rubber covered bumper will be used as a door stop.

The compartment interior will be painted spatter gray.
There will be four (4) white Amdor, LED strip lights provided, one (1) each side of compartment door openings.

**SCUFFPLATE**
A full-height brushed stainless steel scuffplate shall be installed on the inside of each of the extended cab compartment door pans.

**MATTING IN AUXILIARY COMPARTMENT**
Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compartments. Tile color will be black (no ramp).

The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

**CAB ROOF COVERING**
Horizontal cab roof surfaces, on each side of the aerial device, will be covered with bright aluminum treadplate. The aluminum treadplate will be bonded to the cab. Edges will be properly caulked to prevent water from leaking under the aluminum.

No front or side warning lights, or any other auxiliary options, will be mounted on top of the treadplate. The treadplate will extend and terminate next to all objects mounted on the roof.

**CAB ROOF DRIP RAIL**
For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

**DOOR STOP CABLES**
Cables will be supplied to keep the crew cab compartment doors from hitting things when the doors are opened. There will be two (2) located lower rear cab compartments.

**WORK SURFACE**
There will be a work surface provided on the engine tunnel. The work surface will be cover the entire engine tunnel and will be constructed of .19" aluminum to allow the mounting of equipment. The work surface will be approximately 35.50" wide x 54.75" long, with a cutout for the driver side instrument panel. The work surface will start to the rear of the defroster inlet and continue horizontally to the flat portion at the rear of the engine tunnel. The work surface will drop to the lower flat portion of the engine tunnel and finish at the end of the engine tunnel. The lower portion of the work surface will be provided with a 3.00" lip. The work surface will be painted to match the cab interior.
CAB INTERIOR
With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.

The center console will be a high impact ABS polymer and will be easily removable for access to the defroster. The center console will include louvers strategically located for optimal air flow and defrost capability to the windshield.

The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.

To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.

To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.

The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY
The cab interior upholstery will be black. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

CAB INTERIOR PAINT
A rich looking interior will be provided by painting all the metal surfaces inside the cab black, vinyl texture paint.
CAB FLOOR
The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25” thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

CAB DEFROSTER
To provide maximum defrost and heating performance, a 54,961 BTU heater-defroster unit with 558 SCFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the instrument panel. For easy access, a removable metal cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

CAB/CREW CAB HEATER
Two (2) 36,702 BTU auxiliary heaters with 276 SCFM (each unit) of air flow will be provided inside the crew cab, one (1) in each outboard rear facing seat riser. The heaters will include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters will be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters will be controlled by an integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear independently. The control panel will include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature.

AIR CONDITIONING
Due to the large space inside the cab, a high-performance, customized air conditioning system will be furnished. A 19.10 cubic inch compressor will be installed on the engine.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 64 degrees Fahrenheit in the forward section of the cab, and 69 degrees Fahrenheit in the
rear section of the cab, at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

A roof-mounted condenser with a 63,000 BTU output that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover and mounting legs to be painted white as provided by manufacturer.

The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include two (2) high performance cores and plenums with multiple outlets, one (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

The evaporator unit will have a 49,000 BTU (4.08 tons) rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the evaporator cover per the following:

- Four (4) will be directed towards the drivers location
- Four (4) will be directed towards the officers location
- Eight (8) will be directed towards crew cab area

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

The air conditioner will be controlled by dual zone integral electronic control panels for the heater, defroster and air conditioner. The cab control panel will be located in the center console. For ease of operation, the control panels will include variable adjustment for temperature and fan control.

**INTERIOR CAB INSULATION**

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling. Headliners will be constructed from a 0.20" high density polyethylene corrugated material. Each headliner will be wrapped with a 0.25" thick foil faced poly damp low emissivity foam insulation barrier for acoustic and thermal control.

Designed for maximum sound absorption and thermal insulation, the rear cab wall will be insulated with a 1.50" thick open cell acoustical foam. The thermal protection of the foam will provide and R-value of 4 per 1.00" thickness.

**SUN VISORS**

Two (2) smoked Lexan™ sun visors provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.
GRAB HANDLE
A black rubber covered grab handle will be mounted on the door post of the driver side and passenger side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.

ENGINE COMPARTMENT LIGHT
An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

ACCESS TO ENGINE DIPSTICKS
For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 17.75" wide x 12.75" high and be flush with the wall of the engine tunnel.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush latch will be provided on the access door.

STORAGE BOX
There will be two (2) storage box(es) designed to hold and dispense boxes of latex gloves provided.

Each box will be constructed of aluminum and located as directed at pre-construction.

Each storage box will be 10.00" wide x 5.00" deep x 3.50" high and painted to match the cab interior. A slot will be provided on the top of each box to dispense the gloves.

VELCRO STRAP(S) FOR MAP BOX
There will be one (1) Velcro® strap(s) installed on the map box.

MAP BOX
A map box with five (5) bins, open at the top, will be installed per 29839 01-04. Each bin will be 12.50" wide x 3.00" high x 12.00" deep and will slant 30 degrees from horizontal. The map box will be constructed of .125" aluminum and will be painted to match the cab interior.

SEATING CAPACITY
The seating capacity in the cab will be five (5).

DRIVER SEAT
A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type, with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.12" travel) and horizontal (7.75" travel) position. Electric controls will be
located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**OFFICER SEAT**

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a fixed type with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style with 7.50 degree fixed recline angle and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**RADIO COMPARTMENT**

A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

**REAR FACING DRIVER SIDE EMS COMPARTMENT**

A rear facing EMS compartment will be provided in the crew cab at the driver side seat position. The compartment will be mounted 7.00" off the edge of the seat riser.

The compartment will be 21.50" inside dimension for the main storage area of the compartment x 34.00" high x 25.00" measuring front to back of the cab.

The compartment will provide access from outside the cab with a double pan lap style door having a minimum clear door opening of 15.75" wide x 31.75" high. The door will include a D-ring latch and will be located on the side of the cab over the wheelwell.

The compartment will be constructed of smooth aluminum, and painted to match the cab interior.
There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.

**REAR FACING PASSENGER SIDE EMS COMPARTMENT**

A rear facing EMS compartment will be provided in the crew cab at the passenger side outboard position. The compartment will be mounted 7.00" off the edge of the seat riser.

The compartment will be 21.50" inside dimension for the main storage area of the compartment x 34.00" high x 21.00" measuring front to back of the cab.

The compartment will provide access from outside the cab only with a double pan lap style door having a minimum clear door opening of 15.75" wide x 37.75" high. The door will include a D-ring latch and will be located on the side of the cab over the wheelwell.

The compartment will be constructed of smooth aluminum, and painted to match the cab interior.

There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.

**FORWARD FACING DRIVER SIDE OUTBOARD SEAT**

There will be one (1) forward facing, Pierce PS6® foldup seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

This seat will be mounted 3.00" inboard of the standard location.

**FORWARD FACING CENTER SEAT**

There will be one (1) forward facing, Pierce PS6® seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.
The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**FORWARD FACING PASSENGER SIDE OUTBOARD SEAT**
There will be one (1) forward facing, foldup, Pierce PS6® seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

This seat will be mounted 3.00" inboard of the standard location.

**DOOR PAN SCUFFPLATE**
There will be a brushed stainless steel scuffplate on the interior door pan of two (2) compartment door(s) located external EMS doors.

**DOOR FRAME SCUFFPLATE**
There will be two (2) scuffplate(s) provided for the lower door frame(s) external EMS doors. Each scuffplate will be brushed stainless steel with a .38" lip down.

**MATTING IN EMS COMPARTMENT**
Vinyl grating will be provided in two (2) EMS compartments, one in each rear facing EMS compartment. Tile color will be black.

The vinyl grating will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration. The trim edge will not be installed at the edge of the tile.
MATTING IN EMS COMPARTMENT
Turtle Tile vinyl matting will be provided in two (2) EMS compartment shelves, one in each rear facing EMS compartment. Tile color will be black.

The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

SHELVING
There will be two (2) shelves provided. Each shelf will be constructed of 0.090" aluminum with a 1.25" up-turned lip. Shelving will be infinitely adjustable by means of a threaded tightener sliding in a track.

The location will be one (1) shelf in the driver side rear facing EMS cabinet and one (1) shelf in the passenger side rear facing EMS cabinet.

SEAT UPHOLSTERY
All seat upholstery will be 46 ounce leather grain black vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.

AIR BOTTLE HOLDERS
All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of four (4) SCBA brackets.

SEAT BELTS
All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts.

To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

SHOULDER HARNESS HEIGHT ADJUSTMENT
All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter.

A total of five (5) seating positions will have the adjustable shoulder harness.
HELMET STORAGE PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB DOME LIGHTS
There will be four (4) Weldon 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the lens switch.

The color LED's will be controlled by the door switches and the lens switch.

PORTABLE HAND LIGHTS, PROVIDED BY DEALER
NFPA 1901, 2016 edition, section 8.9.3 requires four portable hand lights mounted in brackets fastened to the apparatus.

The hand lights are not on the apparatus as manufactured. The dealer will provide and mount these hand lights.

HAND HELD LIGHT
There will be 12v Streamlight, model #44001, Vulcan lights mounted (1) each on inboard face of the rear facing EMS cabinets with bottom of charger base flush with "defroster riser". Lightheads are to point up towards the ceiling (SEE PHOTO) SL20X 3 & 4. There will be two (2) lights provided.

The Vulcan will be yellow in color.

CAB INSTRUMENTATION
The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership.

GAUGES
The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance:
- Voltmeter gauge (Volts)
  
  Low volts (11.8 VDC)
  
  Amber indicator on gauge assembly with alarm

High volts (15 VDC)

  Amber indicator on gauge assembly with alarm

Very low volts (11.3 VDC)

  Amber indicator on gauge assembly with alarm

Very high volts (16 VDC)

  Amber indicator on gauge assembly with alarm

- Tachometer (RPM)

- Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)

- Fuel level gauge (Empty - Full in fractions)
  
  Low fuel (1/8 full)
  
  Amber indicator on gauge assembly with alarm

Very low fuel (1/32) fuel

  Amber indicator on gauge assembly with alarm

- Engine oil pressure gauge (PSI)
  
  Low oil pressure to activate engine warning lights and alarms
  
  Red indicator on gauge assembly with alarm

- Front air pressure gauge (PSI)
  
  Low air pressure to activate warning lights and alarm
  
  Red indicator on gauge assembly with alarm

- Rear air pressure gauge (PSI)
  
  Low air pressure to activate warning lights and alarm
Red indicator on gauge assembly with alarm

- Transmission oil temperature gauge (Fahrenheit)
  
  High transmission oil temperature activates warning lights and alarm
  
  Amber indicator on gauge assembly with alarm

- Engine coolant temperature gauge (Fahrenheit)
  
  High engine temperature activates an engine warning light and alarm
  
  Red indicator on gauge assembly with alarm

- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
  
  Low fluid (1/8 full)
  
  Amber indicator on gauge assembly with alarm

All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

**INDICATOR LAMPS**

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

- Low coolant

- Trac cntl (traction control) (where applicable)

- Check engine

- Check trans (check transmission)

- Aux brake overheat (Auxiliary brake overheat)

- Air rest (air restriction)

- Caution (triangle symbol)

- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- SRS (supplemental restraint system) fault (where applicable)
- DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:
- Warning (stop sign symbol)
- Seat belt
- Parking brake
- Stop engine
- Rack down

The following green telltale lamps will be provided:
- Left turn
- Right turn
- Battery on

The following blue telltale lamp will be provided:
- High beam

**ALARMS**

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.
Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

**INDICATOR LAMP AND ALARM PROVE-OUT**
Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

**CONTROL SWITCHES**
For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

Headlight / Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking lights and the headlights. The second switch position will activate the parking lights. The third switch position will activate the headlights.

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"Ok To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.
Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for three (3) to five (5) seconds. A green indicator lamp will be activated with vehicle ignition.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and optional air conditioning control panel: A control panel with membrane switches will be provided to control heater/defroster temperature and heater, defroster, and air conditioning fan speeds. A green LED status bar will indicate the relative temperature and fan speed settings.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

CUSTOM SWITCH PANELS
The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

DIAGNOSTIC PANEL
A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:
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- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- SRS diagnostic port (where applicable)
- Command Zone USB diagnostic port
- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
- Diesel particulate filter regeneration switch (where applicable)
- Diesel particulate filter regeneration inhibit switch (where applicable)

CAB LCD DISPLAY
A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

- Odometer
- Trip mileage
- PTO hours
- Fuel consumption
- Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

AIR RESTRICTION INDICATOR
A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm shall be provided.
"DO NOT MOVE APPARATUS" INDICATOR
There will be a Whelen, Model VTX609R, red LED indicator light with chrome trim located in the driving compartment. This light will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

DO NOT MOVE TRUCK MESSAGES
Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed

Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

SWITCH PANELS
The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one
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million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliqués. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access.

Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.

The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

WIPER CONTROL
For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.

HOURMETER - AERIAL DEVICE
An hourmeter for the aerial device will be provided and located within the cab display or instrument panel.

AERIAL MASTER
There will be a master switch for the aerial operating electrical system provided.

AERIAL PTO SWITCH
A PTO switch for the aerial with indicator light will be provided.

SPARE CIRCUIT #1
There will be two (2) dual USB fast charge socket mounts installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 4.8 amps at 12 volts DC.
The USB socket mount will be one to the left of the officer below the chrome push buttons and one DS switch panel 8.
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is applied.

**SPARE CIRCUIT #2**
There will be four (4) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:
- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 5 amps at 12 volts DC.
- Power and ground will terminate (1) outboard of the driver's seat, (1) outboard of the officer's seat and (1) in each rear facing EMS compartment in the cab.
- Termination will be with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is set.

**SPARE CIRCUIT #3**
There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:
- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 50 amps at 12 volts DC.
- Power and ground will terminate from the passenger's side battery, terminating behind the Captain's seat with at least 6-8 feet of slack wire coiled and capped.
- Termination will be with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is set.

**RECESS, DASH PANEL**
The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 8.25" down x 7.81" back and 20.88" wide.

**RADIO WITH CD PLAYER**
A Panasonic AM/FM stereo radio with compact disc player will be included.
The compact disc stereo radio will be mounted within reach of the driver.

The quantity and location of the speakers will be one (1) pair of 5.25” speakers in the cab and one (1) pair of 5.25” speakers in the crew cab.

The type and location of the antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof.

SECURE SEAT WIRING
All wiring going to seat cushion and seat belt buckle will be in loom and secure to the seat area.

INFORMATION CENTER
An information center employing a 7.00” diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

- Operate in temperatures from -40 to 185 degrees Fahrenheit
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Grey with black accents
- Sunlight Readable
- Linux operating system
- Minimum of 1000nits rated display
- Display can be changed to an available foreign language
- A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.
- Programmed to read US Customary

GENERAL SCREEN DESIGN
Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

- An amber background/text color will indicate a caution condition
- A red background/text color will indicate a warning condition
- The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to
indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

- A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

**HOME/TRANSIT SCREEN**
This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if equipped)
- Foam Level (if equipped)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

**ON SCENE SCREEN**
This screen will display the following and will be auto activated with pump engaged (if equipped):

- Battery Voltage
- Fuel
- Oil Pressure
- Coolant Temperature
- RPM
- Water Level (if equipped)
- Foam Level (if equipped)
- Foam Concentration (if equipped)
- Water Flow Rate (if equipped)
- Water Used (if equipped)
- Active Alarms

**VIRTUAL BUTTONS**
There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

**PAGE SCREEN**
The page screen will display the following and allow the user to progress into other screens for further functionality:
Diagnostics
  o Faults
    ▪ Listed by order of occurrence
    ▪ Allows to sort by system
  o Interlock
    ▪ Throttle Interlocks
    ▪ Pump Interlocks (if equipped)
    ▪ Aerial Interlocks (if equipped)
    ▪ PTO Interlocks (if equipped)
  o Load Manager
    ▪ A list of items to be load managed will be provided. The list will provide a description of the load.
    ▪ The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
    ▪ The screen will indicate if a load has been shed (disabled) or not shed.
    ▪ "At a glance" color features are utilized on this screen.
  o Systems
    ▪ Command Zone
      • Module type and ID number
      • Module Version
      • Input or output number
      • Circuit number connected to that input or output
      • Status of the input or output
      • Power and Constant Current module diagnostic information
    ▪ Foam (if equipped)
    ▪ Pressure Controller (if equipped)
    ▪ Generator Frequency (if equipped)
  o Live Data
    ▪ General Truck Data

Maintenance
  o Engine oil and filter
  o Transmission oil and filter
  o Pump oil (if equipped)
  o Foam (if equipped)
  o Aerial (if equipped)

Setup
  o Clock Setup
  o Date & Time
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- 12 or 24 hour format
- Set time and date
  - Backlight
    - Daytime
    - Night time
    - Sensitivity
  - Unit Selection
  - Home Screen
  - Virtual Button Setup
  - On Scene Screen Setup
  - Configure Video Mode
    - Set Video Contrast
    - Set Video Color
    - Set Video Tint

- Do Not Move
  - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated:
    - Driver Side Cab Door
    - Passenger's Side Cab Door
    - Driver Side Crew Cab Door
    - Passenger's Side Crew Cab Door
    - Driver Side Body Doors
    - Passenger's Side Body Doors
    - Rear Body Door(s)
    - Ladder Rack (if applicable)
    - Deck Gun (if applicable)
    - Light Tower (if applicable)
    - Hatch Door (if applicable)
    - Stabilizers (if applicable)
    - Steps (if applicable)

- Notifications
  - View Active Alarms
    - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
    - Silence Alarms - All alarms are silenced

- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
• Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

**VEHICLE DATA RECORDER**

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

**Seat Belt Monitoring System**

A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The seat belt monitoring screen will become active on the Command Zone color display when:

- The home screen is active:
and there is any occupant seated but not buckled or any belt buckled with an occupant.

and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

**INTERCOM SYSTEM**

A five (5) position David Clark, Model U3800, intercom system with dual radio interface capability at the driver and officer positions with dual remote push to transmit buttons located DS = switch panel 8 (see IP drawing for specific locations), the 800 Mhz is closet to the driver with the VHF inboard of that PS = 800 Mhz left of switch panel 5 above officer, VHF right of switch panel 6 above office will be provided. Three (3) crew cab positions at three (3) forward facing seats will have radio listen / intercom only.

The following components will be supplied with this system:

- Two (2) U3816 Radio Interface Modules (Driver, Officer)
- Four (4) Remote push to transmit kits (2 Driver, 2 Officer)
- One (1) U3800 Intercom Unit (2 Crew)
- One (1) C3820 Power Cable
- One (1) U3801 Remote Headset Station (1 Crew)
- All necessary station cables and connectors

**RADIO / INTERCOM INTERFACE INCLUDED**

All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to Motorola APX6500 7/800 MHZ.

**UNDER THE HELMET HEADSET**

There will be five (5) under the helmet, headset(s) provided driver, officer and 3 crew.

Each David Clark, Model H3442, headset will feature:

- 5' Coiled cord
- Noise cancelling electric microphone
- Flexible microphone boom rotates 200 degrees for left or right dress
- Microphone on/off button
- Comfort Gel Earseals
- 23 dB noise reduction
HEADSET HANGERS
There will be five (5) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat and passenger's side outboard forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.

GPS / MULTIMODE ANTENNA INSTALLATION
There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer.

Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturer's preferred installer prior to cab fabrication.

SPECIAL WIFI ANTENNA MOUNT LOCATION
The Command Zone advanced electronics WiFi-GPS antenna will be relocated from its standard right crewcab roof location forward on the cab roof on the right side. When relocating this antenna it must be located a minimum of nine (9) inches away from any other metallic object. ds

RADIO ANTENNA MOUNT
There will be four (4) standard 1.125", 18 thread antenna-mounting base(s) installed at least 18.00" from other antennas or roof mounted objects. IMPORTANT: All antenna cabling should be loosely run with minimal bending, and encased in protective loom in areas of abrasive or sharp objects on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

VEHICLE CAMERA SYSTEM
There will be a color vehicle camera system provided with the following:

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.
- One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal.

The camera images will be displayed on the driver's color touchscreen multiplex display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control located behind the driver seat.

The following components will be included:

- One (1) SV-CW134639CAI Camera
- One (1) CS134404CI Side camera
- One (1) Amplified speaker (if applicable)
• All necessary cables

**VEHICLE CAMERA GUARD**
There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered at the rear.

**ELECTRICAL POWER CONTROL SYSTEM**
The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

**SOLID-STATE CONTROL SYSTEM**
A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

• Green LED indicator light for module power
• Red LED indicator light for network communication stability status
• Control system self test at activation and continually throughout vehicle operation
• No moving parts due to transistor logic
• Software logic control for NFPA mandated safety interlocks and indicators
• Integrated electrical system load management without additional components
• Integrated electrical load sequencing system without additional components
• Customized control software to the vehicle's configuration
• Factory and field re programmable to accommodate changes to the vehicle's operating parameters
• Complete operating and troubleshooting manuals
• USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

• Module circuit board will meet SAE J771 specifications
• Operating temperature from -40C to +70C
• Storage temperature from -40C to +70C
• Vibration to 50g

IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

Operating voltage from eight (8) volts to 16 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

CIRCUIT PROTECTION AND CONTROL DIAGRAM
Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

ON-BOARD ADVANCED/VISUAL ELECTRICAL SYSTEM DIAGNOSTICS
The on-board information center will include the following diagnostic information:

• Text description of active warning or caution alarms
• Simplified warning indicators
• Amber caution indication with intermittent alarm
• Red warning indication with steady tone alarm
All control system modules, with the exception of the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

**TECH MODULE WITH WIFI**

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will provide an external antenna connection allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The data logging capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data logger will provide up to 2 Gigabytes of data storage.

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.

**PROGNOSTICS**

A software based vehicle tool will be provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)
ADVANCED DIAGNOSTICS
An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.

The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM
A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

VOLTAGE MONITOR SYSTEM
A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

DEDICATED RADIO EQUIPMENT CONNECTION POINTS
There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment.

- The studs will consist of the following:
  - 12-volt 40-amp battery switched power
  - 12-volt 60-amp ignition switched power
  - 12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

ENHANCED SOFTWARE
The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.
EMI/RFI PROTECTION

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be
provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).

5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

**BATTERY SYSTEM**

There will be six (6) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
- Rating of 5700 CCA at 0 degrees Fahrenheit
- -140 minutes of reserve capacity
- Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.
BATTERY SYSTEM
There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

MASTER BATTERY SWITCH
There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

BATTERY COMPARTMENTS
The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS
One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

BATTERY CHARGER
There will be a Newmar, Model EV-40, battery charger with a Newmar, Model 023-5353-1, meter indicating the state of charge.

The vehicle battery output will be capable of supplying up to 40 amps for charging the batteries. The charger will include a 15 amp battery saver connection to charge hand lights, batteries, radios or power a 12 volt compressor.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

The battery charger will be located on the back wall of the EMS compartment, located on the forward side of the compartment, behind the driver seat.

The battery charger indicator will be located in the driver's step area.

AUTO EJECT FOR SHORELINE
There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include red weatherproof flip up cover(s).
There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to battery charger See Photo for location # 150 and 66620 receptacles.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver side of cab, to the front of cab door.

**ALTERNATOR**

A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

**ELECTRONIC LOAD MANAGER**

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to not be controlled by the load manager.
  - If enabled:
"Load Man Hi-Idle On" will display on the information center.  Hi-Idle will not activate until 30 seconds after engine start up.
- Individual switch "on" indicator to flash when the particular load has been shed.
- The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:
- Load managed items list, with priority levels and item condition.
- Individual load managed item condition:
  - ON = not shed
  - SHED = shed

**SEQUENCER**

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:
- Cab Heater and Air Conditioning
- Crew Cab Heater (if applicable)
- Crew Cab Air Conditioning (if applicable)
- Exhaust Fans (if applicable)
- Third Evaporator (if applicable)

**HEADLIGHTS**

There will be four (4) JW Speaker Evolution, Model 8630, 5.60" round LED lights with polycarbonate lenses mounted in the front chrome trim housing on each side of the cab grille:
• One (1) part number 0549911, low and high beam installed in the outside position on the driver's side.
• One (1) part number 0549911, low and high beam installed in the inside position on the driver's side.
• One (1) part number 0549211, low and high beam installed in the inside position on the passenger's side.
• One (1) part number 0549211, low and high beam installed in the outside position on the passenger's side.

DIRECTIONAL LIGHTS
There will be two (2) Whelen 600® series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be the same color as the LED's.

INTERMEDIATE LIGHT
There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

CAB CLEARANCE/MARKER/ID LIGHTS
There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

• Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.
• Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.
• Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

REAR CLEARANCE/MARKER/ID LIGHTING
There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following:

• As close as practical to the vertical centerline
• Centers spaced not less than 6.00" or more than 12.00" apart
• Red in color
• All at the same height
There will be two (2) Truck-Lite, Model 35200R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

**MARKER LIGHTS**
There will be one (1) pair of amber and red LED marker lights with rubber arm, located at the rear most lower corner of the body. The amber lens will face the front and the red lens will face the rear of the truck.

These lights will be activated with the running lights of the vehicle.

**REAR FMVSS LIGHTING**
The rear stop/tail and directional LED lighting will consist of the following:

- Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
- Two (2) Whelen, Model M6T, amber LED arrow turn lights
The lights shall be provided with color lenses.

The lights will be mounted in a polished combination housing.

There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

**LICENSE PLATE BRACKET**
There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A polished stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

**LIGHTING BEZEL**
There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

**BACK-UP ALARM**
A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

**WARNING LIGHT FLASH PATTERN**
The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern.

**CAB PERIMETER SCENE LIGHTS**
There will be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

**BODY PERIMETER SCENE LIGHTS**
There will be two (2) Amdor LumaBar H2O™, Model AY-9500-020, 20.00" 12 volt DC LED strip lights provided.

The lights will be mounted in the following locations:

- One (1) light under the driver's side turntable access steps
- One (1) light under the passenger's side turntable access steps
The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.

**STEP LIGHTS**
All steps on the apparatus will be illuminated per the current edition of NFPA 1901 and will match the turn table access step lights.

**FENDER SCENE LIGHTS**
There will be two (2) Ziamatic, Model Model ZQL-SS-LED, LED scene light(s) with stainless steel housing, installed on the side of the apparatus, one (1) each side above the rear stabilizers. Note that there is to be one (1) switch provided for both options (#0550452 and #686562), this one switch is to control both sets of scene lights! Lights are also to point back and downwards SEE PHOTO #54..

A control for the light(s) selected above will be the following:

- from the same switches provided to activate other scene lights
- no additional switch location
- no additional switch location
- no additional switch location

These lights may be load managed when the parking brake is set.

**12 VOLT LIGHTING, VISOR**
There will be two (2) HiViz FIRETECH, Model FT-MB2-18-FT, 20.50" 12 volt DC LED light(s) with FireTech combination spot/flood optics and adjustable pedestal mounting brackets, will be mounted one (1) below each forward facing lightbar on either side of the aerial device.

The color of the light housing will be white.

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- no additional switch location
- no additional switch location
- no additional switch location

These light(s) may be load managed when the parking brake is applied.

**12 VOLT LIGHTING, DS BODY**
There will be one (1) HiViz FIRETECH, Model FT-B-46-*, 46.00" 12 volt DC LED light(s) with with a combination of flood and spot optics and adjustable mounting brackets mounted centered over compartment D6.
The color of the light housing(s) and brackets will be white.

The light(s) selected above will be controlled by a switch at the driver's side switch panel.

These light(s) may be load managed when the parking brake is applied.

**12 VOLT LIGHTING, PS BODY**

There will be one (1) HiViz FIRETECH, Model FT-B-46-*, 46.00" 12 volt DC LED light(s) with a combination of flood and spot optics and adjustable mounting brackets mounted centered over compartment P6.

The color of the light housing(s) and brackets will be white.

The light(s) selected above will be controlled by a switch at the driver's side switch panel.

These light(s) may be load managed when the parking brake is applied.

**DECK LIGHTS**

There shall be two (2) Whelen®, Model MPBW, white 12 volt DC LED floodlights with stud bail mount provided at the rear of the hose bed, one (1) each side.

The lights will be activated by a control from a switch at the rear of the truck and a switch located at the driver side switch panel.

**WALKING SURFACE LIGHTS**

There will be Two (2) Amdor Model LumaBar, white 12 volt DC LED strip light provided in the cargo area to illuminate the interior surface of the cargo area. Light(s) will be located under the top flange of the cargo area.

The light will be activated when the body step lights are on.

**CARGO AREA**

The cargo area will be fabricated of 12 gauge galvanneal steel.

The sides will not form any portion of the fender compartments.

The upper edges of side panels will have a double break for rigidity.

The cargo area will be located ahead of the ladder turntable.

Flooring of the cargo area will be aluminum treadplate.
CARGO AREA COVER
A two (2) section cargo area cover, constructed of .125" bright aluminum treadplate will be furnished over the cargo area under the aerial device and between the upper body compartments. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down.

The cover will be reinforced so that it can support the weight of a man walking on the cover.

Chrome grab handles and four (4) gas filled cylinders will be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover.

TURNTABLE STEPS
Steps to access the turntable from the driver side and passenger side will be provided just behind the compartmentation. The steps will be a swing-down design, with the stepping area made of Morton Tread-Grip® channel. The step height for the bottom step (the distance from the top surface of the step to the ground) will not exceed 24.00" with the step in its extended position. No step height (the distance between the top surfaces of any two (2) adjacent steps) will be greater than 14.00". The stepwell will be lined with bright aluminum treadplate to act as scuffplates. The steps will be connected to the "Do Not Move Truck" indicator. A handrail will be provided on each side of the access steps.

STEP LIGHTS
There will be three (3) white LED step lights provided for each set of aerial turntable access steps.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The step lights will be actuated by the aerial master switch in the cab.

SMOOTH ALUMINUM REAR WALL
The rear wall will be smooth aluminum.

TOW EYES
Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the torque box. The inner and outer edges of the tow eyes will be radiused.

COMPARTMENTATION
Compartmentation will be fabricated of galvanneal steel.

The side compartments are an integral assembly with the rear fenders.

Fully enclosed rear wheel housings will be provided to prevent rust pockets and for ease of maintenance.
Due to the severe loading requirements of this aerial, a method of compartment body support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rail, which is the strongest component of the chassis and is designed for sustaining maximum loads.

A support system will be used which will incorporate a floating substructure by using Neoprene Elastomer isolators to allow the body to remain rigid while the chassis goes through its natural flex. The isolators will have a broad range of proven viability in vehicular applications, be of a fail safe design, and allow for all necessary movement in three (3) transitional and rotational modes. This will result in a 500 lb equipment rating for each lower compartment of the body.

The compartmentation in front of the rear axle will include a 3.00" steel support assemblies which are bolted to the chassis frame rails. A steel framework will be mounted to the body above these support assemblies connected to the support assemblies with isolators. There will be one (1) support assembly mounted to each chassis frame rail.

The compartmentation behind the rear axle will include 3.00" steel support assemblies which are bolted to the chassis frame rails and extend underneath to the outside edge of the body. The support assembly will be coated to isolate the dissimilar metals before it is bolted to the body. There will be one (1) support assembly mounted to each chassis frame rail.

Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The compartment door openings are framed by flanging the edges in 1.75" and bending out again .75" to form an angle. Drip protection is provided over all door openings by means of bright aluminum extrusion or formed bright aluminum treadplate. Side compartment tops will be covered with bright aluminum treadplate with a 1.00" rolled over edge on the front, rear and outward side. The covers are fabricated in one (1) piece and have the corners TIG welded. A bright aluminum treadplate cover will be provided on the front wall of each side compartment. All screws and bolts which protrude into a compartment will have acorn nuts at the ends to prevent injury.

The body design has been fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging have been performed with special attention given to fatigue life and structural integrity of the compartment body and substructure.

**AGGRESSIVE WALKING SURFACE**

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.
LOUVERS
All body compartments will have a minimum of one (1) set of louvers stamped into a wall, to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate.

COMPARTMENT IN PLACE OF PUMP
A roll-up door compartment will be installed in place of the pump and pump panel.

It will be approximately 54.25" wide x 75.50" high x 24.50" deep in the lower area and transversed in the top portion of the compartment.

The door opening will be approximately 51.25" wide x 67.88" high.

The transverse portion of the compartment will vary depending on chassis and engine combination.

DRIVER SIDE COMPARTMENTATION
A full height roll-up door compartment ahead of the rear wheels will be 41.75" wide x 64.00" high x 24.25" deep inside with an clear door opening of 38.75" wide x 56.38" high.

One (1) roll-up door compartment above the fender compartments and over the rear axles will be provided. The compartment will be 72.13" wide x 33.25" high x 24.25" deep inside with a clear door opening of 63.75" wide x 25.50" high.

A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 23.00" high x 18.00" wide x 24.25" deep with a door opening of 15.75" high x 12.00" wide.

A full height roll-up door compartment behind the rear wheels will be 43.75" wide x 49.25" high x 21.25" deep. The clear door opening will be 40.75" wide x 41.62" high.

There will be one (1) compartment below the turntable with a roll-up door. The compartment will be 39.38" wide x 18.38" high x 21.25" deep with a door opening of 33.75" wide x 10.75" high.

COMPARTMENTATION, PASSENGERS SIDE
A full height roll-up door compartment, ahead of the rear wheels, will be 41.75" wide x 64.00" high x 24.25" deep inside with a clear door opening of 38.75" wide x 56.38" high.

One (1) roll-up door compartment will be provided above the fender compartments and over the rear axles. The compartment will be 72.13" wide x 33.25" high x 24.25" deep inside with a clear door opening of 63.75" wide x 25.50" high.
A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 18.00" wide x 23.00" high x 24.25" deep with a door opening of 12.00" wide x 15.75" high.

A full height roll-up door compartment, behind the rear wheels, will be 43.75" wide x 49.25" high x 21.25" deep. The clear door opening will be 40.75" wide x 41.62" high.

There will be a compartment, below the turntable, with a roll-up door. The compartment will be 39.38" wide x 18.38" high x 21.25" deep with a door opening of 33.75" wide x 10.75" high.

**SIDE COMPARTMENT ROLL-UP DOORS**

There will be ten (10) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDORTM brand roll-up doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingestion.

The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded roll-up door wear components will be constructed of Type 6 nylon.

Each roll-up door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.
The header for the roll-up door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

**REAR BUMPER**
A 5.00" rear bumper will be furnished. Bumper will be constructed of steel framework and will be covered with polished aluminum treadplate. The bumper will be 4.00" deep x 5.00" high and will be spaced away from the body approximately 1.00". It will extend the full width of the body.

**DOOR GUARD**
There will be ten (10) compartment doors that will include a guard/drip pan designed to protect the roll-up door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed all roll-up doors on the side body compartments.

**PULL STRAP, DOOR**
There will be two (2) compartment doors provided with pull straps. The compartment door(s) to be provided with a pull strap will be D6 and P6.

**COMPARTMENT LIGHTING**
There will be 12 compartments with Amdor, Model AY-9220, white 12 volt DC LED compartment light strips. The lights will be mounted with mechanical fasteners.

There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.

The lights will be activated when the battery switch is on and the respective compartment door is opened.

**MOUNTING TRACKS**
There will be six (6) sets of tracks for mounting shelf(s) in D3, D1, P1, P3, D4 and P4. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be painted to match the compartment interior.

**ADJUSTABLE SHELVES**
There will be six (6) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location will be (1) D1, (1) D3, (1) D4, (1) P1, (1) P3 and (1) P4.

The side height of the shelf/shelves will be as follows:
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on One (1) Pierce 105’ Velocity HD Aerial Ladder
November 1, 2017 (Quote Number 91101-17A)

- Front: 2.00” high
- Rear: 2.00” high
- Left & Right Sides: 2.00” high

**SLIDE-OUT ADJUSTABLE HEIGHT TRAY**
There will be four (4) slide-out trays provided.

Each tray will have 2.00” high sides and will be half (1/2) the depth of the transverse compartment. The capacity rating of the tray will be 500 lb in the extended position.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located two in compartment D6, and two in compartment P6. These trays are to be located to the rear of the partition. Per Photo #29 & 68.

**SLIDE-OUT ADJUSTABLE HEIGHT TRAY**
There will be two (2) slide-out trays provided.

Each tray will have 2.00” high sides and a minimum capacity rating of 250 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The location(s) will be in D4 centered between the floor and ceiling and in P4 centered between the floor and ceiling.

**SLIDE-OUT FLOOR MOUNTED TRAY**
There will be four (4) floor mounted slide-out tray(s) with 2.00” sides provided (1) D1, (1) D4, (1) P1 and (1) P4. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of a minimum .13” aluminum with welded corners. The finish will be painted spatter gray.

The trays will be designed for maximum compartment width and depth.
There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

**BRACKET REAR OF BODY**

An 8.00" deep, full width bright aluminum treadplate bracket will be provided at the rear of the body, above the torque box roll door. The bracket will be provided to mount lights, cameras, or other accessories.

**TOOL BOX**

A black poly tool box will be furnished.

The size will be 7.50" wide x 15.50" long x 12.50" deep. There shall be a minimum clear opening of 6.50" wide x 14.50" long x 11.5" deep. There shall be one (1) divider that runs the length (15.50") of the poly box.

There will be one (1) divider that runs the length of the poly box.

Construction will be of .50" polypropylene plastic with joints and seams nitrogen welded. A cut out carrying handle will be provided on each end.

Each tool box will be held in place with plastic angles.

There will be one (1) provided. It will be located shipped loose.

**TOOL BOX**

A tool box will be furnished.

The outside size will be 21.00" long x 10.00" wide x 9.00" deep.

The tool box will be black in color.
Construction will be of .50" polypropylene plastic with joints and seams nitrogen welded. A cut out carrying handle will be provided on each end.

There will be three (3) provided. It will be located shipped loose.

COMPARTMENT IPO HOSE CHUTE
There will be one (1) compartment(s) located on the PS side of the body at the rear, in place of the hose chute. Each compartment will be approximately 46.00" deep x 16.00" high x 10.00" wide. Each compartment will have a smooth aluminum treadplate lift up door with a D-ring latch.

HATCH COMPARTMENT
Hatch compartments, one each side, will be provided above the high side body compartments. Each compartment will have two (2) lift-up top opening hatch doors.

Compartment will extend the full length and full width of the high side body compartmentation and will be approximately 9.00" deep.

The compartments will be constructed of the aluminum treadplate.

Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment, each with a chrome grab handle.

Doors will have lipped edges with a rubber seal for weather resistance.

Doors will be hinged on the outboard side and will be held open with rubber covered chains.

One (1) socket and plunger type latch will be provided with each door to hold the doors in the closed position.

There will be LED strip lighting provided to illuminate the inside of the compartment when opened.

MATTING, COMPARTMENT SHELVING
Turtle Tile compartment matting will be provided in 17 shelves. The locations are, all adjustable shelves (9 total) and all slide-out trays (6 total).

The color of the Turtle Tile will be black.

MATTING, COMPARTMENT FLOOR
Turtle Tile compartment matting will be provided in six (6) compartments on the compartment floor. The locations are, D2, D3, D6 below floor extension, P2, P3 and P6 below floor extension.

The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be black.
PARTITION IN TRANSVERSE COMPARTMENT
One (1) partition will be bolted in in compartment D6/P6, this partition will be up as tight as possible against the existing tool board that is tight against the cradle notch at the front of the compartment Per 29, 67 & 68. Each partition will be the full vertical height of the compartment.

FLOOR EXTENSION
There will be a compartment floor extension provided. The floor extension will extend from the area over the frame rails to within an inch of the compartment door. The floor extension will have a 1.00" vertical upturned lip and no return flange.

A total of two (2) will be provided and located (1) D6 and (1) P6.

SHELF, ADJUSTABLE, TRANSVERSE
A full width shelf will be installed in compartment D6/P6 this shelf will be above the two slideout trays, which are to the rear of the partition. The inside dimension will be 85" Per 29 & 68. The shelf construction will consist of .125" pan-shaped aluminum, with 2.00" sides. The shelf will be infinitely adjustable by means of a threaded tightener, which slides in a track.

SLIDE-OUT TOOL BOARD
A slide-out aluminum tool board will be provided. The tool board will be a minimum of .18" thick with .20" diameter holes in a pegboard pattern, on 1.00" centers.

The board dimensions will be approx. 60.00" long x as high as possible.

A 1.19" flange will be formed along the bottom with the top and sides of the board framed with 1" square tubing. The corners of the flanges will be welded to provide a rigid assembly.

The board will be mounted on a small sliding tray. The construction of the tray will consist of 6061-T6 aluminum extrusions for the sides with a .18" thick aluminum floor. The corners will be welded to form a rigid unit.

The capacity rating will be 500 pounds minimum in the extended position. The slide assemblies will be manufactured with 6061-T6 aluminum extrusions. The tray will be supported by a minimum of eight (8) roller bearings each rated for a 500 pound load.

The board will slide-out of the compartment in both directions two thirds of its length. Positive locks for the stowed and extended position will be provided.

The board will be mounted in the sliding tray. The tray will be mounted on aluminum track to allow sideways adjustment of the tool board and tray.
There will be a total of one (1) provided in transverse compartment D6/P6. Toolboard is to be located from the driver's side framerail to the door opening of P6, and as far forward in the compartment as possible. Must pull out both directions but not the same amount. Per 29 & 68.

**RUB RAIL**
Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

**BODY FENDER CROWNS**
Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be provided between the body and the crown to seal the seam and restrict moisture from entering.

**HANDRAILS**
Eight (8) handrails, chrome plated grab handle, will be provided mounted install 2 on each hatch door - 1 each inboard corner at a 45 degree angle (SEE MARKED UP APPROVAL PRINT).

**SINGLE AIR BOTTLE STORAGE**
There will be one (1) air bottle compartment provided on the driver's side behind the rear wheel. The air bottle compartment will be 7.75" diameter round x 26.00" deep.

A painted stainless steel triangular shaped door with a Southco non-locking C2 chrome lever latch will be provided to contain the air bottle. The door will cover the fuel fill and the air bottle opening. Inside the compartment, black rubber matting will be provided. There will be a drain hole provided.

A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

**AIR BOTTLE COMPARTMENT STRAP**
Straps will be provided in the air bottle compartment(s) to help contain the air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment.

**FOUR AIR BOTTLE STORAGE COMPARTMENT**
A total of two (2) air bottle compartments will be provided and located one (1) on the driver's side and one (1) on the passenger's side centered between the tandem rear wheels. The air bottle compartment will consist of individual bins each designed to hold an air bottle with a maximum diameter of 7.63" and a maximum depth of 26.00".
Each compartment will hold a total of four (4) air bottles. The compartment will accommodate three (3) bottles across the top and one (1) centered below. The bottom air bottle will be accessible only when the top center bottle is removed and the hinged partition over the bottom bottle is lifted up. Each bottle will be separated by a partition.

Flooring will be rubber lined and have a drain hole. A drop down door with support cables with pair of Southco non-locking C2 chrome lever latches will be provided for each compartment. The door will be painted stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

**AIR BOTTLE COMPARTMENT STRAP**

Straps will be provided in the air bottle compartment(s) to help contain the air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment.

**AIR BOTTLE STORAGE (SINGLE)**

A quantity of one (1) air bottle compartment, 7.75" in diameter x 26.00" deep, will be provided on the driver side forward of the rear wheels. A painted stainless steel door with a Southco non-locking C2 chrome lever latch will be provided to contain the air bottle and also cover the DEF tank opening. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, black rubber matting will be provided.

**AIR BOTTLE COMPARTMENT STRAP**

Straps will be provided in the air bottle compartment(s) to help contain the air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment.

**EXTINGUISHER STORAGE**

A quantity of two (2) extinguisher compartments will be provided on the passenger side forward of the rear wheels and on the passenger side rearward of the rear wheels. The extinguisher compartment will be in the form of a 9.00" square tube and of adequate depth to accommodate different size extinguishers. A painted stainless steel door with a Southco non-locking C2 chrome lever latch will be provided to contain the extinguisher. A dielectric barrier will be provided between the door hinge, hinge fasteners, and the body sheet metal.

Inside the compartment, black rubber matting will be provided. There will also be a drain hole for each compartment.

**EXTENSION LADDER**

There will be two (2) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.
AERIAL EXTENSION LADDER
There will be two (2) 24' two (2) section aluminum Series 900-A extension ladder(s) provided and located in the aerial torque box.

ROOF LADDER
There will be one (1) 16' aluminum Duo-Safety Series 875-A roof ladder(s) provided.

ADDED ROOF LADDER
There will be one (1) 14' aluminum roof ladder(s), Duo-Safety series 775-A with a pair of 7/8" hooks at each end provided.

ADDED ROOF LADDER
There will be one (1) 18' roof, aluminum, Series 875-A provided.

ADDED ROOF LADDER
There will be one (1) 20' roof, aluminum, Series 875-A provided.

FOLDING LADDER, AERIAL
There will be a 14’ aluminum, Duo-Safety, Series 585-A folding ladder provided.

GROUND LADDER STORAGE
The ground ladders are stored within the torque box and are removable from the rear.

Ladders will be enclosed to prevent road dirt and debris from fouling or damaging the ladders.

The ladders rest in full length stainless steel slides and are arranged in such a manner that any one ladder can be removed without having to move or remove any other ladder.

An AMDOR rollup door will be provided at the rear, double faced, aluminum construction, satin aluminum and manufactured by AMDOR manufacturing. The latching mechanism will consist of a full length lift bar lock with latches on the outer extrusion of the door frame.

A stainless plate with a two bend flange and a stainless steel hinge will be provided to secure the aerial ladder complement. The plate assembly will be mounted to the bottom of the entrance of the torque box ladder storage area.

When the plate is vertical, it will secure the ladders and prevent them from migrating to the rear of the apparatus. When the plate is down and not securing the ladders, the roll-up door can not close, which will activate the "Open Door Indicator Light" within the cab. The roll-up door together with hinge friction will secure the plate in place during driving operations.

A door guard will be provided to prevent tools inside the torque box from damaging the roll-up door.
LADDER STORAGE LIGHTING
There will be two (2) Amdor Model AY-9220-020, white 12 volt DC LED strip lights used to illuminate the torque box ladder storage compartment. One (1) each side will be located on the side wall of the torque box near the ladder storage entry area.

The lights will be activated when the ladder storage compartment door is opened.

DURA-SURF LADDER SLIDES
Black Dura-Surf friction reducing material will be added to the stainless steel slides, on the bottom horizontal surfaces, of the ladder storage rack.

12' PIKE POLE PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, Section 8.8.1.3 requires four (4) pike poles mounted in brackets fastened to the apparatus.

The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles.

RUBBISH HOOKS
Two (2) 8 foot Nupla RH-8D Ventilation Hook(s): Fiberglass w/"D" handle will be provided.

PIKE POLE STORAGE
Stainless steel U-shaped trough be used for the storage of two (2) pike poles, with D-handle style grip, will be provided and installed in the torque box above the 35' ladders. Trough to be deep enough to accomodate 8’ roof vent hooks .

FOLDING STEPS
Two (2) additional folding steps will be located on the rear bulkhead of compartment D3, and P3 Per Photo #23, 56 & 114.. The step(s) will be bright finished, non-skid luminescent folding type. The luminescent coating is rechargeable from any light source and can hold a charge for up to 24 hours. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.

AIR HORN SYSTEM
One (1) chrome finish, stutter tone, Grover, Model 1510, air horn approximately 24.50” long will be provided and recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38” tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

Air Horn Location
The air horn will be located on the left side of the bumper, just outside of the frame rail.
AIR HORN CONTROL
The air horn will be actuated by a chrome push button switch located on the officer side of the engine tunnel and by a foot switch on the driver's side.

ELECTRONIC SIREN
A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the overhead console above the engine tunnel on the officer side.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER
There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the left side of the front bumper, towards the outside.

MECHANICAL SIREN
There will be a Federal Signal Model Q2B mechanical siren furnished on the front of the apparatus. The siren will be energized from a battery direct circuit through a 2-gauge cable to a solenoid that is energized from the emergency master switch. Additional customer selectable controls will be included for the momentary activation of this siren.

There will be a momentary siren brake switch provided in the cab on the switch panel.

The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.

MECHANICAL SIREN CONTROL
The mechanical siren will be activated when the emergency master switch is on, the parking brake is released and the following:

- when a push button located on the officer's side instrument panel is activated
- when a foot switch on the driver's side is activated

SIREN BRAKE SWITCH
A mechanical siren brake switch will be installed switch panel #10, position #5. This switch will be a red momentary rocker switch.
FRONT ZONE UPPER WARNING LIGHTS
There will be two (2) 21.50" Whelen® Freedom™ IV lightbars mounted on the cab roof, one (1) on each side, above the driver's and passenger's door, facing forward.

The driver's side lightbar will include the following:

- One (1) red flashing LED module in the outside end position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside front position.
- One (1) red flashing LED module in the inside front position.
- One (1) red flashing LED module in the inside front corner position.

The passenger's side lightbar will include the following:

- One (1) red flashing LED module in the inside front corner position.
- One (1) red flashing LED module in the inside front position.
- One (1) steady red LED module in the outside front position.
- One (1) red flashing LED module in the outside front corner position.
- One (1) red flashing LED module in the outside end position.

There will be clear lenses and colored filters included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

TRAFFIC LIGHT CONTROLLER
There will be a GTT, Model 792* strobe Opticom traffic light controller with national standard high priority remote mounted on the front edge of the cab on the DS.

The Opticom traffic light controller will be activated by a cab switch with emergency master control.

The Opticom traffic light controller will have no momentary activation switch.

The Opticom traffic light controller will be disabled when the parking brake is applied.

SIDE WARNING LIGHTS
There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the crew cab doors.
Each lightbar will include the following:

- One (1) red flashing LED module in the outside rear corner position.
- One (1) red flashing LED module in the rear outside position.
- One (1) red flashing LED module in the front outside position.
• One (1) red flashing LED module in the outside front corner position.

There will be clear lenses and colored filters included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

These lights may be load managed when the parking brake is applied.

WARNING LIGHTS (CAB FACE)
Two (2) Whelen model M6* LED flashing warning lights with chrome flange will be provided on the front of the cab above the headlights.

The driver's side front warning light to be red.

The passenger's side front warning light to be red.

Both lights will include a lens that is the same color as the LED's.

There will be a switch located in the cab, on the switch panel, to control the lights.

HEADLIGHT FLASHER
The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING
There will be four (4) Whelen® flashing LED warning lights with chrome trim will be provided per the following:

• Two (2) Model 60*02Z*R, 14.18" high x 6.56" long x 1.43" deep lights one (1) each side on the front cab corner. The driver's side, side front light to include red warning LEDs and the passenger's side, side front light to include red warning LEDs.

• Two (2) Model WIONSMC*, 1.68" high x 5.93" long x 1.12" deep lights two each side of body - 1 centered over each wheel well of the tandem. The driver's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs.

• The warning light lens colors of the front lights to be the same color as the LEDs and the warning light lens color of the rear lights to be clear.

There will be a switch in the cab on the switch panel to control the lights.
SIDE WARNING LIGHTS
There will be two (2) Whelen, Model M6* LED flashing warning light(s) with bezel(s) provided rear of crew cab doors.

The color of the lights will be red.

All of these lights will include a lens color that is the same as the LED's.

These lights will be activated with the Side Zone Lower warning lights.

SIDE WARNING LIGHTS
There will be six (6) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails one (1) each mounted in the rubrail and centered below the following compartments: D1, D4, D6, P1, P4 and P6. The lights will NOT be mounted with the rubber gasket behind the light which will allow the light(s) to fit in the rub rails.

The color of each light will be red LED with a clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

REAR ZONE LOWER LIGHTING
There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus.

- The driver's side rear light to be red
- The passenger's side rear light to be red

Both lights will include a lens that is the same color as the LED's.

There will be a switch located in the cab on the switch panel to control the lights.

REAR UPPER ZONE WARNING LIGHTS
There will be two (2) Whelen, Model MCFLED2* LED warning beacons provided at the rear of the truck, one (1) each side.

The color of the lights will be:

- The rear upper light(s) on the driver's side to be red.
- The rear upper light(s) on the passenger's side to be red.

All lenses will be the same color as the LED's.
There will be a switch located in the cab on the switch panel to control the beacons.

**TRAFFIC DIRECTING LIGHT**
There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen Model TACTL5 control head will be included with this installation.

The auxiliary flash to be activated when the emergency master switch is on.

This traffic directing light will be mounted on top of the body below the turntable with a treadplate box at the rear of the apparatus.

The traffic directing light controller will be located within the overhead recessed console above the engine tunnel on the driver's side.

**120 VOLT RECEPTACLE**
There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed two (2) in P3 on the floor the receptacles facing straight up in the air (one in the back corner, one in the front corner) and as close as possible to the inside right wall. Per Photo #61 & 62. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency
- Power Source

**FOUR (4)-SECTION 105 FOOT AERIAL LADDER**

**CONSTRUCTION STANDARDS**
The ladder will be constructed to meet all of the requirements as described in the current NFPA 1901 standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.
All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50% of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA 1901 standard.

All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20% of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current NFPA 1901 standard.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication.

The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.

The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.

With the aerial device out of the cradle in the in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating with the maximum rated tip load in either of the two (2) following conditions:

- Conditions of high wind up to 50 mph
- Conditions of icing, up to a coating of .25" over the entire aerial structure
All of the design criteria must be supported by the following test data:

- Strain gage testing of the complete aerial device
- Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

- Materials are to be certified by the mill that manufactured the material
- Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification
- All welded structural components for the ladder will be traceable to their mill lots.

**LADDER CONSTRUCTION**

The ladder will be comprised of four sections.

The ladder will have the capability to support a minimum of 500 pounds at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -8 degrees to +75 degrees.

The ladder (handrails, baserails, trusses, K-braces and rungs) will be constructed of high strength low alloy steel, minimum 70,000 pounds per square inch yield, with full traceability on all structural members.

Each section will be trussed diagonally, vertically and horizontally using welded steel tubing.

All ladder rungs will be round and welded to each section utilizing "K" bracing for torsional rigidity.

The inside width dimensions of the ladder will be:

- Base Section 39.00"
- Inner-Mid Section 32.25"
- Outer-Mid Section 26.62"
- Fly Section 21.62"

The height of the handrails above the centerline of the rungs will be:

- Base Section 26.75"
- Inner-Mid Section 22.87"
- Outer-Mid Section 20.25"
- Fly Section 17.50"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground. The end of the fly section will be constructed in a manner that aids personnel who are climbing off the ladder.
The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement.

**VERTICAL HEIGHT**
The ladder will extend to a minimum height of 105' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

**HORIZONTAL REACH**
The rated horizontal reach will be a minimum of 100'. The measurement of horizontal reach will be consistent with NFPA standards.

**TURNTABLE**
The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

The turntable will be a 1.00" thick steel deck, coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA 1901 standard.

The turntable platform will be approximately 95.00" wide x 84.50" long.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface.

**ELEVATION SYSTEM**
Two (2) double acting lift cylinders will be utilized to provide smooth precise elevation from 8 degrees below horizontal to 75 degrees above horizontal.

The lift cylinders will have a 6.00" internal diameter (bore), .50" wall thickness, 4.50" diameter cylinder rod and a 34.84" stroke.

The lift cylinders will be equipped with integral holding valves located on the cylinder to prevent the unit from falling should the charged lines be severed at any point within the hydraulic system.

The lift cylinders will be mounted utilizing maintenance free spherical bearings on both ends of the cylinders. The bearings will help reduce pin wear.

Ladder tip speed is automatically decelerated when the angle is above 60 degrees, reducing "tip-lash".

The pivot pins will be stainless steel with greaseless bushings and will be 2.25" in diameter. All elevation pins will be stainless steel with greaseless ladder pivot pins.
EXTENSION/RETRACTION SYSTEM
A full hydraulic powered extension and retraction system will be provided using two (2) hydraulic cylinders and wire ropes.

Each cylinder is capable of operating the ladder in the event of a failure to the other.

The extension cylinder will have a 3.00" internal diameter (bore), 1.75" diameter rod and a 134.00" stroke.

Extension and retraction will be internally limited within the cylinders, eliminating excess strain on wire ropes, sheaves and the ladder structure.

Each of the cylinders, wire ropes and sheave assemblies will be completely independent of the other, so as to provide a safety factor wherein a failure of one assembly will not affect the function and operation of the other.

The extension cylinders will be equipped with integral holding valves to prevent the unit from retracting should the charged lines be severed at any point within the hydraulic system.

The extension cylinders will be mounted utilizing maintenance free spherical bearings.

The cylinders will also have internal deceleration valves to cushion the movement of the cylinder when approaching full extension or retraction.

The reeling of the wire rope will be such as to provide synchronized, simultaneous movement of all sections to full extension.

The extension/retraction wire ropes will be: 7-flex galvanized wire rope with stainless steel threaded ends and will have the following characteristics:

- Lower mid Section .50" diameter with 26,200lb nominal design strength
- Mid Section.38" diameter with 14,880lb nominal design strength
- Fly Section.31" diameter with 10,380lb nominal design strength

Wear pads that are made of polymer material will be used between the telescoping sections for maximum weight distribution, strength and smoothness of operation.

Adjustment screws will be provided on the wear pads to permit proper side alignment.

All sheaves will be plastic and greaseless and all sheave pins and pivot pins will be polished stainless steel.
ROTATION SYSTEM
A 46.00" diameter, external tooth, monorace, slewing ring bearing will be used for the rotation system. The gear teeth will be stub tooth form.

The bearing will provide 360 degree continuous rotation.

The turntable will be bolted to the bearing using 36 SAE Grade 8, .875" diameter bolts.

To secure the bearing to the torque box, 36 Grade 8, .875" diameter bolts will be used.

The turntable base and the torque box bearing plate will be machined flat, within .007" thereby providing even distribution of forces.

Two hydraulically driven planetary gear boxes will be used to provide infinite and minute rotation control throughout the entire rotational travel.

Each planetary gearbox will have a torque rating of 130,000 pounds per inch.

Each planetary gearbox will have a spring applied, hydraulically released disc type swing brake to provide positive braking of the turntable assembly.

ROTATION INTERLOCK
A permanently installed prevention mechanism will be provided as part of the rotation system to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed or are short-jacked.

The mechanism will allow full and unrestricted use of the aerial in the 180 degree area on the side(s) where the stabilizers have been fully deployed.

The system will also have a manual override to comply with NFPA 1901.

TORQUE BOX
A "torsion box" subframe will be installed between the two (2) sets of stabilizers.

The torque box will be constructed of .312" thick (minimum) steel plate (50,000 pounds per square inch yield) with steel tubing reinforcement on each side of the box in the turntable area.

The torque box subframe assembly is capable of withstanding all torsional and horizontal loads when the unit is on the stabilizers.

The torque box will be bolted to the chassis frame rails using 20 SAE Grade 8, .750" bolts with nuts.
LOAD CAPACITIES
The following load capacities will be established, with the stabilizers at full horizontal extension and placed in the down position, to level the truck and to relieve the weight from the tires and axles.

Capacities will be based upon full extension and 360 degree rotation.

A load chart, visible at the operator's station, will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

### 50 MPH WIND CONDITIONS/WATERWAY DRY

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<th>-8 to 9</th>
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<th>20 to 29</th>
<th>30 to 39</th>
<th>40 to 49</th>
<th>50 to 59</th>
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<tr>
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<td>500</td>
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</tr>
</tbody>
</table>

Reduced loads at the tip can be redistributed in 250 lb. increments to the fly, mid, or base sections as needed.

The tip capacity will be reduced to zero when flowing water with the nozzle above the waterway centerline.

### BOOM SUPPORT
A heavy duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

The boom support will be located just to the rear of the chassis cab, recessed into the transverse compartment in place of pump.
AERIAL BOOM SUPPORT LIGHT
There will be one (1) Amdor, Model Luma Bar H2O, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated.

HYDRAULIC TANK SPECIAL LOCATION
The hydraulic tank will be located on top of the torque box at the front.

AERIAL BOOM PANEL
There will be one boom panel provided on each side of the aerial ladder base section. The boom panel will be painted #10 white.

The boom panels will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes.

EXTENSION INDICATOR
Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every 10’. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be red reflective material.

FOLDING STEPS
One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding steps will be provided at the base of the fly section. The steps will be bright finished, non-skid with a luminescent coating that is rechargeable from any light source and can hold a charge for up to 24 hours.

AERIAL DEVICE RUNG COVERS
Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating.

The rung covers will be glued to each rung, and will be easily replaceable should the rung cover become damaged.

The center portion of each rung cover will be black and the outside 2.00" edge at each side will be safety yellow.

Under no circumstances will the rung covers be fastened to the rungs using screws or rivets.

The rung covers will have a 10-year, limited warranty.

LADDER STORAGE MOUNTING BRACKETS
Mounting will be provided on the right side of the aerial device while viewed from the turntable for storage of one (1) roof ladder(s). The bracket(s) will be located inboard of the boom panel at the base.
section. The bracket(s) will hold the boom panel as close to the base section as possible and include straps to secure the ladder.

The mounting brackets will accommodate a 14’ Duo-Safety 775-A-DR roof ladder as determined by the type of aerial device and the available space.

**LIGHTS FOR TURNTABLE WALKWAY**
There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch.

**TURNTABLE CONSOLE LIGHTING**
There will be one (1), Amdor Luma Bar H2O, white LED light strip mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch.

**TURNTABLE CONTROL STATION**
There will be a turntable control station located on the left hand side of the turntable so the operator will be able to easily observe the ladder tip while operating the controls. The controls will permit the operator to regulate the speed of the aerial functions within safe limits (as determined by the manufacturer and NFPA standards). The controls will be clearly marked and lighted for nighttime operation. A hinged aluminum cover will be provided. The momentary foot switch located at the turntable control station will activate the aerial function controls. They are capable of being operated independently or simultaneously.

The following controls and indicator lights will be clearly identified, illuminated, and conveniently located for ease of operation and viewing:

- Elevation, extension/retraction, and rotation controls
- High idle switch
- Rung alignment indicator light
- Tip/Tracking lights switch
- Hydraulic system pressure gauge
- Indicator/Alarm test switch
- EPU switch and light
- Operator's load chart
- Stabilizer Not Fully Extended indicator light
- Monitor controls
- Aerial waterway flow meter
STABILIZER CONTROL STATION
There will be two (2) easily accessible control stations, one (1) for driver side stabilizers and one (1) for passenger side stabilizers, located at the rear of the apparatus.

The following controls and indicator lights will be clearly identified, illuminated, and conveniently located for ease of operation and viewing at each of the control stations except where otherwise noted:

- Left Rear Stabilizer Firm On Ground indicator light (driver side panel only)
- Left Rear Stabilizer Fully Extended Indicator light (driver side panel only)
- Left Rear Stabilizer In/Out switch (driver side panel only)
- Left Rear Stabilizer Up/Down switch (driver side panel only)
- Left Front Stabilizer Firm On Ground indicator light (driver side panel only)
- Left Front Stabilizer Fully Extended indicator light (driver side panel only)
- Left Front Stabilizer In/Out switch (driver side panel only)
- Left Front Stabilizer Up/Down switch (driver side panel only)
- Right Rear Stabilizer Firm On Ground indicator light (passenger side panel only)
- Right Rear Stabilizer Fully Extended indicator light (passenger side panel only)
- Right Rear Stabilizer In/Out switch (passenger side panel only)
- Right Rear Stabilizer Up/Down switch (passenger side panel only)
- Right Front Stabilizer Firm On Ground indicator light (passenger side panel only)
- Right Front Stabilizer Fully Extended indicator light (passenger side panel only)
- Right Front Stabilizer In/Out switch (passenger side panel only)
- Right Front Stabilizer Up/Down switch (passenger side panel only)
- Hydraulic emergency power switch
- High idle switch

STABILIZERS
The vehicle will come equipped with a stabilization system consisting of four (4) hydraulically operated out and down style stabilizers. This system will meet or exceed all requirements of the NFPA specifications related to stabilization and setup on sloped surfaces.

The stabilizer/leveling jacks will have a maximum spread of 14’ measured from the centerline of the jack footpads when the beams are fully extended. The beams will be 6.88" wide x 9.00" high with 3/4" thick top and bottom plates and 1/2" thick sides of 100,000-PSI minimum yield strength steel. The cylinders will have pilot-operated check valves with thermal relief designed to insure that the beams will not drift out of the stowed position during travel. Wear pads will guide the stabilizers.

The horizontal extension cylinders will be totally enclosed within the beams and will incorporate telescoping hydraulic tubing to supply the jack cylinder hydraulic power. Stabilizer hydraulic hoses will remain stationary during operation of the stabilizers to prevent hose wear and potential failure. The
cylinders will be equipped with decelerators to reduce the speed of extension and retraction when the beams are near the fully retracted and extended positions. The stabilizer extension hydraulic cylinders will have the following dimensions: 2.25" bore, 1.38" rod, and 39.25" stroke.

The vertical jack cylinders will be capable of 12.00" ground penetration. The cylinders will be supplied with pilot operated check valves on each jack cylinder to hold the cylinder in the stowed or working position, should a charged line be severed at any point in the hydraulic system. For safety, the integral holding valves will be located in the cylinder base, NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods from damage. The stabilizer jack hydraulic cylinders will have the following dimensions: 4.25" bore, 3.00" rod, and 28.88" stroke.

Each stabilizer jack will have a polished stainless steel shield. The stainless steel shield will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This plate will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back 90 degrees for added strength.

**STABILIZER PADS**

The stabilizer footpad will be 12.00" in diameter. The footpad will be attached to the jack cylinder rod by means of a machined ball at the end of the jack cylinder rod which mates to a socket machined into the footpad. The footpad will have the ability to pivot 20 degrees from horizontal in any direction to allow setup on uneven terrain.

**AUXILIARY STABILIZER PADS**

An auxiliary ground pad will be supplied for each stabilizer to provide additional load distribution on soft surfaces. The pads will be 31" x 26" and made from a lightweight composite material. The ground pressure will not exceed 75 pounds per square inch when the ground pads are used and the apparatus is fully loaded and the aerial device is carrying its rated capacity in any position. The pads shall be stored in a double stacked configuration, two (2) behind each rear tandem axle in a single bracket.

**STABILIZER CONTROLS**

An electrically controlled hydraulic valve will power stabilizer movement. The valve can also be manually controlled in the event of electrical malfunction. Hydraulic power override controls will be incorporated into the valve. The manual override mechanism will be completely sealed within the valve assembly to prevent any possibility of corrosion.

The stabilizer controls will be located to provide the operator with a full view of each stabilizer being positioned. Each stabilizer control panel will include the following:

- In/out stabilizer beam control toggle switch
- Up/down stabilizer jack control toggle switch
• Emergency hydraulic power unit (EPU) control toggle switch
• High idle control toggle switch
• Stabilizer fully extended LED indicator lights
• Stabilizer planted LED indicator lights

As a safety device, an electrically actuated diverter valve will be provided. The hydraulic power will be diverted to the aerial ladder controls automatically the instant all stabilizer jacks are firmly planted on the ground. Once the aerial ladder is raised from the bedded position, the stabilizer hydraulic power is cut off so the stabilizers will not accidentally be moved while the aerial is being operated.

To aid in leveling the unit, two bubble type angle indicators will be located near the stabilizer controls. One indicator will show the angle of the truck from the front to rear and the other will show the side to side angle of the truck. The indicators will be color coded green to show when the truck has been properly leveled allowing the aerial device to be operated at full capacity.

A stabilizer deployment audible warning alarm will be provided at each side of the body, activated by the stabilizer movement.

A "Stabilizers Not Stowed" indicator light will be provided in the cab within view of the driver. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the vehicle if it is moved. The stabilizer system will also be wired to the "Do Not Move Truck" indicator light. This light will flash whenever the apparatus parking brake is not engaged and the stabilizers are not fully stowed.

**STABILIZER PINS**
The stabilizer jacks will have holes for the stabilizer pins.

**STABILIZER CONTROL BOX SMOOTH ALUMINUM DOOR**
Vertically hinged smooth aluminum doors will be provided over each stabilizer control box. The doors will be hinged inboard.

**HYDRAULIC SYSTEM**
All hose assemblies will be assembled and crimped by the hose manufactures certified technician. An assembly cell will be located on the premises where the technician can perform audits of the final aerial assembly for proper fitting torque and hose routing.

All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.
Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi and a burst pressure rating of 16,000 psi.

The hydraulic oil will be a premium Multi-Vis product that will have a leading edge additive package, provide oxidation stability, be extremely shear stable, and have maximum anti-wear properties. All oil delivered to the manufacturing site will have a minimum ISO cleanliness level of 18/15/13.

Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.

The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.

Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.

Ball valves will be provided in the hydraulic suction and return lines to permit component servicing without draining the oil reservoir.

The system hydraulic pressure will be displayed on a 2.5" liquid filled gauge, located on the control console.

The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3150 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.

**HYDRAULIC CYLINDERS**

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.
HYDRAULIC PUMP
The hydraulic system will be supplied by a variable displacement, load and pressure compensating piston pump. The pump will meet the demands of all three (3) simultaneous aerial functions. The pump will provide proper flow for a single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.

EMERGENCY PUMP
The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.

AERIAL CONTROL VALVE
The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be manually controlled and be located in the control console with the handles protruding through the operating surface for operation. The activation handles will be spaced a minimum of 3.5" for ease of operation.

OIL RESERVOIR
The oil reservoir will have a minimum capacity of 38 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. The fill will have a desiccant breather filter with a water capacity of 4 fluid ounces and a 5 micron rating. A drain hose will be included and will terminate with a quarter turn ball valve. Two (2) suction ports will be provided, one (1) for the main hydraulic pump and one (1) for the emergency pump. The main suction will be slightly elevated off the bottom of the reservoir and include a 100 mesh suction strainer. The emergency suction port will be closer to the bottom of the reservoir to provide some reserve oil for emergency operation. A six (6) disc type magnetic drain will also be provided to collect any ferrous contaminants. A float type sending unit in the reservoir will provide an indication of oil level on an electric gauge mounted adjacent to the fill location.

HIGH PRESSURE FILTER
The pressure filter will be rated for 6,000 psi working pressure and generously sized for efficiency and capacity. A 90 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures.

The 5Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 5 micron and have an efficiency rating of 99.3% for 5 micron sized particles. The element will have a dirt holding capacity of not less than 35 grams.
RETURN FILTER
The return filter will be rated for 800 psi working pressure and generously sized for efficiency and capacity. A 25 psi bypass spring will be included to protect the element and hydraulic system during lower than normal system operating temperatures. The 5Q filter element will be constructed of a micro glass medium, which has the highest capture efficiency, dirt holding capacity and life expectancy over other media such as cellulose and synthetic. The nominal rating will be 5 microns and have an efficiency rating of 99.6% for 5 micron sized particles. The element will have a dirt holding capacity of not less than 40 grams.

HYDRAULIC SWIVEL
The aerial ladder will be equipped with a high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir, through the rotation point, to the aerial control bank. The hydraulic swivel will allow for 360-degree continuous rotation of the aerial.

ELECTRIC SWIVEL
The ladder will be equipped with an electric swivel to allow 360-degree rotation of the aerial while maintaining connections in all electrical circuits through the rotation point. A minimum of 28 collector rings that are capable of supplying 30-amp continuous service will be provided. All collector rings will be enclosed and protected against condensation and corrosion.

ELECTRICAL SYSTEM
The aerial electrical system will be designed and manufactured in such a way that the power and signal protection and control compartments will contain circuit protection devices and power control devices. The power and signal protection and control components will be protected against corrosion, excessive heat, excessive vibration, physical damage, and water spray.

The aerial electrical system will be designed and manufactured to allow the following:

- All of the serviceable components will be readily accessible.
- Circuit protection devices will be utilized to protect each circuit.
- All circuit protection devices will be sized to prevent wire and component damage when subjected to extreme current overload.
- General protection circuit breakers will be Type-I automatic reset (continuously resetting) or Type-II (manual resetting) and conform to SAE requirements. When required, automotive type fuses conforming to SAE requirements will be utilized to protect electronic equipment.
- Power control relays and solenoids, when utilized, will have a direct current (dc) rating of 125% of the maximum current for which the circuit is protected.

The aerial electrical system will be designed and manufactured to allow the following:
Toggle switches will be utilized that are certified for the outside conditions that fire apparatus experience.

- All wiring will be protected through conduit or loom.
- All wiring harnesses will be properly supported to eliminate harness damage through rubbing.
- An inductive proximity switch and illumination light will be incorporated into the boom support.
- The aerial master and aerial PTO can be engaged after the water pump has been engaged without having to bring the RPM back to idle.
- Standard cabling to the tip of the aerial will consist of one (1) 16/20 cable and one (1) 12/8 cable.

**DRIVER SIDE TORQUE BOX POWER DISTRIBUTION PANEL**

A fuse and relay panel, located behind the driver side stabilizer, will include the following:

- NEMA 4x rated weatherproof enclosure
- Relays, fuses, and circuit breakers for aerial and stabilizer interlocks and control switches

**TURNTABLE LIGHTING**

The turntable will be lighted for nighttime operation with a minimum of two (2) work lights activated by the aerial master switch. A foot switch will be located at the turntable console to allow hydraulic flow to the aerial device. The foot switch will be protected by a cover to prevent accidental activation. Activation of the foot switch is necessary for aerial device operation.

**TURNTABLE CONSOLE**

The following switches and indicator lights will be standard on the turntable console:

- High idle on/off switch
- Tip/Tracking light switch
- Indicator and alarm test switch
- Emergency hydraulic power switch
- STABILIZERS NOT FULLY EXTENDED amber indicator light
- Rung alignment green indicator light

The turntable console will be lighted for nighttime operation with one (1) work light activated by the aerial master switch. A fuse panel will be located in the turntable console.

**TURNTABLE OVERRIDE CONTROLS**

The aerial manual override controls will be located in the turntable control console.
MASTER OVERRIDE CONTROLS
An emergency power switch will be located at the rear of the apparatus. The switch will activate the emergency power unit and allow control of the aerial or stabilizers based on the direction the switch is toggled.

A work light will be provided to illuminate the master override controls when the battery switch is active and the master override door is open.

BOOM SUPPORT
A Turck inductive proximity switch will be provided on the boom support to detect if the aerial device is fully stowed within the boom support.

STABILIZER INDICATOR
A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed, to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move" indicator light, which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

CRADLE INTERLOCK SYSTEM
A cradle interlock system will be provided to prevent the lifting of the aerial from the nested position until the operator has positioned all the stabilizers in a load supporting configuration. A switch will be installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

STABILIZER ALARM
An electronic warning device will be provided at each stabilizer to warn personnel that the stabilizers are being deployed. Each alarm will produce a fast pulsing 90 DBA signal and will cancel only when the stabilizer is put into a load bearing configuration.

STABILIZER SCENE LIGHTS
A 4.00" clear floodlight will be provided on each stabilizer to illuminate the surrounding area. The light will be actuated by the aerial master switch.

AERIAL TIP ANE TRACKING LIGHTS
There will be four (4) Whelen® 12 volt DC LED lights installed on the aerial device below the hand rail per the following:

- one (1) Model MPB*, 4,100 lumens light with adjustable mount installed on the driver's side of the base section as a tracking light
- one (1) Model PFS2P, 16,200 lumens light with adjustable pedestal mount installed on the driver's side of the tip as a tip light
• one (1) Model PFS2P, 16,200 lumens light with adjustable pedestal mount installed on the passenger's side of the tip as a tip light
• one (1) Model MPB*, 4,100 lumens light with adjustable mount installed on the passenger's side of the base section as a tracking light
• the tip light(s) to include white painted parts
• the tracking light(s) to include white painted parts

Power to the lights will be controlled by switch(s) at the platform/tip and turntable.

STABILIZER WARNING LIGHTS
There will be four (4) Whelen®, Model M6*, LED flashing warning lights with Whelen, Model M6FC, chrome flanges installed, one (1) on each stabilizer cover panel.

• The front stabilizer pan lights will be red LED with a lens color the same as the LEDs
• The rear stabilizer pan lights will be red LED with a lens color the same as the LEDs

These warning lights will be activated by the same switch as the side warning lights.

STABILIZER BEAM WARNING LIGHTS
Two (2) 4.00" diameter red LED flashing lights will be mounted on each stabilizer, one (1) facing forward and one (1) facing rearward. The lights will be Grote Supernova 40 series LED lights. The lights will be recessed in the horizontal beam of the stabilizer. These warning lights will be activated with the aerial master switch.

STABILIZER SCENE LIGHTS
There will be one (1) Amdor Luma Bar H2O, Model AY-9500-012 LED strip light installed under each stabilizer beam to illuminate the surrounding area. A total of four (4) lights will be installed. The lights will be activated by the aerial master switch.

DC POWER CABLE TO TIP
There will be a cable installed in the aerial device to provide 11.2 amps @ 12 volts DC to the tip of the aerial device.

COMMUNICATION SYSTEM
An Atkinson communication system will be furnished between the aerial tip and the turntable operator's position. The communication system will be a two (2)-way system with the communication speaker at the tip requiring no operator attention to transmit or receive. The transmitting and receiving volume controls will be located at the turntable operator's position.

RAISED AERIAL PEDESTAL
The aerial pedestal will be raised to accommodate the height of the cab.
LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT
A lifting eye assembly will be provided that is designed to evenly distribute load at the tip of the aerial. The egress will include attachment points for the lifting eye assembly. The lift eye assembly is retained by two (2) locking pins, one (1) at each end outboard side of the egress. Leveling is maintained by the lifting eye assembly rotating within the egress mounting.

AERIAL STABILITY GAUGE
There will be a Class 1 Load Minder located in the turntable control station. The gauge and warning alarm will be clearly identified and conveniently located for ease of viewing.

There will be ECCO Model 6200 amber strobe lights provided at each side of the tip of the base section of the aerial device.

AERIAL TURNTABLE CHAIN
A chain will be installed at the aerial turntable.

WATER SYSTEM
A waterway system will be provided consisting of the following components and features:

A 5.00" pipe connected to the water supply on one end and to a water swivel at the rotation point of the turntable. The water swivel will allow the ladder to rotate 360 degrees continuously while flowing water.

A 4.00" waterway swivel is to be routed through the rotation point swivel up to the heel pin swivel. The heel pin swivel will allow the water to flow to the ladder pipe while elevating the aerial ladder from -5 degrees to 75 degrees. The heel pivot pin is not integral with the waterway swivel at any point. The design of the waterway will allow complete servicing of the waterway swivel without disturbing the heel pivot pin.

The integral telescopic water system will consist of a 4.50" diameter tube in the base section, a 4.00" diameter tube in the inner mid-section, 3.50" diameter tube in the outer mid-section and a 3.00" diameter tube in the fly section. The telescopic water pipes will be anodized aluminum.

The rotational torque will have adequate power to rotate the ladder into a full 1000 gallon per minute water stream directed at 90 degrees to the side while maintaining the 500 pound tip load.

The aerial will be capable of discharging up to 1000 gallons per minute at 100 pounds per square inch parallel to the ladder and 90 degrees to each side of center while maintaining the fully rated tip load.

An adjustable intake relief valve will be furnished to protect the aerial waterway from a pressure surge.

A 1.50" drain valve will be located at the lowest point of the waterway system.
WATERWAY SEALS
The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated.

The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation.

AERIAL MONITOR
An Elkhart Model 8294-04 monitor with auto stow will be provided at the tip with a Elkhart 1000 gpm Model SM-1000E.

The monitor's functions will be controlled electrically from two (2) separate locations. One (1) control will be located at the control console and the other at the ladder tip.

There will be a courtesy light at the tip of the aerial to illuminate the controls.

FLOW METER (AERIAL WATERWAY)
A Class I Flow-Minder, with totalizer, will be provided for the aerial waterway. The flowmeter will be located at the turntable control station.

REAR INLET
A 5.00" NST inlet to the torque box area will be provided at the rear of the apparatus. The pipe size reduces to 4.00" as it enters the torque box to connect to the 4.00" aerial water way swivel at the aerial base. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap. The outlet will be located to the drivers side of the torque box, above the stabilizer control compartment.

WATERWAY LOCKING SYSTEM
The aerial ladder waterway monitor will be capable of being positioned at either the fly section or at the next lower section of the ladder.

The monitor location will be changeable by the use of a single handle, located at the side of the ladder.

The handle, attached to a cam bracket, will simply be moved forward to lock the monitor at the fly section and back to lock it to the previous section.

There will be no pins to remove and reinstall.

The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.
MANUALS
Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up.

INITIAL INSTRUCTION
On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of three (3) days.

SPARE FASTENERS
One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit will be provided.

LOOSE EQUIPMENT
The following loose equipment will be provided by the sales organization and prior to final delivery:

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<th>DESCRIPTION</th>
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<td>Air Bag Container Box: 25&quot; Sit/Stand/Tote Truck</td>
<td>Craftsman #59627</td>
<td>1</td>
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<tr>
<td>Item</td>
<td>Description</td>
<td>Quantity</td>
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<tr>
<td>19</td>
<td>Coupler Kit: 1/4&quot; x 3/8&quot; male and female adapter kit coupler kit (air hose)</td>
<td>Craftsman #16362</td>
<td>1</td>
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<td>20</td>
<td>Air Gun: Quick-Change Blow Gun Kit</td>
<td>Craftsman #16337</td>
<td>1</td>
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<tr>
<td>21</td>
<td>Air Bag Hose: Red 32'</td>
<td>Paratech Inc, 3/8&quot; x 32' #890521 red</td>
<td>1</td>
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<tr>
<td>22</td>
<td>Air Bag Hose: Yellow 32'</td>
<td>Paratech Inc, 3/8&quot; x 32' #890520 yellow</td>
<td>1</td>
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<tr>
<td>23</td>
<td>Milton inflator Gauge #16388</td>
<td></td>
<td>1</td>
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<td>24</td>
<td>Air Bag Control Kit: Dual controller #890900, regulator #890501, air hose yellow 16' #890515, air hose red 16' #890516, &amp; black supply hose</td>
<td>Paratech Inc, Maxiforce Control Package-6000#-#890351</td>
<td>1</td>
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<tr>
<td>25</td>
<td>Air Chisel Kit: 4500 psi</td>
<td>Paratech Inc, AJAX 711-45RK</td>
<td>1</td>
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<tr>
<td>26</td>
<td>Air Bag Relief Valve: Inline</td>
<td>Paratech Inc, Maxiforce #890490</td>
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<tr>
<td>32</td>
<td>Ventilation Blower: Electric variable speed</td>
<td>VSX-16 GFCI #EB16VSM</td>
<td>1</td>
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<tr>
<td>35</td>
<td>Drill: Hammer 1/2&quot;</td>
<td>Milwaukee</td>
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<tr>
<td>36</td>
<td>Grinder: 4 1/2&quot;</td>
<td>Milwaukee Tools 5.5amp angle grinder</td>
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<tr>
<td>37</td>
<td>Portable Light: 500 Watt, Portable w/ Straight Blade Plug</td>
<td>Utilitech #0320778</td>
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<td>38</td>
<td>Flashlight: W/ DC charger</td>
<td>Streamlight # SL-20X (part #20202)</td>
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<td>40</td>
<td>Light: Landing zone strobe kit</td>
<td>Visibility Systems Co. Lightman Xenon Safety Strobe Kit</td>
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<td>41</td>
<td>Megaphone: Electronic w/siren</td>
<td>Galls</td>
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<td>42</td>
<td>Sawzall: Corded electric</td>
<td>Porter-Cable 9748 11.5 Amp Variable-Speed, Dual Action Quick-Change Tiger Saw Kit</td>
<td>1</td>
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<tr>
<td>43</td>
<td>Vacuum: Water back-pack, electric w/ pick-up tube and floor fitting</td>
<td>Partner, Salvage Master</td>
<td>1</td>
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<tr>
<td>45</td>
<td>Ventilation Blower: Gas powered 18&quot; Tempest</td>
<td>Tempest Technology #BD18-H-5.5, Honda Eng</td>
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<tr>
<td>46</td>
<td>Gas Can: Type II safety gas can w/ flexible pour spout 1 Gallon</td>
<td>#8621 Type II, 1 gallon</td>
<td>2</td>
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<tr>
<td>48</td>
<td>Circular Saw: 12&quot; w/ 1&quot; arbor, w/ D-handle pull cord</td>
<td>Partner 12&quot; #K750, California Diamond Prod.</td>
<td>1</td>
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<tr>
<td>Item</td>
<td>Description</td>
<td>Brand/Model</td>
<td>Quantity</td>
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<td>------</td>
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<tr>
<td>49</td>
<td>Circular Saw: 14&quot; w/ 1&quot; arbor, w/ D-handle pull cord</td>
<td>Partner 14&quot; #K960, California Diamond Prod.</td>
<td>1</td>
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<tr>
<td>50</td>
<td>Rescue Saw: Gas chain saw</td>
<td>Cutters Edge 20&quot; Bar</td>
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<tr>
<td>51</td>
<td>Flathead Axe- 6lbs Fire Axe Inc 36&quot; fiberglass handle (Item FLT8)</td>
<td><a href="http://www.firefighteraxe.com">www.firefighteraxe.com</a></td>
<td>2</td>
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<tr>
<td>52</td>
<td>Pickhead Axe- 6lbs Fire Axe Inc 32&quot; fiberglass handle (Item PHA)</td>
<td><a href="http://www.firefighteraxe.com">www.firefighteraxe.com</a></td>
<td>6</td>
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<tr>
<td>53</td>
<td>Bar: Halligan 30&quot; w/ standard claw</td>
<td>Fire Hooks Unlimited #Pro-Bar w/ rings &amp; strap</td>
<td>2</td>
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<tr>
<td>54</td>
<td>Bar: Pinch point 60&quot;</td>
<td>#180PP, 60&quot; Steel</td>
<td>4</td>
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<tr>
<td>55</td>
<td>Bar: Roofman Hook, 6'</td>
<td>Fire Hooks Unlimited #RH6</td>
<td>2</td>
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<tr>
<td>56</td>
<td>Craftsman: 13.50&quot; nail pry bar #141</td>
<td>1</td>
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<tr>
<td>57</td>
<td>Bar: wrecking bar 36&quot; crow</td>
<td>Council #75036</td>
<td>2</td>
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<tr>
<td>58</td>
<td>Belt: Axe belt, 4RH &amp; 2LH, covers blade and securing strap &quot;Sacramento Belt&quot;</td>
<td>5 Alarm Leather <a href="http://www.5alarmleather.com">www.5alarmleather.com</a></td>
<td>6</td>
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<tr>
<td>59</td>
<td>Belt: Nail, carpenter 10 pocket</td>
<td>Craftsman #9-40522</td>
<td>2</td>
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<tr>
<td>60</td>
<td>Blade: hacksaw/saws-all Lenox demolition (2 per pack)</td>
<td>Lenox #20597-960R</td>
<td>4</td>
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<tr>
<td>61</td>
<td>Box: 30 cal. - 10&quot;L x 3 1/2&quot;W x 6 3/4&quot;D</td>
<td>armygear.net</td>
<td>3</td>
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<tr>
<td>62</td>
<td>Broom: Fiber threaded handle</td>
<td>Grainger# Tough Guy 1NFF5</td>
<td>2</td>
</tr>
<tr>
<td>63</td>
<td>Broom: Warehouse broom black, 56 inch</td>
<td>Grainger# Tough Guy 3ZJD7</td>
<td>2</td>
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<tr>
<td>64</td>
<td>Chain: come-a-long, 1/4&quot; X 5', GR80 alloy single-leg sling w/ lockable clevis grab hook, 1/2&quot; master link &amp; 1' chain shortener</td>
<td>Broadus Chain &amp; Cable</td>
<td>1</td>
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<tr>
<td>65</td>
<td>Tool chest: 6 drawer chest, 26&quot;Wx12&quot;Dx15 3/8&quot; (Black)</td>
<td>Craftsman #9-61805</td>
<td>1</td>
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<tr>
<td>66</td>
<td>Chisel, cold, 7/8&quot; x 7.50&quot;</td>
<td>Craftsman #942976</td>
<td>2</td>
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<tr>
<td>67</td>
<td>Come-a-long: 2 &amp; 4 Ton w/ 2 handles</td>
<td>Little Maul # C2</td>
<td>1</td>
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<tr>
<td>68</td>
<td>Bolt Cutter: 36&quot;</td>
<td>HK Porter #T0390MCX</td>
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<tr>
<td>69</td>
<td>Cutter: cable, insulated, Fireman’s 20&quot;</td>
<td>HK Porter #T0090FFC</td>
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<tr>
<td>70</td>
<td>Dust Pan: plastic</td>
<td>20554</td>
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<tr>
<td></td>
<td>Item Description</td>
<td>Brand/Model</td>
<td>Quantity</td>
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<td>72</td>
<td>Extinguisher: dry chem, 20A-120BC</td>
<td>TPG20G, ABC Triplex</td>
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<tr>
<td>73</td>
<td>Extinguisher: water can, 2.5 gal pressurized</td>
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<tr>
<td>74</td>
<td>Staple Gun: dual power, manual</td>
<td>Surebonder #968518</td>
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<tr>
<td>75</td>
<td>High Tension Hacksaw Frame, for 12&quot; blade: Lenox #12132-HT50</td>
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<tr>
<td></td>
<td>American Saw &amp; Mfg: Lenox V214HE 10 pack</td>
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<tr>
<td>76</td>
<td>Hammer: ball peen, 32 oz</td>
<td>Craftsman #9-38467</td>
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<tr>
<td>77</td>
<td>Hammer: ball peen, 12 oz</td>
<td>Craftsman #9-38464</td>
<td>1</td>
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<td>78</td>
<td>Craftsman: Hammer, 20 oz (claw)</td>
<td>#38273</td>
<td>2</td>
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<tr>
<td>79</td>
<td>Hammer: dead blow, 2.2 lbs double face short NuplaFlex handle</td>
<td>Nupla Corp #SF-3 Power Drive</td>
<td>2</td>
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<tr>
<td>80</td>
<td>Hammer: sledge 10 lbs, Red/Yellow nylon formed core 32&quot; handle, double faced</td>
<td>Nupla Corp 32&quot; handle 10lbs head</td>
<td>2</td>
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<tr>
<td>81</td>
<td>Hammer: sledge 3lb, double faced, nylon handle</td>
<td>Nupla Corp</td>
<td>2</td>
</tr>
<tr>
<td>82</td>
<td>Handle: broom, freeway</td>
<td>Grainger# Tough Guy 3U775</td>
<td>2</td>
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<tr>
<td>83</td>
<td>Handle: mop, steel</td>
<td>Grainger# Tough Guy 1TZB1</td>
<td>2</td>
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<tr>
<td>84</td>
<td>Mop Heads</td>
<td>Grainger# Tough guy 1NE24</td>
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<tr>
<td>84</td>
<td>Kit: auto lockout</td>
<td>Big Easy</td>
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<tr>
<td>85</td>
<td>K-Tool Kit: lock pulling system w/ pouch &amp; key tools</td>
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<tr>
<td>86</td>
<td>Picket: steel, Pinted 4'x1&quot; cold rolled steel</td>
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<tr>
<td>87</td>
<td>Pliers: arc-joint, 9.5&quot;</td>
<td>Craftsman #9-45381</td>
<td>1</td>
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<tr>
<td>88</td>
<td>Pliers: diagonal cut 7&quot;</td>
<td>Craftsman #9-45076</td>
<td>1</td>
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<tr>
<td>89</td>
<td>12&quot; Duckbill snips, Grainger #2VU98</td>
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<td>90</td>
<td>Craftsman: 7&quot; Linesman pliers #45093</td>
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<tr>
<td>91</td>
<td>Pliers: long-nose, 8&quot;</td>
<td>Craftsman #9-45103</td>
<td>1</td>
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<tr>
<td>92</td>
<td>Pliers: slip-joint, 8&quot;</td>
<td>Craftsman #9-45379</td>
<td>1</td>
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</tbody>
</table>
### City of Sacramento Fire Department

**Specifications on One (1) Pierce 105’ Velocity HD Aerial Ladder**

November 1, 2017 (Quote Number 91101-17A)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Brand</th>
<th>Model</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>93</td>
<td>Pike Pole: 12’, Nupla</td>
<td>Nupla Corp</td>
<td>#YPD-12 w/butt grip</td>
<td>2</td>
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<tr>
<td>94</td>
<td>Pike Pole: 6’, Nupla w/D-handle grip</td>
<td>Nupla Corp</td>
<td>#YPD-6 w/butt grip</td>
<td>2</td>
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<tr>
<td>95</td>
<td>Pole: roof vent hook, 8’ w/D-grip</td>
<td>Nupla Corp</td>
<td>#RH-8D</td>
<td>1</td>
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<tr>
<td>96</td>
<td>Rake: steel, road, asphalt</td>
<td>Nuple Corp</td>
<td>69-214</td>
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<tr>
<td>97</td>
<td>Saw: hand, 12 point, 24”</td>
<td>Craftsman</td>
<td>#936266</td>
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<tr>
<td>98</td>
<td>Set: punch/chisel, 9 pc set</td>
<td>SK Professional Tools</td>
<td>#999375</td>
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<tr>
<td>99</td>
<td>Set: Tool set Mechanics 245pc</td>
<td>Craftsman</td>
<td>#9-34245 245pc set</td>
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<td>100</td>
<td>Craftsman: 9 pc. Standard 6 pt. Combination Wrench Set #47234</td>
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<td>101</td>
<td>Shovel: round point, 48” fiberglass handle</td>
<td>Nupla Corp</td>
<td>#RP2L</td>
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<tr>
<td>102</td>
<td>Shovel: scoop, #8, w/D-handle alum</td>
<td>Nupla Corp</td>
<td>#AGS8DE, #8</td>
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<tr>
<td>103</td>
<td>Shovel: square point, 48” fiberglass handle</td>
<td>Nupla Corp</td>
<td>#SP2L</td>
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<tr>
<td>104</td>
<td>Square: combination 16”</td>
<td>Craftsman</td>
<td>#939681</td>
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<td>105</td>
<td>Squeegee: 30” curved, w/removable handle not hinged</td>
<td>ROWCO</td>
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<tr>
<td>106</td>
<td>Squeegee: 36” curved, w/removable handle not hinged</td>
<td>ROWCO</td>
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<tr>
<td>107</td>
<td>Squeegee: straight 18”</td>
<td>ROWCO</td>
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<td>2</td>
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<tr>
<td>108</td>
<td>Squeegee: straight 36”</td>
<td>ROWCO</td>
<td></td>
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<tr>
<td>109</td>
<td>Staples: 9/16” pkg of 1250</td>
<td>65443</td>
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<tr>
<td>110</td>
<td>Wheelbarrow: Heavy Duty Contractor, 6 cubic feet, steel w/hardwood handles</td>
<td>3Z450</td>
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<td>111</td>
<td>Craftsman: 12” adjustable wrench #44605</td>
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<td>112</td>
<td>Craftsman: 8” adjustable wrench #44603</td>
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<td>113</td>
<td>Wrench: 10” pipe wrench</td>
<td>Craftsman</td>
<td>#9-51651</td>
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<td>115</td>
<td>Craftsman: 14” pipe wrench #51652</td>
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<td>Product</td>
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<td>116</td>
<td>Wrench: 36&quot; aluminum pipe wrench</td>
<td>6A654</td>
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<tr>
<td>122</td>
<td>Craftsman: 9 pc. Metric 6 pt. Combination Wrench Set #47235</td>
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<td>123</td>
<td>Chains: Homaltro, spreader w/hooks</td>
<td>Homaltro Inc. #4242, pulling chains set #150.583.00</td>
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<tr>
<td>124</td>
<td>Cutter: Homaltro w/ Core technology</td>
<td>Homaltro Inc. #4050NCT</td>
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<tr>
<td>125</td>
<td>Hydraulic hose: 32' blue w/ Core Technology couplings</td>
<td>Homaltro Inc.</td>
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<tr>
<td>126</td>
<td>Hydraulic hose: 32' orange w/ Core Technology couplings</td>
<td>Homaltro Inc.</td>
<td>1</td>
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<tr>
<td>127</td>
<td>Hydra Ram: portable hyd lock breaker for use on metal door jambs</td>
<td>Fire Hooks Unlimited 6&quot; spread</td>
<td>1</td>
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<tr>
<td>128</td>
<td>Jack: 12 ton hydraulic, floor sim to bottle jack w/ detachable handle</td>
<td>Jet #JBJ-12</td>
<td>1</td>
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<tr>
<td>129</td>
<td>Jack: 20 ton hydraulic, floor sim to bottle jack w/ detachable handle</td>
<td>Jet #JBJ-20</td>
<td>1</td>
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<tr>
<td>130</td>
<td>Power Unit: Homaltro, Duo pump w/Core tech couplings</td>
<td>Homaltro Inc. #DPU30</td>
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<td>131</td>
<td>Ram: Homaltro, short, w/Core Tech couplings</td>
<td>Homaltro Inc. #4340</td>
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<tr>
<td>132</td>
<td>Ram: Homaltro, telescopic, medium, w/Core Tech couplings</td>
<td>Homaltro Inc. #4350</td>
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<tr>
<td>133</td>
<td>Ram: 65&quot; Homaltro, telescopic, long, w/Core Tech couplings</td>
<td>Homaltro Inc. #4332</td>
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<td>134</td>
<td>Spreader: 27&quot; Homaltro, w/Core Tech couplings</td>
<td>Homaltro Inc. #4242</td>
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<tr>
<td>135</td>
<td>Support: ram support brace</td>
<td>Homaltro Inc. #HRS-22, 150.181.011</td>
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<td>136</td>
<td>Tips: Homaltro, pulling, spreader</td>
<td>Homaltro Inc. #4242, pulling tips w/ hooks 158.582.00</td>
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<tr>
<td>151</td>
<td>Fire Fighter Drop Bag: (BLACK) for door wedges</td>
<td>First In # 97063B</td>
<td>1</td>
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<tr>
<td>152</td>
<td>Carabiner: for personal drop bags (ORANGE)</td>
<td>Seattle Manufacturing Corp #300169</td>
<td>5</td>
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<tr>
<td>153</td>
<td>Fire Fighter Drop Bag: (RED)</td>
<td>First In # 97063R</td>
<td>5</td>
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<tr>
<td>154</td>
<td>Bag rope: 8mm 75' kern mantle</td>
<td>CMC Rescue Inc. #293038</td>
<td>5</td>
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<tr>
<td>155</td>
<td>Bag: drop, split ring 2&quot;</td>
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<td>4</td>
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<tr>
<td>156</td>
<td>Bag: rope, single end, black. Holds 200' 1/2&quot; service line</td>
<td>CMC Rescue Inc. black #430215 single ended</td>
<td>2</td>
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<tr>
<td>157</td>
<td>Blade: circular saw 12&quot; wood carbide chopper blade tip w/ 1&quot; arbor,</td>
<td>Fire Hooks Unlimited</td>
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<tr>
<td>158</td>
<td>Blade: circular 12&quot; rescue multi purpose blade w/ 1&quot; arbor</td>
<td>California Diamond Products (Rescue Blade 12&quot;)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>Blade: circular saw 12&quot; diamond concrete, wet/dry. Heavy duty 12&quot;x125x1&quot; w/1&quot; arbor</td>
<td>Diamond products #H7H</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Blade: circular saw 12&quot; masonry composite, abrasive 12&quot;x5/32x1&quot; w/ 1&quot; arbor</td>
<td>Continental Abrasives #179127</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Blade: circular saw 12&quot; metal composite, abrasive 12&quot;x5/32x1&quot; w/ 1&quot; arbor</td>
<td>Flexovit #F5293</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Blade: circular saw 14&quot;, carbide-wood, 30 tip blade w/ 1&quot; arbor</td>
<td>Fire Hooks Unlimited</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>Blade: circular saw 14&quot;, rescue multi purpose w/1&quot; arbor</td>
<td>California Diamond Products (Rescue Blade 14&quot;)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>Blade: circular saw 14&quot;, diamond concrete, wet/dry w/1&quot; arbor</td>
<td>Diamond products #H7H in 14&quot; dia w/1&quot; arbor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>Blade: circular saw, 14&quot;, masonry composite w/1&quot; arbor</td>
<td>Continental Abrasives equivalent to #179127 for 14&quot; saw</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>166</td>
<td>Blade: circular saw, 14&quot;, metal composite w/1&quot; arbor</td>
<td>FlexOvit #F5693</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>Box: salvage, sprinkler, marking 20&quot;W-8&quot;D-9&quot;H, Black metal</td>
<td>Craftsman #59210</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>Box: shore, tool box, gray-plastic 26&quot;x9&quot;x11&quot;</td>
<td>Craftsman #59326</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>171</td>
<td>Bucket: mop, 2.5 gal w/wringer &amp; wheels</td>
<td>Grainger 2PYH4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>172</td>
<td>Can harness: sling for 2 1/2 gal ext.</td>
<td>Fire Hooks Unlimited #ESS-31</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>Carry-all: debris carrier, 4'x6', 4 handles at the corners heavy canvas</td>
<td>#24316</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>174</td>
<td>Chain loop: bullet, 20&quot; bar 3/8x72 specific to Cutters Edge saw</td>
<td>Cutters Edge</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>175</td>
<td>Chain loop: raptor, 20&quot; bar 3/8x72 specific to Cutters Edge saw</td>
<td>LN Curtis</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>176</td>
<td>Chain loop: wood, 20&quot; bar 3/8x72 specific to Cutters Edge saw</td>
<td>LN Curtis</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>177</td>
<td>Cooler: water, 2 gal w/ spigot, plastic insulated (igloo type)</td>
<td>#21615</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Cover: hall runner, 3'x16' 10 oz red vinyl</td>
<td>Dry-Tex</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>179</td>
<td>Cover: salvage, blue disposable, 16'x20'</td>
<td>186793</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>Cover: salvage, heavy canvas, 12'x14', hemmed sides w/grommets every 2', 12 oz.</td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
### Specifications on One (1) Pierce 105' Velocity HD Aerial Ladder

#### November 1, 2017 (Quote Number 91101-17A)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>181</td>
<td>Olive Duck sealed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Cover: salvage, red vinyl, 12'x14', hemmed sides w/grommets every 2', red 10 oz. vinyl</td>
<td>4</td>
</tr>
<tr>
<td>182</td>
<td>Cylinder: oxygen, 40CF DOT cylinder - 3AA2015 filled w/ compressed oxygen</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Cylinder: oxygen, 80CF DOT cylinder - 3AA2015 filled w/ compressed oxygen</td>
<td>1</td>
</tr>
<tr>
<td>183</td>
<td>Hasp: hinge, 6.0&quot;</td>
<td>4</td>
</tr>
<tr>
<td>184</td>
<td>Hasp: safety, 3.5&quot;</td>
<td>2</td>
</tr>
<tr>
<td>185</td>
<td>Hasp: safety, 4.5&quot;</td>
<td>2</td>
</tr>
<tr>
<td>186</td>
<td>Hoist: Hose</td>
<td>1</td>
</tr>
<tr>
<td>187</td>
<td>Lumber chalk: box of 24, yellow</td>
<td>1</td>
</tr>
<tr>
<td>188</td>
<td>Lumber crayon: Red 6/box</td>
<td>2</td>
</tr>
<tr>
<td>189</td>
<td>Lumber crayon: Yellow 6/box</td>
<td>2</td>
</tr>
<tr>
<td>190</td>
<td>Lumber pencil</td>
<td>4</td>
</tr>
<tr>
<td>191</td>
<td>Mop head: cotton string</td>
<td>4</td>
</tr>
<tr>
<td>192</td>
<td>Nails: 16d, coated, green sinker, pounds</td>
<td>12</td>
</tr>
<tr>
<td>193</td>
<td>Nails: 16d, duplex, pounds</td>
<td>10</td>
</tr>
<tr>
<td>194</td>
<td>Nails: 8d, coated, green sinker, pounds, duplex</td>
<td>10</td>
</tr>
<tr>
<td>195</td>
<td>Padlock: re-keyable, keyed alike, 1.75&quot; wide body w/ 15/16&quot; shackle</td>
<td>4</td>
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<tr>
<td>196</td>
<td>Pail: water, galv 14 qts w/handle, 2 gal</td>
<td>2</td>
</tr>
<tr>
<td>197</td>
<td>Paint: spray, orange, street marking, downward spray</td>
<td>2</td>
</tr>
<tr>
<td>198</td>
<td>Plug: redwood assorted, fit for 1/2&quot; to 2.50&quot; pipe</td>
<td>1</td>
</tr>
<tr>
<td>199</td>
<td>Rope: 3/8&quot; laid manila for hose roller/hoist, 35 feet</td>
<td>$0.31 per foot</td>
</tr>
<tr>
<td>200</td>
<td>Rope: service rope, 1/2&quot;, 100'-200' downgraded rescue rope</td>
<td>2</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Model/Code</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>201</td>
<td>Set: drill bits, metal 21pc</td>
<td>Craftsman #964085 Cobalt</td>
</tr>
<tr>
<td>202</td>
<td>Set: drill spade bits, wood boring</td>
<td>Craftsman #9-20864</td>
</tr>
<tr>
<td>203</td>
<td>Set: masonry bits. Tungsten, 4 pc</td>
<td>Craftsman #9-67389</td>
</tr>
<tr>
<td>204</td>
<td>Sheeting: polyethylene, clear roll, 20’x100’x.006</td>
<td>4JX90</td>
</tr>
<tr>
<td>206</td>
<td>Craftsman: tape measure, 30’ #37393</td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>Tape: Duct, grey roll</td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>Barrier Tape: “Danger” (red)</td>
<td>Galls: # HS098</td>
</tr>
<tr>
<td>208</td>
<td>Tape: electrical, 3/4”, roll plastic black</td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>Barrier Tape: “Fire Line Do Not Cross” (yellow tape)</td>
<td>Galls: # HS098</td>
</tr>
<tr>
<td>211</td>
<td>Torch: Petrogen heavy rescue outfit comprised of 27 in 90 degree torch, tips 81 and 83, 2.5 gallon gasoline tank, 50 foot gasoline hose, 50 foot oxy hose, oxy-backflash arrester, spare parts, tools, striker, manuals, training video</td>
<td>Petrogen Inc. #6050</td>
</tr>
<tr>
<td>211</td>
<td>Heavy Rescue Optional Package: comprised of #5 tip oxy regulator, 2 gasoline hose quick disconnects, 2 oxy hose quick disconnects, Petrogen hand cart</td>
<td>Petrogen Inc. #6051</td>
</tr>
<tr>
<td>214</td>
<td>SCBA Bracket: wall mount bracket for mounting Scott pack in compartment</td>
<td>Zico #1052-221-000</td>
</tr>
<tr>
<td>215</td>
<td>Belt: ladder/aerial fall safety, w/pass back buckle &amp; 2 3’ lanyards</td>
<td>Gemtor #746, w/2 #260L 3’ web lanyards ea. w/5105 steel carabiners (LARGE)</td>
</tr>
<tr>
<td>217</td>
<td>Traffic cones: 30” (75cm) Extreme PRO 4 PAC</td>
<td>Pack-A-Cone: Item# PAC-412-30 <a href="http://www.packacone.cone">www.packacone.cone</a></td>
</tr>
<tr>
<td>218</td>
<td>Fusees: highway, 20 min</td>
<td>#12695</td>
</tr>
<tr>
<td>219</td>
<td>Gloves: welding, mid-forearm, lg</td>
<td>4JF96</td>
</tr>
<tr>
<td>220</td>
<td>Goggles: welding, #5 filter</td>
<td>3002687</td>
</tr>
<tr>
<td>221</td>
<td>Reflector Set: emergency road triangles. Usually comes w/ apparatus</td>
<td>#5950HSP</td>
</tr>
<tr>
<td>222</td>
<td>Tic: Thermal Imaging Camera &amp; all excessories</td>
<td>LEE &amp; Associates, ISG K1000</td>
</tr>
</tbody>
</table>
# CITY OF SACRAMENTO FIRE DEPARTMENT

## Specifications on One (1) Pierce 105’ Velocity HD Aerial Ladder

November 1, 2017 (Quote Number 91101-17A)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Supplier</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>223</td>
<td>Anchor Plate: aluminum, NFPA 1983(95) G, MBS 8,000lbs</td>
<td>CMC Rescue Inc., Alum #300610</td>
<td>3</td>
</tr>
<tr>
<td>224</td>
<td>Ascender: Gibbs, aluminum, NFPA 1983(95) G Spring loaded, 5,000lbs</td>
<td>Gibbs spring loaded, alum shell #340004</td>
<td>2</td>
</tr>
<tr>
<td>225</td>
<td>Bag: gear/rope, single ended, orange, Hardware pocket w/rack sling &amp; backpack straps (padded)</td>
<td>CMC Rescue Inc. #CMC431151, x-large, orange w/gear pocket</td>
<td>1</td>
</tr>
<tr>
<td>226</td>
<td>Bag: rope, single ended, orange, w/backpack straps</td>
<td>CMC Rescue Inc. #CMC430301, single ended orange #3</td>
<td>1</td>
</tr>
<tr>
<td>227</td>
<td>Gear Bag, Deep Outdoors River Rescue</td>
<td>CMC Rescue Inc. model 440765</td>
<td>2</td>
</tr>
<tr>
<td>228</td>
<td>Bag: stokes kit, orange single ended, w/draw string</td>
<td>CMC Rescue Inc. #430101 #1 orange single ended</td>
<td>1</td>
</tr>
<tr>
<td>229</td>
<td>Brake Bar Rack: stainless steel, 6 aluminum bars w/guide bar</td>
<td>CMC Rescue Inc. #300890</td>
<td>2</td>
</tr>
<tr>
<td>230</td>
<td>Carabiner: Proseries, aluminum auto-locking &quot;D&quot;, NFPA 1983 G(95) MBS 9,000lbs, color red</td>
<td>CMC Rescue Inc #300235</td>
<td>2</td>
</tr>
<tr>
<td>231</td>
<td>Carabiner: Lite Alloy Steel Locking Carabiner - Bright</td>
<td>Seattle Manufacturing Corp. Model #: NFPA1000017 (Bright &amp; Tactical Black)</td>
<td>30</td>
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<tr>
<td>232</td>
<td>Eight Plate: NFPA, Fire standard w/ears aluminum</td>
<td>CMC Rescue Inc. #300840</td>
<td>4</td>
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<tr>
<td>235</td>
<td>Harness: Class 2, NFPA seat harness, non padded (LARGE)</td>
<td>Yates #320</td>
<td>4</td>
</tr>
<tr>
<td>236</td>
<td>Harness: radio</td>
<td>CMC Rescue Inc. #240025</td>
<td>4</td>
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<tr>
<td>237</td>
<td>Litter: Proseries, stainless steel, stretcher, w/o leg divider</td>
<td>CMC Rescue Inc. #726100</td>
<td>1</td>
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<tr>
<td>238</td>
<td>Load release strap: CMC Proseries, NFPA 1983</td>
<td>CMC Rescue Inc #201108</td>
<td>2</td>
</tr>
<tr>
<td>239</td>
<td>Pick-Off strap: NFPA 1983(95) G</td>
<td>CMC Rescue Inc. #201106, Pro Series</td>
<td>2</td>
</tr>
<tr>
<td>240</td>
<td>Prussic loop: 8mm, teal, long of 6 tandem pairs (5'-6.00&quot; in length)</td>
<td>CMC Rescue Inc. #293018</td>
<td>6</td>
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<tr>
<td>241</td>
<td>Prussic loop: 8mm, red, short of tandem pairs(6) + pre-rig legs (4'-6.00&quot; in length)</td>
<td>CMC Rescue Inc. #293038</td>
<td>14</td>
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<tr>
<td>242</td>
<td>Pulley: 2-1/4&quot;x1/2&quot;, single, prussic minding, aluminum, NFPA 1983(95), MBS 8,000LBS, sealed bearing</td>
<td>CMC Rescue Inc. #300441</td>
<td>4</td>
</tr>
<tr>
<td>243</td>
<td>Rope: rescue, 1/2&quot;x200', static kern mantle orange, 9000lbs min rating, 9500lbs recommended</td>
<td>CMC Rescue Inc. #273210, solid orange</td>
<td>1</td>
</tr>
<tr>
<td>244</td>
<td>Rope: rescue, 1/2&quot;x200', static kern mantle red, 9000lbs min rating, 9500lbs recommended</td>
<td>CMC Rescue Inc. #273230, solid red</td>
<td>1</td>
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<tr>
<td>245</td>
<td>Webbing: 1&quot;x12&quot;, tubular, NFPA, yellow, NFPA, CMC #200107</td>
<td>built from stock</td>
<td>6</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Quantity</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>246</td>
<td>Webbing: 1&quot;x15', tubular, NFPA, blue, NFPA, CMC #200107</td>
<td>built from stock</td>
<td>6</td>
</tr>
<tr>
<td>247</td>
<td>Webbing: 1&quot;x20', tubular, NFPA, orange, CMC #200101</td>
<td>built from stock</td>
<td>9</td>
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<tr>
<td>248</td>
<td>Webbing: 1&quot;x5', tubular, NFPA green, CMC #200106</td>
<td>built from stock</td>
<td>7</td>
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<tr>
<td>249</td>
<td>Search Rope: Large area search rope kit, including drop ropes &amp; bags</td>
<td>Lee &amp; Assoc: 200' Finish Link Rit Rope w/ Kevlar sheathed rope &amp; bag, RSK-RITPRICH200M</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>20' lateral search lines in a red bag for above &quot;KIT&quot;</td>
<td>Lee &amp; Associates 20' Lateral Search Line Kit Red Bag RSK-LEE0200-020GMG</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ORANGE #3 ROPE BAG</td>
<td>430301 CMC</td>
<td>2</td>
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<tr>
<td></td>
<td>BLUE PROSERIES 3’-7’ VARIABLE ANCHOR STRAP</td>
<td>201020 CMC</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SMALL BLUE PROSERIES ANCHOR STRAP</td>
<td>201022 CMC</td>
<td>2</td>
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<tr>
<td></td>
<td>MEDIUM BLUE PROSERIES ANCHOR STRAP</td>
<td>201023 CMC</td>
<td>2</td>
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<tr>
<td></td>
<td>RESCUE MPD</td>
<td>333000 CMC</td>
<td>2</td>
</tr>
<tr>
<td>250</td>
<td>Bag: zippered, barrel, large enough to hold 2 PFD's &amp; throw bag</td>
<td>RQ3 Mesh Duffel Bag, BG3085L</td>
<td>2</td>
</tr>
<tr>
<td>252</td>
<td>Rescue Helmet: (red)</td>
<td>Petzl Ecrin- ROC</td>
<td>1</td>
</tr>
<tr>
<td>253</td>
<td>Rescue Helmet: (white)</td>
<td>Petzl Ecrin- ROC</td>
<td>3</td>
</tr>
<tr>
<td>254</td>
<td>Knife / Scabbard</td>
<td>KN2557</td>
<td>4</td>
</tr>
<tr>
<td>255</td>
<td>Light: hand lantern, water-proof, use common C or D batts, 100,000 cp min</td>
<td>King Pelican #4000, yellow</td>
<td>2</td>
</tr>
<tr>
<td>256</td>
<td>PFD'S</td>
<td>Item #PF7660, Fury (RED), stencilled &quot;SACRAMENTO FIRE &amp; RESCUE&quot;, 3 to be XL, 1 to be L</td>
<td>4</td>
</tr>
<tr>
<td>257</td>
<td>Throw Bag: 75' floating line, sturdy bag /float, handle, purse closure, w/75' of 3/8&quot; polypropylene line</td>
<td>Rescue Source, The Pro Bag #BG3129</td>
<td>2</td>
</tr>
<tr>
<td>258</td>
<td>Whistle: w/flex coil</td>
<td>40 w/flex coil</td>
<td>4</td>
</tr>
<tr>
<td>259</td>
<td>Appliance: shut-off, ball valve shut off for cellar nozzle, w/2.5” NST fittings</td>
<td>Akron Brass, Elk-o-lite, jumbo ball shut off #JB-275A</td>
<td>1</td>
</tr>
<tr>
<td>266</td>
<td>Adapter: elbow, 5.0 NHFx5.0 STZ, smooth chrome, 30 degrees</td>
<td>Kochek, #KSKE 30 deg elbow, 5NHFx5STZ, chrome smooth</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Item Description</td>
<td>Manufacturer/Model</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>269</td>
<td>Appliance: gear driven ball, 5” Storz fittings, (valve)</td>
<td>Elkhart Brass MFG, Co. #2940</td>
<td>1</td>
</tr>
<tr>
<td>270</td>
<td>Bushing: pipe, 3/4” male to 1/2” female</td>
<td>bushing, 3/4” m X1/2” f</td>
<td>4</td>
</tr>
<tr>
<td>271</td>
<td>Cap: blind, chromed 5” Storz w/ lanyard chain, matches elbow</td>
<td>Kochek #KCC507</td>
<td>1</td>
</tr>
<tr>
<td>272</td>
<td>Cap: pipe, 1/2”</td>
<td>22460</td>
<td>4</td>
</tr>
<tr>
<td>273</td>
<td>Cap: pipe, 3/4”</td>
<td>22461</td>
<td>2</td>
</tr>
<tr>
<td>275</td>
<td>Head: sprinkler, pendant, 135deg, 1/2” pipe</td>
<td>pendant, 135deg, 1/2” pipe</td>
<td>6</td>
</tr>
<tr>
<td>276</td>
<td>Head: sprinkler, pendant, 155deg, 1/2” pipe</td>
<td>pendant, 155deg, 1/2” pipe</td>
<td>2</td>
</tr>
<tr>
<td>277</td>
<td>Head: sprinkler, upright, 135deg 1/2” pipe</td>
<td>upright, 135deg, 1/2” pipe</td>
<td>4</td>
</tr>
<tr>
<td>278</td>
<td>1 1/2” x 100 feet: w/ Red Head 1.5” forestry couplings</td>
<td>Niedner “Firestream” (white jacket)</td>
<td>1</td>
</tr>
<tr>
<td>279</td>
<td>Hose: 2 1/2”x10’, 2.5NHFx2.5NHM, for cellar nozzle</td>
<td>Neidner XL800, yellow</td>
<td>1</td>
</tr>
<tr>
<td>280</td>
<td>Hose: 5”x15’, 5” Storz couplings, 600# rated</td>
<td>Neidner Supply line, Red, Kochek interlock “T” swivel Storz</td>
<td>1</td>
</tr>
<tr>
<td>281</td>
<td>Hose: garden, 3/4”x75’</td>
<td>75153</td>
<td>1</td>
</tr>
<tr>
<td>282</td>
<td>Kit: sprinkler head shut-off, box, heads, wrenches, flow tool</td>
<td>#SHSKLNC SPRINKLER, from L.N. Curtis</td>
<td>1</td>
</tr>
<tr>
<td>283</td>
<td>Nozzle: cellar, revolving bresnan, 2.5”</td>
<td>Bresnan revolving, 2.5NHM, CHRM, #535 Akron</td>
<td>1</td>
</tr>
<tr>
<td>284</td>
<td>Nozzle: garden w/lever shut-off</td>
<td>81625</td>
<td>2</td>
</tr>
<tr>
<td>285</td>
<td>Nozzle: Tip 2” w2.5” base</td>
<td>Akron Brass 489 w2” orifice</td>
<td>1</td>
</tr>
<tr>
<td>286</td>
<td>Nozzle: Tip 1.75” w/2.5” base</td>
<td>Akron Brass 489 w/1.75” orifice</td>
<td>1</td>
</tr>
<tr>
<td>287</td>
<td>Nozzle: Tip 1.5” w/2.5” base</td>
<td>Akron Brass 489 w/1.5” orifice</td>
<td>1</td>
</tr>
<tr>
<td>288</td>
<td>Plug: pipe, 1/2”</td>
<td>21876</td>
<td>4</td>
</tr>
<tr>
<td>289</td>
<td>Plug: pipe, 3/4”</td>
<td>21878</td>
<td>2</td>
</tr>
<tr>
<td>290</td>
<td>Pump: submersible, electric, dewatering, .75hp w2” outlet</td>
<td>#90101128FKMS Prosser</td>
<td>1</td>
</tr>
<tr>
<td>292</td>
<td>Reducer: 3.5 to 2.5 for tipof Aerial for standpipe ops</td>
<td>Redhead</td>
<td>1</td>
</tr>
</tbody>
</table>
LOOSE EQUIPMENT INSTALLATION
A loose equipment mounting allowance of $12,000.00 is included in the bid price to cover the cost of mounting the applicable equipment per the direction of the City of Sacramento. If the City of Sacramento exceeds the loose equipment mounting allowance, additional work can be performed at an additional cost of $112.00 per hour.

PAINT - BODY PAINTED TO MATCH CAB
The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment
converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.

3. **Surfacer Primer** - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

4. **Finish Sanding** - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.

5. **Sealer Primer** - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

6. **Basecoat Paint** - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

7. **Clear Coat** - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T.standard in critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab will be two-tone, with the roof section painted #20 White and lower section of the cab and body painted #356 RED.
PAINT - ENVIRONMENTAL IMPACT
Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient.
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY
The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted are:

- Frame rails
- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
• Pump house substructure
• Air tanks
• Fuel tank
• Castings
• Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

• Two (2) C-channel frame rails
• Two (2) frame liners

The E-coat process will meet the technical properties shown.

**COMPARTMENT INTERIOR PAINT**
The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

**AERIAL DEVICE PAINT COLOR**
The aerial device paint procedure will consist of a six (6) step finishing process as follows:

1. **Manual Surface Preparation** - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.

2. **Primer/Surfacer Coats** - A two (2) component urethane primer/surfacer will be hand applied to the chemically treated metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked before painting.

3. **Hand Sanding** - The primer/surfacer coat will be lightly sanded to an ultra smooth finish.

4. **Sealer Primer Coat** - A two (2) component sealer primer coat will be applied over the sanded primer.

5. **Topcoat Paint** - Urethane base coat will be applied to opacity for correct color matching.

6. **Clearcoat** - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.
The aerial device (turntable and ladder sections) will be painted blue white 20 using the six (6) step finishing process.

The support structure, rotation motor, components below the rotation point and the stabilizers will be cleaned, caulked, primed and painted high gloss black.

The tip of the ladder will be painted a contrasting color for high visibility.

**REFLECTIVE STRIPES**
Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 4.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

The reflective band provided on the cab face will be below the headlights on the fiberglass.

**REAR CHEVRON STRIPING**
There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the rear wall, aluminum doors, and rear bumper. Rear compartment doors and stainless steel access doors will not be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

**REFLECTIVE STRIPE ON STABILIZERS**
There will be 4.00" wide alternating fluorescent yellow green diamond grade and red diamond grade reflective chevron stripes provided on the forward and rear facing sides of all four (4) aerial stabilizers. The stripes will be angled at a 45 degree angle.

**JOG(S) IN REFLECTIVE BAND**
The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.

**REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR**
A 4.00" white reflective stripe will be provided inside two (2) compartment doors. inside each EMS cabinet.

**CAB DOOR REFLECTIVE STRIPE**
A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.
This stripe will meet the NFPA 1901 requirement.

**BODY STRIPE**
There shall be a genuine gold leaf stripe provided on each side of the body, over the fenders.

**CAB STRIPE**
There will be a genuine gold leaf stripe on each side of the cab, low and over the fender.

**GOLD LEAF LETTERING**
The lettering will be totally encapsulated between two (2) layers of clear vinyl.

Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

**VINYL LETTERING**
Forty-one (41) to sixty (60) non-reflective vinyl lettering, 2.00" high, with no outline or shade will be provided.

There will be non-reflective vinyl lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.

There will be non-reflective vinyl lettering, 9.00" high, with no outline or shade provided. There will be ten (10) letters provided.

**REFLECTIVE LETTERING**
There will be reflective lettering, 2.00" high, with outline and shade provided. There will be 14 letters provided.

There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be 15 letters provided.

There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 24 letters provided.

There will be reflective lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.

There will be reflective lettering, 6.00" high, with outline and shade provided. There will be six (6) letters provided.

There will be reflective lettering, 8.00" high, with no outline or shade provided. There will be two (2) letters provided.

Twenty-one (21) to forty (40) reflective lettering, 10.00" high, with outline and shade will be provided.
There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be four (4) letters provided.

There will be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the R1. The lettering will be ruby red in color and 4.00" in size.

**REFLECTIVE INSET LETTERING, "DIAL 911"**

Two sets of ruby red "inset" reflective lettering, "DIAL 911", will be supplied and installed inset in reflective band.

The reflective stripe will stop and "DIAL 911" will be placed within the break of the stripe.

"DIAL" will be vertical and as tall as the stripe. The "911" will be horizontal and as tall as the stripe.

**DEPT. EMBLEM**

There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.

**DEPT. EMBLEM**

There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.

**CAB GRILLE DESIGN**

An American flag design will be painted on the cab grille.

**EAGLE HEAD/FLAG EMBLEMS**

A pair of emblems, 13.00" or less in diameter, featuring a "Flying American Flag" and an "Eagle Head", will be installed behind crew cab door upper 5x7 Freedom Flag. The design will be color imaged.

**MALTESE CROSS INSTALLATION**

There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed on cab doors.

**MANUAL, FIRE APPARATUS PARTS**

Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit.

One (1) compact disc (CD) will also be provided that will include all of the information from the above manual.

The manual will contain the following:

- Job number
The manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

**SERVICE PARTS INTERNET SITE**
The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

**MANUALS, CHASSIS SERVICE**
Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

The manuals will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
- Plumbing
- Appendix
The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

**MANUALS, CHASSIS OPERATION**

Two (2) chassis operation manuals will be provided.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

**ELECTRICAL WIRING DIAGRAMS**

Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

**ONE (1) YEAR MATERIAL AND WORKMANSHIP**

A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

**THREE (3) YEAR MATERIAL AND WORKMANSHIP**

The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.

**ENGINE WARRANTY**

A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

**STEERING GEAR WARRANTY**

A Sheppard three (3) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

**FIFTY (50) YEAR STRUCTURAL INTEGRITY**

The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.

**FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY**

The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

**REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY**

A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

**ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY**

A Meritor Wabco™ABS brake system limited warranty certificate, WA0232, is included with this proposal.

**TEN (10) YEAR STRUCTURAL INTEGRITY**

The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on One (1) Pierce 105’ Velocity HD Aerial Ladder
November 1, 2017 (Quote Number 91101-17A)

**TEN (10) YEAR PRO-RATED PAINT AND CORROSION**
A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

**FIVE (5) YEAR MATERIAL AND WORKMANSHIP**
The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

**CAMERA SYSTEM WARRANTY**
A Pierce fifty four (54) month warranty will be provided for the camera system.

**COMPARTMENT LIGHT WARRANTY**
The compartment lights will not offer an extended warranty.

**TRANSMISSION WARRANTY**
The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

**TRANSMISSION COOLER WARRANTY**
The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed $10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

**TEN (10) YEAR STRUCTURAL INTEGRITY**
The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

**ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY**
A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A six (6) year limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included with this proposal.

**TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY**
The Pierce device limited warranty certificate, WA0052, is included with this proposal.

**AERIAL SWIVEL WARRANTY**
An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.
AERIAL WATERWAY WARRANTY
An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.

FOUR (4) YEAR PRO-RATED PAINT AND CORROSION
A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION
A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP
The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION
The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

POWER STEERING CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION
The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.
Roof Crush
The cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

Additional Roof Crush
The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

Side Impact
The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact
The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact
The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION
Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION
Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.
SEAT BELT ANCHOR STRENGTH
Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH
Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

CAB DEFROSTER CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

CAB HEATER CERTIFICATION
Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 75 F from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

CAB AIR CONDITIONING PERFORMANCE CERTIFICATION
Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 67 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar air conditioning system has been tested and has met these criteria. The certification will be available at the time of delivery.

AMP DRAW REPORT
The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
  - The nameplate rating of the alternator.
The alternator rating under the conditions specified per:
  ▪ Applicable NFPA 1901 or 1906 (Current Edition).

The minimum continuous load of each component that is specified per:
  ▪ Applicable NFPA 1901 or 1906 (Current Edition).

Additional loads that, when added to the minimum continuous load, determine the total connected load.

Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

END OF PROPOSAL
## 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Aerial device shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Four (4) Years</td>
</tr>
</tbody>
</table>

This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:

- **Topcoat Durability & Appearance:** Gloss, Color Retention & Cracking
  - 0-24 months 100%
  - 25-48 months 50%

- **Integrity of Coating System:** Adhesion, Blistering/Bubbling
  - 0-24 months 100%
  - 25-48 months 50%

- **Corrosion:** Dissimilar Metal and Crevice
  - 0-24 months 100%
  - 25-48 months 50%

- **Corrosion Perforation**
  - 0-24 months 100%
  - 25-48 months 50%

This limited warranty applies only to exterior paint. Items not covered by this warranty include:

- (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
- (b) UV paint fade.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

## 2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

## 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

## 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, downtime, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
**Fire and Rescue Apparatus**

**One (1) Year Material and Workmanship Basic Apparatus Limited Warranty**

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Twelve (12) months.</td>
</tr>
<tr>
<td>Conditions and Exclusions:</td>
<td>No specific exclusions apply</td>
</tr>
</tbody>
</table>

**2. DISCLAIMERS OF WARRANTIES**

The warranty set forth in Paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

**3. BUYER'S EXCLUSIVE REMEDY.**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for any risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance by Pierce. This remedy shall be the exclusive and sole remedy for any breach of warranty.

**4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, in no event shall Pierce be liable for any consequential, incidental, special, indirect, or punitive damages whatsoever, including negligence and strict liability, or any undertakings, acts or omissions related thereto, regardless of whether Pierce has been informed of the possibility of any such damages. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products, costs of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

| Coverage: | The apparatus body shall be free from structural failures caused by defects in material and workmanship |
| Warranty Begins: | The date of the original purchase invoice (issued when the product ships from the factory). |
| Warranty Period Ends After: | Ten (10) Years - or - 100,000 Miles |

### Conditions and Exclusions:

| See Also Paragraphs 2 thru 4 | This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion. |

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acid or alkaline environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot.

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

### 3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. This REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0009
### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

#### Coverage:

The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship.

#### Warranty Begins:

The date of the original purchase invoice (issued when the product ships from the factory).

#### Warranty Period Ends After:

Ten (10) Years - or - 100,000 Miles

#### Conditions and Exclusions:

- This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus.
- This warranty does not apply to damage caused by corrosion.
- The warranty is void if the product has been transferred to any subsequent user or purchaser.
- Transfer of the product to stresses or impacts greater than normally result from careful use.
- Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use.
- If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.
- The warranty is void if the product has been transferred by the Buyer to any subsequent user or purchaser.
- The warranty is void if any, made by the respective manufacturers thereof.
- This warranty may not be assigned or otherwise transferred by the Buyer to any subsequent user or purchaser.
- Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

### 2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a production facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- Any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot.
- Any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- Any products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 5. DISCLAIMERS OF WARRANTIES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- The warranty is void if the product has been transferred to any subsequent user or purchaser. The warranty is void if any, made by the respective manufacturers thereof.
- The warranty may not be assigned or otherwise transferred by the Buyer to any subsequent user or purchaser.
- The warranty may be transferred by the Buyer to any subsequent user or purchaser.
- The warranty is void if the product has been transferred to stresses or impacts greater than normally result from careful use.
- Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use.
- If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.
- The warranty is void if the product has been transferred by the Buyer to any subsequent user or purchaser.
- The warranty is void if the product has been transferred to stresses or impacts greater than normally result from careful use.
- Any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot.
- Any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- Any products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a production facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- Any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot.
- Any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- Any products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 5. DISCLAIMERS OF WARRANTIES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- The warranty is void if the product has been transferred to any subsequent user or purchaser. The warranty is void if any, made by the respective manufacturers thereof.
- The warranty may not be assigned or otherwise transferred by the Buyer to any subsequent user or purchaser. The warranty may be transferred by the Buyer to any subsequent user or purchaser. The warranty is void if the product has been transferred to stresses or impacts greater than normally result from careful use. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

2/8/2010 WA0012
# Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

## Coverage:

Command Zone control modules shall be free from failures caused by defects in material and workmanship.

## Warranty Begins:
The date of the original purchase invoice (issued when the product ships from the factory).

## Warranty Period Ends After:
Five (5) Years

## Conditions and Exclusions:

This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

## See Also

Paragaphs 2 thru 4

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This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

## 2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

## 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

## 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
# Transfer by the Buyer to Any Subsequent User or Purchaser

This Limited Warranty may not be assigned or otherwise transferred by the Buyer to any subsequent user or purchaser or to any other person or entity.

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## Three (3) Year Material and Workmanship

**Goldstar® Gold Leaf Lamination**

**Limited Warranty**

### 1. Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th><strong>Coverage</strong></th>
<th>Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warranty Begins</strong></td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td><strong>Warranty Period Ends After</strong></td>
<td>Three (3) Years</td>
</tr>
</tbody>
</table>

#### Conditions and Exclusions:

This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

### 2. Limitations and Exclusions

- **Exclusions:**
  - This warranty does not cover damage from lack of maintenance and cleaning.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce, including engines, transmissions, drivelines, axles, water pumps and generators.
  - Components and attachments that are not manufactured by Pierce, including but not limited to, tires, fluids, gaskets and light bulbs.
  - Products or parts which may in the ordinary course wear out and have to be replaced during the warranty period.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.

### 3. Buyer's Exclusive Remedy

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a Pierce authorized dealer or by Pierce at a facility which has been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 4. Exclusive and Sole Remedy for Any Breach of Warranty

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to, engines, transmissions, drivelines, axles, water pumps and generators.
- Components and attachments that are not manufactured by Pierce.
- Components and attachments that are not incorporated into or attached to the vehicle.
- Components and attachments that are not manufactured by Pierce, including engines, transmissions, drivelines, axles, water pumps and generators.
- Components and attachments that are not manufactured by Pierce, including but not limited to, tires, fluids, gaskets and light bulbs.
- Products or parts which may in the ordinary course wear out and have to be replaced during the warranty period.
- Components and attachments that are not manufactured by Pierce.
- Components and attachments that are not incorporated into or attached to the vehicle.
- Components and attachments that are not manufactured by Pierce.
- Components and attachments that are not incorporated into or attached to the vehicle.
- Components and attachments that are not manufactured by Pierce.
- Components and attachments that are not incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

**Three (3) Year Material and Workmanship**

- **Exclusions:**
  - This warranty does not cover damage from lack of maintenance and cleaning.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce, including engines, transmissions, drivelines, axles, water pumps and generators.
  - Components and attachments that are not manufactured by Pierce, including but not limited to, tires, fluids, gaskets and light bulbs.
  - Products or parts which may in the ordinary course wear out and have to be replaced during the warranty period.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.

- **Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:**
  - Any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to, engines, transmissions, drivelines, axles, water pumps and generators.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce, including engines, transmissions, drivelines, axles, water pumps and generators.
  - Components and attachments that are not manufactured by Pierce, including but not limited to, tires, fluids, gaskets and light bulbs.
  - Products or parts which may in the ordinary course wear out and have to be replaced during the warranty period.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.
  - Components and attachments that are not manufactured by Pierce.
  - Components and attachments that are not incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

### 2. Disclaimers of Warranties

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. Buyer's Exclusive Remedy

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a Pierce authorized dealer or by Pierce at a facility which has been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 4. Exclusion of Consequential and Incidental Damages

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, in no event shall Pierce be liable for any consequential, incidental, special, indirect, or punitive damages whatsoever, whether arising out of breach of contract, warranty, tort (including negligence and strict liability) or other theory of law or equity, with respect to vehicles or other products sold by Pierce, or their operation or failure to operate, or any defects therein, or any undertakings, acts or omissions related thereto, regardless of whether Pierce has been informed of the possibility of any such damages. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

### 5. Note

Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>Custom chassis frame rail and cross members manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
</tbody>
</table>
| Warranty Period Ends After:      | Fifty (50) Years  
(Expected Life of Apparatus) |
| Conditions and Exclusions:       | This warranty does not apply to damage caused by corrosion.                                                        |

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, accident, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Three (3) Year Material and Workmanship
TAK-4 Independent Front Suspension

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage: The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship.

Warranty Begins: The date of the original purchase invoice (issued when the product ships from the factory).

Warranty Period Ends After: Three (3) Years or 30,000 Miles

Conditions and Exclusions: This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

See Also Paragraphs 2 thru 4

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:
(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

12/16/2013 WA0050
# Twenty (20) Year Structural Integrity

## Pierce Aerial Device

### Limited Warranty

**Coverage:**

Each new Pierce Aerial Device shall be free from defects in material and workmanship.

**Aerial Device Models Covered by this warranty include:**

- Aerial Platforms
- Aerial Ladders
- SkyBoom

**Warranty Begins:**

The date of the original purchase invoice (issued when the product ships from the factory).

**Warranty Period Ends After:**

Twenty (20) Years - or - 100,000 Miles

### Conditions and Exclusions:

This warranty applies only to the torque box, turntable, aerial sections and other structural components of the aerial device, as identified in the Pierce specifications for the aerial device. This warranty shall be void, or to the extent that the aerial device is not maintained in strict compliance with NFPA Standard 1911 in effect at time of sale, including such periodic inspections and testing by qualified third parties as are required by that Standard as it may be in effect from time to time. Proof of such compliance shall accompany any claims under this warranty. Third party testing agencies known to Pierce to be qualified for such purposes may be obtained from the Pierce Customer Service Department.

This warranty does not apply to damage caused by corrosion.

### Buyer's Exclusive Remedy:

- NOTwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:
  - (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
  - (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
  - (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
  - (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### Disclaimers of Warranties

- THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

### Buyer's Exclusive Remedy

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### Exclusion of CONSEQUENTIAL and INCIDENTAL DAMAGES

- NOTWITHSTANDING anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE. OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
## Fire and Rescue Apparatus

### Ten (10) Year Pro-Rated Paint and Corrosion Cab

### Limited Warranty

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Ten (10) Years</td>
</tr>
</tbody>
</table>

### Conditions and Exclusions:

- This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:
  - Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%
  - Integrity of Coating System: Adhesion, Blisteting/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%
  - Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%
  - Corrosion Perforation 0-120 months 100%

- This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

- Items not covered by this warranty include:
  - (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
  - (b) UV paint fade.
  - (c) Any cab not manufactured by Pierce.

### Exclusions:

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drive lines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot.
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 2. DISCLAIMERS OF WARRANTIES

**THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.**

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
## 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

**Coverage:**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Warranty Begins:**

The date of the original purchase invoice (issued when the product ships from the factory).

**Warranty Period Ends After:**

Ten (10) Years

This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:

- **Topcoat Durability & Appearance:** Gloss, Color Retention & Cracking  
  - 0-12 months: 100%  
  - 13-24 months: 10%  
  - 25-36 months: 0%  
- **Integrity of Coating System:** Adhesion, Blistering/Bubbling  
  - 0-12 months: 100%  
  - 13-24 months: 10%  
  - 25-36 months: 0%  
- **Corrosion:** Dissimilar Metal and Crevice  
  - 0-12 months: 100%  
  - 13-24 months: 10%  
  - 25-36 months: 0%  
- **Corrosion Perforation**  
  - 0-12 months: 100%  

This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

Items not covered by this warranty include:

- (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).  
- (b) UV paint fade.  
- (c) Any cab not manufactured by Pierce.

### Conditions and Exclusions:

- **See Also Paragraphs 2 thru 4**

### 2. DISCLAIMERS OF WARRANTIES

**1. LIMITED WARRANTY**

1. **Breach of Warranty**

   If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation.

   Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 3. BUYER'S EXCLUSIVE REMEDY

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

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**2/8/2010 WA0057**

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Coverage

Products Warranted
This Warranty applies to new diesel Engines sold by Cummins and delivered to the first user on or after April 1, 2007, that are used in fire apparatus truck and crash truck* applications Worldwide.

Base Engine Warranty
The Base Engine Warranty covers any failures of the Engine which result, under normal use and service, from a defect in material or factory workmanship (Warrantable Failure). This Coverage begins with the sale of the Engine by Cummins and ends five years or 100,000 miles (160,935 kilometers), whichever occurs first, after the date of delivery of the Engine to the first user.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.

Cummins Responsibilities
Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements, belts, hoses and other maintenance items that are not reusable due to the Warrantable Failure.

Cummins will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Cummins will pay reasonable costs for towing a vehicle disabled by a Warrantable Failure to the nearest authorized repair location. In lieu of the towing expense, Cummins will pay reasonable costs for mechanics to travel to and from the location of the vehicle, including meals, mileage and lodging when the repair is performed at the site of the failure.

Owner Responsibilities
Owner is responsible for the operation and maintenance of the Engine as specified in Cummins Operation and Maintenance Manuals. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Except for Engines disabled by a Warrantable Failure, Owner must also deliver the Engine to the repair facility.

Service locations are listed on the Cummins Worldwide Service Locator at cummins.com.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs and for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

Owner is responsible for a $100 (U.S. Dollars) deductible per each service visit under this plan in the 3rd, 4th and 5th years of Base Engine Warranty. The deductible will not be charged during the first 2 years of the Base Engine Warranty.

Limitations
Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively affect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel
exhaust fluid.

This Warranty does not apply to accessories supplied by Cummins which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans, air conditioning compressors, clutches, filters, transmissions, torque converters, vacuum pumps, power steering pumps, fan drives and air compressors. Cummins branded alternators and starters are covered for the first two years from the date of delivery of the Engine to the first user, or the expiration of the Base Engine Warranty, whichever occurs first.

Failures resulting in excessive oil consumption are not covered beyond the duration of the Coverage or 100,000 miles (160,935 kilometers) or 7,000 hours from the date of delivery of the Engine to the first user, whichever of the three occurs first. Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.

Failures of belts and hoses supplied by Cummins are not covered beyond the first year from the date of delivery of the Engine to the first user or the duration of the Warranty, whichever occurs first.

Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.

A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.

Cummins Inc. reserves the right to interrogate Electronic Control Module (ECM) data for purposes of failure analysis.

CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.
CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY AND THE EMISSION WARRANTY SET FORTH HEREINAFTER ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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Emission Warranty

Products Warranted

This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States** in vehicles designed for transporting persons or property on a street or highway. This Warranty applies to Engines delivered to the first user on or after September 1, 1992.

Coverage

Cummins warrants to the first user and each subsequent purchaser that the Engine is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. federal emission regulations applicable at the time of manufacture and that it is free from defects in material or factory workmanship which would cause it not to meet these regulations within the longer of the following periods: (A) Five years or 100,000 miles (160,935 kilometers) of operation, whichever occurs first, as measured from the date of delivery of the Engine to the first user or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

Limitations

Failures, other than those resulting from defects in material or factory workmanship, are not covered by this Warranty.

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

Cummins is not responsible for non-Engine repairs, “downtime” expenses, cargo damage, fines, all applicable taxes, all business costs or other losses resulting from a Warrantable Failure.
CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

* Airport operated crash trucks and fire department operated trucks employed to respond to fires, hazardous material releases, rescue and other emergency-type situations.

** United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.
NEW PRODUCT WARRANTY
PARTICIPATING OEM SALES
DISTRIBUTOR SALES

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS
USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

• WARRANTY APPLIES — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.

• REPAIRS COVERED — The warranty covers repairs or replacement, at Allison Transmission’s option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.

• TOWING — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.

• PAYMENT TERMS — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section “APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE.”

• OBTAINING REPAIRS — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.

• TRANSMISSION REMOVAL AND REINSTALLATION — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.

• WARRANTY PERIOD — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

  Demonstration Service - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

<table>
<thead>
<tr>
<th>APPLICABLE MODELS</th>
<th>WARRANTY LIMITATIONS (Whichever occurs first)</th>
<th>ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Months</td>
<td>Transmission Miles Or Kilometers</td>
</tr>
<tr>
<td>MT, MD 3000, 3200, 3500, 3700</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Hydraulic Controls</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>AT, 1000 Series™, 2000 Series™, 2400 Series™</td>
<td>0–36</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Electronic Controls</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
<tr>
<td>HD 1000 EVS, 2100 EVS, 2200 EVS 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
</tbody>
</table>
WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
  - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
  - Misuse of the vehicle;
  - Installation into unapproved applications and installations;
  - Alterations or modification of the transmission or the vehicle, and
  - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
  - Anything other than defects in Allison Transmission material or workmanship

**NOTE:** This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).

- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR’S MANUAL** — Defects and damage caused by any of the following are not covered:
  - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
  - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator’s Manual.

- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner’s responsibility.

- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.

- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.

- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.

- **“DENIED PARTY” OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a “denied party” or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions. **ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

**Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.**

OTHER TERMS APPLICABLE TO OTHER END-USERS

**THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.**

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9

Form SE0616EN (201009)
1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

**Coverage:**

This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.

**Warranty Begins:**

The date of delivery.

**Warranty Period Ends After:**

Fifty - Four (54) months

**Conditions and Exclusions:**

This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for the risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

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All mechanical components of the door shall be warranted to be free from defects in materials and workmanship for the lifetime of the vehicle. All parts covered under this warranty shall be to the original owner.

A&A manufacturing warrants that painted doors shall be free of blistering, peeling, bubbling, or any other adhesion defect caused by defective manufacturing methods or paint material selection. The time period for the coverage shall be 6 years from date of door shipment to Pierce. Satin anodized finish doors shall be warranted for 6 years against corrosion defects from date of door shipment to Pierce. Replacement of decals/Scotchlite is not covered.

The maximum amount A&A will reimburse for labor is $60.00 per hour and the maximum amount of time allowed for repair is as follows:

- Door: 1.0 Hr.
- Slat Replacement: 1.0 Hr.
- Pennant Plate Replacement: 1.0 Hr.
- Roller Replacement: .5 Hr.
- Seal Replacement: .5 Hr.
- Switch/Magnet Replacement: 1.0 Hr.
- Travel Time: 4.0 Hr.
A. PRESHIPMENT TESTING

The Three Function Swivel fabricated by Amity which is exposed to pressure during normal use is subject to final inspection using the following pressure minimums:

1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.

2. Hydraulic applications will be tested to 4000 PSI. System operating pressure in application to be 3000 PSI maximum.

3. Dielectric and Continuity Test all circuits. 30 Amp max current loading.

B. THREE FUNCTION SWIVEL MAINTENANCE

- Our Three Function Swivel has been fully tested at assembly. Under no circumstances is there to be any maintenance performed internally or externally to the Three Function Swivel by Purchaser or any other third party other than an authorized representative of Amity itself. The Three Function Swivel is sealed and must remain so. The Three Function Swivel is designed for a long maintenance free life. Should any problems occur or replacement be necessary, first contact Amity. There is to be no field maintenance performed on the Three Function Swivel.

C. MOUNTING REQUIREMENTS

- Mounting points and methods are to be determined at the initial design stage. All drawings and applicable documentation must be signed off by both parties and filed for future reference. No deviation to the approved mounting is allowed without approval from Amity.

- The Three Function Swivel is to be mounted concentric to the center of the turntable bearing.

- All inlet and outlet plumbing to conform to swivel mounting, under no circumstances is the Three Function Swivel to be positioned to match connections. This will avoid putting excessive loads on the Three Function Swivel. All tubing or piping to be supported by means other than the Three Function Swivel.

D. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED

- The Three Function Swivel is warranted to be free of defects in labor and/or materials for a period of five (5) years from the Date of Service. For purposes here, “Date of Service” shall mean the date when the Three Function Swivel, or the unit to which the Three Function Swivel is incorporated, passes final Underwriters Laboratory testing, or similarly compliant testing, and is certified for service. Evidence of such Date of Service shall be required in connection with any warranty claim by Purchaser.

- The Three Function Swivel shall be repaired or replaced at the sole option and expense of Amity provided the Three Function Swivel alleged to be defective was used for its intended normal use of operation and subject to the following qualifications and limitations.

- Any alteration of the Three Function Swivel without consent from Amity is strictly forbidden and shall void warranty.

- No welding shall be performed on finished Three Function Swivel.

- No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water or hydraulic systems such as, but not limited to stones, sand or metal chips.

- Amity assumes responsibility for our Three Function Swivel, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our Three Function Swivel unless it agrees in writing to assume such responsibility.

- Unless otherwise approved in writing by the Amity all returns of defective Three Function Swivels (or allegedly defective Three Function Swivels) are at Purchaser’s expense and must include a RGA number issued by the Amity.
8. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly’s Amity’s label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.

9. Amity will not be held liable for damage incurred during shipment.

10. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Three Function Swivel and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF FIVE YEARS IS FROM THE DATE OF SERVICE WITH THE UNDERSTANDING IT IS INSTALLED WITHIN A REASONABLE TIME PERIOD.

Dated: _______________ ____, 20__
* STANDARD TEN YEAR WARRANTY *
(standard warranty is in effect for parts shipped after 4/15/10)
Telescopic Waterways

A. PRESHIPMENT TESTING All waterways fabricated by Amity are final inspected using the following pressure minimums:
1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.

B. COMPONENTS DESCRIPTION AND MAINTENANCE
1. All components are thoroughly greased at assembly. Since internally lubricated seals are used, regular greasing is not required. We recommend components not be greased at installation.
2. Slip Tube Assemblies may be greased at the Amity's regularly scheduled Aerial Inspections. The seals in the Slip Tube Assemblies are self-lubricating, so greasing is not mandatory. We do recommend a visual inspection of the Slip Tube Assembly while it is fully extended after initial installation, from that point on we recommend inspection every ten hours of aerial operation. If any deposits of aluminum appear, they are to be rubbed off using a Teflon scouring pad. Slip Tube Assemblies are designed to give long maintenance free service; however, like any product, problems may occur and periodic visual inspections will aid in determining if a potential problem exists and warrants a call to us. Care must be taken to keep debris off of extended tubes. We recommend wiping tubes with light oil (10 weight) or hydraulic oil after use, if tubes appear to have contamination on them. Under no circumstance are tubes to be cleaned with lacquer thinner, or any other solvent.

C. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED.
1. Products are warranted to be free of defects in labor and/or materials for a period of ten years from the date of purchase from the Amity and shall be repaired or replaced at the sole option and expense of the Amity provided the products alleged to be defective was used for its intended normal use operation and subject to the following qualifications and limitations.
2. Any alteration of product without consent from Amity is strictly forbidden and shall void warranty.
3. No welding shall be performed on finished product.
4. No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water system such as, but not limited to stones, sand or metal chips.
5. Amity assumes responsibility for our product, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our product unless it agrees in writing to assume such responsibility.
6. Unless otherwise approved in writing by the Amity all returns of defective (or allegedly defective products) are at Purchaser's expense and must include a RGA number issued by the Amity.
7. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly’s Amity’s label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.
8. Amity will not be held liable for damage incurred during shipment.
9. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Product and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR
FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF TEN YEARS COMMENCES UPON INSTALLATION INTO FINAL ASSEMBLY WITH THE UNDERSTANDING IT IS INSTALLED WITHIN SIX MONTHS OF PURCHASE.

Dated: ____________________ ____, 20___
LIMITED WARRANTY: The R. H. Sheppard Co. Inc., ("Sheppard") warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. ("Pierce") for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty SHALL NOT APPLY AND SHALL BE VOID. SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT. Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

REMEDIES: The sole and exclusive remedy of Pierce for Sheppard’s breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:
Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free “Hotline” service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free “Hotline” for approval before product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PGK1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PGK1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce’s purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard’s determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty should not be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of $85.00 USD per hour for M110PGK1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PGK1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce’s discretion.
Outside Purchases: Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

Warranty Documentation: Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

Parts Retention: Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard’s determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

Good-Will Requests: Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

RECALLS: Sheppard retains the right to review information regarding federal motor vehicle recall and/or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be non-compliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

MISCELLANEOUS: This writing constitutes the full complete and final statement of Sheppard’s limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard’s failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.
Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

**COOPERATIVE EFFORT:** Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

**AGREEMENT:** This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of ______________, 2006.

---

**R. H. SHEPPARD CO., INC.**

Authorized Signature

Title

---

**PIERCE MANUFACTURING INC.**

Authorized Signature

Title
5. DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured;

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYERS EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Three (3) Year Material and Workmanship
Meritor Wabco ABS Brake System
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory)</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Year</td>
</tr>
</tbody>
</table>

Conditions and Exclusions:

| See Also Paragraphs 2 thru 4 | The exclusions listed in the attached Meritor Wabco warranty description shall apply. |

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BURGER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/25/2013 WA0232
How to Read Warranty Coverage

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

Models or components that are approved for use by Meritor's vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).
HEAVY SERVICE WARRANTY INFORMATION

**HEAVY SERVICE VEHICLES**
- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer
- Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

**HEAVY SERVICE TYPICALLY IS**
- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

**FRONT DRIVE/NON-DRIVE STEER AXLES – 2/UNL/P&L**

<table>
<thead>
<tr>
<th>Axle</th>
<th>Clutch</th>
<th>Rear Drive Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-965</td>
<td>FG-941</td>
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<td>FF-966</td>
<td>MFS-6-151A-N</td>
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</tr>
<tr>
<td>FF-967</td>
<td>MFS-6-153B</td>
<td>MFS-10-122A</td>
</tr>
</tbody>
</table>

**CLUTCHES**

- 15.5” HD Clutch\(^1\) 1/100/P&L
- 15.5” TwinXTend 1/100/P&L
- 17” FreedomLine Clutch 1/100/P&L

\(^1\) Products with an in-service date prior to 11/01/02 warranted by Meritor Clutch Company.

**REAR DRIVE SINGLE AXLES – 2/UNL/P&L**

<table>
<thead>
<tr>
<th>Axle</th>
<th>Clutch</th>
<th>Rear Drive Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-13-120</td>
<td>RS-23-160</td>
<td>RC-23-160</td>
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<tr>
<td>MS-17-14X</td>
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<td>RC-23-161</td>
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<tr>
<td>MS-21-114</td>
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<td>RC-23-161</td>
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<tr>
<td>RS-21-145</td>
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<td>RS-25-160</td>
<td>RC-23-165</td>
</tr>
<tr>
<td>RS-21-160</td>
<td>RS-26-185</td>
<td>RC-23-165</td>
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</table>

**DRIVELINES – 1/UNL/P&L**

<table>
<thead>
<tr>
<th>Axle</th>
<th>Clutch</th>
<th>Rear Drive Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPL</td>
<td>92N</td>
<td>RN</td>
</tr>
</tbody>
</table>

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.
**INDUSTRIAL AND OFF-HIGHWAY SERVICE VEHICLES**

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

**INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS**

- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

**DRIVE STEER AXLES – 1/UNL/P**

<table>
<thead>
<tr>
<th>MOR</th>
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<th>MOC</th>
</tr>
</thead>
<tbody>
<tr>
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<td>FL - 943</td>
<td>MFS-16-143A-N</td>
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<tr>
<td>FF - 943</td>
<td>MFS-12-143A-N</td>
<td>MFS-18-133A-N</td>
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<tr>
<td>FF - 961</td>
<td>MFS-12-144A-N</td>
<td>MFS-20-133A-N</td>
</tr>
<tr>
<td>FF - 966</td>
<td>MFS-13-143A-N</td>
<td>MON-Z0 FAMILY</td>
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<td>FG - 941</td>
<td>MFS-13-144A-N</td>
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</tr>
<tr>
<td>FL - 941</td>
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</table>

**FRONT NON-DRIVE STEER AXLES – 1/UNL/P**

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<tr>
<th>MOR</th>
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</table>

**PLANETARY AXLES – 1/UNL/P**

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<td>FF - 943</td>
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<tr>
<td>FL - 941</td>
<td>MFS-16-122A-N</td>
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<td></td>
</tr>
</tbody>
</table>

**REAR DRIVE SINGLE AXLES – 1/UNL/P**

| RS-23-186 | MS-30-616 | MS-35-380 |
| RS-23-380 | RS-30-185 | |
| RS-24-160 | RS-30-380 | |

**DRIVELINES – 1/UNL/P**

<table>
<thead>
<tr>
<th>RPL</th>
<th>RN</th>
<th>MXL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-44-14X/P</td>
<td>MT-70-380</td>
<td>RT-46-164EH/P</td>
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<tr>
<td>MT-52-616</td>
<td>RT-44-145/P</td>
<td>RT-50-160/P</td>
</tr>
<tr>
<td>MT-58-616</td>
<td>RT-46-160/P</td>
<td></td>
</tr>
</tbody>
</table>

**REAR DRIVE TANDEM AXLES – 1/UNL/P**

| MT-44-14X/P | MT-70-380 | RT-46-164EH/P |
| MT-52-616 | RT-44-145/P | RT-50-160/P |
| MT-58-616 | RT-46-160/P | |

**BRAKE COMPONENTS**

Cam P
Cam Q Plus™
ASA
Hubs/Cast Drums and Other Wheel-end Components
Hydraulic Disc Brakes
All Other Brakes
LX500 Feature¹

1 Includes: bushing, seal, cam and ASA.
2 Based on stamped wear diameter max.

**MERITOR WABCO COMPONENTS¹**

ABS (Anti-Lock Braking System) Air/Hydraulic
Air Dryers (ALL)
Leveling Valves
Air Brake Valves
Clutch Controls
Air Compressors²
Actuator

1 Warranted by Meritor WABCO Vehicle Control Systems.
2 WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by Meritor WABCO. Please contact your respective dealer/distributor of those engines for warranty and servicing.
COVERAGE EXCLUSIONS:

Product Description

All
The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

Front Axles
King Pin Bushings.

Rear Axles
Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

Clutch
Friction face and mating surface of center and pressure plate, wear pads and clutch brake.

ASA
Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

ABS, Electronic Stability Control (ESC), Roll Stability Control (RSC) and OnGuard
Cut, broken, chaffed or otherwise damaged cable wires. Damaged sensors from removal when seized in block, or sensor adjustments-alignments. Valve failures due to contamination in air system. E.C.U. failures due to excessive over-voltage conditions.

Air Dryers
Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

Air System Components
Gladhand seals, dash valve knobs, valve actuation handles, treads, pedals. Water and other contamination damage that is due to the use of a non-genuine air dryer cartridge will not be covered.

Cam Brake
Brake lining wear and brake shoe “rust-jacking.”

Disc Brake
Pad wear, rotor wear.

COVERAGE LIMITATIONS:

Product Description

All
Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Front Axles
Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake
Limited to bracket, brake spider and camshaft structural integrity.

X30
Wearable life is up to the discard diameter of the drum.

Disc Brake
Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
(1) What is Covered by this Commercial Warranty?

Meritor Inc. warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM’s vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) Designation of Vocational Use Required.

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of the intended vocational use of the vehicle or a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor-WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.

(3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification to the vehicle’s configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the transmission, axle, driveline, and/or clutch torque capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor’s option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) Limitation of Remedies.

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
**Limited Warranty**

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Years, or 30,000 Miles, or 5000 Engine Hours</td>
</tr>
</tbody>
</table>

**Conditions and Exclusions:**

- This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Staden spring suspension components, and the gauge instrument cluster.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

**2. DISCLAIMERS OF WARRANTIES**

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

**3. BUYER’S EXCLUSIVE REMEDY**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

**4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE, TO THE EXTENT PERMITTED BY LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

7/2/2015  WA0284
### 1. Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

**Coverage:**
- The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description.

**Warranty Begins:**
- The date of the original purchase invoice (issued when the product ships from the factory).

**Warranty Period Ends After:**
- Two (2) Year

**Conditions and Exclusions:**
- The exclusions listed in the attached Meritor warranty description shall apply.

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**Note:**

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

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**2. Limitations and Exclusions:**

- If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for any loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

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**4. Exclusion of Consequential and Incidental Damages:**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

**Note:**

Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
How to Read Warranty Coverage

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

Notice:

Models or components that are approved for use by Meritor's vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Advantage Program

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).
# Linehaul Warranty Information

**Linehaul Vehicles**

- Auto Hauler
- Bulk Hauler
- Chip Hauler (Truck)*
- Doubles
- Flatbed
- General Freight
- Grain Hauler
- Livestock Hauler
- Moving Van
- Pipe Hauler
- Refrigerated Freight
- Tanker
- Triples

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

**Linehaul Typically Is**

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

**Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.**

## Front Non-Drive Steer Axles – 5/750/P&L

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>Model</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-965</td>
<td>FF-966</td>
<td>MFS-10-144A-N</td>
<td>MFS-12-132C-N</td>
</tr>
<tr>
<td>FF-941</td>
<td>FF-967</td>
<td>MFS-12-122A-N</td>
<td>MFS-13-122C-N</td>
</tr>
<tr>
<td>FF-942</td>
<td>FG-941</td>
<td>MFS-12-122B-N</td>
<td>MFS-13-123A-N</td>
</tr>
<tr>
<td>FF-943</td>
<td>FG-943</td>
<td>MFS-12-122C-N</td>
<td>MFS-13-143A-N</td>
</tr>
<tr>
<td>FF-944</td>
<td>MFS-10-122A</td>
<td>MFS-12E-122A-N</td>
<td>MFS-13-122A-N</td>
</tr>
<tr>
<td>FF-961</td>
<td>MFS-10-143A-N</td>
<td>MFS-12-132B-N</td>
<td>MFS-13-144A-N</td>
</tr>
</tbody>
</table>

## Rear Drive Single Axles – 5/750/P&L

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>Model</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-19-144/145/A</td>
<td>RS-21-160</td>
<td>RT-34-144/P/A</td>
<td>RT-40-145/A</td>
</tr>
<tr>
<td>MS-19-14X</td>
<td>RS-23-160</td>
<td>RT-40-160/P1,2</td>
<td>RT-46-160/P1,2</td>
</tr>
<tr>
<td>MS-21-144</td>
<td>RS-23-161</td>
<td>RT-46-164EH/P1,2</td>
<td>RT-50-160/P1,2</td>
</tr>
<tr>
<td>RS-21-145</td>
<td>RS-23-186</td>
<td>MA-40-165</td>
<td>MT-40-943</td>
</tr>
<tr>
<td>MS-19-14X</td>
<td>RS-23-160</td>
<td>MA-40-175</td>
<td>MT-40-943-SP</td>
</tr>
<tr>
<td>MS-21-144</td>
<td>RS-23-161</td>
<td>MT-34-14X/P</td>
<td>RZ-1662</td>
</tr>
<tr>
<td>RS-21-145</td>
<td>RS-23-186</td>
<td>MT-40-14X/P</td>
<td>RZ-188</td>
</tr>
</tbody>
</table>

## Drivelines

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPL</td>
<td>5/500/P, 1/Unl/P&amp;L</td>
</tr>
<tr>
<td>MXL</td>
<td>3/350/P, 1/Unl/P&amp;L</td>
</tr>
<tr>
<td>155N</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>92N</td>
<td>1/Unl/P</td>
</tr>
</tbody>
</table>

1 These models required for Chip Hauler and Linehaul warranty consideration.
2 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.
## Brake Components

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Warranty Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam Q Series Trailer Brakes</td>
<td>5/500/P, 1/100/L</td>
</tr>
<tr>
<td>LX500 Feature&lt;sup&gt;1&lt;/sup&gt;</td>
<td>5/750/P&amp;L</td>
</tr>
<tr>
<td>Q+ Drum Brake&lt;sup&gt;™&lt;/sup&gt;</td>
<td>5/500/P, 1/Unl/P&amp;L</td>
</tr>
<tr>
<td>ASA</td>
<td>5/500/P, 1/Unl/P&amp;L</td>
</tr>
<tr>
<td>Hub/Cast Drums and Other Wheel-end Components</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>Hydraulic Disc Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>All Other Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>STEELite X30 Drum Brake&lt;sup&gt;™&lt;/sup&gt;&lt;sup&gt;2&lt;/sup&gt;</td>
<td>12-Years or Wearable Life/P</td>
</tr>
<tr>
<td>EX+ Air Disc Brake&lt;sup&gt;™&lt;/sup&gt;</td>
<td>5/500/P, 1/Unl/L</td>
</tr>
</tbody>
</table>

<sup>1</sup> Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.

<sup>2</sup> Based on stamped wear diameter max.

## Trailer Axles

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Warranty Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam and Brackets</td>
<td>5/500/P, 1/100/L</td>
</tr>
<tr>
<td>Wheel End Systems&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Standard System&lt;sup&gt;2&lt;/sup&gt;</td>
<td>1/100/P&amp;L</td>
</tr>
<tr>
<td>PreSet by Meritor&lt;sup&gt;3&lt;/sup&gt;</td>
<td>5/500/P&amp;L</td>
</tr>
<tr>
<td>AxlePak&lt;sup&gt;4&lt;/sup&gt;</td>
<td>5/P/L</td>
</tr>
<tr>
<td>AxlePak&lt;sup&gt;5&lt;/sup&gt;</td>
<td>7/P/L</td>
</tr>
</tbody>
</table>

<sup>1</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>2</sup> When installed by Meritor.

<sup>3</sup> Requires approved hubcap stating PreSet by Meritor on hubcap face.

<sup>4</sup> When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/500P, 3/500L.

<sup>5</sup> When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/750P, 3/500L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

## TAG/Pusher Axles<sup>6</sup>

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Warranty Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQ, TQD, TR, TRD Beam and Brackets</td>
<td>5/750/P&amp;L</td>
</tr>
</tbody>
</table>

<sup>6</sup> For brake components and ABS Coverage, refer to appropriate product warranties.

## Meritor Tire Inflation System by PSI

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Warranty Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P&amp;L</td>
</tr>
</tbody>
</table>

## Trailer Air Suspension Systems

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Warranty Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPA38/40 (Tandem Axle Parallelogram)&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/500/P, 1/100/L</td>
</tr>
<tr>
<td>Curbing Damage Warranty&lt;sup&gt;6&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/100/P&amp;L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/200/P&amp;L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>2/200/P, 1/100/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>7/700/P, 5/500/L</td>
</tr>
<tr>
<td>PinLoc Air Controls</td>
<td>1/100/P&amp;L</td>
</tr>
<tr>
<td>PinLoc Actuator</td>
<td>3/300/P&amp;L</td>
</tr>
</tbody>
</table>

<sup>1</sup> Fastener torque coverage is limited to 2/Unl P&L when torqued by Meritor.

(For axle and ABS coverage, refer to appropriate product warranties.)

<sup>2</sup> “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.
GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles
- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Tour Bus
- Wrecker

Lower mileage operations (less than 60,000 miles/year)
Generally, on-road service (less than 10% off-road)
An average of three (3) miles between starting and stopping

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FF-941</td>
<td>FH-941</td>
<td>MFS-7-163C-N</td>
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1 Can also be used with reduced steer angles in tag position in Coach Applications.

Rear Drive Single Axles – 2/Unl/P&L

| MS-17-13X | MS-21-144 | RC-23-162 | MS-26-616 | 79163 |
| MS-17-14X | MS-23-17X | RC-23-165 | MS-26-616-SP | |
| MS-19-13X | RS-21-145/A | RS-23-160 | RS-30-185 | |
| MS-19-14X | RS-21-160 | RS-23-161 | MS-30-616 | |
| RS-17-144/145/A | RC-22-145 | RS-23-186 | MS-30-616-SP | |
| MS-21-13X | RC-23-160 | RC-25-160 | 71162 | |
| MS-21-14X | RC-23-161 | RS-26-185 | 71163 | |

1 Can also be used with reduced steer angles in tag position in Coach Applications.

Rear Drive Tandem – 3/Unl/P&L

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<thead>
<tr>
<th>RT-40-160/P</th>
<th>RT-46-160/P</th>
<th>RT-46-164/P</th>
<th>RT-50-160/P</th>
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<td>MS-23-17X</td>
<td>RC-23-165</td>
<td>MS-26-616-SP</td>
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<td>RS-23-186</td>
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<td>RC-25-160</td>
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<td>71163</td>
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1 Can also be used with reduced steer angles in tag position in Coach Applications.

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>MT-34-14X/P</th>
<th>MT-44-14X/P</th>
<th>MT-58-616</th>
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</thead>
<tbody>
<tr>
<td>RT-34-144/P/A</td>
<td>RT-44-145/P</td>
<td>RT-58-185</td>
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<td>MT-40-14X/P</td>
<td>MT-52-161</td>
<td>RZ-166</td>
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<td>MT-40-144/P/A</td>
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<td>RZ-188</td>
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</table>

1 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.
# GENERAL SERVICE WARRANTY INFORMATION

## Brake Components

<table>
<thead>
<tr>
<th>Brake Component</th>
<th>Warranty Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam Q Series Trailer Brakes</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>LX500 Feature¹</td>
<td>3/Unl/P &amp; L</td>
</tr>
<tr>
<td>Cam P¹</td>
<td>2/200/P</td>
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<tr>
<td>Cam</td>
<td>3/Unl/P &amp; L</td>
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<tr>
<td>Q+ Drum Brake™</td>
<td>2/200/P &amp; L</td>
</tr>
<tr>
<td>Q+ Drum Brake †</td>
<td>3/Unl/P</td>
</tr>
<tr>
<td>ASA</td>
<td>3/Unl/P</td>
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<tr>
<td>ASA³</td>
<td>2/200/P</td>
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<tr>
<td>Hubs/Cast Drums and Other Wheel-end Components</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>Hydraulic Disc Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>All Other Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>STEELite X30 Drum Brake™²</td>
<td>12-Years or Wearable Life/P</td>
</tr>
<tr>
<td>EX+ Air Disc Brake™²</td>
<td>2/Unl/P &amp; L</td>
</tr>
</tbody>
</table>

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.
² Based on stamped wear diameter max.
³ Applies to Tour Bus and Cross Country Coach only.

## Trailer Axles

<table>
<thead>
<tr>
<th>Axle System</th>
<th>Warranty Coverage</th>
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<tbody>
<tr>
<td>Beam and Brackets¹</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Wheel End Systems²</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Standard System</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>AxlePak5²</td>
<td>5/500/P</td>
</tr>
<tr>
<td>AxlePak7²</td>
<td>7/700/P</td>
</tr>
</tbody>
</table>

¹ 9000 Series is 3/Unl/P, 1/Unl/L
² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
³ When installed by Meritor.

## Chassis Axles (2000 Series/ChassiPak)

<table>
<thead>
<tr>
<th>Axle System</th>
<th>Warranty Coverage</th>
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</thead>
<tbody>
<tr>
<td>Beam &amp; Brackets</td>
<td>6/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Wheel End Systems¹</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Standard System</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>AxlePak7</td>
<td>7/700/P</td>
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</table>

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

## Trailer Air Suspension Systems

<table>
<thead>
<tr>
<th>System</th>
<th>Warranty Coverage</th>
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</thead>
<tbody>
<tr>
<td>MPA38/40 (Tandem Axle Parallelogram)¹</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/500/P, 1/100/L</td>
</tr>
<tr>
<td>Curbing Damage Warranty²</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>2/Unl/P &amp; L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>7/700/P, 5/500/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>3/Unl/P &amp; L</td>
</tr>
<tr>
<td>PinLoc Air Controls</td>
<td>1/Unl/P &amp; L</td>
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<tr>
<td>PinLoc Air Actuator</td>
<td>3/Unl/P &amp; L</td>
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<tr>
<td>MPA20 (Single Axle Parallelogram)</td>
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<tr>
<td>Major Structural Components</td>
<td>5/Unl/P, 1/Unl/L</td>
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<tr>
<td>Height Control Valve</td>
<td>1/Unl/P &amp; L</td>
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<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P &amp; L</td>
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<tr>
<td>Air Springs</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>7/700/P, 5/500/L</td>
</tr>
</tbody>
</table>

¹ Fastener torque coverage is limited to 2/Unl P & L when torqued by Meritor
² “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.
³ Raw wood applications 3/Unl/P, 1/Unl/L

## TAG/Pusher Axles

<table>
<thead>
<tr>
<th>Axle System</th>
<th>Warranty Coverage</th>
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<tbody>
<tr>
<td>TQ, TQD, TR, TRD Beam and Brackets¹</td>
<td>3/Unl/P, 1/Unl/L</td>
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<tr>
<td>MC12002, MC14002, MC16003, FH946</td>
<td>2/Unl/P &amp; L</td>
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¹ For axle and ABS coverage, refer to appropriate product warranties.

## MTIS Components

<table>
<thead>
<tr>
<th>System</th>
<th>Warranty Coverage</th>
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<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P &amp; L</td>
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¹ 3/UNL/P & L if sold with PreSet by Meritor.

## Meritor® Tire Inflation System by PSI

<table>
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<tr>
<th>System</th>
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<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P &amp; L</td>
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</table>
### Heavy Service Vehicles

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rapid Intervention Vehicle (RIV)
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

### Heavy Service Typically Is

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

### Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

### Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

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<td>FH-941</td>
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<td>FL-943</td>
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### Drivelines

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<td>MXL</td>
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### Rear Drive Single Axles – 2/Unl/P&L

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<tr>
<td>MS-17-14X</td>
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<td>RS-23-161</td>
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**HEAVY SERVICE WARRANTY INFORMATION**

**Rear Drive Tandem/Tridem Axles – 2/Unl/P&L**

<table>
<thead>
<tr>
<th>Axle Type</th>
<th>WARRANTY INFORMATION</th>
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<tbody>
<tr>
<td>MT-34-14X/P</td>
<td>RT-44-145/P</td>
</tr>
<tr>
<td>RT-34-144/P/A</td>
<td>RT-46-169</td>
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<tr>
<td>MT-40-14X/P</td>
<td>MT-52-616</td>
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<tr>
<td>RT-40-145/A</td>
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<td>RT-70-380</td>
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<tr>
<td>RT-50-160/P/A</td>
<td>RT-70-380</td>
</tr>
</tbody>
</table>

1 Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.
2 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

**Brake Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>WARRANTY INFORMATION</th>
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</thead>
<tbody>
<tr>
<td>Cam P</td>
<td>3/Unl/P</td>
</tr>
<tr>
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<tr>
<td>Cam Cast Plus™</td>
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<td>Q+ Drum Brake™</td>
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<td>ASA2</td>
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<tr>
<td>Hubs/Cast Drums and Other Wheel-end Components</td>
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<tr>
<td>Hydraulic Disc Brakes</td>
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<tr>
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<td>1/Unl/P</td>
</tr>
<tr>
<td>EX+ Air Disc Brake</td>
<td>2/100/P&amp;L</td>
</tr>
</tbody>
</table>

1 Raw wood applications 3/Unl/P, 1/Unl/L

**Rear Drive Tandem – 3/Unl/P&L**

<table>
<thead>
<tr>
<th>Axle Type</th>
<th>WARRANTY INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-58-616</td>
<td>RZ-166</td>
</tr>
<tr>
<td>MT-58-616-SP</td>
<td>RZ-188</td>
</tr>
<tr>
<td>RT-58-185/3801,2</td>
<td>RT-70-380</td>
</tr>
<tr>
<td>MT-70-380</td>
<td>MT-70-380</td>
</tr>
<tr>
<td>RT-52-380</td>
<td>RT-70-380</td>
</tr>
</tbody>
</table>

1 U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.
2 Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.
3 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

**Meritor Tire Inflation System by PSI**

- **MTIS Components**: 3/500/P&L

**Trailer Air Suspension Systems**

<table>
<thead>
<tr>
<th>Component</th>
<th>WARRANTY INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTA (Trailing Arm)</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P&amp;L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>5/Unl/P, 3/Unl/L</td>
</tr>
</tbody>
</table>

1 Raw wood applications 3/Unl/P, 1/Unl/L

**Center Non-drive Axles – 2/Unl/P&L**

<table>
<thead>
<tr>
<th>Component</th>
<th>WARRANTY INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC26000</td>
<td>71063</td>
</tr>
<tr>
<td>79063</td>
<td></td>
</tr>
</tbody>
</table>

**Trailer Axles**

<table>
<thead>
<tr>
<th>Component</th>
<th>WARRANTY INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam and Brackets1</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Wheel End Systems2</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>Standard System3</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>9000 Series is 3/Unl/P, 1/Unl/L.</td>
<td></td>
</tr>
</tbody>
</table>

1 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
2 When installed by Meritor.
3 For brake components and ABS coverage, refer to appropriate product warranties.
OFF-HIGHWAY SERVICE WARRANTY

**Industrial And Off-Highway Service Vehicles**

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

**Industrial And Off-Highway Service Typically Is**

- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

**Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.**

**Drive Steer Axles – 1/Unl/P**

<table>
<thead>
<tr>
<th>MOR</th>
<th>MOX</th>
<th>MOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF - 941</td>
<td>MFS-12-143A-N</td>
<td>MFS-18-135A-N</td>
</tr>
<tr>
<td>FF - 943</td>
<td>MFS-12-144A-N</td>
<td>MFS-18-193A-N</td>
</tr>
<tr>
<td>FF - 961</td>
<td>MFS-13-143A-N</td>
<td>MFS-20-133A-N</td>
</tr>
<tr>
<td>FF - 966</td>
<td>MFS-13-144A-N</td>
<td>MFS-20-135A-N</td>
</tr>
<tr>
<td>FG - 941</td>
<td>MFS-14-143A-N</td>
<td>MFS-20H-193A-N</td>
</tr>
<tr>
<td>FG - 943</td>
<td>MFS-16-122A-N</td>
<td>MFS-22H-135A-N</td>
</tr>
<tr>
<td>FL - 941</td>
<td>MFS-16-143A-N</td>
<td>MFS-22H-193A-N</td>
</tr>
<tr>
<td>FL - 943</td>
<td>MFS-18-133A-N</td>
<td>MON-ZO FAMILY</td>
</tr>
</tbody>
</table>

**Front Non-Drive Steer Axles – 1/Unl/P**

| FF - 941 | MFS-12-143A-N | MFS-18-135A-N |
| FF - 943 | MFS-12-144A-N | MFS-18-193A-N |
| FF - 961 | MFS-13-143A-N | MFS-20-133A-N |
| FF - 966 | MFS-13-144A-N | MFS-20-135A-N |
| FG - 941 | MFS-14-143A-N | MFS-20H-193A-N |
| FG - 943 | MFS-16-122A-N | MFS-22H-135A-N |
| FL - 941 | MFS-16-143A-N | MFS-22H-193A-N |
| FL - 943 | MFS-18-133A-N | MON-ZO FAMILY |

**Planetary Axles – 1/Unl/P**

<table>
<thead>
<tr>
<th>MOR</th>
<th>MOX</th>
<th>MOC</th>
<th>MOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF - 941</td>
<td>MFS-12-143A-N</td>
<td>MFS-18-135A-N</td>
<td>MFS-20-135A-N</td>
</tr>
<tr>
<td>FF - 943</td>
<td>MFS-12-144A-N</td>
<td>MFS-18-193A-N</td>
<td>MFS-20-193A-N</td>
</tr>
</tbody>
</table>

**Rear Drive Single Axles – 1/Unl/P**

| RS-23-186 | RS-24-160-SP | RS-30-185 |
| RS-23-380 | MS-30-616 | RS-30-380 |
| RS-24-160 | MS-30-616-SP | MS-35-380 |

**Drivelines – 1/Unl/P**

<table>
<thead>
<tr>
<th>RPL</th>
<th>MXL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF - 941</td>
<td>MT-44-14X/P</td>
</tr>
<tr>
<td>FF - 943</td>
<td>MT-52-616</td>
</tr>
<tr>
<td>FF - 961</td>
<td>MT-52-616-SP</td>
</tr>
<tr>
<td>FF - 966</td>
<td>MT-52-616-SP</td>
</tr>
<tr>
<td>FG - 941</td>
<td>MT-70-380</td>
</tr>
<tr>
<td>FG - 943</td>
<td>MT-70-380</td>
</tr>
<tr>
<td>FL - 941</td>
<td>MT-70-380</td>
</tr>
<tr>
<td>FL - 943</td>
<td>MT-70-380</td>
</tr>
</tbody>
</table>

**Rear Drive Tandem Axles – 2/Unl/P**

| MT-44-145/P | MT-58-616 | RT-44-145/P | RT-50-160/P |
| MT-52-616 | MT-58-616-SP | RT-46-160/P | RZ-166 |
| MT-52-616-SP | MT-70-380 | RT-46-164EH/P |

**Brake Components**

- Cam P 3/Unl/P
- Q+ Drum Brake™ 3/Unl/P&L
- ASA 3/Unl/P
- Hubs/Cast Drums and Other Wheel-end Components 1/Unl/P
- Hydraulic Disc Brakes 1/Unl/P
- All Other Brakes 1/Unl/P

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Coverage Exclusions

Product Description

All
The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

Front Axles
King Pin Bushings.

Rear Axles
Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

ASA
Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

Cam Brake
Brake lining wear and brake shoe “rust-jacking.”

Disc Brake
Pad wear, rotor wear.

Coverage Limitations

Product Description

All
Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Front Axles
Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake
Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30
Wearable life is up to the discard diameter of the drum.

Disc Brake
Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
(1) **What is Covered by this Commercial Warranty?**

Meritor Inc. warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM's vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) **Designation of Vocational Use Required.**

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

(3) **What is the Cost of this Warranty?**

There is no charge to the Owner for this warranty.

(4) **What is Not Covered by this Warranty?**

This warranty does not cover normal wear and tear, nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle’s configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) **Remedy.**

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor's option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) **Disclaimer of Warranty.**

This warranty is expressly in lieu of all other warranties or conditions, expressed, implied or statutory including any implied warranty of merchantability or fitness for particular purpose.

(7) **Limitation of Remedies.**

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) **To Obtain Service.**

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) **Entire Agreement.**

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
PROPOSAL PREPARED FOR
City of Sacramento
Pierce Manufacturing, Inc.
Enforcer 1500 GPM Pumpers
HGAC FS12-17, Product Code TC06
November 1, 2017

SALES CONSULTANT
Ryan Wright
Golden State Fire Apparatus, Inc.
7400 Reese Road
Sacramento, CA 95828
916.330.1638 Office
916.613.3809 Cell
ryan@goldenstatefire.com

PARTS, SERVICE & SUPPORT
Golden State Emergency Vehicle Service, Inc.
7400 Reese Road
Sacramento, CA 95828
916.330.1638 Office
parts@goldenstatefire.com
We hereby propose and agree to furnish, after your acceptance of this proposal and the proper execution by the CITY OF SACRAMENTO, hereinafter called “Customer” and an officer of Golden State Fire Apparatus, Inc., hereinafter called “GSFA”, the following fire apparatus and equipment, hereinafter called “Product”:

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit Price</th>
<th>Extended Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four (4) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumpers</td>
<td>665,180.00</td>
<td>2,660,720.00</td>
</tr>
<tr>
<td>Discount for HGAC contract FS12-17, Product Code TC06</td>
<td>(29,580.00)</td>
<td>(118,320.00)</td>
</tr>
<tr>
<td>Discount For 100% Pre-Payment at Time of Order</td>
<td>(21,845.00)</td>
<td>(87,380.00)</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>613,755.00</strong></td>
<td><strong>2,455,020.00</strong></td>
</tr>
<tr>
<td>8.25% State Sales Tax</td>
<td>50,634.79</td>
<td>202,539.15</td>
</tr>
<tr>
<td>California Tire Fee</td>
<td>10.50</td>
<td>42.00</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>664,400.29</strong></td>
<td><strong>2,657,601.15</strong></td>
</tr>
</tbody>
</table>

PROPOSAL SUMMARY
This proposal includes the following items in accordance with the specifications hereto attached:

- Fire apparatus and equipment
- 100% performance bond
- Factory final inspection trip
- Pre-delivery inspection/services by GSFA
- Delivery to GSFA service center in Sacramento
- Final delivery from service center to Customer
- Demonstration and familiarization of the Product
- California Tire Fee

PRODUCT COMPLETION
Product shall be built in accordance with the specifications hereto attached, delays due to acts of God, strikes, war, or intentional conflict, failures to obtain chassis, materials, unusual weather conditions or other causes beyond GSFA’s control not preventing, within approximately **365 CALENDAR DAYS** after receipt of this order and the acceptance thereof at our Sacramento, California office. Within thirty (30) calendar days after receipt of this order and acceptance thereof, GSFA shall submit to Customer a production schedule including tentative pre-construction conference, final inspection and final delivery dates.

DELIVERY LOCATION
Product shall be shipped in accordance with the specifications hereto attached and be delivered to you at **SACRAMENTO, CALIFORNIA**. Proof of insurance must be demonstrated by the Customer to GSFA prior to transferring of the Product(s).
TERMS AND CONDITIONS

1. Payment Terms, 100% Pre-Payment at Time of Order – If applicable, Customer shall pay the Grand Total within fifteen (15) calendar days of date on invoice to GSFA. Proposed delivery timeframe for the Product shall not begin until full payment is received. If payment is late, a daily finance charge of $250.00 may be added to the final invoice until such payment is received. If payment is not made, $87,380.00 plus state sales tax shall be added to the final invoice and due GSFA at time of delivery. Due to insurance liability, the Product(s) will not be left at the Customer’s location without full acceptance and payment or prior written agreement between the Customer and GSFA.

2. Multiple Unit Purchase – If applicable, for any multiple unit purchase the Grand Total pricing is only valid if the quantity of Products being proposed are purchased at the same time, on the same Purchase Order (PO) or signed contract.

3. State Sales Tax – A sale occurs when the Customer takes title to or possession of an item (not when payment is received by GSFA). Consequently, this proposal is subject to the applicable state sales tax rate in effect when the Product is delivered to the Customer per the delivery terms. Customer is responsible for payment of any additional taxes required, likewise Customer is entitled to a refund if the tax rate is lowered!

4. Purchase Orders – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.

5. Proposal Expiration – Unless accepted by the expiration date above, GSFA reserves the right to withdraw this proposal.

6. Cancellation/Termination – In the event this proposal is accepted and a signed Purchase Order (PO) or signed contract is issued and then cancelled or terminated by Customer before completion, GSFA may charge a cancellation fee. The following charge schedule based on costs incurred may be applied: (a) 10% of the Purchase Price after order is accepted and entered by GSFA; (b) 20% of the Purchase Price after completion of approval drawings, and; (c) 50% of the Purchase Price upon any material requisition. The cancellation fee shall increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. GSFA endeavors to mitigate any such costs through the sale of such Product to another purchaser; however, the Customer shall remain liable for the difference between the Purchase Price and, if applicable, the sale price obtained by GSFA upon sale of the Product to another purchaser, plus any costs incurred by GSFA to conduct any such sale.

7. Stock / Demo Units – If applicable, all stock/demo units are available for sale on an as is, first come and first served basis. The first Customer to issue a signed Purchase Order (PO) or signed contract shall obtain the Product!

8. Proposal Acceptance Statement – To ensure the above stated terms and conditions of this proposal and the specifications hereto attached are understood and adhered to, GSFA requires an authorized individual from the Customer to sign and date this proposal and include it with any Purchase Order (PO). Upon signing of this proposal, the stated terms and conditions of this proposal and the specifications hereto attached shall be considered binding and accepted by the Customer. No additional terms or conditions shall be binding upon GSFA unless agreed to in writing and signed by a duly authorized officer of GSFA. The terms and acceptance of this proposal shall be governed by the laws of the State of California.

Thank you for allowing Golden State Fire Apparatus, Inc. the opportunity to provide this proposal. If you have any questions regarding the options presented or need additional options please contact me.

Sincerely,

Ryan Wright
Golden State Fire Apparatus, Inc.

I, ________________, the authorized representative of CITY OF SACRAMENTO, agree to purchase the proposed Product(s) and agree to the terms and conditions of this proposal and the specifications hereto attached.

SIGNATURE: ___________________________ DATE: ___________________________
**CONTRACT PRICING WORKSHEET**
For MOTOR VEHICLES Only

This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents MUST be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly.

<table>
<thead>
<tr>
<th>Buying Agency</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Sacramento</td>
<td>GOLDEN STATE FIRE APPARATUS INC.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Person</th>
<th>Prepared By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alison Crandall</td>
<td>RYAN WRIGHT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>(916) 808-1163</td>
<td></td>
<td><a href="mailto:A.Crandall@cityofsacramento.org">A.Crandall@cityofsacramento.org</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC06</td>
<td>Pierce Enforcer, 4-Door, Aluminum Body, Single Axle, 1250 GPM Pump, Mid-Mounted Pumper</td>
</tr>
</tbody>
</table>

**A. Product Item Base Unit Price Per Contractor's H-GAC Contract:**

$416850

**B. Published Options - Itemize below - Attach additional sheet(s) if necessary - Include Option Code in description if applicable.**
(Note: Published Options are options which were submitted and priced in Contractor's bid.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>$120638.6</td>
</tr>
</tbody>
</table>

Subtotal From Additional Sheet(s):

**Subtotal B:** $120638.6

**C. Unpublished Options - Itemize below / attach additional sheet(s) if necessary.**
(Note: Unpublished options are items which were not submitted and priced in Contractor's bid.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON-PUBLISHED OPTIONS PER SEPARATE LISTING</td>
<td>$89710.72</td>
</tr>
</tbody>
</table>

Subtotal From Additional Sheet(s):

**Subtotal C:** $89710.72

Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B).

For this transaction the percentage is: **17%**

**D. Total Cost Before Any Applicable Trade-In / Other Allowances / Discounts (A+B+C)**

- Quantity Ordered: 4
- **Subtotal of A + B + C:** $627199.32
- **Subtotal D:** $2508797.28

**E. H-GAC Order Processing Charge (Amount Per Current Policy)**

- **Subtotal E:** $400

**F. Trade-Ins / Other Allowances / Special Discounts / Freight / Installation**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTORY INSPECTION TRIPS</td>
<td>$9,000.00</td>
</tr>
<tr>
<td>DELIVERY / DEALER PREPARATION</td>
<td>$17,000.00</td>
</tr>
<tr>
<td>PERFORMANCE BOND</td>
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**Subtotal F:** $148403.88

**Delivery Date:** December of 2018

**G. Total Purchase Price (D+E+F):** $2657601.16
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<td>Radio with Weatherband</td>
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<td>Mounting Provisions, 1/4&quot; Alum, Full Engine Tunnel, Saber FR/Enforcer</td>
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<td>Antenna, Antenna Plus AP-NAV-CWG, AP-Cell/LTE/WiFi/GPS</td>
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<td>Light, Marker, Britax Rubber Arm, Model L427.203.L12 LED, Red/Amb, Qty, Loc</td>
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<td>Lights, Hose Bed, Sides, Dual LED Light Strips, Amdor AY-9500-0**</td>
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<td>Pike Pole, 10' Fire Hooks Unlimited, New Yorker, NYFG-10, w/Ram Knob</td>
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<td>Cutout for Reel Access, One, w/ S/S Trim</td>
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</tbody>
</table>
Golden State Fire Apparatus Inc is pleased to submit a proposal to City of Sacramento for four (4) Pierce® Triple Combination Pumpers per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 60 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 51,000 apparatus, including more than 27,000 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 757,000 total square feet of floor space situated on approximately 97 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION
To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.

QUALITY AND WORKMANSHIP
Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding
Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American Welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American Welding Society codes upon hire and every three (3) years thereafter. Pierce also employs an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least ten (10) fire departments/municipalities that have purchased vehicles for a second time is provided.

**DELIBERY**

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

The specifications herein contained will form a part of the final contract and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The proposal for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above.

Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.
MANUAL AND SERVICE INFORMATION
At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO
At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.

PERFORMANCE TESTS
A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT
Pierce dealership support will be provided by Golden State Emergency Vehicle Service Inc by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within fifty (50) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of $5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU’s and descriptions offered on all Pierce apparatus. Published component catalogs,
which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVT's, and offers hands-on repair and maintenance training classes multiple times a year.

COMMERCIAL GENERAL LIABILITY INSURANCE
Certification of insurance coverage will be enclosed.

SINGLE SOURCE MANUFACTURER
Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS
This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.
The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

**NFPA COMPLIANCE**

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

**VEHICLE INSPECTION PROGRAM CERTIFICATION**

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third-party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.

**PUMP TEST**

Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.

**INSPECTION TRIP(S)**

The bidder will provide one (1) factory inspection trip(s) for six (6) City of Sacramento customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

**PRODUCT CHANGES AND IMPROVEMENTS**

Our components and processes, as described in this proposal document, are as accurate as known at the time of bid submission, but are subject to change for the purpose of product or process improvements, or changes in industry standards providing the change does not affect the meaning or definition of the bid specifications.

**PERFORMANCE BOND, 1 YEAR**

The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of
Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

**APPROVAL DRAWING**
A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

**PUMP OPERATOR'S PANEL DRAWING**
A detailed drawing to scale of the pump operator's panel will be provided for approval prior to construction. This drawing will include all of the gauges and controls located on the pump operators panel.

**FINAL DRAWING**
There will be a revised drawing of the truck with all the changes made during production provided at pickup.

**ENFORCER CHASSIS**
The Pierce Enforcer™ is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.

**MAXIMUM OVERALL HEIGHT**
The maximum overall height of the apparatus will be 114.00" (9'-6.00").
MAXIMUM OVERALL LENGTH
The maximum overall length of the apparatus will be 367.25".

WHEELBASE
The wheelbase of the vehicle will be 187.50".

GVW RATING
The gross vehicle weight rating will be 43,500 lbs.

FRAME
The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will be heat-treated steel measuring 10.25" x 3.50" x .375".

Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.

FRONT NON DRIVE AXLE
The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be zero degrees for optimum tire life.

The ball joint bearing will be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle.
The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.

**FRONT SUSPENSION**

Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 19,500 lb.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

**FRONT SHOCK ABSORBERS**

KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.

**FRONT OIL SEALS**

Oil seals with viewing window will be provided on the front axle.

**FRONT TIRES**

Front tires will be Goodyear 385/65R22.5 radials, 18 ply G296 MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10)stud, 11.25" bolt circle.

**REAR AXLE**

The rear axle will be a Meritor™, Model RS-24-160, with a capacity of 24,000 lb.
TOP SPEED OF VEHICLE
A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph.

REAR SUSPENSION
The rear suspension will be Standens, semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers will be castings.

The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye will be a berlin eye that will place the front spring pin in the horizontal plane within the main leaf.

A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.

REAR OIL SEALS
Oil seals will be provided on the rear axle(s).

REAR TIRES
Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE
All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.

TIRE PRESSURE MANAGEMENT
There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

MUD FLAPS
Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
WHEEL CHOCKS
There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

WHEEL CHOCK BRACKETS
There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire.

ANTI-LOCK BRAKE SYSTEM
The vehicle will be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS will provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

BRAKES
The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.

The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

BRAKE SYSTEM AIR COMPRESSOR
The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

BRAKE SYSTEM
The brake system will include:

- Brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system minimum capacity of 4,272 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
• Parking brake operated by a push-pull style control valve
• A parking "brake on" indicator light on instrument panel
• Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi
• A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)
• 1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

**BRAKE SYSTEM AIR DRYER**
The air dryer will be a WABCO System Saver 1200 IWT, with internal wet tank, spin-on coalescing filter cartridge and 100 watt heater.

**BRAKE LINES**
Wire braided reinforced rubber brake lines will be provided for the chassis air brake system. This also includes the brake lines between the frame and brake chambers. The brake lines will not be painted.

Coupler fittings for chassis brake lines will be installed forward of the front axle. They will be a separation point for those air lines going to the cab. The air lines going into the cab will be nylon wrapped in loom.

**AIR INLET/OUTLET**
One (1) air inlet/outlet will be installed with the female coupling located on the driver side pump panel. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.

A mating male fitting will be provided with the loose equipment.

The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

**MANUAL MOISTURE EJECTOR(S)**
Manual moisture ejectors for a single axle pumper reservoir capacity will be installed in the brake system.

The moisture ejector(s) will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible.
A loop will be provided at the moisture ejector, to allow for ease of pulling the drain.

Each moisture ejector will have a label directly under the ejector, stating air tank drain.

Nylon tubing, .38" diameter, will be routed from the air tank to the moisture ejector. The nylon tubing will be covered with protective split loom.

The moisture ejector(s) will be provided on the each tank reservoir(s).

**ENGINE**

The chassis will be powered by an electronically controlled engine as described below:

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<th>Make</th>
<th>Cummins</th>
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<tr>
<td>Model</td>
<td>L9</td>
</tr>
<tr>
<td>Power</td>
<td>450 hp at 2100 rpm</td>
</tr>
<tr>
<td>Torque</td>
<td>1250 lb-ft at 1400 rpm</td>
</tr>
<tr>
<td>Governed Speed</td>
<td>2200 rpm</td>
</tr>
<tr>
<td>Emissions Level</td>
<td>EPA 2017</td>
</tr>
<tr>
<td>Fuel</td>
<td>Diesel</td>
</tr>
<tr>
<td>Cylinders</td>
<td>Six (6)</td>
</tr>
<tr>
<td>Displacement</td>
<td>543 cubic inches (8.9L)</td>
</tr>
<tr>
<td>Starter</td>
<td>Delco 39MT™</td>
</tr>
<tr>
<td>Fuel Filters</td>
<td>Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter.</td>
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The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

**HIGH IDLE**

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."
ENGINE BRAKE
A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

CLUTCH FAN
A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.

ENGINE OIL DRAIN PLUG EXTENDED
An extended drain line will be installed at the "rear" engine oil pan for oil drainage to clear the Tak-4 suspension. The engine oil drain line will be installed to allow complete removal of the engine oil.

ENGINE AIR INTAKE
The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille.

A stainless steel metal screen will be installed at the inlet of the air intake system that will meet NFPA 1901 requirements.

The air cleaner and stainless steel screen will be easily accessible by tilting the cab.

EXHAUST SYSTEM
The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device, and will be 4.00" in diameter. The exhaust system will include a single module aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.
EXHAUST MODIFICATION
The exhaust pipe shall be brought out from under the body and angled to the rear.

The diffuser will not be cut straight to the body, and the outer edge shall be flush with the body rubrail. There shall be a minimum of 2.50" from the exhaust pipe to the under side of the body heat shield. The last 7.00" of the exhaust shall be free of hangers and/or clamps.

EXHAUST MODIFICATION
The exhaust diffuser will be reduced to 5.00" in the center to accommodate the fire department's air recovery system. There will be a minimum of 4.00" clearance around the diffuser for proper cooling.

RADIATOR
The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. No solder joints or leaded material of any kind will be acceptable in the core assembly.

The radiator core will have a minimum front area of 1060 square inches.

Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be mode of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator will be compatible with commercial antifreeze solutions.

The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

COOLANT LINES
Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing.
Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping a constant clamping pressure on the hose.

**FUEL TANK**
A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be located in a low point of the tank for drainage.

A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet.

The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

**DIESEL EXHAUST FLUID TANK**
A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body forward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be located on the driver's side of the body and be covered with a hinged, spring loaded, polished stainless steel door that is marked "Diesel Exhaust Fluid Only".

The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

**FUEL COOLER**
An air to fuel cooler will be installed in the engine fuel return line.

The fuel filler door will include a holder for the fuel fill cap.

**TRANSMISSION**
An Allison 5th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided.
The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.

A transmission temperature gauge with red light and audible alarm will be installed on the cab dash.

**TRANSMISSION SHIFTER**

A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be:

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<thead>
<tr>
<th>1st</th>
<th>3.49 to 1.00</th>
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<tbody>
<tr>
<td>2nd</td>
<td>1.86 to 1.00</td>
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<tr>
<td>3rd</td>
<td>1.41 to 1.00</td>
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<td>4th</td>
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<td>5th</td>
<td>0.75 to 1.00</td>
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<td>5.03 to 1.00</td>
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**TRANSMISSION COOLER**

A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

**DOWNSHIFT MODE (W/ENGINE BRAKE)**

The transmission will be provided with an aggressive downshift mode.

This will provide earlier transmission downshifts to 3rd gear, resulting in improved engine braking performance.

**TRANSMISSION FLUID**

The transmission will be provided with TranSynd, or other Allison approved TES-295 heavy duty synthetic transmission fluid.

**DRIVELINE**

Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft, slip joint will be coated with Glidecoat® or equivalent.
STEERING
Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL
The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON
The steering wheel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text will be: CITY
The second row of text will be: OF
The third row of text will be: SACRAMENTO

BUMPER
A one (1) piece, ten (10) gauge 304-2B polished stainless steel bumper, minimum of 10.00" high, will be attached to the front of the chassis frame.

A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.

GRAVEL PAN
A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.

TOW EYES
Two (2) painted steel tow eyes will be installed under the bumper and attached to the front frame members. The tow eyes will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.

The inner and outer edges of the tow eyes will have a .25" radius.

The tow eyes will be painted black.
LICENSE PLATE BRACKET
A non-illuminated license plate bracket will be mounted on the front bumper. The bracket will be formed from bright stainless steel.

CAB
The Enforcer cab will be designed specifically for the fire service and manufactured by the chassis builder.

The cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be a heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar will be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar will be constructed from 0.13" wall extrusions. The rear wall will be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support will run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors will be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area will also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing will run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

The cab will be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability.

The overall height (from the cab roof to the ground) of approximately 99.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.
The floor to ceiling height inside the crew cab will be 54.50" in the center and outboard positions.

The crew cab floor will measure 46.00" from the rear wall to the back side of the rear facing seat risers.

The medium block engine tunnel, at the rearward highest point (knee level), will measure 61.50" to the rear wall. The big block engine tunnel will measure 51.50" to the rear wall.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The cab will be a full tilt cab style.

A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

**CAB ROOF DRIP RAIL**

For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be painted to match the cab roof, and bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

**INTERIOR CAB INSULATION**

The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

**FENDER LINERS**

Full circular inner fender liners in the wheel wells will be provided.

**PANORAMIC WINDSHIELD**

A one (1)-piece safety glass windshield will be provided with over 2,775 square inches of clear viewing area. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

**WINDSHIELD WIPERS**

Three (3) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.

The washer reservoir will be able to be filled without raising the cab.
CITY OF SACRAMENTO FIRE DEPARTMENT  
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers  
November 1, 2017 (Quote Number 91101-17P)

ENGINE TUNNEL  
Engine hood side walls will be constructed of 0.375" aluminum. The top will be constructed of 0.125" aluminum and will be tapered at the top to allow for more driver and passenger elbow room.

The engine hood will be insulated for protection from heat and sound. Perforated foil faced insulation will be provided on the inside of the engine tunnel to reduce noise. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.

The engine tunnel will be no higher than 17.00" off the crew cab floor.

INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING)  
The interior rear wall of the crew cab will have mounting holes every 2.75" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats will be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change.

CAB REAR WALL EXTERIOR COVERING  
The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.

CAB LIFT  
A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.

Hydraulic pump will have a manual override for backup in the event of electrical failure.

Lift controls will be located on the right side pump panel or front area of the body in a convenient location. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel.

The cab will be capable of tilting 43 degrees to accommodate engine maintenance and removal.

The cab will be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system will be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms will return to the normally closed and locked position.

The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.
For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

**Cab Lift Interlock**
The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

**CAB TILT CIRCUIT**
The cab tilt mechanism will be operational with the battery switch only and with parking brake set.

**GRILLE**
A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab.

**DOOR JAMB SCUFFPLATES**
All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.

**SCUFFPLATES, REAR CAB CORNER GUARDS**
Both rear cab corners will be furnished with a full height, polished stainless steel corner guard scuffplate. The guard will extend 1.00" from the corner to protect paint from damage when pulling items (such as booster hose) around the cab.

**SCUFFPLATES**
A polished stainless steel scuffplate will be provided behind the handrails for all cab and crew cab door entrances.

**MIRRORS**
A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

**DOORS**
To enhance entry and egress to the cab, the forward cab doors will be a minimum of 37.50" wide x 75.50" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab door openings will be a minimum of 34.30" wide x 75.50" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins will be constructed from 0.090" aluminum.
A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.

Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab door for ease of entry.

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

**DOOR PANELS**
The inner cab door panels will be constructed out of brushed stainless steel.

**ELECTRIC OPERATED CAB DOOR WINDOWS**
All four (4) cab doors will be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door will have four (4) switches, one (1) to control each door window.

Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second.

**CAB STEPS**
The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 25.00" wide, and the crew cab steps will be 21.65" wide with an 8.00" minimum depth. The inside cab steps will not exceed 16.50" in height.
A Hansen LED backlit knurled aluminum handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress. The handrails will be lit with white LED lights. The lights will be activated when the parking brake is applied.

The vertical surfaces of the step well will be aluminum treadplate.

**STEP LIGHTS**

There shall be six (6) white LED step lights installed for cab and crew cab access steps.

- One (1) light for the driver's access steps.
- Two (2) lights for the driver's side crew cab access steps.
- Two (2) lights for the passenger's side crew cab access steps.
- One (1) light for the passenger's side access step.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15” x 15” square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30” x 30” square at the same ten (10) inch distance below the light.

The lights shall be activated when the battery switch is on and the adjacent door is opened.

**FENDER CROWNS**

Stainless steel fender crowns will be installed at the cab wheel openings.

**Window Tint**

The rollup window in the left side crew cab door will be tinted privacy dark gray.

**Window Tint**

The rollup window in the right side crew cab door will be tinted privacy dark gray.

**STORAGE COMPARTMENTS**

Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be approximately 12.75” wide x 24.00” high x 15.00” deep.

The doors will be painted aluminum, double pan construction with one (1) D-ring slam latch. A chain for each exterior door will be used as a doorstop.

The compartment interior will be painted spatter gray.

There will be two (2) white Amdor, LED strip lights provided, one (1) each hinged side of compartment door openings.
MATTING IN AUXILIARY COMPARTMENT
Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compts. Tile color will be black.- no ramp.

The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

SCUFFPLATE
A full-height brushed stainless steel scuffplate shall be installed on the inside of each of the extended cab compartment door pans.

WORK SURFACE ON ENGINE TUNNEL
There will be a work surface provided on the engine tunnel. The work surface will cover the entire engine tunnel and follow the width of the engine tunnel. It will be constructed of 0.25" aluminum.

The beginning of the work surface will be spaced 1.00" off the top surface of the engine tunnel. The work surface will be flat from the front of the engine tunnel to the beginning of the lower flat section of the engine tunnel. The work surface will flange down 90 degrees at the beginning of the lower flat section and then extend to the rear of the engine tunnel. The rear of the work surface will be spaced 1.00" off the engine tunnel. The work surface will be open on the sides to allow for equipment to be mounted underneath it.

The mounting surface will be painted to match the cab interior.

CAB INTERIOR
The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The officer side dash will be a flat faced design to provide easy maintenance and will be constructed out of painted aluminum.

The instrument cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster.

The engine tunnel will be painted aluminum to match the cab interior.

The headliner will be installed in both forward and rear cab sections. Headliner material will be vinyl. A sound barrier will be part of its composition. Material will be installed on aluminum sheet and securely fastened to interior cab ceiling.

Forward portion of cab headliner will permit easy access for service of electrical wiring or other maintenance needs.
All wiring will be placed in metal raceways.

**CAB INTERIOR UPHOLSTERY**
The cab interior upholstery will be black.

**CAB INTERIOR PAINT**
A rich looking interior will be provided by painting all the metal surfaces inside the cab black, vinyl texture paint.

**CAB FLOOR**
The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25” thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

**CAB DEFROSTER**
To provide maximum defrost and heating performance, a 43,500 BTU heater-defroster unit with 350 CFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

**CAB/CREW CAB HEATER**
Two (2) 44,180 BTU auxiliary heaters with 276 CFM (each unit) of air flow will be provided inside the crew cab, one (1) in each outboard rear-facing seat riser. The heaters will include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters will be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters will be controlled by a single integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear simultaneously. The control panel will include variable adjustment for temperature and fan control, and be conveniently
located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature.

**AIR CONDITIONING**
A high performance, customized air conditioning system will be furnished inside the cab and crew cab.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit within 30 minutes at 50 percent relative humidity. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

A radiator mounted condenser with a 59,644 BTU output that meets and exceed the performance specification will be installed.

One (1) evaporator unit will be installed in the center roof with two (2) cores, one (1) for the cab and one (1) for the crew cab. The evaporator unit will have an adequate BTU rating to meet the performance specifications.

Adjustable air outlets will be strategically located on the evaporator cover per the following:

- Four (4) will be directed towards the driver's location
- Four (4) will be directed towards the officer's location
- Seven (7) will be directed towards the crew cab area

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

The air conditioner will be controlled by a single electronic control panel. For ease of operation, the control panel will include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.

**SUN VISORS**
Two (2) smoked Lexan™ sun visors provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.

**GRAB HANDLES**
A black rubber covered grab handle will be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handles will be securely mounted to the post area between the door and windshield.
ENGINE COMPARTMENT LIGHT
An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

ACCESS TO ENGINE DIPSTICKS
For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush latch will be provided on the access door.

STORAGE BOX
There will be two (2) storage box(es) designed to hold and dispense boxes of latex gloves provided.

Each box will be constructed of aluminum and located one on each side of the forward facing crew cab seat riser - horizontal with opening on top.

Each storage box will be 10.00" wide x 5.00" deep x 3.50" high and painted to match the cab interior. A slot will be provided on the top of each box to dispense the gloves.

VELCRO STRAP(S) FOR MAP BOX
There will be two (2) Velcro® strap(s) installed at final inspection.

MAP BOX
There will be one (1) map box(es) with three (3) bins, open at top. The map box(es) will be installed at final inspection. The map box(es) will be divided into three (3) bins, each being 12.50" wide x 3.00" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box(es) will be constructed of 0.125" aluminum and will be painted to match the cab interior.

SEATING CAPACITY
The seating capacity in the cab will be five (5).

DRIVER SEAT
A seat will be provided in the cab for the driver. The seat design will be a cam action type, with air suspension. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have an adjustable reclining back. The seat back will be a high back style with side bolster pads for
maximum support. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat will be furnished with a 3-point, shoulder type seat belt.

**OFFICER SEAT**
A seat will be provided in the cab for the passenger. The seat will be a fixed type with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).

The seat back will be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt.

**RADIO COMPARTMENT**
A radio compartment will be provided under the officer's seat.

The inside compartment dimensions will be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.

A drop-down door with a chrome plated lift and turn latch will be provided for access.

The compartment will be constructed of smooth aluminum and painted to match the cab interior.

**REAR FACING DRIVER SIDE EMS COMPARTMENT**
A rear facing EMS compartment will be provided in the crew cab at the driver side outboard position. The compartment will be mounted off the edge of the seat riser so that it is flush with the crew cab door jamb.

The compartment will be 24.50" wide x 34.00" high x 22.00" deep.

The compartment will provide access from outside the cab only with a double pan lap style door having a clear door opening of approximately 17.00" wide x 37.75" high. The door will include a non-locking D-ring latch and will be located on the side of the cab over the wheelwell. The door will have a gas strut to hold the door in the open position.

The compartment will be constructed of smooth aluminum and painted to match the cab interior. The exterior door will be painted to match the cab.

There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.
REAR FACING PASSENGER SIDE EMS COMPARTMENT
A rear facing EMS compartment will be provided in the crew cab at the passenger side outboard position. The compartment shall be mounted off the edge of the seat riser so that it is flush with the crew cab door jamb.

The compartment will be 24.50" wide x 34.00" high x 22.00" deep.

The compartment will provide access from outside the cab only with a double pan lap style door having a clear door opening of approximately 17.00" wide x 29.25" high. The door will include a non-locking D-ring latch and will be located on the side of the cab over the wheelwell. The door will have a gas strut to hold the door in the open position.

The compartment will be constructed of smooth aluminum and painted to match the cab interior. The exterior door will be painted to match the cab.

There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.

FORWARD FACING DRIVER SIDE OUTBOARD SEAT
There will be one (1) forward facing, foldup seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be a minimum of 15.00" from the front of the cushion to the face of the seat back and designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt.

FORWARD FACING CENTER SEAT
There will be one (1) forward facing seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 15.00" deep foam cushion designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt.
FORWARD FACING PASSENGER SIDE OUTBOARD SEAT
There will be one (1) forward facing, foldup seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be a minimum of 15.00" from the front of the cushion to the face of the seat back and designed with EVC (elastomeric vibration control).

The seat back will be an SCBA style with 90 degree back. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt.

DOOR PAN SCUFFPLATE
There will be a brushed stainless steel scuffplate on the interior door pan of two (2) compartment door(s) located external ems doors.

DOOR FRAME SCUFFPLATE
There will be two (2) scuffplate(s) provided for the lower door frame(s) external ems doors. Each scuffplate will be brushed stainless steel with a .38" lip down.

SHELVING
There will be two (2) shelves provided. Each shelf will be constructed of 0.090" aluminum with a 1.25" up-turned lip. Shelving will be infinitely adjustable by means of a threaded tightener sliding in a track.

The location will be one (1) shelf in the driver side rear facing EMS cabinet and one (1) shelf in the passenger side rear facing EMS cabinet.

MATTING IN EMS COMPARTMENT
Turtle Tile vinyl matting will be provided in two (2) EMS compartment shelves, one in each rear facing EMS compartment. Tile color will be black.

The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

MATTING IN EMS COMPARTMENT
Vinyl grating will be provided in two (2) EMS compartments, one in each rear facing EMS compartment. Tile color will be black.

The vinyl grating will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration. The trim edge will not be installed at the edge of the tile.

SEAT UPHOLSTERY
All seat upholstery will be 46 ounce leather grain black vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.
AIR BOTTLE HOLDERS
All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of four (4) SCBA brackets.

SEAT BELTS
All cab and tiller cab (if applicable) seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.

The 3-point shoulder type belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB DOME LIGHTS
There will be four (4) Weldon 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the lens switch.

The color LED's will be controlled by the door switches and the lens switch.
PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.

The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.

HAND HELD LIGHT
There will be 12v Streamlight, model #44001, Vulcan lights mounted (1) on each PS and DS rear facing EMS compartment - the lower inboard side of both. Lens Up. There will be two (2) lights provided.

The Vulcan will be yellow in color.

CAB INSTRUMENTATION
The cab instrument panel will be a molded ABS panel and include gauges, an LCD display, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

GAUGES
The gauge panel will include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

- Voltmeter gauge (volts):
  - Low volts (11.8 VDC)
    - Amber caution indicator on the information center with intermittent alarm
    - Amber caution light on gauge assembly
  - High volts (15.5 VDC)
    - Amber caution indicator on the information center with intermittent alarm
    - Amber caution light on gauge assembly
  - Very low volts (11.3 VDC)
    - Red warning indicator on the information center with a steady alarm
    - Amber caution light on gauge assembly
  - Very high volts (16.0 VDC)
    - Red warning indicator on the information center with a steady alarm
    - Amber caution light on gauge assembly
- Engine Tachometer (RPM)
- Speedometer MPH (Major Scale), KM/H (Minor Scale)
• Fuel level gauge (Empty - Full in fractions):
  o Low fuel (1/8 full)
    ▪ Amber caution indicator on the information center with intermittent alarm
    ▪ Amber caution light on gauge assembly
  o Very low fuel (1/32 full)
    ▪ Red caution indicator on the information center with steady alarm
    ▪ Amber caution light on gauge assembly
• Engine Oil pressure Gauge (PSI):
  o Low oil pressure to activate engine warning lights and alarms
    ▪ Red caution indicator on the information center with steady alarm
    ▪ Amber caution light on gauge assembly
• Front Air Pressure Gauges (PSI):
  o Low air pressure to activate warning lights and alarm
    ▪ Red warning indicator on the information center with a steady alarm
    ▪ Amber caution light on gauge assembly
• Rear Air Pressure Gauges (PSI):
  o Low air pressure to activate warning lights and alarm
    ▪ Red warning indicator on the information center with a steady alarm
    ▪ Amber caution light on gauge assembly
• Transmission Oil Temperature Gauge (Fahrenheit):
  o High transmission oil temperature activates warning lights and alarm
    ▪ Amber caution indicator on the information center with intermittent alarm
    ▪ Amber caution light on gauge assembly
• Engine Coolant Temperature Gauge (Fahrenheit):
  o High engine temperature activates an engine warning light and alarms
    ▪ Amber caution indicator on the information center with intermittent alarm
    ▪ Amber caution light on gauge assembly
• Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):
  o Low fluid (1/8 full)
    ▪ Amber indicator light in gauge dial

All gauges will perform prove out at initial power-up to ensure proper performance.

**INDICATOR LAMPS**
To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:
• Low coolant
• Trac cntl (traction control) (where applicable)
• Check engin
• Check trans (check transmission)
• Aux brake overheat (Auxiliary brake overheat)
• Air rest (air restriction)
• Caution (triangle symbol)
• Water in fuel
• DPF (engine diesel particulate filter regeneration)
• Trailer ABS (where applicable)
• Wait to start (where applicable)
• HET (engine high exhaust temperature) (where applicable)
• ABS (antilock brake system)
• MIL (engine emissions system malfunction indicator lamp) (where applicable)
• Side roll fault (where applicable)
• Front air bag fault (where applicable)

The following red telltale lamps will be present:

• Warning (stop sign symbol)
• Seat belt
• Parking brake
• Stop engine
• Rack down

The following green telltale lamps will be provided:

• Left turn
• Right turn
• Battery on

The following blue telltale lamp will be provided:

• High beam

**ALARMS**

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.
Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

**INDICATOR LAMP AND ALARM PROVE-OUT**
A system will be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

**CONTROL SWITCHES**
For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches will have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking and headlights. The second switch position will activate the parking lights. The third switch will activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch will be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times will allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will turn off and deactivate vehicle ignition. The second switch position will activate vehicle ignition and will perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position will temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position will terminate the alarm silence feature and reset function of cab alarm system.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

Hazard switch will be provided on the instrument panel or on the steering column.
Heater, defroster, and optional air conditioning control panel: A control panel with membrane switches will be provided to control heater/defroster temperature and heater, defroster, and air conditioning fan speeds. A green LED status bar will indicate the relative temperature and fan speed settings.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

High idle engagement switch: A momentary rocker switch with integral indicator lamp will be provided. The switch will activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"OK To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Emergency switching will be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.

An additional "Emergency Master" button will be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.

CUSTOM SWITCH PANELS
The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.

DIAGNOSTIC PANEL
A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:

- Engine diagnostic port
• Transmission diagnostic port
• ABS diagnostic port
• Roll sensor diagnostic port
• Command Zone USB diagnostic port
• ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
• Diesel particulate filter regeneration switch (where applicable)
• Diesel particulate filter regeneration inhibit switch (where applicable)

**CAB LCD DISPLAY**
A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display the following, along with other configuration specific information:

- Odometer
- Trip mileage
- PTO hours
- Fuel consumption
- Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

**AIR RESTRICTION INDICATOR**
A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm shall be provided.

"DO NOT MOVE APPARATUS" INDICATOR
There will be a Whelen, Model VTX609R, red LED indicator light with chrome trim located in the driving compartment. This light will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.
DO NOT MOVE TRUCK MESSAGES
Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed

Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

SWITCH PANELS
The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliqués. The built-in switch panels will be located in the lower console or overhead console of the cab.

Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.
The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.

**WIPER CONTROL**

Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.

**SPARE CIRCUIT #1**

There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 50 amps at 12 volts DC.
- Power and ground will terminate from the passenger's side battery, terminating behind the Captain's seat with at least 6-8 feet of slack wire coiled and capped. See photo in stage7 efolder for behind officer. TO BE GROUNDED TO FRAME (NOT BATTERY).
- Termination will be with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is set.

**SPARE CIRCUIT #2**

There will be two (2) dual USB fast charge socket mounts installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 4.8 amps at 12 volts DC.
- The USB socket mount will be one to the left of the officer below the chrome push buttons (SEE PHOTO 5933) and one on top of the engine tunnel below the HVAC controls (SEE PHOTO 5910).
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is applied.
SPARE CIRCUIT #3
There will be four (4) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 5 amps at 12 volts DC.
- Power and ground will terminate (1) outboard of the driver's seat, (1) outboard of the officer's seat and (1) in each rear facing EMS compartment in the cab.
- Termination will be with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.
- This circuit(s) may be load managed when the parking brake is set.

RADIO WITH CD PLAYER
A Panasonic AM/FM stereo radio with compact disc player will be included.

The compact disc stereo radio will be mounted within reach of the driver.

The quantity and location of the speakers will be one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab.

The type and location of the antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof.

SECURE SEAT WIRING
All wiring going to seat cushion and seat belt buckle will be in loom and secure to the seat area.

INFORMATION CENTER
An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

- Operate in temperatures from -40 to 185 degrees Fahrenheit
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Grey with black accents
- Sunlight Readable
- Linux operating system
- Minimum of 1000nits rated display
- Display can be changed to an available foreign language
A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

Programmed to read US Customary

GENERAL SCREEN DESIGN
Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

- An amber background/text color will indicate a caution condition
- A red background/text color will indicate a warning condition
- The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.
- A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

HOME/TRANSIT SCREEN
This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if equipped)
- Foam Level (if equipped)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

ON SCENE SCREEN
This screen will display the following and will be auto activated with pump engaged (if equipped):

- Battery Voltage
- Fuel
- Oil Pressure
- Coolant Temperature
• RPM
• Water Level (if equipped)
• Foam Level (if equipped)
• Foam Concentration (if equipped)
• Water Flow Rate (if equipped)
• Water Used (if equipped)
• Active Alarms

VIRTUAL BUTTONS
There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

PAGE SCREEN
The page screen will display the following and allow the user to progress into other screens for further functionality:

• Diagnostics
  o Faults
    ▪ Listed by order of occurrence
    ▪ Allows to sort by system
  o Interlock
    ▪ Throttle Interlocks
    ▪ Pump Interlocks (if equipped)
    ▪ Aerial Interlocks (if equipped)
    ▪ PTO Interlocks (if equipped)
  o Load Manager
    ▪ A list of items to be load managed will be provided. The list will provide a description of the load.
    ▪ The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
    ▪ The screen will indicate if a load has been shed (disabled) or not shed.
    ▪ "At a glance" color features are utilized on this screen.
  o Systems
    ▪ Command Zone
      • Module type and ID number
      • Module Version
      • Input or output number
      • Circuit number connected to that input or output
      • Status of the input or output
Power and Constant Current module diagnostic information
  - Foam (if equipped)
  - Pressure Controller (if equipped)
  - Generator Frequency (if equipped)
    - Live Data
      - General Truck Data

Maintenance
  - Engine oil and filter
  - Transmission oil and filter
  - Pump oil (if equipped)
  - Foam (if equipped)
  - Aerial (if equipped)

Setup
  - Clock Setup
    - Date & Time
      - 12 or 24 hour format
      - Set time and date
  - Backlight
    - Daytime
    - Night time
    - Sensitivity
  - Unit Selection
  - Home Screen
  - Virtual Button Setup
  - On Scene Screen Setup
  - Configure Video Mode
    - Set Video Contrast
    - Set Video Color
    - Set Video Tint

Do Not Move
  - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicate
    - Driver Side Cab Door
    - Passenger's Side Cab Door
    - Driver Side Crew Cab Door
    - Passenger's Side Crew Cab Door
    - Driver Side Body Doors
    - Passenger's Side Body Doors
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
November 1, 2017 (Quote Number 91101-17P)

- Rear Body Door(s)
- Ladder Rack (if applicable)
- Deck Gun (if applicable)
- Light Tower (if applicable)
- Hatch Door (if applicable)
- Stabilizers (if applicable)
- Steps (if applicable)

- Notifications
  - View Active Alarms
    - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
    - Silence Alarms - All alarms are silenced

- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
- Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

VEHICLE DATA RECORDER
There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
Seat Belt Monitoring System
A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The seat belt monitoring screen will become active on the Command Zone color display when:

- The home screen is active:
  - and there is any occupant seated but not buckled or any belt buckled with an occupant.
  - and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

INTERCOM SYSTEM
A five (5) position David Clark, Model U3800, intercom system with dual radio interface capability at the driver and officer positions with one (1) remote push to transmit buttons located as directed at pre-construction will be provided. Three (3) crew cab positions at three (3) forward facing seats will have radio listen / intercom only.

The following components will be supplied with this system:

- Two (2) U3816 Radio Interface Modules (Driver, Officer)
- One (1) Remote push to transmit kits (2 Driver, 2 Officer)
- One (1) U3800 Intercom Unit (2 Crew)
- One (1) C3820 Power Cable
- One (1) U3801 Remote Headset Station (1 Crew)
- All necessary station cables and connectors

RADIO / INTERCOM INTERFACE INCLUDED
All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to Motorola APX6500 7/800 MHZ.
UNDER THE HELMET HEADSET
There will be five (5) under the helmet, headset(s) provided driver, officer and 3 crew.

Each David Clark, Model H3442, headset will feature:

- 5' Coiled cord
- Noise cancelling electric microphone
- Flexible microphone boom rotates 200 degrees for left or right dress
- Microphone on/off button
- Comfort Gel Earseals
- 23 dB noise reduction

HEADSET HANGERS
There will be five (5) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat, passenger's side outboard forward facing seat and rear, center, forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.

GPS / MULTIMODE ANTENNA INSTALLATION
There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer.

Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.

SPECIAL WIFI ANTENNA MOUNT LOCATION
The Command Zone advanced electronics WiFi-GPS antenna will be relocated from its standard right crewcab roof location forward on the cab roof on the right side. When relocating this antenna it must be located a minimum of nine (9) inches away from any other metallic object. middle of the cab roof, behind the lightbar

RADIO ANTENNA MOUNT
There will be four (4) standard 1.125", 18 thread antenna-mounting base(s) installed at least 18.00" from other antennas or roof mounted objects. See photo in stage7 efolder for behind officer. IMPORTANT: All antenna cabling should be loosely run with minimal bending, and encased in protective loom in areas of abrasive or sharp object on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

COMMUNICATION EQUIPMENT INSTALLATION
A communication equipment mounting allowance of $3,000.00 is included in the bid price to cover the cost of mounting the applicable equipment per the direction of the City of Sacramento. If the City of
Sacramento exceeds the communication equipment mounting allowance, additional work can be performed at an additional cost of $112.00 per hour.

**VEHICLE CAMERA SYSTEM**

There will be a color vehicle camera system provided with the following:

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.
- One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal.

The camera images will be displayed on the driver's color touchscreen multiplex display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control located behind the driver seat.

The following components will be included:

- One (1) SV-CW134639CAI Camera
- One (1) CS134404CI Side camera
- One (1) Amplified speaker (if applicable)
- All necessary cables

**VEHICLE CAMERA GUARD**

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered at the rear below the hosebed and in between the handrails.

**ELECTRICAL POWER CONTROL SYSTEM**

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be
utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

**SOLID-STATE CONTROL SYSTEM**

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field re programmable to accommodate changes to the vehicle's operating parameters
- Complete operating and troubleshooting manuals
- USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40°C to +70°C
- Storage temperature from -40°C to +70°C
- Vibration to 50g
- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
November 1, 2017 (Quote Number 91101-17P)

- Operating voltage from eight (8) volts to 16 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

CIRCUIT PROTECTION AND CONTROL DIAGRAM
Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

ON-BOARD ELECTRICAL SYSTEM DIAGNOSTICS
Advanced on-board diagnostic messages will be provided to support rapid troubleshooting of the electrical power and control system. The diagnostic messages will be displayed on the information center located at the driver's position.

The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
- Amber caution indication with intermittent alarm
- Red warning indication with steady tone alarm

PROGNOSTICS
A software based vehicle tool will be provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)

ADVANCED DIAGNOSTICS
An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.
The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

**TECH MODULE WITH WIFI**

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will provide an external antenna connection allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone, control and information system.

The data logging capability will record faults from the engine, transmission, ABS and Command Zone, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data logger will provide up to 2 Gigabytes of data storage.

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.

**INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM**

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

**VOLTAGE MONITOR SYSTEM**

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

**POWER AND GROUND STUDS**

Spare circuits will be provided in the primary distribution center for two-way radio equipment.

The spare circuits will consist of the following:

- One (1) 12-volt DC, 30 amp battery direct spare
- One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center
ENHANCED SOFTWARE
The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

EMI/RFI PROTECTION
To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10Khz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

ELECTRICAL
All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and
environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

**BATTERY SYSTEM**
There will be six (6) 12 volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190 amp reserve capacity
- High cycle
- Group 31
• Rating of 5700 CCA at 0 degrees Fahrenheit
• -140 minutes of reserve capacity
• Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

**BATTERY SYSTEM**
There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

**MASTER BATTERY SWITCH**
There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

**BATTERY COMPARTMENTS**
Batteries will be placed on non-corrosive mats and stored in well ventilated compartments located under the cab.

Heavy-duty, 2/0 gauge, color coded battery cables will be provided. Battery terminal connections will be coated with anti-corrosion compound.

Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.

**JUMPER STUDS**
One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.

**BATTERY CHARGER**
There will be a Newmar, Model EV-40, battery charger with a Newmar, Model 023-5353-1, meter indicating the state of charge.

The vehicle battery output will be capable of supplying up to 40 amps for charging the batteries. The charger will include a 15 amp battery saver connection to charge hand lights, batteries, radios or power a 12 volt compressor.
The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

The battery charger will be located on the back wall of the EMS compartment, located on the forward side of the compartment, behind the driver seat.

The battery charger indicator will be located in the driver's step area.

**AUTO EJECT FOR SHORELINE**

There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include red weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to the battery charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver side of cab, to the front of cab door.

**ALTERNATOR**

A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self-diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

**ELECTRONIC LOAD MANAGER**

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.
For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to activate before any electric loads are shed and deactivate with the service brake.
  - If enabled:
    - "Load Man Hi-Idle On" will display on the information center.
    - Hi-Idle will not activate until 30 seconds after engine start up.
- Individual switch "on" indicator to flash when the particular load has been shed.
- The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

- Load managed items list, with priority levels and item condition.
- Individual load managed item condition:
  - ON = not shed
  - SHED = shed

**SEQUENCER**

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.
Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

- Cab Heater and Air Conditioning
- Crew Cab Heater (if applicable)
- Crew Cab Air Conditioning (if applicable)
- Exhaust Fans (if applicable)
- Third Evaporator (if applicable)

**HEADLIGHTS**
There will be four (4) JW Speaker®, rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

- the outside light on each side will contain a part number 055***1 low beam module
- the inside light on each side will contain a part number 055***1 high beam module
- the headlight to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

**DIRECTIONAL LIGHTS**
There will be two (2) Whelen, Model 60A00T*R, amber LED populated arrow directional lights provided on the front of the cab, above the headlights. Each light will be housed in the same quad common bezel as the front warning light. The lens color(s) to be the same as the LEDs.

**ADDITIONAL DIRECTIONAL LIGHT**
There will be two (2) Whelen, Model 60A00TAR, amber LED populated arrow directional lights provided exterior back of the cab, one (1) on each side.

Each light will be surface mounted in a 15 degree angle bracket.

**INTERMEDIATE LIGHT**
There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

**CAB CLEARANCE/MARKER/ID LIGHTS**
The front identification and clearance lights will be included in the front visor scene light.
FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS
There will be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab.

The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

REAR CLEARANCE/MARKER/ID LIGHTING
There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.
There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

**REAR FMVSS LIGHTING**
The rear stop/tail and directional LED lighting will consist of the following:

- Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
- Two (2) Whelen, Model M6T, amber LED arrow turn lights

The lights shall be provided with color lenses.

The lights will be mounted in a polished combination housing.

There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

**LICENSE PLATE BRACKET**
There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A polished stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

**LIGHTING BEZEL**
There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

**BACK-UP ALARM**
A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

**INTERLOCK NFPA MIDSHIP LIGHTS**
The NFPA midship lights will be disabled when the pump is put into gear. The lights will be disabled to allow the pump operator to work at the pump panels without the interference from the flashing lights.

**MARKER LIGHTS**
There will be one (1) pair of amber and red, Britax, Model L427.203.L12, LED marker lights with rubber arm, located one (1) each side at the rear of the body aft of the D1/P1 roll-up doors. The amber lens will face the front and the red lens will face the rear of the truck and be the most rearward marker light.
These lights will be activated with the running lights of the vehicle.

**WARNING LIGHT FLASH PATTERN**
The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern.

**CAB PERIMETER SCENE LIGHTS**
There will be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

**PUMP HOUSE PERIMETER LIGHTS**
There will be two (2) Amdor LumaBar H2O, Model AY-9500-020, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.

The lights will be controlled by the same means as the body perimeter lights.

**BODY PERIMETER SCENE LIGHTS**
There will be two (2) Amdor LumaBar H2O™, Model AY-9500-020, 20.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.

**STEP LIGHTS**
There will be four (4) white LED, step lights provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

These step lights will be actuated when the ignition switch is on and the parking brake is set.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

**FENDER SCENE LIGHTS**
There will be one (1) pair of TecNiq, Model E960, LED scene light(s) with stainless steel housing, installed on the side of the apparatus, one (1) each side aft of rear wheelwells.

A control for the light(s) selected above will be the following:
• a switch at the driver's side switch panel
• no additional switch location
• no additional switch location
• no additional switch location

These lights may be load managed when the parking brake is set.

12 VOLT LIGHTING, PS CAB
There will be one (1) HiViz FIRETECH, Model FT-MB2-18-FT, 20.50" 12 volt DC LED light(s) with FireTech combination spot/flood optics and adjustable pedestal mounting brackets, will be mounted PS crew cab centered under the Whelen side lightbar per job 29390.

The color of the light housing will be white.

The light(s) selected above will be controlled by the following:

• from the same switches provided to activate other scene lights.
• no additional switch location.
• no additional switch location.
• no additional switch location.

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING, DS BODY
There will be one (1) HiViz, part number FT-MB-24-TRGWA-FT-**, 2.56" high x 31.11" long x 3.31" deep 8,880 lumens 12 volt DC LED light(s) installed with TRGWA adjustable tilt mounts located DS catwalk centered under the hard suction hose trough per job 29390. The lights will be supplied with a combination of flood and spot optics.

The black.

The light(s) selected above will be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

These light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING, DS CAB
There will be one (1) HiViz FIRETECH, Model FT-MB2-18-FT, 20.50" 12 volt DC LED light(s) with FireTech combination spot/flood optics and adjustable pedestal mounting brackets, will be mounted DS crew cab centered under the Whelen side lightbar per job 29390.

The color of the light housing will be white.
The light(s) selected above will be controlled by the following:

- from the same switches provided to activate other scene lights
- no additional switch location
- no additional switch location
- no additional switch location

These light(s) may be load managed when the parking brake is applied.

**12 VOLT LIGHTING, PS BODY**

There will be one (1) HiViz, part number FT-MB-24-TRGWA-FT-**, 2.56" high x 31.11" long x 3.31" deep 8,880 lumens 12 volt DC LED light(s) installed with TRGWA adjustable tilt mounts located PS centered on the body flange as high as possible. The lights will be supplied with with a combination of flood and spot optics.

The black.

The light(s) selected above will be controlled by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

These light(s) may be load managed when the parking brake is applied.

**12 VOLT LIGHTING, VISOR**

There will be a HiViz Model FT-B-80-ML-*, 2.56" high x 82.75" long x 3.31" deep 31,680 raw lumens 12 volt DC light provided on the front cab roof as far forward as practical. The light will include white scene LEDs, two (2) amber LEDs as clearance lights and three (3) amber LEDs as identification lights.

The painted parts of the light housing and brackets to be white.

The clearance and identification LEDs will be activated with the headlight switch.

The scene LEDs will be activated when the battery switch is on, the parking brake is applied and by a switch at the driver's side switch panel and by a switch at the driver's side pump panel.

The white LEDs may be load managed when the parking brake is applied.

**LIGHTS BELOW HOSE BED COVER**

There will be four (4)Amdor LumaBar H2O, Model AY-9500-40, 40.00" white 12 volt DC LED light strips provided to illuminate the hose bed area.

- Two (2) LED light strips will be installed on the driver's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the hinge as practical.
• Two (2) LED light strips will be installed on the passenger's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the hinge as practical.

The light(s) will be activated when the hosebed cover is raised.

**REAR SCENE LIGHTS**

There will be two (2) Whelen, Model PELCC, white 12 volt DC LED scene lights with 45 degree chrome housing installed at the rear of the apparatus, below the stop/tail/warning assembly at the rear of the body, one (1) each side.

The lights will be controlled when the parking brake is applied.

**WALKING SURFACE LIGHTS**

There will be Two (2) Amdor Model LumaBar, white 12 volt DC LED strip light provided in the cargo area to illuminate the interior surface of the cargo area. Light(s) will be located under the top flange of the cargo area.

The light will be activated when the body step lights are on.

**SWITCH, ADDITIONAL**

Additional 12V switch(es) will be provided. There will be one (1) switch located in the cab, labeled 'rear scene' to control the REAR SCENE lights. Note options 591872 (rear upper scene), 696870 (body fender lights) and 645639 (NFPA rear work lights).

**WATER TANK**

Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank bottom and sides.

Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.
Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that is 8.00" long x 8.00" wide x 6.00" deep will be provided at the bottom of the water tank.

A sump will include a drain plug and the tank outlet.

A sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system will be approved by the tank manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

Two (2) sleeves will be provided in the water tank for a 3.00" pipe to the rear.

**HOSE BED**

The hose bed will be fabricated of 12-gauge galvanneal steel.

The sides will not form any portion of the fender compartments.

Standard hose bed width will be minimum of 68.00" inside.

Upper and rear edges of side panels will have a double break for rigidity.

The upper inside area of the beavertails will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.
Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.

Hose bed will accommodate (from right to left): 600' x 3.00" D.J.C.R.L | 500' x 2.50" D.J.C.R.L | 1000' x 5.00" D.J.C.R.L.

**HOSE BED DIVIDER**

Two (2) adjustable hosebed dividers will be furnished for separating hose.

The height of the hose bed divider(s) will be 24.00".

Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge.

Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider will be held in place by tightening bolts, at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

**BACKBOARD COMPARTMENT**

One (1) backboard compartment will be fabricated with an unpainted DA finish and welded to the underside of the bright aluminum treadplate hose bed cover, on the passenger's side. Compartment(s) size will be actual inside dimensions of trough 74"L x 18"W x 3"T and will have a velcro strap at the end to hold the backboards in place. The front of the compartment will be tapered to allow hose couplings to flow smoothly past it.

A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.

There will be one (1) additional hose bed dividers furnished.

Each divider will be constructed of a .25" brushed aluminum sheet. The divider will be 15.00" tall. The rear 24.00" of the divider will be notched out to the base of the divider.

Partition will be installed and located See sketch in Job Photo’s. Divider to be on driver's side of hosebed..

Divider will be held in place by tightening two (2) bolts, one (1) at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.
HOSE BED COVER
A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down with the center of the cover supported by a stationary bridgework support.

The cover will be reinforced so that it can support the weight of a man walking on the cover.

The cover will be designed with the right cover opening first.

If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors.

Chrome grab handles and four (4) gas filled cylinders with metal ends will be provided to assist in opening and closing the cover. A positive stay arm will be provided at the front of the cover.

A red vinyl flap will be installed on the rear of the bright aluminum treadplate hose bed cover. The vinyl cover will be install directly to the aluminum treadplate cover. An aluminum angle will be attached to the bottom of the aluminum cover that extends approximately 2.00" past the bridgework. The vinyl cover will be attached to the inside of this aluminum angle. The vinyl flap must be able to move with the aluminum cover while it is being raised and lowered. A total of four (4) grommetted, hooked loop bungee cords, two (2) per flap, will be provided in the lower section of the flap. The bungee cords will hook onto small hooks below the base of the hose bed.

RUNNING BOARDS
Running boards will be fabricated of .125" bright aluminum treadplate.

Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure.

Running boards will be 12.75" deep and spaced .50" away from the pump panel.

A splash guard will be provided above the running board treadplate.

TAILBOARD
The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The tailboard area will be 16.00" deep.

The exterior side will be flanged down and in for increased rigidity of tailboard structure.

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL
The rear facing surfaces of the center rear wall will be smooth aluminum.
The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body.

Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.

**TOW BAR**
A tow bar will be installed under the tailboard at center of truck.

Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail.

Tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.

Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

**RUNNING BOARD HOSE RESTRAINT**
A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. The straps will be 20.00"" in length. There will be Two (2) hose trays located one (1) in each side running board.

**HOSE TRAY**
Two (2) hose trays will be recessed one (1) in each side running board.

Capacity of the tray will be 30' of 5.00".

Rubber matting will be installed on the floor of the tray to provide proper ventilation.

**COMPARTMENTATION**
Body and compartments will be fabricated of galvanneal steel.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

Compartment flooring will be 12 gauge and of the sweep out design, with the floor higher than the compartment door lip.

The compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.
Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate, or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear, and outward side. These covers will have the corners TIG welded.

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

**UNDERBODY SUPPORT SYSTEM**

Due to the severe loading requirements of this pumper, a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails, which is the strongest component of the chassis and designed for sustaining maximum loads.

The support system will include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure, which results in a 500 lb equipment support rating per lower compartment.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

The isolators will have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

**AGGRESSIVE WALKING SURFACE**

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
November 1, 2017 (Quote Number 91101-17P)

LOUVERS
Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN
Body structural analysis has been fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging have been performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.

The body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00", simulating the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn while at 20 mph, simulating aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph, on rough pavement.

Evidence of actual testing techniques will be made available upon request.

LEFT SIDE COMPARTMENTATION
The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high.
The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

**RIGHT SIDE COMPARTMENTATION**

The right side compartmentation will consist of two rollup door compartments.

A rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 32.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 22.88" high.

A rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 33.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 23.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

**ROLLUP DOOR, SIDE COMPARTMENTS**

There will be five (5) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingestion.
The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 nylon.

Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

**COMPARTMENTATION, REAR**
A rollup door compartment above the rear tailboard will be provided.

The interior dimensions of this compartment will be 40.00" wide x 40.63" high x 25.88" deep in the lower 32.38" of height and 15.75" deep in the remaining upper portion. The depth of the compartment will be calculated with the compartment door closed.

For a chassis with a rear mounted fuel tank, a louvered removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments.

The clear door opening of this compartment will be 33.25" wide x 32.38" high.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

**ROLLUP DOOR, REAR COMPARTMENT**
The rear compartment will have a rollup door.

The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors.
The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingestion.

The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 Nylon.

The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

**DOOR GUARD**

There will be six (6) compartment doors that will include a guard/drip pan designed to protect the roll-up door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed all body compartments.

**COMPARTMENT LIGHTING**

There will be six (6) compartments with Amdor, Model AY-9220, white 12 volt DC LED compartment light strips. The lights will be mounted with mechanical fasteners.

There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.
The lights will be activated when the battery switch is on and the respective compartment door is opened.

**ACCESS PANEL**
The bright aluminum treadplate flooring on the left side of the cargo compartment will be hinged with quarter turn latches for access to the pump and plumbing.

**MOUNTING TRACKS**
There will be six (6) sets of tracks for mounting shelf(s) in D3, D2, D1, R1, P1 and P2. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be unpainted with a natural finish.

**ADJUSTABLE SHELVES**
There will be eight (8) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location will be one in P1 lower 12 1/16" frome tile, one in P2 lower 14 3/16" from tile, two upper D1, one in D2 7 1/4" from tile, two in upper D3 & and 1 in R1 19 11/16" from the tile.

The side height of the shelf/shelves will be as follows:

- Front: 2.00" high
- Rear: 2.00" high
- Left & Right Sides: 2.00" high

**SLIDE-OUT ADJUSTABLE HEIGHT TRAY**
There will be one (1) slide-out tray provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 250 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The location(s) will be in D3 in the lower third
SLIDE-OUT FLOOR MOUNTED TRAY
There will be one (1) floor mounted slide-out tray(s) with 2.00" sides provided D1 Per Photo 146, 152. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of a minimum .13" aluminum with welded corners. The finish will be painted spatter gray.

The trays will be designed for maximum compartment width and depth.

There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

MATTING, COMPARTMENT FLOOR
Turtle Tile compartment matting will be provided in five (5) compartments on the compartment floor. The locations are, D2, D3, R1, P1 & P2 Per Photo #6826, 6835, 6846, 6849..

The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be black.

MATTING, COMPARTMENT SHELVING
Turtle Tile compartment matting will be provided in ten (10) shelves. The locations are, all adjustable shelves (8 total) and all slide-out trays (2 total) Per Photo #6826, 6835, 6846, 6849..

The color of the Turtle Tile will be black.

RUB RAIL
Bottom edge of the side and rear of the body compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.
BODY FENDER CROWNS
Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be installed between the body and the crown to seal the seam and restrict moisture from entering.

A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.

HARD SUCTION HOSE PROVIDED BY DEALER
NFPA 1901, 2016 edition, section 5.8.2 requires a minimum of 20 ft of suction hose or 15 ft of supply hose.

Hose is not on the apparatus as manufactured. The dealer will provide suction or supply hose.

There will be Two (2) lengths of 10' long x5.00" diameter hose provided and equipped with a 5.00” Storz Couplings and folding handles ON EACH END couplings provided on the ends. The brand will be Kochek.

HOSE TROUGHS
Hard suction hose will be carried in two (2) V-shaped troughs, one (1) each side, and held in place by Velcro straps.

Troughs will be constructed of aluminum and painted job color.

HANDRAILS
The handrails will be 1.25” diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

Handrails will be provided to meet NFPA 1901 section 15.8 requirements. The handrails will be installed as noted on the sales drawing.

HANDRAILS
- One (1) vertical handrail, not less than 29.00" long, will be located on each rear beavertail.
- Two (2) horizontal handrails will be provided below the hose bed at the rear of the apparatus, one each side.
- Two (2) handrails will be provided mounted on the top rear of the hosebed cover on each side, 7" forward from rear with bolts.
AIR BOTTLE STORAGE (DOUBLE)
A quantity of two (2) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, will be provided on the driver side forward of the rear wheels. The triangular door shall cover the double air bottle opening and the DEF tank access. and on the driver side rearward of the rear wheels. The triangular door shall cover the double air bottle opening and the fuel tank access. A painted stainless steel door with a Southco non-locking C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

Inside the compartment, "W" shaped insert formed of composite materials will be provided.

AIR BOTTLE COMPARTMENT STRAP
A strap shall be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap shall wrap around the neck and attach to the wall of the compartment.

EXTINGUISHER STORAGE
A quantity of two (2) extinguisher compartments will be provided on the passenger side forward of the rear wheels and on the passenger side rearward of the rear wheels. The extinguisher compartment will be in the form of a 9.00" square tube and of adequate depth to accommodate different size extinguishers. A painted stainless steel door with a Southco non-locking C2 chrome lever latch will be provided to contain the extinguisher. A dielectric barrier will be provided between the door hinge, hinge fasteners, and the body sheet metal.

Inside the compartment, black rubber matting will be provided. There will also be a drain hole for each compartment.

EXTENSION LADDER
There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.

ROOF LADDER
There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

LADDER BRACKETS
The ladders will be installed on the right side of the hose body in lined brackets and held in place by chrome plated, quarter-turn spring loaded clamps. The clamps will be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. The ladder brackets will be adjustable up and down.

FOLDING LADDER
One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be provided.
The mounting tube will be installed on the inside of the side sheet ladder mounting brackets. A stop will be provided to keep the ladder from sliding forward in the bracket. A nylon strap will be provided at the rear of the tube to retain the ladder.

**PIKE POLE, 10’**
One (1) pike pole, Fire Hooks Unlimited, Model NYFG-10, 10' long New Yorker style hook with a ram knob end, will be provided and located in the pike pole tube.

**PIKE POLE, 6’**
There will be one (1) Fire Hooks Unlimited NY roof hook RH-6, 6 foot pike pole(s) with steel handles and pry end provided in pike pole tube.

**PIKE POLE STORAGE**
Aluminum tubing will be used for the storage of two (2) pike poles and will be located behind the ladders on the side sheet, passenger's side. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.

**FRONT STEPS**
A folding step will be provided on the driver side front bulkhead. The step will be a bright finished, non-skid step with a luminescent coating that is rechargeable from any light source and can hold a charge for up to 24 hours. The step will incorporate an LED light to illuminate the stepping surface. The step can be used as a hand hold with two openings wide enough for a gloved hand.

Two (2) additional folding steps will be located drivers side above the standard step. The step(s) will be bright finished, non-skid, with a luminescent coating. The luminescent coating is rechargeable from any light source and can hold a charge for up to 24 hours. Each step will incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.

**REAR STEPS**
Aluminum treadplate corner steps and bright finished, non-skid folding steps will be provided at the rear. The folding steps will have a luminescent coating that is rechargeable from any light source and can hold a charge for up to 24 hours. Each folding step will incorporate an LED light to illuminate the stepping surface. The folding steps can be used as a hand hold with two openings wide enough for a gloved hand. All steps will provide adequate surface for stepping.

**PUMP**
Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type.

Pump will be the class "A" type.
Pump will deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.
- 70% of rated capacity at 200 psi net pump pressure.
- 50% of rated capacity at 250 psi net pump pressure.

Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings).

Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping.

Pump case halves will be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used.

Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency.

The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold.

Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply.

Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.

Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body.

In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation.

Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.
PUMP TRANSMISSION
The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By the use of a chain rather than gears, 50% of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work.

Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.

PUMPING MODE
An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.

AIR PUMP SHIFT
Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel.

Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".

Another green indicator light will be installed adjacent to the hand throttle on the pump panel and indicate either the pump is engaged and the road transmission is in pump gear, or the road transmission is in neutral and the pump is not engaged. This indicator light will be labeled "Warning: Do not open throttle unless light is on".

The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.

The pump shift control in the cab will be illuminated to meet NFPA requirements.

TRANSMISSION LOCK-UP
The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.

AUXILIARY COOLING SYSTEM
A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment.
with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

**INTAKE RELIEF VALVE - PUMP**
An Elkhart Style 40 relief valve will be installed on the suction side of the pump preset at 175 psig.

The relief valve will have a working range of 75 psig to 250 psig.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

The relief valve pressure control will be located behind an access door at the right side pump panel.

**PRESSURE GOVERNOR**
This apparatus will be equipped with a Class1 "Total Pressure Governor" engine/pump governor/throttle system that is connected directly to the Electronic Control Module (ECM) mounted on the engine. The "Total Pressure Governor" is to operate as a pressure sensor (regulating) governor (PSG).

A special preset feature will permit a predetermined pressure of RPM to be set. The preset pressure or RPM will be displayed on the message display of the "Total Pressure Governor". The preset will be easily adjustable by the operator

The pressure sensor governor system will be operable only after the vehicle parking brake has been set, the transmission is the pumping mode, and the fire pump has been engaged.

The pressure sensor governor system will have two (2) modes of operation: pressure mode or rpm mode.

When in the pressure mode, the PSG system will automatically maintain the discharge pressure set by the operator regardless of flow (within engine/pump operating capabilities).

In the rpm mode, the PSG system will automatically maintain a set engine speed, regardless of engine load (within engine operation capabilities).

A pump cavitation protection feature will be provided which will return the engine to idle should the pump cavitate.

The pressure controller will incorporate monitoring for engine coolant temperature, oil pressure, and battery voltage.

**PRIMER SYSTEM**
A Waterous electric pump priming system conforming to standards outlined in the current edition of NFPA 1901 will be furnished with the apparatus.

One (1) VPO electric motor driven rotary vane primer will be provided.
One (1) VAP vacuum activated priming valve will be plumbed main pump.

One (1) momentary push-button control will be located at the pump operator's panel.

The push button control system control will operate an electric priming motor and the priming valve will automatically open during priming and close when the primer is deactivated.

**THERMAL RELIEF VALVE**
A Waterous Overheat Protection Manager (OPM) will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 140 Degrees F (60 C) and a red warning light that is triggered when the water in the pump reaches 180 F (82 C).

The warning light will act as an additional protection device if the temperature in the pump keeps rising after the valve opens. The warning light with a test switch will be mounted on the pump operator panel.

The discharge line will be plumbed to ground.

**PUMP MANUALS**
There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

**PLUMBING, STAINLESS STEEL AND HOSE**
All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

**PLUMBING, FOAM SYSTEM**
All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.
MAIN PUMP INLETS
A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

MAIN PUMP INLET CAP PROVIDED BY DEALER
NFPA 1901, 2016 edition, section 16.6.8 requires all intakes to be provided with caps, plugs, or closures capable of withstanding a hydrostatic gauge pressure of 500 psi.

The caps are not on the apparatus as manufactured. The dealer will provide both caps for the main pump inlets.

SHORT SUCTION TUBE
The suction tubes on the mid-ship pump will have short suction tubes to allow for installation of adapters without excessive overhang.

VALVES
All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a ten (10) year warranty.

LEFT SIDE INLET
There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

RIGHT SIDE INLET
There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

The location of the valve for the two (2) inlets will be behind the pump panel.

ANODE, INLET
A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.
INLET CONTROL
The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

INLET BLEEDER VALVE
A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP
The booster tank will be connected to the intake side of the pump with 3.00" piping and a quarter turn 3.50" Waterous valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL
A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS
There will be two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS
There will be one (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

LARGE DIAMETER DISCHARGE OUTLET
There will be a 4.00" discharge outlet with a 3.50" Akron valve with a 3.00" ball, installed on the right side of the apparatus, terminating with a 4.00" (M) National Standard hose thread adapter.

There will be an Akron electric valve controller provided at the pump panel. The controller unit will be of true position feedback design, requiring no clutches in the motor or current limiting. The controller will be completely sealed with two (2) button open and close valve position capability and a full color LCD display with backlight.
REAR DISCHARGE OUTLET
There will be two (2) discharge outlets piped to the rear of the hose bed, one (1) each side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.

DISCHARGE CAPS
Chrome plated, rocker lug, caps with stainless steel cables will be furnished for all discharge outlets.

The auxiliary inlet plugs will have stainless steel cables.

OUTLET BLEEDER VALVE
A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS
The 2.50" discharge outlets, located on the left side pump panel, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE OUTLET ELBOWS
The 2.50" discharge outlets, located on the right side pump panel, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

REAR OUTLET ELBOWS
The 2.50" discharge outlets, located at the rear of the apparatus, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow.
The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

**LARGE DIAMETER OUTLET ELBOW/CAP PROVIDED BY DEALER**

NFPA 1901, 2016 edition, section 16.7.7 requires any 2.00" or larger discharge outlet that is located more than 42.00" off the ground and to which hose is to be connected and that is not in a hose storage area will be supplied with a sweep elbow of at least 30 degrees downward.

NFPA 1901, 2016 edition, section 16.7.4 requires all discharge outlet connections, except connections to which a hose will be pre-connected, will be equipped with caps or closures capable of withstanding a hydrostatic gauge pressure of 100 psi over the maximum pump close-off pressure or 500 psi, whichever is greater.

The elbow(s) and cap are not on the apparatus as manufactured. The dealer will provide the elbow(s) and cap.

**DISCHARGE OUTLET CONTROLS**

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

**DELUGE RISER, W/DUAL CONTROL**

Three (3) inch deluge riser plumbing shall be installed and routed above the pump in such a manner that a monitor can be mounted and used effectively.

The riser plumbing shall be gated and controlled at the pump operator's panel by a handwheel control with position indicator.

A second handwheel control without position indicator shall be provided above the pump adjacent to the outlet.

Plumbing shall consist of 3.00" piping and a 3.00" valve.

Piping shall be installed securely so no movement develops when the line is charged.

**MONITOR**

An Elkhart Model 8297 "Stinger" monitor will be properly installed on the deluge riser.

This monitor will include both a fixed base and a portable base with a 5.00" Storz inlet.

The monitor will be painted as provided by monitor manufacturer.
MONITOR NOZZLE
An Elkhart #SM-1250 Select-O-Matic manual pattern control master stream nozzle will be provided.
Also included is an Elkhart ST-194 Quad stack tips and 282A shaper.

MONITOR MOUNTING BASE
An Elkhart Model 8298 deck mount base for an Elkhart "Stinger" monitor will be properly installed on the deluge riser via the 3.00" four bolt flange. This base will be painted to match the body.

CROSSLAY HOSE BEDS, 1.50"
Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying FORWARD CROSSLAY: 150' x 1.75" SINGLE STACK with clear inside of 7.00" | MIDDLE CROSSLAY: 200' x 1.75" DOUBLE STACK with clear inside of 7.00" and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.
Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.
The crosslay controls will be at the pump operator's panel.
The center crosslay dividers will be fabricated of .25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish.
Vertical scuffplates, constructed of stainless steel, will be provided at the front and rear ends of the bed on each side of vehicle.
Crosslay bed flooring will consist of removable perforated brushed aluminum.

CROSSLAY HOSE BED, 2.50"
One (1) crosslay with a 2.50" outlet will be provided. The bed will be capable of carrying REAR CROSSLAY: 300' x 1.75" DOUBLE STACK with clear inside of 7.00" and will be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve.
The outlet will be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus.
The crosslay control will be at the pump operator's panel.
If needed, the center crosslay dividers will be fabricated of .25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish. The remainder of the crosslay bed will be painted job color.
Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate.
Crosslay bed flooring will consist of removable perforated brushed aluminum.

**CROSSLAY/DEADLAY HOSE RESTRAINT**
An aluminum treadplate cover, hinged at the front will be installed over the top of the crosslay/deadlay(s). It will include a latch at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface. The cover will be provided with rubber latch hold open device.

**CROSSLAY 9.00" LOWER THAN STD**
The crosslays will be lowered 9.00" from standard.

**CROSSLAY COVER**
A red vinyl cover with two (2) hooked loop bungee cord hold down straps shall be provided over the ends of the crosslay hose beds. The vinyl covers shall be attached to the inside edge of the aluminum crosslay cover. The vinyl flap must be able to move with the aluminum cover while it is being raised and lowered.

**BOOSTER HOSE REEL**
A Hannay electric rewind booster hose reel will be installed over the pump in a recessed open compartment on the right side of the apparatus.

The exterior finish of the reel will be painted job color matching the body exterior.

A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus. There will be one (1) additional polished stainless steel roller and guide assembly mounted on top of the driver's side pump module side sheet.

Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" Aeroquip hose and a 1.50" valve.

The reel will include NPSH threaded couplings.

Reel motor will be protected from overload with a 50 amp automatic reset circuit breaker.

One (1) foot actuated, stirrup type, electric rewind control (switch) will be installed on the passenger's side below the running board or below the body compartment. Two (2) push-button switches will be provided on the pump panels, one (1) switch each side.

Booster hose, 1.00" diameter and 150 feet in length, with chrome plated Barway, or equal couplings will be provided. The couplings will have 1" NPSH threads.

The hose will be coupled in three (3) sections. Three 50' sections will be provided.

Working pressure of the booster hose will be a minimum of 800 psi.
Capacity of the hose reel will be 150 feet of 1.00" booster hose.

**HOSEREEL ACCESS**
A cutout will be provided in the side sheet next to the booster hose reel. This cutout will allow access to the hose and provide a window to view the reel. Stainless steel trim will be mounted horizontally and vertically around the cutout.

**NOZZLE CUP AND BRACKET**
A Zico nozzle cup and chrome plated mounting bracket will be provided for storage of the booster reel nozzle.

There will be one (1) provided. The nozzle cup(s) will have a 3-1/2" inside diameter and will be located on the PS pumphouse per photo (note cup is to be a Zico part #3070-130-000 with part #3070-135-000 mounting bracket).

**FOAM CONCENTRATE PROPORTIONING SYSTEM**
A Hypro FoamPro®, Model 2001, foam system will be provided as the means for the proportioning of foam concentrate into the water stream. The FoamPro is an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system.

This system will be capable of handling Class A foam concentrates, as well as most Class B foam concentrates.

The foam system will be plumbed to five (5) discharges. The discharges capable of dispensing foam will be reel, both 1.50" crosslays, one (1) 2.50" discharge on the left pump panel and one (1) 2.50" discharge DS REAR.

The foam proportioning system operation will be based on a direct measurement of water flows, and remain consistent within the specified flow and pressure. The system will be equipped with a digital electronic control display on the pump panel. Incorporated within the control display will be a microprocessor, which receives input from the system flow meter while also monitoring the foam concentrate pump output. The microprocessor will compare the values of the water flow versus the foam flow, to ensure the proportion rate is accurate.

One (1) paddle wheel will be installed to monitor all foam discharges.

Push button control for the form proportioning rate will allow a ratio from .1 percent to 3 percent in .1 percent increments.

The rated capacity of this system will be 85 gpm at 3 percent and 500 gpm at .5 percent.

A 2.5 gpm @ 150 psi, positive displacement foam pump will be powered by a 1/2 hp 12 vdc electric motor.
One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump. The check valve will be approved by the foam system manufacturer.

**FOAM TANK**
The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

**FOAM TANK DRAIN**
The foam tank drain will be a 1.00" drain valve located inside the pump compartment accessible through a door on the passenger's side pump panel.

**PUMP COMPARTMENT**
The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.

**PUMP MOUNTING**
Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.

**PUMP CONTROL PANELS (SIDE CONTROL)**
All pump controls and gauges will be located at the left (driver's) side of the apparatus and properly marked.

The pump panel on the right (passenger's) side is removable with lift and turn type fasteners. The left (driver's) side is fastened with screws.

The control panels will be 48.00" wide.

The gauge and control panels will be two (2) separate panels for ease of maintenance.

The side gauge panel will be hinged at the bottom with a full length stainless steel hinge. The fasteners used to hold the panel in the upright position will be quarter turn type. Vinyl covered cable or chains will be used to hold the gauge panel in the dropped position.
Polished stainless steel trim collars will be installed around all inlets and outlets.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels will be done with a threaded peg cast on the back side of the bezel or screws.

**PUMP PANEL CONFIGURATION**
The pump panel configuration layout will be ergonomically efficient and systematically organized.

**PUMP AND GAUGE PANEL**
The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.

The passenger's side pump panel will be removable and fastened with swell type fasteners.

**PUMP COMPARTMENT LIGHT**
A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A .125" weep hole will be provided in each light lens, preventing moisture retention.

**PUMP PANEL GAUGES AND CONTROLS**
The following will be provided on the pump and gauge panels in a neat and orderly fashion. These gauges will be in addition to what is provided with the pressure controller.

- Engine Oil Pressure Gauge: With visual and audible warning
- Engine Water Temperature Gauge: With visual and audible warning
- Tachometer: Electric
- Master Pump Drain Control
- Voltmeter
INDICATOR LIGHTS @ PUMP PANEL
The following indicator lights will be provided at the pump panel. These will be in addition to the indicators included with the pressure controller.

- Check Transmission Warning Indicator Light
- Stop Engine Warning Indicator Light
- Check Engine Warning Indicator Light.

AIR HORN BUTTON
An air horn control button will be provided at the pump operator's control panel. This button will be properly labeled and put within easy reach of the operator.

DRAINS, DRIVERS SIDE
The drains on the drivers side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.

PASSENGERS SIDE DRAINS
The drains on the passengers side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.

OUTLET TRIM RINGS
The drivers side discharges and auxiliary inlet valves will be recessed behind the panel and have larger holes provided in the pump panel to facilitate removal of the valves without removing the complete pump panel. Stainless steel trim plates will be provided to trim the holes.

SPECIAL LABEL
There will be one (1) special label/s provided and installed Label 2.50" crosslay. Each label will be worded as follows, No. 3 Crosslay.

VACUUM AND PRESSURE GAUGES
The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 6.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They will be marked with a label.
PRESSURE GAUGES
The individual "line" pressure gauges for the discharges will be interlube filled and manufactured by Class 1©.

They will be a minimum of 2.50" in diameter and the dial will have white faces with black markings.

Gauges will have a pressure rating of 30.00" 0-400 psi.

The individual pressure gauge will be installed as close to the outlet control as practical.

WATER LEVEL GAUGE
There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.

FOAM LEVEL GAUGE
An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

**STEP/LIGHT SHIELD**

There will be a polished, 16 gauge stainless steel light shield installed under the crosslays. This shield will be properly reinforced to support the crosslay hose weight.

- There will be 12 volt DC white LED light(s) installed under the stainless steel light shield.
- These lights will be activated when the battery switch is on and the pump panel light switch is on.

There will be an aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operators main panel.

- There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light will come on when the pump is in ok to pump mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

There will be a green pump engaged indicator light activated on at the operator's panel when the pump is shifted into gear from inside the cab.

There will be one (1) white LED, step light provided above this step. In order to ensure exceptional illumination, each step light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step light will be activated by the pump panel light switch.
AIR HORN SYSTEM
One (1) chrome finish, stutter tone, Grover, Model 1510, air horn approximately 24.50" long will be provided and recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

Air Horn Location
The air horn will be located on the left side of the bumper, just outside of the frame rail.

AIR HORN CONTROL
The air horn will be actuated by a chrome push button switch located on the officer side of the engine tunnel and by a foot switch on the driver's side.

ELECTRONIC SIREN
A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the overhead console above the engine tunnel in the center.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER
There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the left side of the front bumper, towards the outside.

MECHANICAL SIREN
There will be a Federal Signal Model Q2B mechanical siren furnished on the front of the apparatus. The siren will be energized from a battery direct circuit through a 2-gauge cable to a solenoid that is energized from the emergency master switch. Additional customer selectable controls will be included for the momentary activation of this siren.

There will be a momentary siren brake switch provided in the cab on the switch panel.

The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.
MECHANICAL SIREN CONTROL
The mechanical siren will be actuated by a push button located on the officer's side instrument panel and by a foot switch on the driver's side.

FRONT ZONE UPPER WARNING LIGHTS
There will be one (1) 81.00" Whelen® Freedom IV™ lightbar mounted on the cab roof. The lightbar will include the following:

- One (1) red flashing LED module in the driver's side rear corner position.
- One (1) red flashing LED module in the driver's side end position.
- One (1) red flashing LED module in the driver's side front corner position.
- One (1) red flashing LED module in the driver's side first front position.
- One (1) red flashing LED module in the driver's side second front position.
- One (1) white flashing LED module in the driver's side third front position.
- One (1) red steady burn LED module in the driver's side fourth front position.
- One (1) red flashing LED module in the driver's side fifth front position.
- Open in the driver's side sixth front position.
- One (1) 795 LED traffic light controller sent to national standard high priority in the center positions.
- Open in the passenger's side sixth front position.
- One (1) red flashing LED module in the passenger's side fifth front position.
- One (1) red steady burn LED module in the passenger's side fourth front position.
- One (1) white flashing LED module in the passenger's side third front position.
- One (1) red flashing LED module in the passenger's side second front position.
- One (1) red flashing LED module in the passenger's side first front position.
- One (1) red flashing LED module in the passenger's side front corner position.
- One (1) red flashing LED module in the passenger's side end position.
- One (1) red flashing LED module in the passenger's side rear corner position.

There will be clear lenses and colored filters included on the lightbar.

The following switches may be installed in the cab on the switch panel to control the lightbar:

- a switch to control the flashing LED modules.
- the traffic light controller by a cab switch with emergency master control.
- no momentary switch to activate the traffic light controller.

The two (2) white flashing LED modules and the traffic light controller will be disabled when the parking brake is applied.
The eight (8) red flashing LED modules in the front positions may be load managed when the parking brake is applied.

**SIDE WARNING LIGHTS**

There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the crew cab doors.

Each lightbar will include the following:

- One (1) red flashing LED module in the outside rear corner position.
- One (1) red flashing LED module in the rear outside position.
- One (1) red flashing LED module in the front outside position.
- One (1) red flashing LED module in the outside front corner position.

There will be clear lenses and colored filters included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

These lights may be load managed when the parking brake is applied.

**FRONT ZONE LOWER LIGHTS**

There will be two (2) Whelen, Model M6*, LED flashing warning lights installed on the cab face above the headlights, in a common bezel with the directional lights.

- The driver's side front warning light to be red.
- The passenger's side front warning light to be red.

Both lights will include a lens that is the same color as the LED's.

There will be a switch located in the cab on the switch panel to control the lights.

**HEADLIGHT FLASHER**

The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.
SIDE ZONE LOWER LIGHTING
There will be six (6) Whelen®, Model M6*, flashing LED warning lights with chrome trim installed per the following:

- Two (2) lights, one (1) each side on the front cab corner. The side front lights to be red.
- Two (2) lights, one (1) each side of cab rearward of crew cab doors. The side middle lights to be red.
- Two (2) lights, one (1) each side on the rear fender panel. The side rear lights to be red.
- The lights will include lenses that is the same color of the LEDs.

There will be a switch in the cab on the switch panel to control the lights.

SIDE WARNING LIGHTS
There will be four (4) Whelen, Model WIONS MC* LED light(s) provided and located in the body rub rails one (1) each mounted in the rubrail and centered below the following compartments: D1, D3, P1 and P3. The lights will NOT be mounted with the rubber gasket behind the light which will allow the light(s) to fit in the rub rails.

The color of each light will be red LED with a clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

REAR ZONE LOWER LIGHTING
There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus.

- The driver's side rear light to be red
- The passenger's side rear light to be red

Both lights will include a lens that is the same color as the LED's.

There will be a switch located in the cab on the switch panel to control the lights.

REAR OF HOSEBED WARNING LIGHTS
There will be two (2) Whelen, Model B6MLRZP, combination LED beacon and LED scene light provided at the rear of the truck, one (1) each side.

Each beacon will contain flashing LED warning light in a 360 degree arrangement and a LED scene light mounted in a polished aluminum housing.

The LED beacons will be red with both domes red.
These beacons will be mounted so that the scene lights face to the rear.

There will be two (2) switches provided to activate these lights

- One (1) switch in the cab will control both beacons.
- One (1) switch in the cab will control both rear facing scene lights.

The scene lights may be load managed when the parking brake is set.

The rear warning lights will be mounted on stainless steel brackets with all wiring totally enclosed. These brackets will also support the clearance/marker lights. The rear deck lights will be mounted on the beavertail flange to keep the overall height as low as possible.

**TRAFFIC DIRECTING LIGHT**

There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.

The Whelen Model TACTL5 control head will be included with this installation.

The auxiliary flash to be activated when the emergency master switch is on.

This traffic directing light will be surface mounted over the rear door, at the rear of the apparatus as high as practical.

The traffic directing light control head will be located in the driver side overhead switch panel in the center panel position.

**120 VOLT RECEPTACLE**

There will be one (1), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed mounted high and rear ward in compartment P1. See photo. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency
- Power Source

**MONITOR EXTENSION**

An Elkhart 18.00" extension pipe will be shipped with loose equipment.
MOUNTING BRACKET FOR MONITOR
An Elkhart Model 8297MB mounting bracket, for the monitor portable base unit, will be shipped loose.

SPARE FASTENERS
One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit will be provided.

LOOSE EQUIPMENT
The following loose equipment list is PER UNIT and will be provided by the sales organization and prior to final delivery:

<table>
<thead>
<tr>
<th>NO</th>
<th>APPLIANCES</th>
<th>MANUFACTURER &amp; MODEL #</th>
<th>QTY</th>
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<tbody>
<tr>
<td>1</td>
<td>Intake Relief Valve: BALL INTAKE 5.0 STORZ SWIVEL X 6.0F SWIVEL SHORT HANDLE NO CAP</td>
<td>Task Force Tips # AB3ST-NX</td>
<td>2</td>
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<tr>
<td>2</td>
<td>2 1/2” 60 degree elbow</td>
<td>Akron #631</td>
<td>1</td>
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<tr>
<td>3</td>
<td>LDH Water Thief: (2) 2.5M gated w/ opt LDH, 11671000 storez 5.0 w/ loc F/S alum, 11671000 storez 5.0 w/ loc F/S alum</td>
<td>Elkhart #9843 / part #09843001</td>
<td>1</td>
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<tr>
<td>10</td>
<td>Anchor Kit: anchor kit ram / 8297 mnt</td>
<td>Elkhart #81204 / part #81460001</td>
<td>1</td>
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<tr>
<td>11</td>
<td>Mercury Portable Monitor: 500 gpm</td>
<td>Akron #34430003</td>
<td>1</td>
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<tr>
<td>12</td>
<td>Mounting bracket: Mercury Monitor</td>
<td>Akron #34430001</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>500 Master Stream Nozzle: 500gpm @ 100psi</td>
<td>Akron #4445</td>
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<tr>
<td>14</td>
<td>Hydrant Gate Valve: X-86-A 2.5 FNH x 2.5 MNH alum</td>
<td>Elkhart #X-86A / part #00381101</td>
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<tr>
<td>15</td>
<td>2.5” Water Thief: BG-104-A water thief</td>
<td>Elkhart BG-104A / part #03728001</td>
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<tr>
<td>16</td>
<td>2.5” Gated Wye: B-97-A 2.5 FNH x (2) 2.5 MNH alum</td>
<td>Elkhart B-97A / part #00302111</td>
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<td>17</td>
<td>2.5” In-Line Gauge</td>
<td>Red-Head #S-155</td>
<td>1</td>
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<tr>
<td></td>
<td>Description</td>
<td>Part Number</td>
<td>Quantity</td>
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<td>----</td>
<td>------------------------------------------------------------------------------</td>
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<tr>
<td>18</td>
<td>B-100-A 2.5 F x (2) 1.5 M w/ opt, 63069001 swvl 2.5 NH O/BG R/L al, 10829001 nipple 1.5 NH for B-100-A, 99454201 handle STD long black al, 99401012 no pressure gauge</td>
<td>Elkhart PN# B-100A / part #02507301</td>
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<tr>
<td>19</td>
<td>1 3/4&quot; Chief Nozzle tip: 1.5&quot; swivel w/ opt tip, 99448201 1.5 NH R/L al, 62175001 stem 150 gpm @ 50 psi, for 4000-16. 17 HC, 994488926 teeth spinning sub 1, 99448063 bumper (yellow) - (Tanklines)</td>
<td>Elkhart # 4000-14 / part #0400014F</td>
<td>3</td>
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<tr>
<td>20</td>
<td>1 3/4&quot; Chief Nozzle tip: 1.5&quot; NH swivel, 150gpm @ 50psi tip, orange bumper (SacPack)</td>
<td>Elkhart # 4000-14 / part #04000146</td>
<td>2</td>
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<tr>
<td>23</td>
<td>1&quot; Shut-off: SB-275-GA 1.0 FXM NPSH P/G w/ pistol grip (Booster Line)</td>
<td>Elkhart # SB-275GA / part #00709101</td>
<td>1</td>
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<tr>
<td>24</td>
<td>1 1/8&quot; Hand line tip: 187-A 1.5 NH x 1-1/8 disc (high rise nozzle)</td>
<td>Elkhart # 187A / part #66721001</td>
<td>1</td>
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<tr>
<td></td>
<td>1 1/4&quot; Hand line tip: 187-A 1.5 NH x 1-1/4 disc (Attack Line)</td>
<td>Elkhart # 187A / part #66722001</td>
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<tr>
<td>25</td>
<td>7/8&quot; Hand line tip: 187-A 1.5 NH x 7/8 disc</td>
<td>Elkhart # 187A / part #66717001</td>
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<tr>
<td>26</td>
<td>Stream Shaper: 281-A 1.5 NH stream shaper HC</td>
<td>Elkhart #281A / part #03476301</td>
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<tr>
<td>27</td>
<td>2 1/2&quot; Chief Nozzle tip: 4000-24 1.5/2.5 swvl w/ opt tip, 99470801 swvl 2.5 NH R/L al, 69053001 stem 250 gpm @ 50 psi for 4000-20 HC, 99448927 teeth spinning sub 2, 99448069 bumper (yellow)</td>
<td>Elkhart # 4000-24 / part #0400024F</td>
<td>2</td>
</tr>
<tr>
<td>28</td>
<td>2 1/2&quot; Chief Nozzle tip: 4000-24 1.5/2.5 swvl w/ opt tip, 99470801 swvl 2.5 NH R/L al, 69053001 stem 250 gpm @ 50 psi for 4000-20 HC, 99448927 teeth spinning sub 2, 99448076 bumper (orange)</td>
<td>Elkhart # 4000-24 / part #0400024F</td>
<td>1</td>
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<tr>
<td></td>
<td>Description</td>
<td>Model/Part Number</td>
<td>Quantity</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>28</td>
<td>2 1/2” Shut-off: DB-275-A 2.5 w/ options F/S alum, 99470101 freeswvl 2.5 NH mid (std) alum, 36086031 handle horshu yellow, 10083001 outlet adpt 1.5 MNH alum</td>
<td>Elkhart # DB-275-A / part #006954F2</td>
<td>2</td>
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<tr>
<td>29</td>
<td>2 1/2” Jumbo ball shut-off: JB-275-A 2.5 NH shutoff alum (HR bag)</td>
<td>Elkhart # JB-275A / part #00170001</td>
<td>1</td>
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<tr>
<td>30</td>
<td>1 1/2” Forestry Shut-off: SHUT-OFF HORSESHOE HANDLE 1.5</td>
<td>Cascade # 40701NH</td>
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<tr>
<td>31</td>
<td>1 1/2” Forestry nozzle: NOZZLE, RANGER 1½” NH</td>
<td>Cascade # 10902</td>
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<tr>
<td>32</td>
<td>1” Forestry nozzle: NOZZLE, RANGER 1”NH 10-30GPM (Booster Line)</td>
<td>Cascade # 10921NH</td>
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<tr>
<td>33</td>
<td>1” Forestry nozzle: NOZZLE 30GPM 1”NPSH</td>
<td>Cascade # 40663NPSH</td>
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<td>34</td>
<td>5” Storz Barrel Strainer</td>
<td>Kochek BS507</td>
<td>1</td>
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<tr>
<td>35</td>
<td>5” Storz x 4 1/2” NST female, E-LH</td>
<td>Red Head #Style SE-LH</td>
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<tr>
<td>36</td>
<td>5” Storz x 2 1/2” NST male, RL</td>
<td>Red Head # S-36</td>
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<tr>
<td>37</td>
<td>5” Storz x 2 1/2” NST male, RL chrome</td>
<td>Red Head # KS-36</td>
<td>1</td>
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<tr>
<td>38</td>
<td>5” Storz x 2 1/2” NST female, E-LH</td>
<td>Red Head # Style SE-LH</td>
<td>2</td>
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<tr>
<td>39</td>
<td>5” Storz x 4” NST female, 30 elbow, RL, chrome</td>
<td>Red Head Style KSE-SS</td>
<td>#</td>
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<tr>
<td>40</td>
<td>4 1/2” NST female x 2 1/2” NST male, LH</td>
<td>Red Head # Style 56</td>
<td>1</td>
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<tr>
<td>41</td>
<td>3.5 NH RIG RL F X 2.5 NH M, PAINTED FIRE ENGINE RED</td>
<td>Kochek # 37R3525</td>
<td>1</td>
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</tbody>
</table>
## CITY OF SACRAMENTO FIRE DEPARTMENT
### Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
#### November 1, 2017 (Quote Number 91101-17P)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>42</td>
<td>2 1/2&quot; NST double male</td>
<td>2</td>
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<tr>
<td>43</td>
<td>2 1/2&quot; NST double female</td>
<td>3</td>
</tr>
<tr>
<td>44</td>
<td>2 1/2&quot; NST female x 1 1/2&quot; NST male</td>
<td>4</td>
</tr>
<tr>
<td>45</td>
<td>2 1/2&quot; NST female x 1 1/2&quot; NST male chrome</td>
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<tr>
<td>46</td>
<td>1 1/2&quot; NST double male</td>
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<tr>
<td>47</td>
<td>1 1/2&quot; NST double female</td>
<td>1</td>
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<tr>
<td>48</td>
<td>1 1/2&quot; NST cap, w/ chain (chrome)</td>
<td>2</td>
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<td>49</td>
<td>1 1/2&quot; NST cap w/ chain</td>
<td>4</td>
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<tr>
<td>50</td>
<td>2 1/2&quot; NST female x garden hose male</td>
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<tr>
<td>51</td>
<td>Storz/Rocker Spanner Wrench set</td>
<td>1</td>
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<tr>
<td>52</td>
<td>Hydrant / Spanner set:</td>
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<tr>
<td>53</td>
<td>Spanner wrench: bar-way 3/4&quot;-1&quot;</td>
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<tr>
<td>54</td>
<td>Gated wye: 1.5NHFX2-1.5NHM LTWT FRSTRY WYE VLV</td>
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<td>55</td>
<td>4.5&quot; female to 2.5&quot; male reducer</td>
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<tr>
<td>Item</td>
<td>Description</td>
<td>Brand</td>
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<tr>
<td>56</td>
<td>Forestry Hose Tee: TEE VALVE 1.5X1.5 NHX1NPSH</td>
<td>Cascade #11151NPSH</td>
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<tr>
<td>57</td>
<td>Foam Container Wrench</td>
<td>Zico UFCW</td>
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<td>58</td>
<td>LDH hose roller</td>
<td>Harrington # HHR-2</td>
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<td>59</td>
<td>Forestry hose clamp: HOSE CLAMP, 1.5&quot;</td>
<td>Cascade # 11213</td>
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<td>60</td>
<td>Back-pump: 5-gal. collapsible</td>
<td>Indian # 500FSV</td>
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<tr>
<td>61</td>
<td>1 1/2&quot; swivel gasket: GASKET, SWIVEL 1.5&quot;</td>
<td>Cascade # 12103</td>
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<td>62</td>
<td>2 1/2&quot; swivel gasket: GASKET, SWIVEL 2.5&quot;</td>
<td>Cascade # 12105</td>
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<td>63</td>
<td>4 1/2&quot; swivel gasket: GASKET, SWIVEL 4.5&quot;</td>
<td>Cascade # 12109</td>
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<td>64</td>
<td>5&quot; Storz gasket: GASKET,STORZ 5&quot; PRESSURE</td>
<td>Cascade # 11592</td>
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<td>65</td>
<td>5&quot; Storz gasket: GASKET,STORZ 5&quot; SUCTION</td>
<td>Cascade # 11594</td>
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<td>66</td>
<td>1 1/2&quot; tall gasket: SJ</td>
<td>Red Head # 14012</td>
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<td>67</td>
<td>1 3/4&quot; tall gasket: thin wall DJ</td>
<td>Red Head # 14140</td>
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<tr>
<td>68</td>
<td>2 1/2&quot; tall gasket: GASKET, TAIL 2.5&quot; THIN</td>
<td>Cascade # 12124</td>
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<td>69</td>
<td>Coupling mount: 1 1/2&quot;</td>
<td>Zico # CM 1.5</td>
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<td>Item</td>
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<tr>
<td>70</td>
<td>EZ-lok Holder: 1 1/2&quot;</td>
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<td>71</td>
<td>Coupling Mount: 2 1/2&quot;</td>
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<td>72</td>
<td>EZ-lok Holder: 2 1/2&quot;</td>
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<tr>
<td>73</td>
<td>Coupling Mount: 5&quot; Storz</td>
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<td>74</td>
<td>Coupling Mount Extension</td>
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<td>75</td>
<td>Irons Nest: Mounting Bracket</td>
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<td>76</td>
<td>Tool Bracket: Z-Hook, Axes, etc</td>
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<tr>
<td>81</td>
<td>Hydrant Bucket: canvas w/ plastic bottom</td>
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<tr>
<td>82</td>
<td>Hose/Ladder strap: 40&quot;</td>
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<tr>
<td>83</td>
<td>Fire Fighter Drop Bag: (RED)</td>
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<tr>
<td>84</td>
<td>Quick Attack Bag: (RED) w/ carrying handle &amp; shoulder strap</td>
<td>1</td>
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<tr>
<td>85</td>
<td>Metro-Pak Strap</td>
<td>2</td>
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<tr>
<td>87</td>
<td>2.5&quot; HOSE PACK HIGH RISE STRAPS 25&quot;</td>
<td>6</td>
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<tr>
<td>89</td>
<td>Spyder gear pack-Sac City custom spec: AC Custom Spyder Gear Pack W/ MOLLE System, Harness, accessory pocket, hose clamp pouch, personal equipment pouch, no shelter pouch and</td>
<td>4</td>
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<tr>
<td></td>
<td>Item Description</td>
<td>Vendor/Model</td>
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<tr>
<td>90</td>
<td>WILDLAND DROPPER HOSE LAY PACK</td>
<td>Wolfpack Gear DHP-2502-BK</td>
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<td>91</td>
<td>Water Can Harness</td>
<td>Fire Hooks Unlimited #CH312</td>
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<td>93</td>
<td>Duct Tape:</td>
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<tr>
<td>94</td>
<td>Shovel: round point w/ 48&quot; FG handle</td>
<td>69048 Nupla RP2L #2 Round Point Shovel w/ 48&quot; Handle (Blade Dimension 9&quot;x11.5&quot;, Hollow Back.) (Classic Nuplaglas Round Point Shovel)</td>
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<tr>
<td>95</td>
<td>Shovel: square point w/ 48&quot; FG handle</td>
<td>69148 Nupla SP2L #2 Square Point Shovel w/ 48&quot; handle (Blade Dimension 9.875&quot;x11.5&quot;, Hollow Back) (Classic Nuplaglas Square Point Shovel)</td>
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<td>96</td>
<td>48&quot; McCleod</td>
<td>TRUE Temper # 24006</td>
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<tr>
<td>97</td>
<td>Pickhead Axe- 6lbs Fire Axe Inc 32&quot; fiberglass handle (Item PHA)</td>
<td><a href="http://www.firefighteraxe.com">www.firefighteraxe.com</a></td>
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<td>100</td>
<td>Marrying strap</td>
<td>Fire Hooks Unlimite, #MS-1</td>
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<td>101</td>
<td>30&quot; HOOLIGAN TOOL FORGED STEEL with WITH 2-EYELETS</td>
<td>22000680 PARATECH</td>
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<tr>
<td>102</td>
<td>Flathead Axe- 8lbs Fire Axe Inc 36&quot; fiberglass handle (Item FLT8)</td>
<td><a href="http://www.firefighteraxe.com">www.firefighteraxe.com</a></td>
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<tr>
<td>103</td>
<td>New Generation Fire Shelter</td>
<td>Anchor Industries (Large) ANC-9003051</td>
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<tr>
<td>105</td>
<td>18&quot; Bolt Cutter: Heavy-Duty</td>
<td>HK- Porter #</td>
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### CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
November 1, 2017 (Quote Number 91101-17P)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>106</td>
<td>36” Bolt Cutter: Heavy-Duty</td>
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<tr>
<td>107</td>
<td>Carry-All: DEBRIS CARRIER</td>
<td>1</td>
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<td>108</td>
<td>Car-Entry Kits:</td>
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<tr>
<td>109</td>
<td>Pry-Bar 48”</td>
<td>1</td>
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<tr>
<td>110</td>
<td>Traffic cones: 30” (75cm) Extreme PRO 5 PAC, 5 Pack PROfessional Series Light-Up Cones</td>
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<tr>
<td>111</td>
<td>Strobe Light Kit: 1 red, 2 clear lens cover</td>
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<tr>
<td>112</td>
<td>Fussee, highway- 20 min</td>
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<tr>
<td>114</td>
<td>Flashlight: W/ DC charger</td>
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<tr>
<td>116</td>
<td>Barrier Tape: “Fire Line Do Not Cross” (Barricade Tape, Yellow/Black, 1000ft x 3in)</td>
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</tr>
<tr>
<td>117</td>
<td>Barrier Tape: Barricade Tape, Danger, Red, 1000 ft, Poly</td>
<td>1</td>
</tr>
<tr>
<td>118</td>
<td>Clip Board: Posse Bottom Opening Box, Silver</td>
<td>1</td>
</tr>
<tr>
<td>119</td>
<td>Citation Organizer: Adjustable Citation Holder</td>
<td>1</td>
</tr>
<tr>
<td>120</td>
<td>2.5 Gal Water Extinguisher</td>
<td>1</td>
</tr>
<tr>
<td>121</td>
<td>20-lb ABC Dry Chem Extinguisher, w/ mounting bracket</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Item Description</td>
<td>Model/Color</td>
</tr>
<tr>
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<td>------------------------------------</td>
</tr>
<tr>
<td>122</td>
<td>Hand Tool: Pulaski</td>
<td>#375MA</td>
</tr>
<tr>
<td>123</td>
<td>Handle: Yellow Fiberglass Handle, Length 58&quot;</td>
<td>Grainger# Tough Guy 3U775</td>
</tr>
<tr>
<td>124</td>
<td>Broom: Wire Push Broom, Block Size 18&quot;, Hardwood Block Material</td>
<td>Grainger# Tough Guy 1NFF5</td>
</tr>
<tr>
<td>125</td>
<td>SINGLE UNIVERSAL RADIO CHEST HARNESS GEN 2</td>
<td>True North Gear: RH6100</td>
</tr>
<tr>
<td>126</td>
<td>Radio Integration Straps</td>
<td>True North Gear: Grey - Item: TN-RH500</td>
</tr>
<tr>
<td>127</td>
<td>PFD'S</td>
<td>PF1800 - MUSTANG UNIVERSAL SWIFTWATER RESCUE PFD COLOR BLACK</td>
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<tr>
<td>128</td>
<td>Knife / Scabbard</td>
<td>KN7000 - RQ3 KNIFE THE EDGE COLOR HI VIS</td>
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<tr>
<td>129</td>
<td>Whistle, w/ lanyard</td>
<td>WH7945 - WHISTLE-FOX 40 FLEX COIL</td>
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<tr>
<td>130</td>
<td>Rescue Helmet: (red)</td>
<td>HL7050LR - RQ3 STORM PRO HELMET RED SIZE L/XL</td>
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<tr>
<td>131</td>
<td>Rescue Helmet: (white)</td>
<td>HL7050LW - RQ3 STORM PRO HELMET WHITE SIZE L/XL</td>
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<tr>
<td>132</td>
<td>Water Throw Bags</td>
<td>BG3137 - THROWBAG-RS STANDARD LG-75' POLY/KRN 3/8</td>
</tr>
<tr>
<td>133</td>
<td>Cyalume Lightstick: Green</td>
<td>CMC # 108018</td>
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<tr>
<td>134</td>
<td>Cyalume Lightstick: Red</td>
<td>CMC # 108013</td>
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<tr>
<td>135</td>
<td>Mesh Gear Bag</td>
<td>BG3195 - HEAVY DUTY EQUIP BAG XL COLOR RED</td>
</tr>
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<td></td>
<td>Description</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>136</td>
<td>8mm Drop-Line: (red) 75' ea</td>
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</tr>
<tr>
<td>137</td>
<td>Carabiner: (ORANGE)</td>
<td></td>
</tr>
<tr>
<td>138</td>
<td>Thermal Imaging Camera: (TIC)</td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>5” x 100 feet: DB-600 5” X 100’ DJ YELLOW ULTRA-SHIELD COATED Cpld R/A Locking 5” Storz RED HEAD</td>
<td>11</td>
</tr>
<tr>
<td>140</td>
<td>5” x 50 feet: DB-600 5” X 50’ DJ YELLOW ULTRA-SHIELD COATED Cpld R/A Locking 5” Storz RED HEAD</td>
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</tr>
<tr>
<td>141</td>
<td>5” x 30 feet: DB-600 5” X 30’ DJ YELLOW ULTRA-SHIELD COATED Cpld R/A Locking 5” Storz RED HEAD</td>
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</tr>
<tr>
<td>142</td>
<td>3” x 50 feet: DB-800 3” X 50’ DJ RED ULTRA-SHIELD COATED Cpld Alum EX 2-1/2” NST RED HEAD</td>
<td>13</td>
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<tr>
<td>143</td>
<td>3” x 30 feet: DB-800 3” X 30’ DJ RED ULTRA-SHIELD COATED Cpld Alum EX 2-1/2” NST RED HEAD</td>
<td>2</td>
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<tr>
<td>144</td>
<td>3” x 10 feet: DB-800 3” X 10’ DJ RED ULTRA-SHIELD COATED Cpld Alum EX 2-1/2” NST RED HEAD</td>
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<tr>
<td>145</td>
<td>2 1/2” x 50 feet: DB-800 2-1/2” X 50’ DJ YELLOW ULTRA-SHIELD COATED Cpld Alum EX-NST RED HEAD</td>
<td>20</td>
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<tr>
<td>146</td>
<td>1 3/4” x 100 feet: Sac Pack - Key Eco 10, orange, 1.5” NST couplings</td>
<td>4</td>
</tr>
<tr>
<td>147</td>
<td>1 3/4” x 50 feet: Tankline Hose (ok.. 1.875”) - Key Big 10 FDNY spec., yellow, 1.5” NST couplings</td>
<td>20</td>
</tr>
<tr>
<td>148</td>
<td>1.5” forestry hose x 100 feet: OUTBACK-600 HD 1-1/2” X 100’ SJ YELLOW ULTRA-SHIELD COATED Cpld Alum Forestry EX-NST</td>
<td>6</td>
</tr>
</tbody>
</table>
## CITY OF SACRAMENTO FIRE DEPARTMENT

Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers
November 1, 2017 (Quote Number 91101-17P)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Supplier</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>149</td>
<td>1&quot; forestry hose x 100 feet: OUTBACK-600 HD 1&quot; X 100' SJ YELLOW ULTRA-SHIELD COATED Cpld Alum Forestry EX-IPT</td>
<td>North American Fire Hose, OBH1X100YFI</td>
<td>2</td>
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<tr>
<td>150</td>
<td>5.00&quot; x 10' suction hose – 5.00&quot; Storz Couplings and folding handles ON EACH END (5 X 10 FLEXLITE STZ FLD LH)</td>
<td>Kochek 2P505</td>
<td>2</td>
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<tr>
<td>163</td>
<td>Craftsman: 20 in. hand box #59320</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>164</td>
<td>Craftsman 8 pc. Standard Pawless Ratching combination wrench set #35414</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>165</td>
<td>Craftsman 8 pc. Metric Pawless Ratching combination wrench set #22985</td>
<td></td>
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</tr>
<tr>
<td>166</td>
<td>Grainger: Hex Key, T Handle, 1/4 In # 1FX72</td>
<td></td>
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<tr>
<td>167</td>
<td>Craftsman: hex key set Item #0094670500, model #46705</td>
<td></td>
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<tr>
<td>168</td>
<td>Craftsman: 7 pc torx set #34449</td>
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<tr>
<td>169</td>
<td>Craftsman: 8 pc screw driver set #47136</td>
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<tr>
<td>170</td>
<td>Craftsman: 8” adjustable wrench #44603</td>
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<tr>
<td>171</td>
<td>Craftsman: 12” adjustable wrench #44605</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>172</td>
<td>Craftsman: 9 pc. Standard 6 pt. Combination Wrench Set #47234</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>173</td>
<td>Craftsman: 9 pc. Metric 6 pt. Combination Wrench Set #47235</td>
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<tr>
<td>174</td>
<td>Craftsman: tape measure, 30’ #37393</td>
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<tr>
<td>175</td>
<td>Craftsman: 14” pipe wrench #51652</td>
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<tr>
<td>176</td>
<td>Craftsman: 10” vice grip pliers #45714</td>
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<tr>
<td>177</td>
<td>Craftsman: 7” Linesman pliers #45093</td>
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<tr>
<td>178</td>
<td>12” Duckbill snips, Grainger #2VU98</td>
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</tr>
<tr>
<td>179</td>
<td>Craftsman: Hammer, 20 oz (claw) #38273</td>
<td></td>
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<tr>
<td>180</td>
<td>Craftsman: 13.50” nail pry bar #141</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>181</td>
<td>Craftsman: Knife, utility #94832</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>182</td>
<td>Blades, utility knife (5/pkg) Grainger #2ZRK7</td>
<td></td>
<td>4</td>
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<tr>
<td>183</td>
<td>Craftsman 22 pc. Metric Easy Read Socket Wrench Set, 6 pt. 1/4 &amp; 3/8 in. Dr. #34875</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>184</td>
<td>Circuit tester, Westward #19T234</td>
<td></td>
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</tr>
</tbody>
</table>
### Specifications on Four (4) Pierce Enforcer 1500 GPM Pumpers

**November 1, 2017 (Quote Number 91101-17P)**

<table>
<thead>
<tr>
<th>LOOSE EQUIPMENT INSTALLATION</th>
</tr>
</thead>
</table>
| A loose equipment mounting allowance of $9,000.00 is included in the bid price to cover the cost of mounting the applicable equipment per the direction of the City of Sacramento. If the City of Sacramento exceeds the loose equipment mounting allowance, additional work can be performed at an additional cost of $112.00 per hour.

<table>
<thead>
<tr>
<th>PAINT - BODY PAINTED TO MATCH CAB</th>
</tr>
</thead>
</table>
| The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. **Manual Surface Preparation** - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate. |
2. **Chemical Cleaning and Pretreatment** - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.

3. **Surfacer Primer** - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

4. **Finish Sanding** - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultrasmooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.

5. **Sealer Primer** - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

6. **Basecoat Paint** - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

7. **Clear Coat** - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T.standard in
critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab will be two-tone, with the roof section painted #20 White Upper and lower section of the cab and body painted #356 RED Lower.

PAINT - ENVIRONMENTAL IMPACT
Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient
- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes are disposed of in an environmentally safe manner.
- Empty metal paint containers will be to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY
The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails

Components that are included with the chassis frame assembly that will be painted not e-coated are:

- Cross members
- Axles
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications on Four (4) Pierce Enforcer 1500 GPM Pumper
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- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Air tanks
- Fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

The E-coat process will meet the technical properties shown.

COMPARTMENT INTERIOR PAINT
The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

REFLECTIVE STRIPES
Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 4.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

The reflective band provided on the cab face will be at the headlight level.

REAR CHEVRON STRIPING
There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

JOG(S) IN REFLECTIVE BAND
The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.
REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR
A 4.00" white reflective stripe will be provided inside two (2) compartment doors. inside each EMS compartment door.

CAB DOOR REFLECTIVE STRIPE
A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

BODY STRIPE
There will be a genuine gold leaf stripe provided on each side of the body, over the fender.

CAB STRIPE
There will be a genuine gold leaf stripe on each side of the cab, low and over the fender.

GOLD LEAF LETTERING
The lettering will be totally encapsulated between two (2) layers of clear vinyl.

Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

REFLECTIVE LETTERING
There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 24 letters provided.

There will be reflective lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.

There will be reflective lettering, 6.00" high, with outline and shade provided. There will be six (6) letters provided.

There will be reflective lettering, 2.00" high, with outline and shade provided. There will be 14 letters provided.

There will be reflective lettering, 8.00" high, with no outline or shade provided. There will be two (2) letters provided.

There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be 15 letters provided.

There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be four (4) letters provided.
There will be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the R1. The lettering will be ruby red in color and 4.00" in size.

**VINYL LETTERING**
Forty-one (41) to sixty (60) non-reflective vinyl lettering, 2.00" high, with no outline or shade will be provided.

There will be non-reflective vinyl lettering, 9.00" high, with no outline or shade provided. There will be ten (10) letters provided.

There will be non-reflective vinyl lettering, 12.00" high, with no outline or shade provided. There will be two (2) letters provided.

**REFLECTIVE INSET LETTERING, "DIAL 911"**
Two sets of ruby red "inset" reflective lettering, "DIAL 911", will be supplied and installed inset in reflective band.

The reflective stripe will stop and "DIAL 911" will be placed within the break of the stripe.

"DIAL" will be vertical and as tall as the stripe. The "911" will be horizontal and as tall as the stripe.

**DEPT. EMBLEM**
There will be (1) one of vinyl emblem applied drivers side rear compartment bulkhead up high.

Emblems will be approximately 7.00" x 7.00" per graphics quote.

**DEPT. EMBLEM**
There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.

**CAB GRILLE DESIGN**
An American flag design will be painted on the cab grille.

**EAGLE HEAD/FLAG EMBLEMS**
A pair of emblems, 13.00" or less in diameter, featuring a "Flying American Flag" and an "Eagle Head", will be installed behind crew cab door upper 5x7 Freedom Flag. The design will be color imaged.

**MALTESE CROSS INSTALLATION**
There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed on cab doors.

**MANUAL, FIRE APPARATUS PARTS**
Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit.
One (1) compact disc (CD) will also be provided that will include all of the information from the above manual.

The manual will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate parts

The manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

SERVICE PARTS INTERNET SITE
The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

MANUALS, CHASSIS SERVICE
Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

The manuals will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
- Air Systems
The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

**MANUALS, CHASSIS OPERATION**
Two (2) chassis operation manuals will be provided.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

**ELECTRICAL WIRING DIAGRAMS**
Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

**ONE (1) YEAR MATERIAL AND WORKMANSHIP**
A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

**ENGINE WARRANTY**
A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

**STEERING GEAR WARRANTY**
A Sheppard three (3) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

**FIFTY (50) YEAR STRUCTURAL INTEGRITY**
The Pierce custom chassis frame limited warranty certificate, WA0013, is included with this proposal.

**FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY**
The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

**REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY**
A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

**ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY**
A Meritor Wabco™ABS brake system limited warranty certificate, WA0232, is included with this proposal.

**TEN (10) YEAR STRUCTURAL INTEGRITY**
The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
TEN (10) YEAR PRO-RATED PAINT AND CORROSION
A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

FIVE (5) YEAR MATERIAL AND WORKMANSHIP
The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

CAMERA SYSTEM WARRANTY
A Pierce fifty four (54) month warranty will be provided for the camera system.

COMPARTMENT LIGHT WARRANTY
The compartment lights will not offer an extended warranty.

TRANSMISSION WARRANTY
The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

TRANSMISSION COOLER WARRANTY
The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed $10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

WATER TANK WARRANTY
A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.

TEN (10) YEAR STRUCTURAL INTEGRITY
The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY
An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years. A five (5) year limited warranty will be provided on painted roll up doors.

The limited warranty certificate, WA0185, is included with this proposal.

PUMP WARRANTY
A Waterous pump limited warranty certificate, WA0225, is included with this proposal.
TEN (10) YEAR PUMP PLUMBING WARRANTY
The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION
A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP
The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.

VEHICLE STABILITY CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION
The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of bid.

POWER STEERING CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION
The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.
- Roof Crush: The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.
- Side Impact: The same cab will be subjected to dynamic preload where a 13,275-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of
force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

- Frontal Impact: The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.
- Additional Frontal Impact: The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

**CAB DOOR DURABILITY CERTIFICATION**
Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

**WINDSHIELD WIPER DURABILITY CERTIFICATION**
Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

**ELECTRIC WINDOW DURABILITY CERTIFICATION**
Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

**SEAT BELT ANCHOR STRENGTH**
Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

**SEAT MOUNTING STRENGTH**
Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.
CAB DEFROSTER CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

CAB HEATER CERTIFICATION
Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

CAB AIR CONDITIONING PERFORMANCE CERTIFICATION
Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT
The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
  - The nameplate rating of the alternator.
  - The alternator rating under the conditions specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - The minimum continuous load of each component that is specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - Additional loads that, when added to the minimum continuous load, determine the total connected load.
  - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).
END OF PROPOSAL
Fire and Rescue Apparatus

One (1) Year Material and Workmanship

Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage: Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship

Warranty Begins: The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.

Warranty Period Ends After: Twelve (12) months.

Conditions and Exclusions: No specific exclusions apply

See Also Paragraphs 2 thru 4

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation.

Within a reasonable time, Pierce shall repair or replace (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Fire and Rescue Apparatus
Ten (10) Year Structural Integrity
Apparatus Body
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The apparatus body shall be free from structural failures caused by defects in material and workmanship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Warranty Begins:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Warranty Period Ends After:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten (10) Years - or - 100,000 Miles</td>
</tr>
</tbody>
</table>

Conditions and Exclusions:

This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0009
Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Custom Cab

Limited Warranty

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After</td>
<td>Ten (10) Years - or - 100,000 Miles</td>
</tr>
<tr>
<td>Conditions and Exclusions</td>
<td>This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus.</td>
</tr>
<tr>
<td>See Also Paragraphs</td>
<td>This warranty does not apply to damage caused by corrosion.</td>
</tr>
</tbody>
</table>

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

**2. DISCLAIMERS OF WARRANTIES**

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALINGS OR USAGE OF TRADE.

**3. BUYER’S EXCLUSIVE REMEDY.**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a Pierce authorized repair facility. This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

**4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity

Custom Chassis Frame

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Custom chassis frame rail manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Fifty (50) Years (Expected Life of Apparatus)</td>
</tr>
</tbody>
</table>

Conditions and Exclusions:

- This warranty does not apply to damage caused by corrosion.
- This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.
- Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:
  - (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
  - (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
  - (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
  - (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0013
### Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

#### Coverage:

Command Zone control modules shall be free from failures caused by defects in material and workmanship.

#### Warranty Begins:

The date of the original purchase invoice (issued when the product ships from the factory).

#### Warranty Period Ends After:

Five (5) Years

#### Conditions and Exclusions:

This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

#### See Also

See Also Paragraphs 2 thru 4

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This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

### 2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation.

Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs.

Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced:

- (a) without prior written approval of the Pierce Customer Service Department; or
- (b) at a facility which has not been approved by Pierce as to technical capability.

Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

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Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
# 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Years</td>
</tr>
</tbody>
</table>

## Conditions and Exclusions:

- This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
- This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.  
- **LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.**

## Saw also

- Paragraphs 2 thru 4
- 

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Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to the Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

## 2. DISCLAIMERS OF WARRANTIES

**THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.**

## 3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce.  

THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

## 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:
Stainless steel piping shall be free from structural failures caused by defects in material and workmanship, or perforation caused by corrosion.

Warranty Begins: The date of the original purchase invoice (issued when the product ships from the factory).

Warranty Period Ends After: Ten (10) Years or - 100,000 Miles

Conditions and Exclusions:
Pierce’s obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the stainless steel piping or components which Pierce determines to have failed due to defective material and workmanship, or perforation caused by corrosion.

This warranty does not cover the use of fluoroprotein (FP) type foam. The sodium chloride within FP foam can cause long-term damage to system components if not thoroughly flushed immediately after use.

3/22/2012 WA0035
**Three (3) Year Material and Workmanship**

**TAK-4 Independent Front Suspension**

**Limited Warranty**

1. **LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After</td>
<td>Three (3) Years-or-30,000 Miles</td>
</tr>
<tr>
<td>Conditions and Exclusions</td>
<td>This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.</td>
</tr>
<tr>
<td>See Also Paragraphs 2 thru 4</td>
<td></td>
</tr>
</tbody>
</table>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

2. **DISCLAIMERS OF WARRANTIES**

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

3. **BUYER’S EXCLUSIVE REMEDY**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. **EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES**

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories. Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Warranty Begins:</th>
<th>The date of the original purchase invoice (issued when the product ships from the factory).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Period Ends After:</td>
<td>Ten (10) Years</td>
</tr>
</tbody>
</table>

This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:

- **Topcoat Durability & Appearance: Gloss, Color Retention & Cracking**
  - 0-72 months: 100%
  - 73-96 months: 50%
  - 97-120 months: 25%

- **Integrity of Coating System: Adhesion, Blistering/Bubbling**
  - 0-36 months: 100%
  - 37-84 months: 50%
  - 85-120 months: 25%

- **Corrosion: Dissimilar Metal and Crevice**
  - 0-36 months: 100%
  - 37-48 months: 50%
  - 49-72 months: 25%
  - 73-120 months: 10%

- **Corrosion Perforation**
  - 0-120 months: 100%

This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

**Conditions and Exclusions:**

- Items not covered by this warranty include:
  - (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
  - (b) UV paint fade.
  - (c) Any cab not manufactured by Pierce.

### 2. DISCLAIMERS OF WARRANTIES

<table>
<thead>
<tr>
<th>Exclusions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.</td>
<td></td>
</tr>
<tr>
<td>(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;</td>
<td></td>
</tr>
<tr>
<td>(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or</td>
<td></td>
</tr>
<tr>
<td>(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.</td>
<td></td>
</tr>
</tbody>
</table>

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0055
**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

**Coverage:**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior surfaces of the body</td>
<td>shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.</td>
</tr>
</tbody>
</table>

**Warranty Begins:**

The date of the original purchase invoice (issued when the product ships from the factory).

**Warranty Period Ends After:**

Ten (10) Years

**Conditions and Exclusions:**

This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:

- **Topcoat Durability & Appearance:** Gloss, Color Retention & Cracking
  - 0-72 months: 100%
  - 73-96 months: 50%
  - 97-120 months: 25%
- **Integrity of Coating System:** Adhesion, Blistering/Bubbling
  - 0-36 months: 100%
  - 37-84 months: 50%
  - 85-120 months: 25%
- **Corrosion:** Dissimilar Metal and Crevice
  - 0-36 months: 100%
  - 37-48 months: 50%
  - 49-72 months: 25%
  - 73-120 months: 10%
- **Corrosion Perforation**
  - 0-120 months: 100%

This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

Items not covered by this warranty include:

(a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
(b) UV paint fade.
(c) Any cab not manufactured by Pierce.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

**2. DISCLAIMERS OF WARRANTIES**

The warranty set forth in Paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

**3. BUYER'S EXCLUSIVE REMEDY.**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

**4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT, INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0057
Coverage

Products Warranted
This Warranty applies to new diesel Engines sold by Cummins and delivered to the first user on or after April 1, 2007, that are used in fire apparatus truck and crash truck* applications Worldwide.

Base Engine Warranty
The Base Engine Warranty covers any failures of the Engine which result, under normal use and service, from a defect in material or factory workmanship (Warrantable Failure). This Coverage begins with the sale of the Engine by Cummins and ends five years or 100,000 miles (160,935 kilometers), whichever occurs first, after the date of delivery of the Engine to the first user.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.

Cummins Responsibilities
Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements, belts, hoses and other maintenance items that are not reusable due to the Warrantable Failure.

Cummins will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Cummins will pay reasonable costs for towing a vehicle disabled by a Warrantable Failure to the nearest authorized repair location. In lieu of the towing expense, Cummins will pay reasonable costs for mechanics to travel to and from the location of the vehicle, including meals, mileage and lodging when the repair is performed at the site of the failure.

Owner Responsibilities
Owner is responsible for the operation and maintenance of the Engine as specified in Cummins Operation and Maintenance Manuals. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Except for Engines disabled by a Warrantable Failure, Owner must also deliver the Engine to the repair facility.

Service locations are listed on the Cummins Worldwide Service Locator at cummins.com.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs and for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

Owner is responsible for a $100 (U.S. Dollars) deductible per each service visit under this plan in the 3rd, 4th and 5th years of Base Engine Warranty. The deductible will not be charged during the first 2 years of the Base Engine Warranty.

Limitations
Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively affect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel
exhaust fluid. This Warranty does not apply to accessories supplied by Cummins which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans, air conditioning compressors, clutches, filters, transmissions, torque converters, vacuum pumps, power steering pumps, fan drives and air compressors. Cummins branded alternators and starters are covered for the first two years from the date of delivery of the Engine to the first user, or the expiration of the Base Engine Warranty, whichever occurs first. Failures resulting in excessive oil consumption are not covered beyond the duration of the Coverage or 100,000 miles (160,935 kilometers) or 7,000 hours from the date of delivery of the Engine to the first user, whichever of the three occurs first. Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards. Failures of belts and hoses supplied by Cummins are not covered beyond the first year from the date of delivery of the Engine to the first user or the duration of the Warranty, whichever occurs first. Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins. A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder. Cummins Inc. reserves the right to interrogate Electronic Control Module (ECM) data for purposes of failure analysis. CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS. CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY AND THE EMISSION WARRANTY SET FORTH HEREINAFTER ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Emission Warranty

Products Warranted
This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States in vehicles designed for transporting persons or property on a street or highway. This Warranty applies to Engines delivered to the first user on or after September 1, 1992.

Coverage
Cummins warrants to the first user and each subsequent purchaser that the Engine is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. federal emission regulations applicable at the time of manufacture and that it is free from defects in material or factory workmanship which would cause it not to meet these regulations within the longer of the following periods: (A) Five years or 100,000 miles (160,935 kilometers) of operation, whichever occurs first, as measured from the date of delivery of the Engine to the first user or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

Limitations
Failures, other than those resulting from defects in material or factory workmanship, are not covered by this Warranty. Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine. Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty. Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid. Cummins is not responsible for non-Engine repairs, “downtime” expenses, cargo damage, fines, all applicable taxes, all business costs or other losses resulting from a Warrantable Failure.
CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

* Airport operated crash trucks and fire department operated trucks employed to respond to fires, hazardous material releases, rescue and other emergency-type situations.

** United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.
Warranty:

All AMDOR Inc. roll-up door products are warranted for a period of 10 years from the date of delivery (with the exception of wet paint adhesion - please see below). AMDOR Inc. liability covers the replacement or repair of any component that fails due to defects in material and/or workmanship during the coverage period. We accept no liability for claims made for damages to any part (or parts) of a vehicle and/or machine (of any type) or injury claims by a person or persons assumed or alleged to have been brought about by the use or misuse of any product supplied by AMDOR Inc. Warranty coverage does not extend to door attachments including (but not limited to) decals, emblems, stripes and adhesives.

In order to initiate the claims process please contact your authorized representative of AMDOR Inc. Warranty claims must be accompanied by a written description providing full and reasonable details as to the nature of the defect. Upon receipt of your claim arrangements will be made to inspect the defective product (if necessary). Justified warranty claims will be repaired, exchanged, or credited to the customer's account at AMDOR Inc.'s discretion. All warranty claims must be approved in writing by the Customer Service Manager for AMDOR Inc. There are no exceptions to this clause.

Limited warranty coverage includes the labor associated with the disassembly and assembly of products deemed to be defective by AMDOR Inc. Labor allowances are based on a set time schedule as determined by AMDOR Inc. The maximum allowable hourly labor rate is $50. All warranty labor claims must be approved in writing by an authorized representative of AMDOR Inc. prior to commencement of work. Allowances for removal and installation:

- Curtain replacement: 3/4 hour
- Balancer replacement: 1 hour
- Door ajar switch: 3/4 hour
- Bottom Panel Assembly: 1/2 hour
- Slat replacement: 3/4 hour
- Door removal and replacement: 1 1/2 hours

Items authorized for return must be accompanied by a Return Goods Authorization (RGA) number. We will accept collect shipments of items deemed to be defective provided that they are returned via the most economical carrier. Should items be
returned by means other than the most economical carrier the difference will be charged back to the sender.

AMDOR Inc. reserves the right to reject any claim when a product has been opened, interfered with or modified. Claims may also be rejected when damage to the product (or any sub-assembly) has been brought about by accident, misuse, abuse, vandalism, incorrect installation, temperature extremes, chemical exposure or any factor other than regular operating conditions.

**Limited Wet Paint Match Adhesion Warranty**

AMDOR Inc. warrants wet paint finishes applied by AMDOR utilizing our approved factory paint specification. All wet paint match colors must be approved in writing by an authorized OEM representative. AMDOR Inc. will provide a color spray out for this purpose. The time required for shipping and consideration of initial color spray outs will be considered over and above stated lead times. Warranty coverage will extend for a period of not less than 5 years from the date of delivery as determined by AMDOR Inc.’s Packing Slip. AMDOR reserves the right to determine whether individual units will be replaced and / or repaired by an AMDOR approved vendor. An allowance will be made for labor associated with the disassembly and assembly of individual units at the prescribed hourly rate of $ 50 per hour. Compensation for labor will not exceed the maximum time allowance permitted for door removal and replacement. Written approval including specified allowance for time must be obtained from AMDOR prior to initiating work. Warranty coverage will extend to the following visible paint system defects:

1. Loss of mechanical adhesion as evidenced by peeling, cracking or blistering which exposes the substrate material.

2. Corrosion of the substrate due to paint system failure.

3. Fading which results in a substantial departure from the primary AMDOR approved body color.

Wet paint adhesion limited warranty coverage will be excluded when damages to the system are determined by AMDOR Inc. to be a result of the following:

1. Damage caused through the use of attachments including (but not limited to) decals, labels, adhesives, non factory approved coatings.

2. Loss of gloss, discoloration or damage due to improper maintenance (including but not limited to) mechanical wash systems, pressure washers, steam cleaners, non approved wash or polishing agents.

3. Abuse, acts of nature, excessive heat / cold, chemical exposure, vandalism and / or accidents.

4. Scratches, chips, abrasions, or dents from any source.

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.
NEW PRODUCT WARRANTY

PARTICIPATING OEM SALES
DISTRIBUTOR SALES

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS
USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- **WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- **REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission’s option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- **TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- **PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section “APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE.”
- **OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- **TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- **WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

  **Demonstration Service** - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

### APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

<table>
<thead>
<tr>
<th>APPLICABLE MODELS</th>
<th>WARRANTY LIMITATIONS (Whichever occurs first)</th>
<th>ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Months</td>
<td>Transmission Miles Or Kilometers</td>
</tr>
<tr>
<td>MT, MD 3000, 3200, 3500, 3700</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Hydraulic Controls</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>AT, 1000 Series™, 2000 Series™, 2400 Series™</td>
<td>0–36</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Electronic Controls</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
<tr>
<td>HD 1000 EVS, 2100 EVS, 2200 EVS, 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
</tbody>
</table>
WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
  - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
  - Misuse of the vehicle;
  - Installation into unapproved applications and installations;
  - Alterations or modification of the transmission or the vehicle, and
  - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
  - Anything other than defects in Allison Transmission material or workmanship

  NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).

- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR’S MANUAL** — Defects and damage caused by any of the following are not covered:
  - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
  - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator’s Manual.

- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner’s responsibility.

- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.

- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.

- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.

- **“DENIED PARTY” OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a “denied party” or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

**Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9

Form SE0616EN (201009)
### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of delivery.</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Fifty - Four (54) months</td>
</tr>
</tbody>
</table>

**Conditions and Exclusions:**

This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

**See Also Paragraphs 2 thru 4**

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. **THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.**

### 2. DISCLAIMERS OF WARRANTIES

**Coverage:**

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of transportation, and for the risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, **IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES.** Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
LIFETIME SERVICE WARRANTY

United Plastic Fabricating, Inc. (hereinafter called “UPF”) warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines. Failure to do so can void the warranty.

Every UPF Tank is inspected and tested before leaving our facility. Should your UPF Tank require service, please notify UPF via email, fax, in writing or by calling UPF at 1-978-975-4520. Please provide the serial number, a description of the service request, the location along with the phone number and name of the contact person. Our goal is to have scheduled work completed within a reasonable time period.

Under a valid warranty claim, UPF will cover the cost to repair the UPF Tank including the customary and reasonable costs to make the tank accessible such as the removal and reinstallation of the tank if authorized in advance (pre-approved) by UPF. The warranty will not cover tanks that have been improperly installed, operated, misused, abused, or modified from its intended or designed use. Serial number must not have been altered, defaced or removed. Tanks that are not stored or installed properly which results in the tank suffering UV damage will not be covered by this agreement.

Should UPF determine that the service claim is valid under this warranty for a tank located outside of the United States and Canada, UPF will assume the costs for labor and material for the warranty repair as described above plus all travel costs to the U.S. port of embarkation. Costs for airline travel outside of the U.S. and Canada will not be the responsibility of UPF.

In the event the tank shall become stationed in an area of the world that is considered to be a war zone or where unsafe conditions exist for the safe passage of United States Nationals, as reported by the United States Department of State, (http://www.state.gov), and a request to perform service or warranty repairs, UPF reserves the right to refuse to honor such requests. It is the purchaser’s responsibility to relocate the tank to an area where such repairs can be performed without undue risk to UPF employees or their designee. UPF will make every reasonable effort to support our products though alternative means.

For Ellipse™ elliptical tanks, a separate five year warranty provided by the subcontractor is applied to the sub-frames, chute linings (rubber isolation strips) and metal components. The stainless steel wrap provided by UPF shall be warranted by the subcontractor performing the wrap installation in accordance with their warranty in place at the time of the installation. UPF will not be liable for any warranty costs associated with the wrap, sub-frames, chute linings (rubber isolation strips) and metal components but will assist with all claims on behalf of its customer.

For PolySide® wetsided tanks and Integrator™ Tank/Body units, all polypropylene components related to the tank shall carry the standard UPF lifetime warranty.
service warranty. Other polypropylene components, including but not limited to compartments, wheel wells, fenders and other body related components shall be warranted by UPF for a period of ten years. The warranty for the PolySide® and Integrator™ units excludes paint or hardware, which shall be covered by the manufacturer of the paint/hardware.

All UPF tanks 50 gallons or less utilized for non-fire applications and installed on specialty vehicles such as ATVs, trailers, boats, etc. are covered under a separate warranty policy available from UPF. Further, UPF Protector™ foam and water trailers are warranted under a separate warranty policy available from UPF.

This UPF warranty is transferable within the United States only with prior written approval by UPF (except an original apparatus manufacturer may assign this warranty to the first titled owner/lessee of the apparatus).

UPF will NOT reimburse any unnecessary work and/or work that has not been pre-approved. Any and all third party charges must be pre-authorized and approved in writing by UPF prior to commencing the work. Any unauthorized third party repairs, alterations, actions or modifications will not be covered and can void the warranty. UPF will be the sole determining authority as to whether a service claim will be valid and covered under this warranty.

In no event will UPF be liable for an amount in excess of the purchase price of the booster/foam tank at the time of manufacture or for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of failure of its product. Loss of contents (water, foam, etc.) shall not be the responsibility of UPF. Further, UPF is not responsible for costs associated with service repairs to chassis, sub-frames, bodies, valves, dumps, hoses, pressure vacuum vents, and other components (i.e. liquid level transducers, etc.). Further, UPF will not cover the cost for travel of the vehicle to and from a repair facility.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UPF neither assumes, nor authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATION OR LIABILITIES ON THE PART OF UPF.

POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™ are trademarks of UPF, Inc. © 08/01/09 UPF, Inc. Printed in the USA
LIMITED WARRANTY: The R. H. Sheppard Co. Inc., ("Sheppard") warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. ("Pierce") for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty-six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty SHALL NOT APPLY AND SHALL BE VOID. SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT. Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

REMEDIES: The sole and exclusive remedy of Pierce for Sheppard’s breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:
Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free “Hotline” service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free “Hotline” for approval before product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PKG1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PKG1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce’s purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard’s determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty should not be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of $85.00 USD per hour for M110PGK1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PGK1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce’s discretion.
Outside Purchases: Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

Warranty Documentation: Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

Parts Retention: Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard’s determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

Good-Will Requests: Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

RECALLS: Sheppard retains the right to review information regarding federal motor vehicle recall and/or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be non-compliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

MISCELLANEOUS: This writing constitutes the full complete and final statement of Sheppard’s limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard’s failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.
Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

**COOPERATIVE EFFORT:** Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

**AGREEMENT:** This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of ______________, 2006.

---

**R. H. SHEPPARD CO., INC.**

Authorized Signature

Title

---

**PIERCE MANUFACTURING INC.**

Authorized Signature

Title
### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to $10,000 per occurrence is available for the first three (3) years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of delivery to the first retail purchaser.</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage</td>
</tr>
<tr>
<td>Conditions and Exclusions:</td>
<td>This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, structural failure, freezing, negligence, or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.</td>
</tr>
<tr>
<td>See Also Paragraphs 2 thru 4</td>
<td>Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.</td>
</tr>
<tr>
<td></td>
<td>Labor costs for the removal and reinstallation of any part may be covered when necessary to make repairs. Please contact your OEM for authorization.</td>
</tr>
<tr>
<td></td>
<td>Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of $700 to remove, replace, or repair the oil cooler.</td>
</tr>
</tbody>
</table>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. This LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured;

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

### 3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Waterous Five-Year Limited Warranty

WATEROUS warrants, to the original Buyer only, that products manufactured by WATEROUS will be free from defects in material and workmanship under normal use and service for a period of five (5) years from the date the product is first placed in service, or five and one-half (5-1/2) years from the date of shipment by WATEROUS, whichever period shall be the first to expire; provided the Buyer notifies WATEROUS, in writing, of the defect in said product within the warranty period, and said product is found by WATEROUS to be nonconforming with the aforesaid warranty. When required in writing by WATEROUS, defective products must be promptly returned by Buyer to WATEROUS at WATEROUS’ plant at South St. Paul, Minnesota, or at such other place as may be specified by WATEROUS, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested by phone, fax, email, or mail. The aforesaid warranty excludes any responsibility or liability of WATEROUS for:

(a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, or improper maintenance, or attributable to written specifications or instructions furnished by Buyer;
(b) defects in products manufactured by others and furnished by WATEROUS hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, WATEROUS will assign to Buyer, if requested by Buyer;
(c) any product or part, altered, modified, serviced or repaired other than by WATEROUS, without its prior written consent;
(d) the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation; and
(e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.).

ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.

The exclusive remedy of Buyer and the sole liability of WATEROUS, whether based on contract, warranty, tort or any other basis of recovery whatsoever, is expressly limited at the election of WATEROUS to:

(a) the replacement at the agreed point of delivery of any product or part, which upon inspection by WATEROUS or its duly authorized representative, is found not to conform to the limited warranty set forth above, or
(b) the repair of such product or part, or
(c) the refund or crediting to Buyer of the net sales price of the defective product or part.

BUYER’S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.
## Three (3) Year Material and Workmanship
### Meritor Wabco ABS Brake System
#### Limited Warranty

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Year</td>
</tr>
</tbody>
</table>

### Conditions and Exclusions:

**See Also Paragraphs 2 thru 4**

The exclusions listed in the attached Meritor Wabco warranty description shall apply.

### 2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

*Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.*
How to Read Warranty Coverage

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

Models or components that are approved for use by Meritor's vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).
### HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

### HEAVY SERVICE TYPICALLY IS

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

### FRONT DRIVE/NON-DRIVE STEER AXLES – 2/UNL/P&L

<table>
<thead>
<tr>
<th>Axle Code</th>
<th>Clutch</th>
<th>Drivelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-965</td>
<td>FG-941</td>
<td>MFS-6-162B</td>
</tr>
<tr>
<td>FF-941</td>
<td>FG-943</td>
<td>MFS-6-162C</td>
</tr>
<tr>
<td>FF-942</td>
<td>FH-941</td>
<td>MFS-7-113C-N</td>
</tr>
<tr>
<td>FF-943</td>
<td>FH-945</td>
<td>MFS-7-153C-N</td>
</tr>
<tr>
<td>FF-944</td>
<td>FH-946</td>
<td>MFS-7-163C-N</td>
</tr>
<tr>
<td>FF-946</td>
<td>FL-941</td>
<td>MFS-8-113B-N</td>
</tr>
<tr>
<td>FF-961</td>
<td>FL-943</td>
<td>MFS-8-153B-N</td>
</tr>
<tr>
<td>FF-966</td>
<td>MFS-6-151A-N</td>
<td>MFS-8-153B-N</td>
</tr>
<tr>
<td>FF-967</td>
<td>MFS-6-153B</td>
<td>MFS-10-122A</td>
</tr>
<tr>
<td>MFS-10-143A-N</td>
<td>MFS-16-122A-N</td>
<td>MX-16-120</td>
</tr>
<tr>
<td>MFS-10-144A-N</td>
<td>MFS-16-143A-N</td>
<td>MX-17-140</td>
</tr>
<tr>
<td>MFS-12-143A-N</td>
<td>RF-16-145</td>
<td>MX-19-140</td>
</tr>
<tr>
<td>MFS-12-144A-N</td>
<td>MFS-18-133A-N</td>
<td>MX-21-140</td>
</tr>
<tr>
<td>MFS-12-155</td>
<td>MFS-20-133A-N</td>
<td>MX-21-160</td>
</tr>
<tr>
<td>MFS-13-143A-N</td>
<td>RF-21-160</td>
<td>MX-23-160</td>
</tr>
<tr>
<td>MFS-13-144A-N</td>
<td>MX-10-120</td>
<td>MX-23-810</td>
</tr>
<tr>
<td>MFS-13-155</td>
<td>MX-12-120</td>
<td></td>
</tr>
<tr>
<td>MFS-14-143A-N</td>
<td>MX-14-120</td>
<td></td>
</tr>
</tbody>
</table>

### CLUTCHES

- **15.5” HD Clutch**: 1/100/P&L
- **15.5” TwinXtend**: 1/100/P&L
- **17” FreedomLine Clutch**: 1/100/P&L

  *Products with an in-service date prior to 11/01/02 warranted by Meritor Clutch Company.*

### DRIVELINES – 1/UNL/P&L

<table>
<thead>
<tr>
<th>Drivelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPL 92N RN MXL</td>
</tr>
</tbody>
</table>

### REAR DRIVE SINGLE AXLES – 2/UNL/P&L

- **MS-10-113**
- **RS-13-120**
- **RS-15-120**
- **MS-17-14X**
- **MS-17-144/145/A**
- **MS-19-14X**
- **MS-19-144**
- **MS-21-114**
- **MS-21-14X**
- **RS-21-145**
- **RS-21-145/A**
- **RS-21-160**
- **RC-22-145**

- **RC-23-160**
- **RC-23-161**
- **RC-23-162**
- **RC-23-165**
- **RS-23-161**
- **RS-23-162**
- **RS-23-165**
- **RS-24-160**
- **RS-25-160**
- **RC-26-185**
- **RC-26-160**
- **RC-26-156**
- **MT-58-160**
- **71162**
- **71163**

- **RC-26-160**
- **MS-26-616**
- **MS-26-185/380**
- **MS-30-616**
- **RS-30-185/380**
- **MS-35-380**
- **RS-38-380**
- **RC-25-160**
- **RC-26-633**
- **MT-58-616**

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.
### Industrial and Off-Highway Service Vehicles

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

### Coverage under Meritor’s Warranty

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor WABCO, and ZF engineering approvals. Refer to TP-9441 for axles and/or contact Meritor regarding specific application approval questions on any product line.

### Drive Steer Axles – 1/UNL/P

- Front Non-Drive Steer Axles – 1/UNL/P
- Planetary Axles – 1/UNL/P
- Rear Drive Single Axles – 1/UNL/P

### Drivelines – 1/UNL/P

- Rear Drive Tandem Axles – 1/UNL/P

### Brake Components

- ABS (Anti-Lock Braking System) Air/Hydraulic
- Air Dryers (ALL)
- Leveling Valves
- Air Brake Valves
- Clutch Controls
- Air Compressors
- Actuator

1 Warranted by Meritor WABCO Vehicle Control Systems.
2 WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by Meritor WABCO. Please contact your respective dealer/distributor of those engines for warranty and servicing.
**TERMS AND CONDITIONS**

**COVERAGE EXCLUSIONS:**

**Product Description**

**All**
The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

**Front Axles**
King Pin Bushings.

**Rear Axles**
Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

**Clutch**
Friction face and mating surface of center and pressure plate, wear pads and clutch brake.

**ASA**
Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

**ABS, Electronic Stability Control (ESC), Roll Stability Control (RSC) and OnGuard**
Cut, broken, chaffed or otherwise damaged cable wires. Damaged sensors from removal when seized in block, or sensor adjustments/alignments. Valve failures due to contamination in air system. E.C.U. failures due to excessive over-voltage conditions.

**Air Dryers**
Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

**Air System Components**
Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals. Water and other contamination damage that is due to the use of a non-genuine air dryer cartridge will not be covered.

**Cam Brake**
Brake lining wear and brake shoe “rust-jacking.”

**Disc Brake**
Pad wear, rotor wear.

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**COVERAGE LIMITATIONS:**

**Product Description**

**All**
Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

**Front Axles**
Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

**Rear Axles**
Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

**Rear Axles**
The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

**Cam Brake**
Limited to bracket, brake spider and camshaft structural integrity.

**Disc Brake**
Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
**1) What is Covered by this Commercial Warranty?**

Meritor Inc. warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM’s vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

**2) Designation of Vocational Use Required.**

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor-WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.

**3) What is the Cost of this Warranty?**

There is no charge to the Owner for this warranty.

**4) What is not Covered by this Warranty?**

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle’s configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the transmission, axle, driveline, and/or clutch torque capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor.

For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

**5) Remedy.**

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor’s option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

**6) Disclaimer of Warranty.**

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

**7) Limitation of Remedies.**

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

**8) To Obtain Service.**

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

**9) Entire Agreement.**

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
Fire and Rescue Apparatus

Two (2) Year Material and Workmanship
Meritor Axles

Limited Warranty

1. LIMITED WARRANTY
Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Two (2) Year</td>
</tr>
<tr>
<td>Conditions and Exclusions:</td>
<td>The exclusions listed in the attached Meritor warranty description shall apply.</td>
</tr>
</tbody>
</table>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured;

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES
THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY
If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES
Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO; REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

8/22/2017 WA0328
WARRANTY INFORMATION CONTENTS

Effective Model Year 2018 Vehicles

Linehaul ............................................................................................................. 3-4
General Service .............................................................................................. 5-6
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Off-Highway Service ...................................................................................... 9
Terms and Conditions ...................................................................................... 10

How to Read Warranty Coverage

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

Notice:
Models or components that are approved for use by Meritor’s vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Advantage Program

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).
LINEHAUL WARRANTY INFORMATION

Linehaul Vehicles

- Auto Hauler
- Bulk Hauler
- Chip Hauler (Truck)*
- Doubles
- Flatbed
- General Freight
- Grain Hauler
- Livestock Hauler
- Moving Van
- Pipe Hauler
- Refrigerated Freight
- Tanker
- Triples

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

Linehaul Typically Is

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/750/P&L

<table>
<thead>
<tr>
<th>Model</th>
<th>Model</th>
<th>Model</th>
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<tbody>
<tr>
<td>FD-965</td>
<td>FF-966</td>
<td>MFS-10-144A-N</td>
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<td>MFS-10-143A-N</td>
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Rear Drive Single Axles – 5/750/P&L

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<thead>
<tr>
<th>Model</th>
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<tbody>
<tr>
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<td>RS-21-160</td>
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<td>MS-19-14X</td>
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<td>MS-21-144</td>
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<td>RS-21-145</td>
<td>RS-23-186</td>
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Rear Drive Tandem/Tridem Axles – 5/750/P&L

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<thead>
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<td>RZ-188</td>
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Drivelines

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<tr>
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<td>MXL</td>
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</tr>
<tr>
<td>155N</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>92N</td>
<td>1/Unl/P</td>
<td></td>
</tr>
</tbody>
</table>

1 These models required for Chip Hauler and Linehaul warranty consideration.
2 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.
### Brake Components

- **Cam Q Series Trailer Brakes**
  - 5/500/P, 1/100/L
- **LX500 Feature**
  - 5/750/P&L
- **Q+ Drum Brake™**
  - 5/500/P, 1/Unl/P&L
- **ASA**
  - 5/500/P, 1/Unl/P&L
- **Hubs/Cast Drums and Other Wheel-end Components**
  - 1/Unl/P
- **Hydraulic Disc Brakes**
  - 1/Unl/P
- **All Other Brakes**
  - 1/Unl/P
- **STEELite X30 Drum Brake™**
  - 12-Years or Wearable Life/P

1. Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.
2. Based on stamped wear diameter max.

### Trailer Axles

- **Beam and Brackets**
  - 5/500/P, 1/100/L
- **Wheel End Systems**
  - **Standard System**
    - 1/100/P&L
  - **PreSet by Meritor**
    - 5/500/P&L
  - **AxlePak5**
    - 5/P/L
  - **AxlePak7**
    - 7P/L

1. Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
2. When installed by Meritor.
3. Requires approved hubcap stating PreSet by Meritor on hubcap face.
4. When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/500P, 3/500L.
5. When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/750P, 3/500L.

### Trailer Air Suspension Systems

- **MPA38/40 (Tandem Axle Parallelogram)**
  - **Major Structural Components**
    - 5/500/P, 1/100/L
  - **Curbing Damage Warranty**
    - 5/500/P, 1/100/L
  - **Height Control Valve**
    - 1/100/P&L
  - **Shock Absorbers**
    - 2/200/P&L
  - **Air Springs**
    - 2/200/P, 1/100/L
  - **Bushings**
    - 7/700/P, 5/500/L
  - **PinLoc Air Controls**
    - 1/100/P&L
  - **PinLoc Actuator**
    - 3/300/P&L

**MPA20 (Single Axle Parallelogram)**

- **Major Structural Components**
  - 5/500/P, 1/100/L
- **Height Control Valve**
  - 1/100/P&L
- **Shock Absorbers**
  - 2/200/P&L
- **Air Springs**
  - 2/200/P, 1/100/L
- **Bushings**
  - 7/700/P, 5/500/L

**MTA (Trailing Arm)**

- **Major Structural Components**
  - 5/500/P, 1/100/L
- **Height Control Valve**
  - 1/100/P&L
- **Shock Absorbers**
  - 2/200/P&L
- **Air Springs & Rebound Straps**
  - 2/200/P, 1/100/L
- **Bushings**
  - 5/500/P, 3/300/L

1. Fastener torque coverage is limited to 2/Unl P&L when torqued by Meritor
   (For axle and ABS coverage, refer to appropriate product warranties.)

2. "Curbing damage" is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

### Meritor Tire Inflation System by PSI

- **MTIS Components**
  - 3/500/P&L

1. For brake components and ABS Coverage, refer to appropriate product warranties.
**GENERAL SERVICE WARRANTY INFORMATION**

### General Service Vehicles

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Tour Bus
- Wrecker

### General Service Typically Is

- Lower mileage operations (less than 60,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

### Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

### Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tbody>
<tr>
<td>FF-941</td>
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<td>MFS-12-122B-N</td>
<td>MFS-13-132B-N</td>
<td>MFS-18-193A-N</td>
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<td>FL-943</td>
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<td>MFS-8-143A-N</td>
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<td>MFS-12-144A-N</td>
<td>MFS-14-122A-N</td>
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<td>MFS-13-122B-N</td>
<td>MFS-18-133A-N</td>
<td></td>
</tr>
</tbody>
</table>

1 Can also be used with reduced steer angles in tag position in Coach Applications.

### Rear Drive Single Axles – 2/Unl/P&L

| MS-17-13X | MS-21-144 | RC-23-162 | MS-26-616 | 9163 |
| MS-17-14X | MS-23-17X | RC-23-165 | MS-26-616-SP |               |
| MS-19-13X | RS-21-145/A | RS-23-160 | RS-30-185 |               |
| MS-19-14X | RS-21-160 | RS-23-161 | MS-30-616 |               |
| RS-17-144/145/A | RC-22-145 | RS-23-186 | MS-30-616-SP |               |
| MS-21-13X | RC-23-160 | RC-25-160 | 71162 |               |
| MS-21-14X | RC-23-161 | RS-26-185 | 71163 |               |

1 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN.
1 Refer to Product Information Letter #303 and #396 for further details.

### Rear Drive Tandem – 3/Unl/P&L

| RT-40-160/P | RT-46-160/P |
| RT-40-160/P | RT-46-160/P |

### Drivelines

<table>
<thead>
<tr>
<th>RPL</th>
<th>MXL</th>
<th>155N</th>
<th>92N</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/400/P, 1/Unl/P&amp;L</td>
<td>3/350/P, 1/Unl/P&amp;L</td>
<td>1/Unl/P</td>
<td>1/Unl/P</td>
</tr>
</tbody>
</table>

### Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

| MT-34-14X/P | MT-44-14X/P | MT-58-616 |
| MT-34-144/P/A | RT-44-145/P | RT-58-185 |
| MT-40-14X/P | RT-46-169 | MT-70-380 |
| MT-40-144/P | MT-52-616 | RZ-166 |
| RT-40-145/A | RT-52-185 | RZ-188 |
# GENERAL SERVICE WARRANTY INFORMATION

## Brake Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam Q Series Trailer Brakes</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>LX500 Feature</td>
<td>3/Unl/P&amp;L</td>
</tr>
<tr>
<td>Cam</td>
<td>2/200/P</td>
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<tr>
<td>Cam</td>
<td>3/Unl/P</td>
</tr>
<tr>
<td>Q+ Drum Brake™</td>
<td>3/Unl/P&amp;L</td>
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<td>Q+ Drum Brake ™ 3</td>
<td>2/200/P&amp;L</td>
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<td>ASA</td>
<td>3/Unl/P</td>
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<td>ASA 3</td>
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<tr>
<td>Hubs/Cast Drums and Other Wheel-end Components</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>Hydraulic Disc Brakes</td>
<td>1/Unl/P</td>
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<tr>
<td>All Other Brakes</td>
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<tr>
<td>STEELite X30 Drum Brake™</td>
<td>12-Years or Wearable Life/P</td>
</tr>
<tr>
<td>EX+ Air Disc Brake™</td>
<td>2/Unl/P&amp;L</td>
</tr>
</tbody>
</table>

1 Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.
2 Based on stamped wear diameter max.
3 Applies to Tour Bus and Cross Country Coach only.

## Trailer Axles

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
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<tbody>
<tr>
<td>Beam and Brackets</td>
<td>5/Unl/P, 1/Unl/L</td>
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<tr>
<td>Wheel End Systems</td>
<td>1/Unl/P&amp;L</td>
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<tr>
<td>Standard System</td>
<td>3/Unl/P, 1/Unl/L</td>
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<tr>
<td>AxlePak5</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>AxlePak7</td>
<td>1/Unl/P&amp;L</td>
</tr>
</tbody>
</table>

1 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
3 Applies to Tour Bus and Cross Country Coach only.

## Chassis Axles (2000 Series/ChassiPak)

<table>
<thead>
<tr>
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<tbody>
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<tr>
<td>Wheel End Systems</td>
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1 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

## Trailer Air Suspension Systems

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
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<tr>
<td>MPA38/40 (Tandem Axle Parallelogram)</td>
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<tr>
<td>Major Structural Components</td>
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<tr>
<td>Curbing Damage Warranty</td>
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<tr>
<td>Height Control Valve</td>
<td>1/Unl/P&amp;L</td>
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<tr>
<td>Shock Absorbers</td>
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<tr>
<td>Air Springs</td>
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<tr>
<td>Bushings</td>
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<tr>
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<tr>
<td>PinLoc Air Actuator</td>
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<tr>
<td>MPA20 (Single Axle Parallelogram)</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P&amp;L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>7/700/P, 5/500/L</td>
</tr>
<tr>
<td>MTA (Trailing Arm)</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P&amp;L</td>
</tr>
<tr>
<td>Air Springs and Rebound Straps</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>5/300/P, 3/300/L</td>
</tr>
</tbody>
</table>

(For axle and ABS coverage, refer to appropriate product warranties.)
1 Fastener torque coverage is limited to 2/Unl P&L when torqued by Meritor
2 “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

## TAG/Pusher Axles

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQ, TQD, TR, TRD Beam and Brackets</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>MCI12002, MCI14002, MCI16003, FH946</td>
<td>2/Unl/P&amp;L</td>
</tr>
</tbody>
</table>

(For brake components and ABS coverage, refer to appropriate product warranties.)

## Meritor® Tire Inflation System by PSI

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P&amp;L</td>
</tr>
</tbody>
</table>
### Heavy Service Warranty Information

#### Heavy Service Vehicles
- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drilling Rig
- Dump
- Emergency Service Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trucks
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rapid Intervention Vehicle (RIV)
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

#### Heavy Service Typically Is
- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

#### Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

#### Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Front Drive/Non-Drive Steer Axles – 2/Unl/P&amp;L</th>
<th>RPL</th>
<th>3/Unl/P, 1/Unl/P&amp;L</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-965</td>
<td>FH-941</td>
<td>MFS-8-113B-N</td>
</tr>
<tr>
<td>FF-941</td>
<td>FH-946</td>
<td>MFS-8-153B-N</td>
</tr>
<tr>
<td>FF-942</td>
<td>FL-941</td>
<td>MFS-8-163B-N</td>
</tr>
<tr>
<td>FF-943</td>
<td>FL-943</td>
<td>MFS-10-122A</td>
</tr>
<tr>
<td>FF-944</td>
<td>MFS-6-151A-N</td>
<td>MFS-10-143A-N</td>
</tr>
<tr>
<td>FF-946</td>
<td>MFS-6-153B</td>
<td>MFS-10-144A-N</td>
</tr>
<tr>
<td>FF-961</td>
<td>MFS-6-162B</td>
<td>MFS-12-122</td>
</tr>
<tr>
<td>FF-966</td>
<td>MFS-6-162C</td>
<td>MFS-12-122B-N</td>
</tr>
<tr>
<td>FF-967</td>
<td>MFS-7-113C-N</td>
<td>MFS-12-122C-N</td>
</tr>
<tr>
<td>FG-941</td>
<td>MFS-7-153C-N</td>
<td>MFS-12E-122</td>
</tr>
<tr>
<td>FG-943</td>
<td>MFS-7-163C-N</td>
<td>MFS-12E-132B-N</td>
</tr>
</tbody>
</table>

#### Drivelines

<table>
<thead>
<tr>
<th>Drivelines</th>
<th>RPL</th>
<th>3/Unl/P, 1/Unl/P&amp;L</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPL</td>
<td>3/Unl/P</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>92N</td>
<td>1/Unl/P</td>
<td>1/Unl/P&amp;L</td>
</tr>
<tr>
<td>MXL</td>
<td>1/Unl/P</td>
<td>1/Unl/P&amp;L</td>
</tr>
</tbody>
</table>

#### Rear Drive Single Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Rear Drive Single Axles – 2/Unl/P&amp;L</th>
<th>RPL</th>
<th>3/Unl/P, 1/Unl/P&amp;L</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-17-14X</td>
<td>RS-23-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-17-144/A</td>
<td>RS-23-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-19-14X</td>
<td>RS-23-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-19-144</td>
<td>RC-23-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-21-114</td>
<td>RS-23-186/380</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-21-144</td>
<td>RC-23-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-21-145</td>
<td>RS-24-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>MS-21-145/A</td>
<td>RS-25-160</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>RS-21-160</td>
<td>MS-26-616</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>RC-22-145</td>
<td>MS-26-616-SP</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>RS-23-160</td>
<td>RS-26-185/380</td>
<td>MS-30-616-SP</td>
</tr>
<tr>
<td>RH-23-160</td>
<td>MS-30-616</td>
<td>MS-30-616-SP</td>
</tr>
</tbody>
</table>

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# HEAVY SERVICE WARRANTY INFORMATION

## Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Beam and Brackets</th>
<th>Hub, Wheel Seals, Wheel Bearings</th>
<th>Annual Inspections</th>
<th>Proper Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT-34-14X/P</td>
<td>RT-44-145/P</td>
<td>MT-58-616</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>RT-34-144/P/A</td>
<td>RT-46-169</td>
<td>MT-58-616-SP</td>
<td>Yes</td>
<td>YES</td>
</tr>
<tr>
<td>MT-40-14X/P</td>
<td>MT-52-616</td>
<td>RT-58-185/380&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>RT-40-145/A</td>
<td>MT-52-616-SP</td>
<td>RT-70-380</td>
<td>Yes</td>
<td>YES</td>
</tr>
<tr>
<td>MT-44-14X/P</td>
<td>MT-52-185/380&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>MT-70-380</td>
<td>Yes</td>
<td>YES</td>
</tr>
</tbody>
</table>

<sup>1</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>2</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Brake Components

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam P</td>
<td>3/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Cam P&lt;sup&gt;1&lt;/sup&gt;</td>
<td>2/100/P</td>
<td></td>
</tr>
<tr>
<td>Cam Cast Plus™</td>
<td>2/100/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>Q+ Drum Brake™</td>
<td>3/Unl/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>O+ Drum Brake™&lt;sup&gt;2&lt;/sup&gt;</td>
<td>2/100/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>ASA</td>
<td>3/Unl/P</td>
<td></td>
</tr>
<tr>
<td>ASA&lt;sup&gt;2&lt;/sup&gt;</td>
<td>2/100/P</td>
<td></td>
</tr>
<tr>
<td>Hubs/Cast Drums and Other Wheel-end Components</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Disc Brakes</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>All Other Brakes</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>EX+ Air Disc Brake</td>
<td>2/100/P&amp;L</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Based on stamped wear diameter max.

<sup>2</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

## Rear Drive Tandem – 3/Unl/P&L

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT-40-160/P/A&lt;sup&gt;3&lt;/sup&gt;</td>
<td>2/Unl/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>RT-46-160/P/A&lt;sup&gt;1,3&lt;/sup&gt;</td>
<td>2/Unl/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>RT-46-164EH/P/A&lt;sup&gt;2,3&lt;/sup&gt;</td>
<td>2/Unl/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>RT-50-160/P/A&lt;sup&gt;3&lt;/sup&gt;</td>
<td>2/Unl/P&amp;L</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

<sup>2</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>3</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Trailer Air Suspension Systems

<table>
<thead>
<tr>
<th>System Type</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTA (Trailing Arm)</td>
<td>5/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Major Structural Components&lt;sup&gt;1&lt;/sup&gt;</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Air Springs</td>
<td>2/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Bushings&lt;sup&gt;1&lt;/sup&gt;</td>
<td>5/Unl/P &amp; 3/Unl/L</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Raw wood applications 3/Unl/P & 1/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

## Center Non-drive Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC26000</td>
<td>71063</td>
<td></td>
</tr>
<tr>
<td>79063</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Meritor Tire Inflation System by PSI

<table>
<thead>
<tr>
<th>System Type</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P&amp;L</td>
<td></td>
</tr>
</tbody>
</table>

## Trailer Axles

<table>
<thead>
<tr>
<th>System Type</th>
<th>Warranty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam and Brackets&lt;sup&gt;1&lt;/sup&gt;</td>
<td>5/Unl/P</td>
<td></td>
</tr>
<tr>
<td>Wheel End Systems&lt;sup&gt;2&lt;/sup&gt;</td>
<td>1/Unl/P&amp;L</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>2</sup> When installed by Meritor. (For brake components and ABS coverage, refer to appropriate product warranties.)

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<sup>Page 434 of 814</sup>
Industrial And Off-Highway Service Vehicles

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

Industrial And Off-Highway Service Typically Is

- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Drive Steer Axles – 1/Unl/P

<table>
<thead>
<tr>
<th>MOR</th>
<th>MOX</th>
<th>MOC</th>
</tr>
</thead>
</table>

Front Non-Drive Steer Axles – 1/Unl/P

| FF - 941 | MFS-12-143A-N | MFS-18-135A-N |
| FF - 943 | MFS-12-144A-N | MFS-18-193A-N |
| FF - 961 | MFS-13-143A-N | MFS-20-133A-N |
| FF - 966 | MFS-13-144A-N | MFS-20-135A-N |
| FG - 941 | MFS-14-143A-N | MFS-20H-193A-N |
| FG - 943 | MFS-16-122A-N | MFS-22H-135A-N |
| FL - 941 | MFS-16-143A-N | MFS-22H-193A-N |
| FL - 943 | MFS-18-133A-N | MON-ZO FAMILY |

Planetary Axles – 1/Unl/P

<table>
<thead>
<tr>
<th>MOR</th>
<th>MOX</th>
<th>MOC</th>
<th>MOT</th>
</tr>
</thead>
</table>

Rear Drive Single Axles – 1/Unl/P

| RS-23-186 | RS-24-160-SP | RS-30-185 |
| RS-23-380 | MS-30-616 | RS-30-380 |
| RS-24-160 | MS-30-616-SP | MS-35-380 |

Drielines – 1/Unl/P

<table>
<thead>
<tr>
<th>RPL</th>
<th>MXL</th>
</tr>
</thead>
</table>

Rear Drive Tandem Axles – 2/Unl/P

| MT-44-14X/P | MT-58-616 | RT-44-145/P | RT-50-160/P |
| MT-52-616 | MT-58-616-SP | RT-46-160/P | RZ-166 |
| MT-52-616-SP | MT-70-380 | RT-46-164EH/P |

Brake Components

- Cam P
- Q+ Drum Brake™
- ASA
- Hubs/Cast Drums and Other Wheel-end Components
- Hydraulic Disc Brakes
- All Other Brakes

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.
### Coverage Exclusions

#### Product Description

**All**

The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

**Front Axles**

- King Pin Bushings.

**Rear Axles**

- Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

**ASA**

- Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

**Cam Brake**

- Brake lining wear and brake shoe “rust-jacking.”

**Disc Brake**

- Pad wear, rotor wear.

### Coverage Limitations

#### Product Description

**All**

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

**Front Axles**

- Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

**Rear Axles**

- Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

**Rear Axles**

- The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

**Cam Brake**

- Limited to bracket, brake spider and camshaft structural integrity.

**STEELite X30**

- Wearable life is up to the discard diameter of the drum.

**Disc Brake**

- Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
(1) What is Covered by this Commercial Warranty?
Meritor Inc. warrants to the owner (“Owner”) that the components listed in this publication, which have been installed by an Original Equipment Manufacturer (“OEM”) as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM’s vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) Designation of Vocational Use Required.
To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

(3) What is the Cost of this Warranty?
There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?
This warranty does not cover normal wear and tear, nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle’s configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.
The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor’s option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.
THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) Limitation of Remedies.
In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.
If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.
This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
TO: All Dealer Service Representatives

From: Kevin Hanegraaf

DATE: January 4, 2010

RE: UPF Tank Warranty Policy – Truck in Accident

Service Topic #292

To keep the UPF tank warranty valid on trucks that have been involved in a vehicular accident, it is UPF’s policy that the customer must remove the tank from the truck and send it back to one of UPF’s facilities for inspection. In the event that this does not take place, the warranty will be considered null and void.

The customer must remove and send the tank back to UPF for inspection in order to maintain the original warranty coverage, at which time it will be:

- Filled with water
- Visually inspected
- Ultraviolet spark tested on articulating test stand in the dark
- Recommendation for repairs if necessary provided by UPF
- Fully evaluated and repaired by UPF

If your customer chooses to leave the tank on the truck and wants a technician to inspect and/or repair the tank in the field, then the warranty is no longer in effect. This direction is upheld by UPF because the technician cannot inspect the entire tank when it is still installed on the truck.

Note: This memo is intended to relay the information Pierce has received on UPF’s tank warranty for trucks that are in a vehicular accident. In the event of an actual claim, we direct you to consult with UPF’s service Manager Maura Watts (800-638-8265 x253)
PROPOSAL PREPARED FOR:

City of Sacramento
5770 Freeport Blvd, Suite 2
Sacramento, CA 95822

We hereby propose and agree to furnish, after your acceptance of this proposal and the proper execution by the CITY OF SACRAMENTO, hereinafter called “Customer” and an officer of Golden State Fire Apparatus, Inc., hereinafter called “GSFA”, the following fire apparatus and equipment, hereinafter called “Product”:

PROPOSAL SUMMARY

This proposal includes the following items in accordance with the specifications hereto attached:

- Fire apparatus and equipment
- 100% performance bond
- Factory pre-construction trip
- Factory final inspection trip
- Pre-delivery inspection/services by GSFA
- Delivery to GSFA service center in Sacramento
- Final delivery from service center to Customer
- Demonstration and familiarization of the Product
- California Tire Fee

PRODUCT COMPLETION

Product shall be built in accordance with the specifications hereto attached, delays due to acts of God, strikes, war, or intentional conflict, failures to obtain chassis, materials, unusual weather conditions or other causes beyond GSFA’s control not preventing, within approximately 400 CALENDAR DAYS after receipt of this order and the acceptance thereof at our Sacramento, California office. Within thirty (30) calendar days after receipt of this order and acceptance thereof, GSFA shall submit to Customer a production schedule including tentative pre-construction conference, final inspection and final delivery dates.

DELIVERY LOCATION

Product shall be shipped in accordance with the specifications hereto attached and be delivered to you at SACRAMENTO, CALIFORNIA. Proof of insurance must be demonstrated by the Customer to GSFA prior to transferring of the Product(s).

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>One (1) Pierce Manufacturing, Inc. Velocity Heavy Duty Rescue</td>
<td>1,318,160.00</td>
</tr>
<tr>
<td>B</td>
<td>Discount for HGAC contract FS12-17, Product Code TD08</td>
<td>(32,300.00)</td>
</tr>
<tr>
<td>C</td>
<td>Discount For 100% Pre-Payment at Time of Order</td>
<td>(42,860.00)</td>
</tr>
</tbody>
</table>

SUBTOTAL: 1,243,000.00

State Sales Tax @ 8.25% 102,547.50
California Tire Fee 17.50

GRAND TOTAL: 1,345,565.00
TERMS AND CONDITIONS

1. Payment Terms, 100% Pre-Payment at Time of Order – If applicable, Customer shall pay the Grand Total within fifteen (15) calendar days of date on invoice to GSFA. Proposed delivery timeframe for the Product shall not begin until full payment is received. If payment is late, a daily finance charge of $250.00 may be added to the final invoice until such payment is received. If payment is not made, $42,860.00 plus state sales tax shall be added to the final invoice and due GSFA at time of delivery. Due to insurance liability, the Product(s) will not be left at the Customer’s location without full acceptance and payment or prior written agreement between the Customer and GSFA.

2. Multiple Unit Purchase – If applicable, for any multiple unit purchase the Grand Total pricing is only valid if the quantity of Products being proposed are purchased at the same time, on the same Purchase Order (PO) or signed contract.

3. State Sales Tax – A sale occurs when the Customer takes title to or possession of an item (not when payment is received by GSFA). Consequently, this proposal is subject to the applicable state sales tax rate in effect when the Product is delivered to the Customer per the delivery terms. Customer is responsible for payment of any additional taxes required, likewise Customer is entitled to a refund if the tax rate is lowered!

4. Purchase Orders – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.

5. Proposal Expiration – Unless accepted by the expiration date above, GSFA reserves the right to withdraw this proposal.

6. Cancellation/Termination – In the event this proposal is accepted and a signed Purchase Order (PO) or signed contract is issued and then cancelled or terminated by Customer before completion, GSFA may charge a cancellation fee. The following charge schedule based on costs incurred may be applied: (a) 10% of the Purchase Price after order is accepted and entered by GSFA; (b) 20% of the Purchase Price after completion of approval drawings, and; (c) 50% of the Purchase Price upon any material requisition. The cancellation fee shall increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. GSFA endeavors to mitigate any such costs through the sale of such Product to another purchaser; however, the Customer shall remain liable for the difference between the Purchase Price and, if applicable, the sale price obtained by GSFA upon sale of the Product to another purchaser, plus any costs incurred by GSFA to conduct any such sale.

7. Stock / Demo Units – If applicable, all stock/demo units are available for sale on an as is, first come and first served basis. The first Customer to issue a signed Purchase Order (PO) or signed contract shall obtain the Product!

8. Proposal Acceptance Statement – To ensure the above stated terms and conditions of this proposal and the specifications hereto attached are understood and adhered to, GSFA requires an authorized individual from the Customer to sign and date this proposal and include it with any Purchase Order (PO). Upon signing of this proposal, the stated terms and conditions of this proposal and the specifications hereto attached shall be considered binding and accepted by the Customer. No additional terms or conditions shall be binding upon GSFA unless agreed to in writing and signed by a duly authorized officer of GSFA. The terms and acceptance of this proposal shall be governed by the laws of the State of California.

Thank you for allowing Golden State Fire Apparatus, Inc. the opportunity to provide this proposal. If you have any questions regarding the options presented or need additional options please contact me.

Sincerely,

Ryan Wright
Golden State Fire Apparatus, Inc.

I, ________________________________________, the authorized representative of CITY OF SACRAMENTO, agree to purchase the proposed Product(s) and agree to the terms and conditions of this proposal and the specifications hereto attached.

SIGNATURE: ______________________________________ DATE: __________________
Golden State Fire Apparatus Inc is pleased to submit a proposal to City of Sacramento for a **Pierce® Heavy Duty Rescue** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

**PIERCE MANUFACTURING** was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 60 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 51,000 apparatus, including more than 27,000 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 757,000 total square feet of floor space situated on approximately 97 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

**GENERAL DESIGN AND CONSTRUCTION**

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.

**QUALITY AND WORKMANSHP**

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding
Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least ten (10) fire departments/municipalities that have purchased vehicles for a second time is provided.

**DELIVERY**

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

The specifications herein contained will form a part of the final contract and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The proposal for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above.

Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.
MANUAL AND SERVICE INFORMATION
At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO
At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.

PERFORMANCE TESTS
A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT
Pierce dealership support will be provided by Golden State Emergency Vehicle Service by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within fifty (50) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks more than $5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU's and descriptions offered on all Pierce apparatus. Published component catalogs,
which include proprietary systems along with an extensive operator’s manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24-hour 7 day a week toll free hot line, four (4) on staff EVT's, and offers hands-on repair and maintenance training classes multiple times a year.

COMMERCIAL GENERAL LIABILITY INSURANCE
Certification of insurance coverage will be enclosed.

SINGLE SOURCE MANUFACTURER
Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

Your apparatus will be manufactured in Appleton, Wisconsin.

NFPA 2016 STANDARDS
This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.
The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

**NFPA COMPLIANCE**

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

**VEHICLE INSPECTION PROGRAM CERTIFICATION**

To assure the vehicle is built to current NFPA standards, the apparatus, in its entirety, will be third-party, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition of NFPA 1901. The certification will include: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

A placard will be affixed in the driver's side area stating the third-party agency, the date, the standard and the certificate number of the whole vehicle audit.

**INSPECTION TRIP(S)**

The bidder will provide two (2) factory inspection trip(s) for four (4) City of Sacramento customer representative(s). The inspection trip(s) will be scheduled at times mutually agreed upon between the manufacturer's representative and the customer. All costs such as travel, lodging and meals will be the responsibility of the bidder.

**PRODUCT CHANGES AND IMPROVEMENTS**

Our components and processes, as described in this proposal document, are as accurate as known at the time of bid submission, but are subject to change for the purpose of product or process improvements, or changes in industry standards providing the change does not affect the meaning or definition of the bid specifications.

**PERFORMANCE BOND, 1 YEAR**

The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.

Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty.
period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

**APPROVAL DRAWING**
A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

**FINAL DRAWING**
There will be a revised drawing of the truck with all the changes made during production provided at pickup.

**VELOCITY CHASSIS**
The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab.

**MAXIMUM OVERALL LENGTH**
The maximum overall length of the apparatus will be 463.00" (38' - 7.00").

**WHEELBASE**
The wheelbase of the vehicle will be 243.50.

**GVW RATING**
The gross vehicle weight rating will be 62,800.

**FRAME**
The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040
in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

**FRAME REINFORCEMENT**
In addition, a mainframe inverted "L" liner will be provided. It will be heat-treated steel measuring 12.00" x 3.00" x 0.25". Each liner will have a section modulus of 7.795 cubic inches, yield strength of 110,000 psi, and rbm of 857,462 in-lb. Total rbm at wheelbase center will be 3,976,502 in-lb.

The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.

**FRONT NON-DRIVE AXLE**
The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 lb.

Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron.

The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.

Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations.

There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.

The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load.

Camber at load will be 0 degrees for optimum tire life.

The ball joint bearing will be of low friction design and be maintenance free.

Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.

The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle.

The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.

The axle will have a third party certified turning angle of 45 degrees. Front discharge, front suction, or aluminum wheels will not infringe on this cramp angle.
FRONT SUSPENSION
Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb.

The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment.

Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension.

The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms.

The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side.

The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.

FRONT SHOCK ABSORBERS
KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.

FRONT OIL SEALS
Oil seals with viewing window will be provided on the front axle.

FRONT TIRES
Front tires will be Goodyear® 425/65R22.50 radials, 20 ply G296 MSA tread, rated for 22,800 lb maximum axle load and 68 mph maximum speed.

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.

REAR AXLE
The rear axle will be a Meritor™, Model MT-40-14X, tandem axle assembly with a capacity of 40,000 lb.

An inter-axle differential lock, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.
AXLE RATIO OF VEHICLE
The rear axle will be geared for a top speed of 68 mph. The engine will be electronically limited to a top speed of 60 mph.

REAR SUSPENSION
Rear suspension will be a Hendrickson Model FMX 482 EX, air ride with a ground rating of 48,000 lb. The suspension will have the following features:

- Outboard vertical mounted heavy-duty shock absorbers
- Utilizes track bars and torque rods to restrict lateral axle movement and maintain constant pinion angles
- Super heavy-duty transverse beam to help reduce axle stress while increasing roll stability or resistance to lean
- Low spring rate air springs for excellent ride quality
- Dual height control valves to maintain level vehicle from side to side

REAR OIL SEALS
Oil seals will be provided on the rear axle(s).

REAR AIR RIDE SUSPENSION DUMP VALVES
The rear air ride suspension will be supplied with a dump valve system provided by the custom chassis manufacturer.

The control will be located inside the cab and at the driver's side rear of body.

To prevent accidental activation of the valves, a 5 second timed delay will be built into the control circuit. The chassis back-up alarm will sound when the control is active.

The parking brake must be applied before the control will be active. Release of the parking brake will automatically inflate the suspension.

REAR TIRES
Rear tires will be eight (8) Goodyear 12R22.50 radials, load range H, Endurance RSA, highway tread, rated for 54,240 lb maximum axle load and 75 mph maximum speed.

The tires will be mounted on Alcoa© 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.

TIRE BALANCE
All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
TIRE PRESSURE MANAGEMENT
There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of 10 tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery-operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

MUD FLAPS
Mud flaps with a Pierce logo will be installed behind the front and rear wheels.

WHEEL CHOCS
There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.

WHEEL CHOCK BRACKETS
There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire and rearward of the left side rear tire.

ANTI-LOCK BRAKE SYSTEM
The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels (rear tandem wheels). A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

BRAKES
The service brake system will be full air type.

The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance.

The brake system will be certified, third party inspected, for improved stopping distance.
The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

**BRAKE SYSTEM AIR COMPRESSOR**
The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

**BRAKE SYSTEM**
The brake system will include:

- Bendix dual brake treadle valve
- Heated automatic moisture ejector on air dryer
- Total air system capacity of 6,653 cubic inches
- Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi
- Spring set parking brake system
- Parking brake operated by a push-pull style control valve
- A parking "brake on" indicator light on instrument panel
- Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, will be provided with an automatic spring brake application at 40 psi
- A pressure protection valve will be provided to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa).
- 1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750-hour salt spray test.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

**BRAKE SYSTEM AIR DRYER**
The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100-watt heater.

**BRAKE LINES**
Wire braided reinforced rubber brake lines will be provided for the chassis air brake system, up to the individual line coupler fittings, located in the chassis frame forward of the front axle.

The coupler fittings will be the separation point for all air lines going to the front of the chassis and into the cab.

The air lines going into the cab will be nylon, wrapped in loom.

The area where the nylon air lines run will be well protected inside the frame rails.
The brake lines will not be painted.

**AIR INLET/OUTLET**
One (1) air inlet/outlet will be installed with the female coupling located in the driver's side cab step area. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85-psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.

A mating male fitting will be provided with the loose equipment.

The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.

**ADDITIONAL AIR TANK**
An additional air tank with 1,454 cubic inch displacement will be provided to increase the capacity of the air system. This tank will be dedicated for air horn use.

The air tank will be primed and painted to meet a minimum 750-hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

The output flow of the engine air compressor varies with engine rpm. Full compressor output is only achieved at governed engine speed. Engine speed may be limited by generators, pumps and other PTO driven options.

**AIR TANK MOUNTING**
Air tanks will be installed to maximize ground clearance. Smaller tanks may be required to allow for them to be mounted higher for increased ground clearance.

**ALL WHEEL LOCK-UP**
An all wheel lock-up system will be installed which will apply air to the front brakes and use the spring brake at the rear. A control switch will be provided for the driver on the instrument panel.

The all wheel lock-up system will be operational only when the parking brake is applied, the truck transmission is in neutral and engine is running.

**AIR COMPRESSOR - BRAKE SYSTEM MAINTENANCE**
A Gast, Model 4HCC-10-M450X, air compressor will be provided. It will be driven by the 110-volt shoreline electrical system. The compressor will maintain the air pressure in the chassis air brake system while the vehicle is not in use. A pressure switch will sense when the system pressure drops and automatically start the compressor, which then will run until pressure is restored. It will be in compartment in D5/P5 on front wall as high as possible by battery charger.

A locking switch will be provided to help prevent accidental activation of the front wheel lock control.
MANUAL MOISTURE EJECTORS
Six (6) manual moisture ejectors will be installed in the brake system. The moisture ejector will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible. A loop will be provided at the moisture ejector, to allow for ease of pulling the drain. Each moisture ejector will have a label directly under the ejector, stating air tank drain. Nylon tubing, .38" diameter, will be routed from the air tank to the moisture ejector. The nylon tubing will be covered with protective split loom. The moisture ejector(s) will be provided on each tank. Pull cables to be located at the area rearward of the wheel chocks on the driver's side.

ENGINE
The chassis will be powered by an electronically controlled engine as described below:

<table>
<thead>
<tr>
<th>Make:</th>
<th>Cummins®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model:</td>
<td>X15</td>
</tr>
<tr>
<td>Power:</td>
<td>600 hp at 1800 rpm</td>
</tr>
<tr>
<td>Torque:</td>
<td>1850 lb-ft at 1200 rpm</td>
</tr>
<tr>
<td>Governed Speed:</td>
<td>2100 rpm</td>
</tr>
<tr>
<td>Emissions Level:</td>
<td>EPA 2017</td>
</tr>
<tr>
<td>Fuel:</td>
<td>Diesel</td>
</tr>
<tr>
<td>Cylinders:</td>
<td>Six (6)</td>
</tr>
<tr>
<td>Displacement:</td>
<td>912 cubic inches (14.9L)</td>
</tr>
<tr>
<td>Starter:</td>
<td>Delco 39MT+™</td>
</tr>
<tr>
<td>Fuel Filters:</td>
<td>Frame mounted spin-on style primary filter with water separator and water-in-fuel sensor</td>
</tr>
</tbody>
</table>

The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.

HIGH IDLE
A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

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ENGINE BRAKE
A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

CLUTCH FAN
A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.

ENGINE OIL DRAIN PLUG EXTENDED
An extended drain line will be installed at the "rear" engine oil pan for oil drainage to clear the Tak-4 suspension. The engine oil drain line will be installed to allow complete removal of the engine oil.

ENGINE AIR INTAKE
An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of the apparatus, on the passenger side of the engine. The ember separator will be mounted in the air intake with flame retardant, roto-molded polyethylene housing. It will be easily accessible by the hinged access panel at the front of the vehicle.

EXHAUST SYSTEM
The exhaust system will include a Single Module™ aftertreatment device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the aftertreatment device, and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.

EXHAUST MODIFICATION
The exhaust pipe will be brought out from under the body at a 35-degree angle to the rear.
The diffuser will not be cut straight to the body, and the outer edge will be flush with the body rubrail. There will be a minimum of 2.50" from the exhaust pipe to the under side of the body heat shield. The last 7.00" of the exhaust will be free of hangers and/or clamps.

**RADIATOR**
The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards.

For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. No solder joints or leaded material of any kind will be acceptable in the core assembly. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy shall be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions.

There will be a full steel frame around the entire radiator core assembly. The radiator core assembly will be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators.

The radiator assembly will include an integral deaeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15-psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

**COOLANT LINES**
Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

Hose clamps will be stainless steel "constant torque type" to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.
FUEL TANK
A 65-gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.

A 0.75" drain plug will be in a low point of the tank for drainage.

A fill inlet will be located on the left-hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."

A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet.

The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.

All fuel lines will be provided as recommended by the engine manufacturer.

DIESEL EXHAUST FLUID TANK
A 4.5-gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body forward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located below the air bottle storage behind a common door on the driver side of the vehicle.

The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.

The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.

AUXILIARY FUEL PUMP
An auxiliary electric fuel pump will be added to the fuel line for priming the engine. A switch located on the cab instrument panel will be provided to operate the pump.

FUEL COOLER
An air to fuel cooler will be installed in the engine fuel return line.

The fuel filler door will include a holder for the fuel fill cap.

FUEL SEPARATOR
The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.
TRANSMISSION
An Allison 5th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided.

The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due.

Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock).

A transmission temperature gauge with red light and buzzer will be installed on the cab instrument panel.

TRANSMISSION SHIFTER
A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation.

The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.

TRANSMISSION COOLER
A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.

DOWNSHIFT MODE (W/ENGINE BRAKE)
The transmission will be provided with an aggressive downshift mode.

This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.

TRANSMISSION FLUID
The transmission will be provided with TranSynd, or other Allison approved TES-295 heavy duty synthetic transmission fluid.

DRIVELINE
Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints.

The shafts will be dynamically balanced before installation.

A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
STEERING
Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings.

A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL
The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON
The steering wheel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row.

The first row of text will be: CITY
The second row of text will be: OF
The third row of text will be: SACRAMENTO

HITCH RECEIVERS
Two (2) hitch receivers will be provided at the front of the vehicle. Both receivers will be located inboard of the frame extension, one (1) each side, through the bumper face.

The hitch receivers will be designed for use with a portable winch, maximum straight pull rating of 10,000 pounds.

BUMPER
A one (1) piece, ten (10) gauge 304-2B polished stainless-steel bumper, minimum of 10.00" high, will be attached to the front of the chassis frame.

A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.

GRAVEL PAN
A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.
LIFT AND TOW MOUNTS
Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems.

The lift and tow mounts with eyes will be painted the same color as the frame.

TOW HOOKS
No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes.

LICENSE PLATE BRACKET
A non-illuminated license plate bracket will be mounted on the front bumper. The bracket will be formed from bright stainless steel.

CAB
The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be of heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together.
that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 20.00" raised roof, with an overall cab height of approximately 122.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 72.95" in the center position and 78.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

**INTERIOR CAB INSULATION**

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.

**FENDER LINERS**

Full-circular, aluminum inner fender liners in the wheel wells will be provided.

**PANORAMIC WINDSHIELD**

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The
inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

**WINDSHIELD WIPERS**
Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather.

The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

**FAST SERVICE ACCESS FRONT TILT HOOD**
A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy-duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

**ENGINE TUNNEL**
To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered.

The engine tunnel will be insulated on both sides for thermal and acoustic absorption. The underside of the tunnel will be covered with 1.00" thick polyether foam that is reinforced with an aluminized face. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The insulation will keep noise (dBA) levels at or lower than the specifications in the current edition of the NFPA 1901 standards.

**CAB REAR WALL EXTERIOR COVERING**
The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.
CAB Lift
A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure.

The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel. For enhanced visibility during cab tilt operations, a remote-control tether with on/off switch will be supplied on a coiled cord that will extend from 2’ (coiled) to 6’ (extended).

The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab.

The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25” diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position.

For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.

CAB Lift Interlock
The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.

CAB Tilt Circuit
The cab tilt mechanism will be operational with the battery switch only and with parking brake set.

Grille
A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.

Door Jamb Scuffplates
All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb.
HANDRAIL SCUFFPLATES
A polished stainless steel scuffplate will be provided behind the handrails for all cab and crew cab door entrances.

FRONT CAB TRIM
Bright finished wrap-around housings will be provided on each side of the front cab face for mounting of the headlights and front directional lights. The housings will mate up to the side edge of the forward grille, and then extend around the front corners of the cab rearward, providing for a streamlined automotive appearance.

SIDE OF CAB MOLDING
Chrome molding will be provided on both sides of cab.

MIRRORS
A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

CAB DOORS
To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 85.50" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum.

The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.

A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will can activate when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.
A heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11-gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab and crew cab door.

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

**CAB DOOR PANELS**
The inner cab door panels will be constructed out of brushed stainless steel. The cab door panels will be removable.

**RECESSED POCKET WITH ELASTIC COVER**
To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console.

**ELECTRIC WINDOW CONTROLS**
Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.

The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.

**CAB STEPS**
The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.

A Hansen LED backlit knurled aluminum handrail will be provided adjacent to each cab door opening to assist during cab ingress and egress. The handrails will be lit with white LED lights. The lights will be activated when the parking brake is applied.
STEP LIGHTS
For reduced overall maintenance costs compared to incandescent lighting, there will be four (4) white LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep.

To ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

The lights will be activated when the adjacent door is opened.

FENDER CROWNS
Stainless steel fender crowns will be installed at the cab wheel openings.

GRAB HANDLE(S)
There will be two (2) black offset rubber covered grab handle(s) mounted one (1) on each crew cab door post (hinged side) to assist in entering the cab and/or crew cab. The grab handle(s) will be securely mounted.

UPPER REAR WINDOWS ON SIDES OF CREW CAB
Two (2) windows will be provided above the crew cab door, along the sides of the raised roof section of the cab, one (1) on each side of the cab. The profile of the glass will match the painted metal side sheet opening, creating a uniform threshold appearance. The windows will be bonded to the vehicle using urethane adhesive. The visibility through each window will measure 35.25" wide x 7.12" high. The windows will be tinted a privacy, dark gray automotive tint.

WINDOW TINT
The rollup window in the left side crew cab door will be tinted privacy dark gray.

The rollup window in the right-side crew cab door will be tinted privacy dark gray.

The upper window in the right-side crew cab door will be tinted privacy dark gray.

The upper window in the left side crew cab door will be tinted privacy dark gray.

CREW CAB STORAGE COMPARTMENTS
Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be approximately 10.71" wide x 30.00" high x 14.00" deep with a clear door opening of 9.50" wide x 28.00" high.

The doors will be a painted single pan construction with one (1) D-ring latch. A rubber covered bumper will be used as a door stop.
The compartment interior will be painted spatter gray.

There will be four (4) white Amdor, LED strip lights provided, one (1) each side of compartment door openings.

**CREW CAB STORAGE COMPARTMENT SCUFFPLATES**
A full-height brushed stainless steel scuffplate shall be installed on the inside of each of the extended cab compartment door pans.

**CREW CAB STORAGE COMPARTMENT MATTING**
Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compartments. Tile color will be black (no ramp).

The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

**CREW CAB STORAGE COMPARTMENT DOOR STOP CABLES**
Cables will be supplied to keep the crew cab compartment doors from hitting things when the doors are opened. There will be two (2) located lower rear cab compartments.

**RAISED CAB ROOF COVERING**
Horizontal surfaces, on the raised cab roof portion only, will be covered with bright aluminum treadplate. The fastening screws and the perimeter between the roof and the bottom of the aluminum treadplate, no more than 1.00" in from the edge of the aluminum treadplate, will be properly caulked to prevent water from leaking under aluminum. Front and side warning lights will not be mounted on top of treadplate. The treadplate will extend and terminate next to the warning lights.

**CAB ROOF DRIP RAIL**
For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

**WORK SURFACE**
There will be a work surface provided on the engine tunnel. The work surface will be cover the entire engine tunnel and will be constructed of .19" aluminum to allow the mounting of equipment. The work surface will be approximately 35.50" wide x 54.75" long, with a cutout for the driver side instrument panel. The work surface will start to the rear of the defroster inlet and continue horizontally to the flat portion at the rear of the engine tunnel. The work surface will drop to the lower flat portion of the engine tunnel and finish at the end of the engine tunnel. The lower portion of the work surface will be provided with a 3.00" lip. The work surface will be painted to match the cab interior.
CAB INTERIOR
With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.

The center console will be a high impact ABS polymer and will be easily removable for access to the defroster. The center console will include louvers strategically located for optimal air flow and defrost capability to the windshield.

The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.

To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.

To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildew.

The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY
The cab interior upholstery will be black. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

CAB INTERIOR PAINT
A rich looking interior will be provided by painting all the metal surfaces inside the cab black, vinyl texture paint.
CAB FLOOR
The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.

The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25” thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

CAB DEFROSTER
To provide maximum defrost and heating performance, a 54,961 BTU heater-defroster unit with 558 SCFM of air flow will be provided inside the cab. The defroster unit will be strategically located under the center forward portion of the instrument panel. For easy access, a removable metal cover will be installed over the defroster unit. The defroster will include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation will be built into the design of the cab dash instrument panel and will be easily removable for maintenance. The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

CAB/CREW CAB HEATER
Two (2) 36,702 BTU auxiliary heaters with 276 SCFM (each unit) of air flow will be provided inside the crew cab, one (1) in each outboard rear facing seat riser. The heaters will include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters will be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum will be incorporated in the cab structure that will transfer heat to the forward cab seating positions.

The heater/defroster and crew cab heaters will be controlled by an integral electronic control panel. The heater control panel will allow the driver to control heat flow to the front and rear independently. The control panel will include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel will include highly visible, progressive LED indicators for both fan speed and temperature.

AIR CONDITIONING
A high-performance, customized air conditioning system will be furnished inside the cab and crew cab. A 13.10 cubic inch compressor will be installed on the engine.
A roof-mounted condenser with a 63,000 BTU output that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover and mounting legs to be painted white as provided by manufacturer.

The evaporator unit will be installed in the cab, located in the center of the cab ceiling over the engine tunnel. The evaporator will include two (2) high performance cores and plenums with multiple outlets, one (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

The evaporator unit will have a 49,000 BTU rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the evaporator cover per the following:

- Four (4) will be directed towards the driver’s location
- Four (4) will be directed towards the officer’s location
- Eight (8) will be directed towards crew cab area

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

The air conditioner will be controlled by dual zone integral electronic control panels for the heater, defroster and air conditioner. The cab control panel will be in the center console. For ease of operation, the control panels will include variable adjustment for temperature and fan control.

**INTERIOR CAB INSULATION**

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling. Headliners will be constructed from a 0.20" high density polyethylene corrugated material. Each headliner will be wrapped with a 0.25" thick foil faced poly damp low emissivity foam insulation barrier for acoustic and thermal control. For ease of installation and removal, all headliners will be held in place by a dual lock fastening system.

Designed for maximum sound absorption and thermal insulation, the rear cab wall will be insulated with a 1.50" thick open cell acoustical foam. The thermal protection of the foam will provide and R-value of 4 per 1.00" thickness.

**SUN VISORS**

Two (2) smoked Lexan™ sun visors provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.
GRAB HANDLE
A black rubber covered grab handle will be mounted on the door post of the driver side and passenger side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.

ENGINE COMPARTMENT LIGHT
An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

ACCESS TO ENGINE DIPSTICKS
For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 17.75" wide x 12.75" high and be flush with the wall of the engine tunnel.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush latch will be provided on the access door.

GLOVE STORAGE BOX
There will be two (2) storage box(es) designed to hold and dispense boxes of latex gloves provided.

Each box will be constructed of aluminum and located one on each side of the forward-facing crew cab seat riser - horizontal with opening on top.

Each storage box will be 10.00" wide x 5.00" deep x 3.50" high and painted to match the cab interior. A slot will be provided on the top of each box to dispense the gloves.

MAP BOX
A map box with five (5) bins, open at the top, will be installed per 29839 01-04. Each bin will be 12.50" wide x 3.00" high x 12.00" deep and will slant 30 degrees from horizontal. The map box will be constructed of .125" aluminum and will be painted to match the cab interior.

VELCRO STRAP(S) FOR MAP BOX
There will be one (1) Velcro® strap(s) installed on the map box.

SEATING CAPACITY
The seating capacity in the cab will be five (5).

DRIVER SEAT
A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type, with air suspension. For increased convenience, the seat will include electric controls to adjust the rake
(15 degrees), height (1.12" travel) and horizontal (7.75" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**OFFICER SEAT**

A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a fixed type with no suspension. For optimal comfort, the seat will be provided with 17.00" deep foam cushions. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat back will be an SCBA back style with 7.50 degree fixed recline angle and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

**OFFICER COMPARTMENT**

A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

**REAR FACING DRIVER SIDE EMS COMPARTMENT**

A rear facing EMS compartment will be provided in the crew cab at the driver side seat position. The compartment will be mounted 7.00" off the edge of the seat riser.

The compartment will be 21.50" inside dimension for the main storage area of the compartment x 34.00" high x 25.00" measuring front to back of the cab.

The compartment will provide access from outside the cab with a double pan lap style door having a minimum clear door opening of 15.75" wide x 31.75" high. The door will include a D-ring latch and will be located on the side of the cab over the wheelwell.

The compartment will be constructed of smooth aluminum, and painted to match the cab interior.
There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.

**REAR FACING PASSENGER SIDE EMS COMPARTMENT**

A rear facing EMS compartment will be provided in the crew cab at the passenger side outboard position. The compartment will be mounted 7.00" off the edge of the seat riser.

The compartment will be 21.50" inside dimension for the main storage area of the compartment x 34.00" high x 21.00" measuring front to back of the cab.

The compartment will provide access from outside the cab only with a double pan lap style door having a minimum clear door opening of 15.75" wide x 37.75" high. The door will include a D-ring latch and will be located on the side of the cab over the wheelwell.

The compartment will be constructed of smooth aluminum, and painted to match the cab interior.

There will be two (2) white Amdor, LED strip lights installed, one (1) each side of the compartment opening. The lights will be controlled by an automatic door switch.

**REAR FACING COMPARTMENT SCUFFPLATES**

There will be a brushed stainless steel scuffplate on the interior door pan of two (2) compartment door(s) located external EMS doors.

There will be two (2) scuffplate(s) provided for the lower door frame(s) external EMS doors. Each scuffplate will be brushed stainless steel with a .38" lip down.

**REAR FACING COMPARTMENT MATTING**

Turtle Tile vinyl matting will be provided in two (2) EMS compartment shelves, one in each rear facing EMS compartment. Tile color will be black. The matting will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

Vinyl grating will be provided in two (2) EMS compartments, one in each rear facing EMS compartment. Tile color will be black. The vinyl grating will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration. The trim edge will not be installed at the edge of the tile.

**REAR FACING COMPARTMENT SHELVING**

There will be two (2) shelves provided. Each shelf will be constructed of 0.090" aluminum with a 1.25" up-turned lip. Shelving will be infinitely adjustable by means of a threaded tightener sliding in a track.

The location will be one (1) shelf in the driver side rear facing EMS cabinet and one (1) shelf in the passenger side rear facing EMS cabinet.
FORWARD FACING DRIVER SIDE OUTBOARD SEAT
There will be one (1) forward facing, Pierce PS6® foldup seat provided at the driver side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

This seat will be mounted 3.00" inboard of the standard location.

FORWARD FACING CENTER SEAT
There will be one (1) forward facing, Pierce PS6® seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.

The seat back will be an SCBA back style with 7.5 degree fixed recline angle, and will include minimum 4.50" wide x 7.50" deep side bolster pads for maximum support. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT
There will be one (1) forward facing, foldup, Pierce PS6® seat provided at the passenger side outboard position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seat will be a minimum of 17.00" from the front of the cushion to the face of the seat back and the seat back will be provided with 0 degree fixed recline angle. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.
The seat back will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.

The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.

This seat will be mounted 3.00" inboard of the standard location.

**FORWARD FACING OVERHEAD STORAGE COMPARTMENTS**

There will be two (2) overhead forward facing storage compartments installed at the raised roof within the crew cab, in the outboard positions. Each compartment will be 24.00" wide x 20.00" high x 14.00" deep. The outboard upper corner and the upper rear corners of these cabinets will be notched to clear the upper corner cab wire raceways.

Each compartment will include a lift up compartment door. Non-locking latch, Southco paddle handle and gas operated stay arms will be provided.

The compartment will be constructed of smooth aluminum and painted to match the cab interior.

The storage compartment lighting will consist of one (1) white Amdor, Luma Bar H2O, LED strip light installed horizontally above each compartment door opening.

**REAR FACING OVERHEAD STORAGE COMPARTMENT**

There will be two (2) overhead rear facing storage compartments installed at the raised roof within the crew cab, on each side of the air conditioner. The compartments will be approximately 22.00" wide x 20.00" high x 20.00" deep at the bottom.

Each compartment will include one (1) lift up compartment door. Non-locking latch, paddle handle, and gas operated stay arms will be provided.

The left side of the driver side compartment will be adequately vented to allow for the installation of radios.

An adjustable 1.00" thick poly tray will be provided in the driver side compartment.

The compartment will be constructed of smooth aluminum and painted to match the cab interior.

The storage compartment lighting will consist of one (1) white Amdor LED strip light installed horizontally above each compartment door opening.

**SEAT UPHOLSTERY**

All seat upholstery will be 46-ounce leather grain black vinyl resistant to oil, grease and mildew. The cab will have five (5) seating positions.
AIR BOTTLE HOLDERS
All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G.

There will be a quantity of four (4) SCBA brackets.

SEAT BELTS
All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts.

To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.

The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.

SHOULDER HARNESS HEIGHT ADJUSTMENT
All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter.

A total of five (5) seating positions will have the adjustable shoulder harness.

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT
NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB DOME LIGHTS
There will be four (4) Weldon 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the lens switch.

The color LED's will be controlled by the door switches and the lens switch.
PORTABLE HAND LIGHTS, PROVIDED BY DEALER
NFPA 1901, 2016 edition, section 10.9.3 requires two portable hand lights mounted in brackets fastened to the apparatus.

The hand lights are not on the apparatus as manufactured. The dealer will provide and mount these hand lights.

FLASHLIGHTS
There will be 12v Streamlight, model #44001, Vulcan lights mounted (1) each on inboard face of the rear facing EMS cabinets with bottom of charger base flush with "defroster riser". Lightheads are to point up towards the ceiling (SEE PHOTO) SL20X 3 & 4. There will be two (2) lights provided.

The Vulcan will be yellow in color.

CAB INSTRUMENTATION
The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership.

GAUGES
The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance:

Voltmeter gauge (Volts)

   Low volts (11.8 VDC)
   Amber indicator on gauge assembly with alarm

High volts (15 VDC)
   Amber indicator on gauge assembly with alarm

Very low volts (11.3 VDC)
   Amber indicator on gauge assembly with alarm

Very high volts (16 VDC)
   Amber indicator on gauge assembly with alarm
Tachometer (RPM)

Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)

Fuel level gauge (Empty - Full in fractions)
   Low fuel (1/8 full)
      Amber indicator on gauge assembly with alarm

Very low fuel (1/32) fuel
   Amber indicator on gauge assembly with alarm

Engine oil pressure gauge (PSI)
   Low oil pressure to activate engine warning lights and alarms
   Red indicator on gauge assembly with alarm

Front air pressure gauge (PSI)
   Low air pressure to activate warning lights and alarm
   Red indicator on gauge assembly with alarm

Rear air pressure gauge (PSI)
   Low air pressure to activate warning lights and alarm
   Red indicator on gauge assembly with alarm

Transmission oil temperature gauge (Fahrenheit)
   High transmission oil temperature activates warning lights and alarm
   Amber indicator on gauge assembly with alarm

Engine coolant temperature gauge (Fahrenheit)
   High engine temperature activates an engine warning light and alarm
   Red indicator on gauge assembly with alarm

Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)
   Low fluid (1/8 full)
Amber indicator on gauge assembly with alarm

All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

**INDICATOR LAMPS**

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Aux brake overheat (Auxiliary brake overheat)
- Air rest (air restriction)
- Caution (triangle symbol)
- Water in fuel
- DPF (engine diesel particulate filter regeneration)
- Trailer ABS (where applicable)
- Wait to start (where applicable)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- SRS (supplemental restraint system) fault (where applicable)
- DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

- Warning (stop sign symbol)
- Seat belt
- Parking brake
- Stop engine
- Rack down

The following green telltale lamps will be provided:

- Left turn
• Right turn
• Battery on

The following blue telltale lamp will be provided:

• High beam

ALARMS
Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

INDICATOR LAMP AND ALARM PROVE-OUT
Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

CONTROL SWITCHES
For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

Headlight / Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking lights and the headlights. The second switch position will activate the parking lights. The third switch position will activate the headlights.

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.
The following standard controls will be integral to the gauge assembly and are located below the right-hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok to Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"Ok to Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for three (3) to five (5) seconds. A green indicator lamp will be activated with vehicle ignition.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and optional air conditioning control panel: A control panel with membrane switches will be provided to control heater/defroster temperature and heater, defroster, and air conditioning fan speeds. A green LED status bar will indicate the relative temperature and fan speed settings.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.
CUSTOM SWITCH PANELS
The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

DIAGNOSTIC PANEL
A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:

- Engine diagnostic port
- Transmission diagnostic port
- ABS diagnostic port
- SRS diagnostic port (where applicable)
- Command Zone USB diagnostic port
- ABS diagnostic switch (blink codes flashed on ABS telltale indicator)
- Diesel particulate filter regeneration switch (where applicable)
- Diesel particulate filter regeneration inhibit switch (where applicable)

CAB LCD DISPLAY
A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

- Odometer
- Trip mileage
- PTO hours
- Fuel consumption
- Engine hours
The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm. The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

**AIR RESTRICTION INDICATOR**
A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm shall be provided.

**"DO NOT MOVE APPARATUS" INDICATOR**
There will be a Whelen, Model VTX609R, red LED indicator light with chrome trim located in the driving compartment. This light will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

**DO NOT MOVE TRUCK MESSAGES**
Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

- Do Not Move Truck
- DS Cab Door Open (Driver Side Cab Door Open)
- PS Cab Door Open (Passenger's Side Cab Door Open)
- DS Crew Cab Door Open (Driver Side Crew Cab Door Open)
- PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)
- DS Body Door Open (Driver Side Body Door Open)
- PS Body Door Open (Passenger's Side Body Door Open)
- Rear Body Door Open
- DS Ladder Rack Down (Driver Side Ladder Rack Down)
- PS Ladder Rack Down (Passenger Side Ladder Rack Down)
- Deck Gun Not Stowed
- Lt Tower Not Stowed (Light Tower Not Stowed)
- Fold Tank Not Stowed (Fold-A-Tank Not Stowed)
- Aerial Not Stowed (Aerial Device Not Stowed)
- Stabilizer Not Stowed
- Steps Not Stowed
- Handrail Not Stowed
Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major
damage to the apparatus if the apparatus is moved will be displayed as a caution message after the
parking brake is disengaged.

**SWITCH PANELS**
The emergency light switch panel will have a master switch for ease of use plus individual switches for
selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one
million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-
functioning black appliqués. Documentation will be provided by the manufacturer indicating the rated
cycle life of the switches. The switch panel(s) will be in the overhead position above the windshield on
the driver side overhead to allow for easy access.

Additional switch panel(s) will be in the overhead position(s) above the windshield or in designated
locations on the lower instrument panel layout.

The switches will be membrane-type and also act as an integral indicator light. For quick, visual
indication the entire surface of the switch will be illuminated white whenever back lighting is activated
and illuminated green whenever the switch is active. An active illuminated switch will flash when
interlock requirements are not met, or device is actively being load managed. For ease of use, a two (2)-
ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in
the center of the switch. The label will allow light to pass through the letters for ease of use in low light
conditions.

**WIPER CONTROL**
For simple operation and easy reach, the windshield wiper control will be an integral part of the
directional light lever located on the steering column. The wiper control will include high and low
wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The
control will have a "return to park" provision, which allows the wipers to return to the stored position
when the wipers are not in use.

**SPARE CIRCUIT #1**
There will be four (4) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 5 amps at 12 volts DC.
- Power and ground will terminate (1) outboard of the driver's seat, (1) outboard of the officer's
  seat and (1) in each rear facing EMS compartment in the cab.
- Termination will be with heat shrinkable butt splicing.
Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

**SPARE CIRCUIT #2**
There will be two (2) dual USB fast charge socket mounts installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 4.8 amps at 12 volts DC.
- The USB socket mount will be one to the left of the officer below the chrome push buttons and one DS switch panel 8.
- Termination will be a Blue Sea Systems part number 1045 dual USB charger socket.
- Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is applied.

**SPARE CIRCUIT #3**
There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 50 amps at 12 volts DC.
- Power and ground will terminate from the passenger's side battery, terminating behind the Captain's seat with at least 6-8 feet of slack wire coiled and capped.
- Termination will be with heat shrinkable butt splicing.
- Wires will be sized to 125% of the protection.

This circuit(s) may be load managed when the parking brake is set.

**RECESS, DASH PANEL**
The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 8.25" down x 7.81" back and 20.88" wide.

**RADIO WITH CD PLAYER**
A Panasonic AM/FM stereo radio with compact disc player will be included.

The compact disc stereo radio will be mounted within reach of the officer.
The quantity of the speakers will be one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab.

The cab speakers will be located per special instructions, as directed at pre-construction. The crew cab speakers will be in the standard location if selected.

The roof mounted antenna will be mounted as directed at pre-construction.

**SECURE SEAT WIRING**

All wiring going to seat cushion and seat belt buckle will be in loom and secure to the seat area.

**INFORMATION CENTER**

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

- Operate in temperatures from -40 to 185 degrees Fahrenheit
- An Optical Gel will be placed between the LCD and protective lens
- Five weather resistant user interface switches
- Grey with black accents
- Sunlight Readable
- Linux operating system
- Minimum of 1000nits rated display
- Display can be changed to an available foreign language
- A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.
- Programmed to read US Customary

**GENERAL SCREEN DESIGN**

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

- An amber background/text color will indicate a caution condition
- A red background/text color will indicate a warning condition
- The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to
indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

- A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

**HOME/TRANSIT SCREEN**
This screen will display the following:

- Vehicle Mitigation (if equipped)
- Water Level (if equipped)
- Foam Level (if equipped)
- Seat Belt Monitoring Screen
- Tire Pressure Monitoring (if equipped)
- Digital Speedometer
- Active Alarms

**ON SCENE SCREEN**
This screen will display the following and will be auto activated with pump engaged (if equipped):

- Battery Voltage
- Fuel
- Oil Pressure
- Coolant Temperature
- RPM
- Water Level (if equipped)
- Foam Level (if equipped)
- Foam Concentration (if equipped)
- Water Flow Rate (if equipped)
- Water Used (if equipped)
- Active Alarms

**VIRTUAL BUTTONS**
There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

**PAGE SCREEN**
The page screen will display the following and allow the user to progress into other screens for further functionality:
• Diagnostics
  o Faults
    ▪ Listed by order of occurrence
    ▪ Allows to sort by system
  o Interlock
    ▪ Throttle Interlocks
    ▪ Pump Interlocks (if equipped)
    ▪ Aerial Interlocks (if equipped)
    ▪ PTO Interlocks (if equipped)
  o Load Manager
    ▪ A list of items to be load managed will be provided. The list will provide a description of the load.
    ▪ The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.
    ▪ The screen will indicate if a load has been shed (disabled) or not shed.
    ▪ "At a glance" color features are utilized on this screen.
  o Systems
    ▪ Command Zone
      ▪ Module type and ID number
      ▪ Module Version
      ▪ Input or output number
      ▪ Circuit number connected to that input or output
      ▪ Status of the input or output
      ▪ Power and Constant Current module diagnostic information
    ▪ Foam (if equipped)
    ▪ Pressure Controller (if equipped)
    ▪ Generator Frequency (if equipped)
  o Live Data
    ▪ General Truck Data
• Maintenance
  o Engine oil and filter
  o Transmission oil and filter
  o Pump oil (if equipped)
  o Foam (if equipped)
  o Aerial (if equipped)
• Setup
  o Clock Setup
  o Date & Time
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications one (1) Pierce Velocity Heavy Duty Rescue
January 16, 2018 (Quote Number 90116-18)

- 12 or 24-hour format
- Set time and date
  - Backlight
    - Daytime
    - Night time
    - Sensitivity
  - Unit Selection
  - Home Screen
  - Virtual Button Setup
  - On Scene Screen Setup
  - Configure Video Mode
    - Set Video Contrast
    - Set Video Color
    - Set Video Tint
- Do Not Move
  - The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicating
    - Driver Side Cab Door
    - Passenger's Side Cab Door
    - Driver Side Crew Cab Door
    - Passenger's Side Crew Cab Door
    - Driver Side Body Doors
    - Passenger's Side Body Doors
    - Rear Body Door(s)
    - Ladder Rack (if applicable)
    - Deck Gun (if applicable)
    - Light Tower (if applicable)
    - Hatch Door (if applicable)
    - Stabilizers (if applicable)
    - Steps (if applicable)
- Notifications
  - View Active Alarms
    - Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
    - Silence Alarms - All alarms are silenced
- Timer Screen
- HVAC (if equipped)
- Tire Information (if equipped)
Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

**VEHICLE DATA RECORDER**
There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

**Seat Belt Monitoring System**
A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The seat belt monitoring screen will become active on the Command Zone color display when:

- The home screen is active:
and there is any occupant seated but not buckled or any belt buckled with an occupant.

- and there is no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated.

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists, and the parking brake is released, or the transmission is not in park.

**INTERCOM SYSTEM**

A five (5) position David Clark, Model U3800, intercom system with dual radio interface capability at the driver and officer positions with dual remote push to transmit buttons located PS 800 Mhz and DS 800 Mhz (see photos in stage 7 job efolder). Both of these Remote Push to Talk (RPTT) will be for their 800 Mhz radios that they will install will be provided. Three (3) crew cab positions at three (3) forward facing seats will have radio listen / intercom only.

The following components will be supplied with this system:

- Two (2) U3816 Radio Interface Modules (Driver, Officer)
- Four (4) Remote push to transmit kits (2 Driver, 2 Officer)
- One (1) U3800 Intercom Unit (2 Crew)
- One (1) C3820 Power Cable
- One (1) U3801 Remote Headset Station (1 Crew)
- All necessary station cables and connectors

**RADIO / INTERCOM INTERFACE INCLUDED**

All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to Motorola APX6500 7/800 MHZ.

**UNDER THE HELMET HEADSET**

There will be five (5) under the helmet, headset(s) provided driver, officer and 3 crew.

Each David Clark, Model H3442, headset will feature:

- 5' Coiled cord
- Noise cancelling electric microphone
- Flexible microphone boom rotates 200 degrees for left or right dress
- Microphone on/off button
- Comfort Gel Earseals
- 23 dB noise reduction
HEADSET HANGERS
There will be five (5) headset hanger(s) installed: driver's seat, officer's seat, driver's side outboard forward-facing seat, passenger's side outboard forward-facing seat and rear, center, forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.

GPS / MULTIMODE ANTENNA INSTALLATION
There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third-party installer.

Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.

RADIO ANTENNA MOUNT
There will be three (3) standard 1.125", 18 thread antenna-mounting base(s) installed PS (1 centered between the forward lightbar and the side lightbar, 2 aft of the customer provided GPS antenna).

IMPORTANT: All antenna cabling should be loosely run with minimal bending, and encased in protective loom in areas of abrasive objects on the cab roof with high efficiency, low loss, coaxial cable(s) routed to behind the officer seat. A weatherproof cap will be installed on the mount.

SPECIAL WIFI ANTENNA MOUNT LOCATION
The Command Zone advanced electronics WiFi-GPS antenna will be relocated from its standard right crewcab roof location forward on the cab roof on the right side. When relocating this antenna, it must be located a minimum of nine (9) inches away from any other metallic object. ps forward between the two lightbars. See layout in job efolder

RADIO / ELECTRONICS INSTALLATION
A radio / electronic equipment mounting allowance of $2,500.00 is included in the bid price to cover the cost of mounting the applicable equipment per the direction of the City of Sacramento. If the City of Sacramento exceeds the radio / electronic equipment mounting allowance, additional work can be performed at an additional cost of $115.00 per hour.

VEHICLE CAMERA SYSTEM
There will be a color vehicle camera system provided with the following:

- One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.
- One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right-side turn signal.
The camera images will be displayed on the driver's color touchscreen multiplex display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control located behind the driver seat.

The following components will be included:

- One (1) SV-CW134639CAI Camera
- One (1) CS134404CI Side camera
- One (1) Amplified speaker (if applicable)
- All necessary cables

**VEHICLE CAMERA GUARD**

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located camera to suspend below traffic advisor step, centered.

**ELECTRICAL POWER CONTROL SYSTEM**

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

**SOLID-STATE CONTROL SYSTEM**

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.
The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

For increased reliability and simplified use, the control system modules will include the following attributes:

- Green LED indicator light for module power
- Red LED indicator light for network communication stability status
- Control system self test at activation and continually throughout vehicle operation
- No moving parts due to transistor logic
- Software logic control for NFPA mandated safety interlocks and indicators
- Integrated electrical system load management without additional components
- Integrated electrical load sequencing system without additional components
- Customized control software to the vehicle's configuration
- Factory and field re programmable to accommodate changes to the vehicle's operating parameters
- Complete operating and troubleshooting manuals
- USB connection to the main control module for advanced troubleshooting

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

- Module circuit board will meet SAE J771 specifications
- Operating temperature from -40C to +70C
- Storage temperature from -40C to +70C
- Vibration to 50g

IP67 rated enclosure ( Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

Operating voltage from eight (8) volts to 16 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.
CIRCUIT PROTECTION AND CONTROL DIAGRAM
Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

ON-BOARD ADVANCED/VISUAL ELECTRICAL SYSTEM DIAGNOSTICS
The on-board information center will include the following diagnostic information:

- Text description of active warning or caution alarms
- Simplified warning indicators
- Amber caution indication with intermittent alarm
- Red warning indication with steady tone alarm

All control system modules, except for the main control module, will contain on-board visual diagnostic LEDs that assist in troubleshooting. The LEDs will be enclosed within the sealed, transparent module housing near the face of the module. One LED for each input or output will be provided and will illuminate whenever the respective input or output is active. Color-coded labels within the modules will encompass the LEDs for ease of identification. The LED indicator lights will provide point of use information for reduced troubleshooting time without the need for an additional computer.

TECH MODULE WITH WIFI
An in-cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will provide an external antenna connection allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The data logging capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data logger will provide up to 2 Gigabytes of data storage.

A USB connection will be provided on the Tech Module. It will provide a means to download data logger information and update software in the device.
PROGNOSTICS
A software based vehicle tool will be provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone, color display and/or wireless enabled device to proactively alert of upcoming service intervals.

Prognostics will include:

- Engine oil and filter
- Transmission oil and filter
- Pump oil (if equipped)
- Foam oil (if equipped)
- Aerial oil and filter (if equipped)

ADVANCED DIAGNOSTICS
An advanced, Windows-based, diagnostic software program will be provided for this control system. The software will provide troubleshooting tools to service technicians equipped with a Windows-based computer or wireless enabled device.

The service and maintenance software will be easy to understand and use and have the ability to view system input/output (I/O) information.

INDICATOR LIGHT AND ALARM PROVE-OUT SYSTEM
A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

VOLTAGE MONITOR SYSTEM
A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

DEDICATED RADIO EQUIPMENT CONNECTION POINTS
There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment.

- The studs will consist of the following:
  - 12-volt 40-amp battery switched power
  - 12-volt 60-amp ignition switched power
  - 12-volt 60-amp direct battery power
There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

**ENHANCED SOFTWARE**
The solid-state control system will include the following software enhancements:

All perimeter lights and scene lights (where applicable) will be deactivated when the parking brake is released.

Cab and crew cab dome lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

Cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors close. The dome lights will dim after ten (10) seconds or immediately if the vehicle is put into gear.

**EMI/RFI PROTECTION**
To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

**ELECTRICAL**
All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness
conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

1. All holes made in the roof will be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.
2. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.
3. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also, a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.
4. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).
5. All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.
6. All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

**BATTERY SYSTEM**

There will be six (6) 12-volt Exide®, Model 31S950X3W, batteries that include the following features will be provided:

- 950 CCA, cold cranking amps
- 190-amp reserve capacity
- High cycle
• Group 31
• Rating of 5700 CCA at 0 degrees Fahrenheit
• -140 minutes of reserve capacity
• Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45-degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

**BATTERY SYSTEM**
There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

**MASTER BATTERY SWITCH**
There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

**BATTERY COMPARTMENTS**
The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

**JUMPER STUDS**
One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

**BATTERY CHARGER**
There will be a Newmar, Model EV-40, battery charger with a Newmar, Model 023-5353-1, meter indicating the state of charge.

The vehicle battery output will be capable of supplying up to 40 amps for charging the batteries. The charger will include a 15-amp battery saver connection to charge hand lights, batteries, radios or power a 12-volt compressor.
The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

The battery charger will be located on the back wall of the EMS compartment, located on the forward side of the compartment, behind the driver seat.

The battery charger indicator will be in the driver's step area.

**AUTO EJECT FOR SHORELINE**

There will be one (1) Kussmaul™, Model 091-55-20-120, 20-amp 120-volt AC shoreline inlet(s) provided to operate the dedicated 120-volt AC circuits on the apparatus.

The shoreline inlet(s) will include red weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to battery charger See Photo for location # 150 and 66620 receptacles.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver side of cab, to the front of cab door.

**ELECTRIC POWER FOR WINCH**

Electric power provisions will be furnished for the portable winch from the chassis battery system.

There will be a total quantity of four (4) receptacle plugs provided and located (1) red each side of body between tandems behind door (see print), (1) centered between tubes at front bumper and (1) at the rear of the body.

The front and rear receptacles plugs will each include a black cover.

Each side receptacles will include a red cover.

**ELECTRIC POWER FOR WINCH**

Electric power provisions will be furnished for the portable winch from the chassis battery system.
The receiver plug will be located next to receiver tubes under P1 and D1 allowing maximum ground clearance.

A total quantity of two (2) receptacles will be provided.

**ALTERNATOR**
A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self-diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

**FAN, ELECTRICAL COOLING**
There will be one (1) 12-volt DC electrical cooling fan with thermostat control located positioned in the DS rear facing overhead cabinet in the interior (over engine tunnel) wall to exhaust air from inside the cabinet. The fan will vent the heat outward.

The fan will be activated through the thermostat when the battery switch is on.

**ELECTRONIC LOAD MANAGER**
An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid-state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

- System voltage monitoring.
- A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.
- Sixteen available electronic load shedding levels.
- Priority levels can be set for individual outputs.
- High Idle to not be controlled by the load manager.
  - If enabled:
    - "Load Man Hi-Idle On" will display on the information center.
    - Hi-Idle will not activate until 30 seconds after engine start up.
- Individual switch "on" indicator to flash when the particular load has been shed.
- The information center indicates system voltage.
The information center, where applicable, includes a "Load Manager" screen indicating the following:

- Load managed items list, with priority levels and item condition.
- Individual load managed item condition:
  - ON = not shed
  - SHED = shed

**SEQUENCER**

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12-volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid-state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch. When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

- Cab Heater and Air Conditioning
- Crew Cab Heater (if applicable)
- Crew Cab Air Conditioning (if applicable)
- Exhaust Fans (if applicable)
- Third Evaporator (if applicable)

**HEADLIGHTS**

There will be four (4) JW Speaker Evolution, Model 8630, 5.60" round LED lights with polycarbonate lenses mounted in the front chrome trim housing on each side of the cab grille:

- One (1) part number 0549911, low and high beam installed in the outside position on the driver's side.
- One (1) part number 0549911, low and high beam installed in the inside position on the driver's side.
• One (1) part number 0549211, low and high beam installed in the inside position on the passenger's side.
• One (1) part number 0549211, low and high beam installed in the outside position on the passenger's side.

**DIRECTIONAL LIGHTS**
There will be two (2) Whelen 600® series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be the same color as the LED's.

**INTERMEDIATE LIGHT**
There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

**CAB CLEARANCE/MARKER/ID LIGHTS**
The front identification and clearance lights will be included in the front visor scene light.

**REAR CLEARANCE/MARKER/ID LIGHTING**
There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following:

• As close as practical to the vertical centerline
• Centers spaced not less than 6.00" or more than 12.00" apart
• Red in color
• All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

• To indicate the overall width of the vehicle
• One (1) each side of the vertical centerline
• As near the top as practical
• Red in color
• To be visible from the rear
• All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

• To indicate the overall length of the vehicle
• One (1) each side of the vertical centerline
• As near the top as practical
• Red in color
• To be visible from the side
• All at the same height

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

**REAR FMVSS LIGHTING**
The rear stop/tail and directional LED lighting will consist of the following:

• Two (2) Whelen®, Model M6BTT, red LED stop/tail lights
• Two (2) Whelen, Model M6T, amber LED arrow turn lights

The lights shall be provided with color lenses.

The lights will be mounted in a polished combination housing.

There will be two (2) Whelen Model M6BUW, LED backup lights provided in the tail light housing.

**LICENSE PLATE BRACKET**
There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A polished stainless-steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

**LIGHTING BEZEL**
There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.

**BACK-UP ALARM**
A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.
MARKER LIGHTS
There will be one (1) pair of amber and red, Britax, Model 428.102 LED marker lights located as far to the rear as possible. The amber lens will face the front and the red lens will face the rear of the truck and be the most rearward marker light.

These lights will be activated with the running lights of the vehicle.

WARNING LIGHT FLASH PATTERN
The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern.

CAB PERIMETER SCENE LIGHTS
There will be four (4) Amdor LumaBar H2O, Model AY-9500-020, 20.00" white LED strip lights provided, one (1) for each cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

BODY PERIMETER SCENE LIGHTS
There will be two (2) Amdor LumaBar H2O™, Model AY-9500-020, 20.00" 12-volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.

ADDITIONAL PERIMETER LIGHTS
There will be six (6) lights Amdor® Luma Bar® H2O, Model AY-9500-020, 20.00" LED perimeter light sticks provided one (1) light under compartment D1, one (1) light under compartment P1, one (1) light under compartment D4, one (1) light under compartment P4, one (1) light under compartment D5 and one (1) light under compartment P5.

The lights will be activated by the same means as the body perimeter lights.

STEP LIGHTS
Step lights will be provided both at the rear of the body and in the recessed walkway on the roof of the body. All step lights will be white LED lights.

There will be one (1) step light provided on each side of the tailboard at the rear of the body.

There will be one (1) chrome plated hooded step light provided every 4’ in the recessed walkway.

Additional step lights will be installed under the following conditions:
• If a roof access ladder is installed on the rear of the apparatus, there will be one (1) step light installed at the top of each roof access ladder.
• If an integral rear stairway is provided, there will be one (1) step light provided for each step in the stairway.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

The step lights will be activated when the parking brake is applied and deactivated when the parking brake is released.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

12 VOLT LIGHTING, VISOR
There will be a HiViz Model FT-B-80-ML-*, 2.56" high x 82.75" long x 3.31" deep 31,680 raw lumens 12-volt DC light provided on the front cab roof as far forward as practical. The light will include white scene LEDs, two (2) amber LEDs as clearance lights and three (3) amber LEDs as identification lights.

The painted parts of the light housing and brackets to be white.

The clearance and identification LEDs will be activated with the headlight switch.

The scene LEDs will be activated when the battery switch is on, the parking brake is applied and by a switch at the driver's side switch panel.

The white LEDs may be load managed when the parking brake is applied.

12 VOLT LIGHTING, DS CAB
There will be one (1) HiViz Model FT-MB-2.18-*.*, 2.75" high x 20.60" long x 3.31" deep, 11,386 effective lumens 12-volt DC light(s) with a combination of flood and spot optics and adjustable mounting brackets installed on the cab DS crew cab centered under the Whelen side lightbar per job 31139.

The painted parts of the light housing and brackets to be white.

The light(s) will be activated by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.
12 VOLT LIGHTING, PS CAB
There will be one (1) HiViz Model FT-MB-2.18.-*-*,. 2.75" high x 20.60" long x 3.31" deep, 11,386 effective lumens 12-volt DC light(s) with a combination of flood and spot optics and adjustable mounting brackets installed on the cab PS crew cab centered under the Whelen side lightbar per job 31139.

The painted parts of the light housing and brackets to be white.

The light(s) will be activated by the same switching that has been selected for the other side scene light(s) on the apparatus.

The light(s) may be load managed when the parking brake is applied.

12 VOLT LIGHTING, DS BODY
There will be two (2) Whelen, Model PCPSM2*, 12-volt surface mounted LED combination spot/flood light(s) located (1) on DS body forward & (1) on DS body rearward. The lights will be mounted with chrome flange(s).

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- no additional switch location

These light(s) may be load managed when the parking brake is set.

12 VOLT LIGHTING, PS BODY
There will be two (2) Whelen, Model PCPSM2*, 12-volt surface mounted LED combination spot/flood light(s) located (1) on PS body forward & (1) on PS body rearward. The lights will be mounted with chrome flange(s).

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- no additional switch location

These light(s) may be load managed when the parking brake is set.

FENDER SCENE LIGHTS
There will be two (2) TecNiq, Model E960 LED scene light(s) with stainless steel housing installed on the side of the apparatus, one (1) each side of body fender aft of the rear wheels.

A control for the light(s) selected above will be the following:

- a switch at the driver's side switch panel.
These lights may be load managed when the parking brake is set.

**12 VOLT LIGHTING, REAR**

There will be two (2) Whelen, Model PCPSM1*, 12-volt surface mounted LED combination spot/flood light(s) located (1) each side high on rear body bulkhead. The lights will be mounted with chrome flange(s).

The light(s) selected above will be controlled by the following:

- a switch at the driver's side switch panel
- a switch at the rear of apparatus on the driver's side
- no additional switch location

These light(s) may be load managed when the parking brake is set.

**HEAVY DUTY RESCUE BODY CONSTRUCTION**

The body will be built as a separate module prior to being mounted onto the substructure. The rescue body will be constructed of 5052 aluminum. The structural support framing and the gussets used will be of 2.00" (51 mm) square 0.125" (3 mm) wall 6061 aluminum alloy tubing. All exterior body corners will be 3.00" (76 mm) radius aluminum, corrosion resistant alloy 6061 extrusions. Spacing of the 2.00" (51 mm) vertical supports will not exceed 14.00" (356 mm) on center. The roof and corner extrusions will be reinforced with interconnecting gusset supports at all stress points. The body will be properly welded into a unitized construction. Proper reinforcing and supports will be utilized throughout the entire construction process to ensure strength and rigidity.

The body will be supported by 2.00" (51 mm) x 2.00" (51 mm) x 0.25" (6 mm) wall aluminum tubing. The cross sill tubes will be spaced approximately 15.00" (381 mm) on center and interconnected to the body from front to rear.

A 1.00" (25 mm) x 3.00" (76 mm) aluminum bar will be used as a stringer and will be welded to the cross sills. The stringer will be used to mount the body to the chassis frame rails.

**ROOF CONSTRUCTION**

The roof will be integral with the body construction. The roof will be constructed of 0.125" (3 mm) bright aluminum treadplate and supported by 2.00" (51 mm) square 0.125" (3 mm) wall tubing welded in place approximately 12.00" (305 mm) on center. The roof will be further reinforced with 2.00" (51 mm) square gussets welded approximately every 48.00" (1219 mm). The roof perimeters will be constructed of a 3.00" (76 mm) radius extrusion with an integral drip molding. The roof extrusion will also have an inset allowing the roof panel to be recessed into the extrusion giving further support and sealing effect at the outside edge.
The roof panel will be welded to the roof extrusions and supports. All roof seams will be continuously welded.

**BODY AND COMPARTMENT SUPPORT**
The substructure for the body will not be integral with the body but will be a separate assembly.

The bottom of each lower compartment floor will be supported by an under slung steel angle grid that will be bolted to the chassis frame rails with grade 8 bolts in order to transfer major stress to the chassis frame and not through the body. The under slung support will be constructed of 0.50" (13 mm) x 2.50" (64 mm) x 2.50" (64 mm) steel angle vertical supports. Horizontal members will be 0.38" (10 mm) x 2.00" (51 mm) x 3.00" (76 mm) and 0.38" (10 mm) x 2.50" (64 mm) x 3.50" (89 mm) steel angle.

The complete substructure will be washed, primed and finish painted before being bolted to the chassis frame. A rubber coating will be applied over the painted under slung support structure for an additional corrosion barrier.

A 3.00" (76 mm) x 0.75" (19 mm) rubber liner will be placed on top of the chassis frame rails. The liner will be used to prevent metal to metal contact where the body stringer rests on the chassis frame rails.

The compartment floors will be bolted to the under slung substructure and the body will be secured to the chassis frame by a minimum of four (4) tie-down assemblies. Each tie-down assembly will consist of two (2) 2.00" (51 mm) x 6.25" (159 mm) x 0.75" (19 mm) steel plates and two (2) 14.00" (356 mm) long, 0.50" (13 mm) diameter steel rods. The tie-downs will be easily accessible so that the body may be removed.

**BODY LENGTH**
The length of the body will be 282.00" (7,163 mm).

**BODY WIDTH**
The width of the body will be 100.00" (2,540 mm).

**Compartment Depth**

**Standard Depth**
All standard depth body compartments will measure 30.00" (762 mm) deep from the outside of the body to the rear compartment wall. The usable depth inside each side body compartment will be 28.00" (711 mm) deep.

**Transverse**
All transverse side body compartments will have a usable depth of 28.00" (711 mm) at the floor level. These compartments will extend over the frame rails through to the other side of the body.
BODY HEIGHT
The height of the body will be 98.00" (2489 mm) without any roof mounted options.

ROOF CONFIGURATION
The roof of the body will be configured with a transverse hatch compartment, side hatch compartments, and a recessed walkway. The transverse hatch compartment will be located at the front of the body. The side hatch compartments and the recessed walkway will be located rearward of the transverse hatch compartment.

The side hatch compartments will run the length of the body on both sides from the rear up to the transverse hatch compartment. The side hatch compartments will be provided in the following configuration:

- There will be three (3) hatch compartments of equal size on each side of the roof.

The recessed walkway will be centered between the hatch compartments, running the length of the body up to the transverse hatch compartment.

Hatch Compartments
All compartment doors will be designed to hinge on the outboard side and will be held open with gas cylinder struts.

The outside walls of the compartments will be a double wall design to prevent equipment from denting the outside painted surface.

A 1.00" (25 mm) diameter drain will be provided on the floor of each compartment. The drains will be routed to drain below the body.

Size of Hatch Compartments
The transverse hatch compartment will be full width, spanning the distance from the left side of the body to the right side of the body. The compartment will have a clear opening of 48.00" long.

The clear width of the side hatch compartments differs depending on the width of the body. The clear width of each side hatch compartment will be as follows:

<table>
<thead>
<tr>
<th>Clear Width of Side Hatch Compartments According to Width of Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Width</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>96.00&quot; (2,438 mm)</td>
</tr>
<tr>
<td>100.00&quot; (2,540 mm)</td>
</tr>
</tbody>
</table>

All hatch compartments on the roof of the body - including the transverse hatch compartment - will have the same clear depth inside the compartment unless listed otherwise. The inside depth of each hatch
compartment can differ depending on the height of the body. The clear depth inside each hatch compartment will be as follows:

<table>
<thead>
<tr>
<th>Body Height</th>
<th>Inside Depth of Hatch Compartments</th>
</tr>
</thead>
<tbody>
<tr>
<td>90.00&quot; (2,286 mm)</td>
<td>16.50&quot; (419 mm)</td>
</tr>
<tr>
<td>98.00&quot; (2,489 mm)</td>
<td>24.50&quot; (622 mm)</td>
</tr>
<tr>
<td>100.00&quot; (2,540 mm)</td>
<td>26.50&quot; (673 mm)</td>
</tr>
<tr>
<td>103.25&quot; (2,623 mm)</td>
<td>29.50&quot; (749 mm)</td>
</tr>
<tr>
<td>106.25&quot; (2,699 mm)</td>
<td>32.50&quot; (826 mm)</td>
</tr>
<tr>
<td>Body Height Not Listed Here</td>
<td>Consult factory for depth of hatch compartments</td>
</tr>
</tbody>
</table>

**Recessed Walkway**

The recessed walkway will not be less than 30.00" (762 mm) wide. The depth of the walkway will be equal to the depth of the hatch compartments. The walkway will be constructed of aluminum treadplate and reinforced with 0.125" (3 mm) thick, 2.00" (51 mm) square aluminum tubing on 12.00" (305 mm) centers.

The treadplate in the walkway will be formed up 90 degrees at least 2.00" (51 mm) on each side to form a double 0.125" (3 mm) vertical wall for a water tight seal.

There will be two (2) 1.00" (25 mm) diameter drain holes provided in the walkway. The drains will be routed to drain below the body.

**ROLL-UP DOOR, SIDE COMPARTMENTS**

There will be ten (10) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand roll-up doors.

Door(s) will be constructed using 1.00" (25 mm) extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will relate to a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second fin will serve as a wiping seal which will also allow for compression to prevent water ingestion.
The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless-steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless-steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded roll-up door wear components will be constructed of Type 6 nylon.

Each roll-up door will have a 3.00" (76 mm) diameter balancer/tensioner drum to assist in lifting the door. A garage door style will not acceptable.

The header for the roll-up door assembly will not exceed 4.00" (102 mm).

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

**EXTERIOR COMPARTMENTS**

The exterior compartment layout, dimensions and requirements will be minimum specifications. The doors will be able to withstand years of rugged service and wear. For this reason, the compartment door design, metal thickness and attachments will be strictly adhered to. The compartment will be constructed of .125" (3 mm)-corrosion resistant aluminum alloy, including all interior panels, floor and sides. The assemblies will be held inside fixtures while being welded.

Compartment flooring will be of the sweep out design with the floor higher than the compartment door frame. All compartments will be supported on top, rear and bottom. The rear wall of each exterior compartment will be welded to the cross sills. Drip protection will be provided over all door openings with an integral roof extrusion or aluminum extrusion.

**WHEEL WELLS**

The rear fenders will be an integral part of the body sides and compartments. The inside of the fender will be fitted with a full circular inner fender liner. All screws and bolts, which protrude into a compartment, will have acorn nuts attached.

**LEFT FORWARD COMPARTMENTS**

First Compartment
Located behind the cab will be the first compartment. The compartment dimensions will be 62.50" wide x 66.88" high. The area over the frame rails will be 62.50" wide x 49.25" high and will extend through to the right side of the body. The compartment door frame opening will be 60.00" wide x 64.00" high. The compartment clear door opening will be 58.50" wide x 58.00" high.

Second Compartment

Located behind the first compartment, and ahead of the rear wheels, will be the second compartment. The compartment dimensions will be 50.88" wide x 66.88" high. The area over the frame rails will be 50.88" wide x 49.25" high and will extend through to the right side of the body. The compartment door frame opening will be 48.00" wide x 64.00" high. The compartment clear door opening will be 46.50" wide x 58.00" high.

Compartment Loading

The first compartment will can hold 1,100 pounds (499 kg). The second compartment will can hold 1,400 pounds (636 kg). The area over the frame rails, in each compartment, will can hold an additional 1,000 pounds (454 kg). Strain gauge test certification of the compartment loading capacities will be provided upon request.

LEFT OVER WHEEL COMPARTMENTS

Forward Compartment

A compartment with a full height roll-up door will be provided above the forward tandem wheels.

The compartment dimensions will be 54.38" (1381 mm) wide x 38.13" (969 mm) high. The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.38" (1381 mm) wide x 38.13" (969 mm) high. The compartment door frame opening will be 51.50" (1308 mm) wide x 35.25" (895 mm) high. The compartment clear door opening will be 49.00" (1245 mm) wide x 30.25" (768 mm) high.

Rear Compartment

A compartment with a full height roll-up door will be provided above the rear tandem wheels.

The compartment dimensions will be 57.00" (1448 mm) wide x 38.13" (969 mm) high. The compartment door frame opening will be 51.50" (1308 mm) wide x 35.25" (895 mm) high. The compartment clear door opening will be 49.00" (1245 mm) wide x 30.25" (768 mm) high.

Compartment Loading

Each compartment will can hold 1,200 lb. (545 kg). The area over the frame rails in the forward compartment will can hold an additional 1,000 lb (454 kg).
LEFT REAR SIDE COMPARTMENT
The left rear side compartment will be located directly behind the rear wheels. The compartment dimensions will be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment door frame opening will be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.

Compartment Loading
The compartment will can hold 1,100 lb. (499 kg).

RIGHT FORWARD COMPARTMENTS
First Compartment
Located behind the cab will be the first compartment. The compartment dimensions will be 62.50" wide x 66.88" high. The area over the frame rails will be 62.50" wide x 49.25" high and will extend through to the right side of the body. The compartment door frame opening will be 60.00" wide x 64.00” high. The compartment clear door opening will be 58.50" wide x 58.00” high.

Second Compartment
Located behind the first compartment, and ahead of the rear wheels, will be the second compartment. The compartment dimensions will be 50.88" wide x 66.88" high. The area over the frame rails will be 50.88" wide x 49.25" high and will extend through to the right side of the body. The compartment door frame opening will be 48.00" wide x 64.00” high. The compartment clear door opening will be 46.50” wide x 58.00” high.

Compartment Loading
The first compartment will can hold 1,100 pounds (499 kg). The second compartment will can hold 1,400 pounds (636 kg). The area over the frame rails, in each compartment, will can hold an additional 1,000 pounds (454 kg). Strain gauge test certification of the compartment loading capacities will be provided upon request.

RIGHT OVER WHEEL COMPARTMENTS
Forward Compartment
A compartment with a full height roll-up door shall be provided above the forward tandem wheels.

The compartment dimensions will be 54.38" (1381 mm) wide x 38.13" (969 mm) high. The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.38" (1381 mm) wide x 38.13" (969 mm) high. The compartment door frame opening will be 51.50" (1308 mm) wide x 35.25" (895 mm) high. The compartment clear door opening will be 49.00" (1245 mm) wide x 30.25" (768 mm) high.
Rear Compartment
A compartment with a full height roll-up door shall be provided above the rear tandem wheels.

The compartment dimensions will be 57.00" (1448 mm) wide x 38.13" (969 mm) high. The compartment door frame opening will be 51.50" (1308 mm) wide x 35.25" (895 mm) high. The compartment clear door opening will be 49.00" (1245 mm) wide x 30.25" (768 mm) high.

Compartment Loading
Each compartment can hold 1,200 lb. (545 kg). The area over the frame rails in the forward compartment can hold an additional 1,000 lb (454 kg).

RIGHT REAR SIDE COMPARTMENT
The right rear side compartment will be located directly behind the rear wheels. The compartment dimensions will be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment door frame opening will be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening will be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.

Compartment Loading
The compartment can hold 1,100 lb. (499 kg).

REAR COMPARTMENT

Roll-up Door
The rear compartment door will be a combination roll-up/swing down lap door where the lower section of the door is a swing down lap door and the upper section is a roll door.

The lower swing down lap door will function as a space saving work platform. The platform will be as wide as the compartment door opening and approximately 18.00" (457 mm) deep. The external surface of the platform will be covered in smooth aluminum and painted job color. When folded down, the platform will provide an aluminum treadplate covered stepping surface with a rated capacity of 500 lb (227 kg). A handrail will be provided on one (1) side of the compartment for safe access to the platform. A D-Ring latch will be provided to secure the lower section of the door in the stored position.

The roll-up door section will be double faced, aluminum construction, painted one (1) color to match the lower portion of the body. The door will be manufactured by AMDOR™ brand roll-up doors.

The roll-up door will be constructed using 1.00" (25 mm) extruded, double wall aluminum slats, which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will relate to a structurally driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.
Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second fin will serve as a wiping seal which will also allow for compression to prevent water ingression.

The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutter and the bottom panel will be manufactured utilizing non-marring materials.

Bottom panel flange of the roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A stainless-steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless-steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded roll-up door wear components will be constructed of Type 6 Nylon.

The roll-up door will have a 3.00" (76 mm) diameter ballancer/tensioner drum to assist in lifting the door (garage door style will not acceptable).

The header for the roll-up door assembly will not exceed 4.00" (102 mm).

A heavy-duty magnetic switch will be used for control of "open compartment door" warning lights.

**Compartment Size**
The rear compartment will be 40.00" (1016 mm) wide x 67.00" (1702 mm) high x 24.00" (660 mm) deep at the floor level. The area over the frame rails will be 108.75" (2762 mm) deep. The compartment door frame opening will be 40.00" (1016 mm) wide x 64.00" (1626 mm) high. The clear door opening will be 37.50" (953 mm) wide x 58.00" (1473 mm) high.

**Compartment Loading**
The compartment can hold 1,000 lb. (454 kg). The area over the frame rails will can hold an additional 2,000 lb (908 kg).

**RAISED REAR ROLL-UP DOOR**
The rear compartment door will be raised 10.00" to accommodate equipment storage in the rear compartment. Raising the roll of the door will provide 49.38" of clear height extending over the frame rails.
The door roll will blister into the side hatch compartments and create a raised step at the rear of the notched walkway.

**RAISED FLOOR IN RECESSED WALKWAY**
The floor of the recessed walkway will be raised so that it creates a flat walking surface between the compartment in the center of the recessed walkway and the blister of the raised rear compartment door.

**HITCH RECEIVERS**
There will be two (2) hitch receivers installed at the rear of the apparatus, one (1) on each side of the center point.

Each hitch receiver will be tested to provide a 2:1 straight line pull no-yield safety factor over a maximum load rating of 10,000 lb.

As a result, each of these hitch receivers will can retain a portable winch with a rating of no more than 10,000 lb. Each hitch receiver will also be capable of being used for rope operations when used with properly rated equipment.

NFPA 2016 Section 13.3.3.2 requires that if the apparatus is equipped to tow a trailer, an additional 45 amps will be added to the minimum continuous electrical load to provide electrical power for the federally required clearance and marker lighting and the optical warning devices mounted on the trailer. Neither of these hitch receivers will be utilized to tow a trailer. Therefore, the additional amps will not be included with the minimum continuous load for either receiver.

A label will be provided near each hitch receiver stating that the receiver will not be used for towing.

**SIDE HITCH RECEIVERS**
There will be one (1) hitch receiver installed through the body fender panel between the tandem rear wheels on each side of the body. The hitch receivers will be constructed of heavy steel tubing and reinforced to the apparatus framework.

Each hitch receiver will be tested to provide a 2:1 straight line pull no-yield safety factor over a maximum load rating of 10,000 lb.

As a result, each of these hitch receivers will can retain a portable winch with a rating of no more than 10,000 lb. Each hitch receiver will also be capable of being used for rope operations when used with properly rated equipment.

A spring loaded stainless steel door will be provided in the fender on each side of the body to cover the ends of receivers. Each door will have a flush latch provided to prevent the door from opening while not in use. A stainless-steel trim ring will be provided to prevent damage to the exterior finish around the opening.
A cutout will be provided in the wheel well openings that are adjacent to each hitch receiver to provide access to the receiver pins. A hinged stainless-steel door will be provided in each wheel well opening to cover the cutouts.

**SIDE HITCH RECEIVERS**

There will be one (1) hitch receiver installed under the body behind the rear wheels on each side of the body. The hitch receivers will be constructed of heavy steel tubing and reinforced to the truck framework.

Each hitch receiver will be tested to provide a 2:1 straight line pull no-yield safety factor over a maximum load rating of 10,000 lb. As a result, each of these hitch receivers will can retain a portable winch with a rating of no more than 10,000 lb. Each hitch receiver will also be capable of being used for rope operations when used with properly rated equipment.

The exact position of the receiver’s rearward of the axle will be under D1 and P1 as far forward as possible.

**RETRACTABLE ALUMINUM STAIRWAY FOR ROOF ACCESS**

A retractable aluminum stairway will be provided to access the recessed walkway on the roof of the body. The stairway will stow inside the recessed walkway and will deploy off the rear of the body to create a safe and secure means of access from the ground to the recessed walkway.

Before deploying the stairway, the user must make sure that the apparatus is parked on a flat, stable surface in order to make sure the stairway has secure footing when the stairway is fully deployed. Once the user is assured of stable ground, the user may begin deploying the stairway.

When deployed, the stairway will activate the "Do Not Move Truck" light when the parking brake is released. When stowed, the stairway will be held in place with a positive mechanical lock to prevent it from deploying during transit.

The stairway will be approximately 144.00" long x 24.00" wide. Each step in the stairway will be 8.00" deep.

The side rails of the stairway will be constructed of aluminum extrusions. Each step in the stairway will be constructed of an aggressive non-slip aluminum step surface.

The stairway will be provided with fold down aluminum handrails that will deploy with the stairway to ensure a safe and easy climb and fold down for ease of storage. There will be supports provided at the top of the stairway to minimize handrail movement while the ladder is in use.

The stairway will utilize hard plastic wheels with roller bearings that slide in aluminum tracks located on each side of the recessed walkway.
A 12.00" long x 2.00" wide nylon pull strap provided at the rear to aid in deploying the ladder.

**TRIM BODY SEAMS**
All body seams will be trimmed with the same material as the body construction and painted to match the body paint.

**ADJUSTABLE HATCH COMPARTMENT DIVIDER**
An adjustable hatch divider made of .12" aluminum will be provided. The divider will be fastened to aluminum tracks on both sides of the hatch interior to allow front to back adjustment.

A total of 12 will be provided (3) inside each of the 4 hatch compartments not containing reels.

**ADJUSTABLE HATCH COMPARTMENT DIVIDER**
A longitudinal adjustable hatch divider made of aluminum will be provided. The divider will be fastened to aluminum tracks on front and rear of the hatch interior to allow side-to-side adjustment.

A total of two (2) will be provided evenly spaced in center walkway compartment on top of body.

**COMPARTMENT DIVIDER/PEGBOARD**
An .18" thick aluminum, vertical compartment divider will be provided in D5/P5 centered in compartment (floor Tray rear of divider must be large enough to fit fan that is 25.5" W x 26.5"H x 22"D). The divider will be secured in place with Number 10 self tapping screws. The pegboard will have .20" diameter holes, punched 1.00" on center in a pegboard pattern.

A total of two (2) divider(s) will be provided.

**EQUIPMENT STORAGE RACK IN REAR COMPARTMENT**
The apparatus will be equipped with an equipment storage rack in the rear compartment. The rack will be separated into multiple sections each with its own restraint that can be used to retain the equipment in the rack.

**Section One (1)**
Section one (1) will consist of the following items:

- One (1) 5.25" wide storage trough to hold 4' x 8' x 0.75" sheets of plywood in a vertical orientation. The plywood sheets will nest together in this single trough.
- One (1) storage trough to hold one (1) 35' two (2)-section ladder
- One (1) storage trough to hold one (1) 28' two (2)-section ladder
- One (1) storage trough to hold one (1) 16' roof ladder

The restraint for the equipment in this section will be a hinged stainless-steel retainer. The retainer will consist of a stainless plate with a two (2) bend flange and a stainless-steel hinge. The plate assembly will be mounted to the floor at the entrance of the rear compartment.
When the plate is vertical, it will secure the equipment and prevent them from migrating to the rear of the apparatus. When the plate is down and not securing the equipment, the compartment door cannot close, which will activate the "Open Door Indicator Light" in the cab. A spring-loaded pin will be provided to secure the plate in the vertical position when stowed.

A nylon strap will be provided near the top of the plywood storage trough as an additional means to secure the plywood sheets.

**Section Two (2)**

Section two (2) will consist of the following items:

- One (1) storage trough to hold up to two (2) 8’ long D handle roof hooks

The restraint for this equipment will be a 0.75" high lip on the floor of the compartment. Removal of the equipment will require lifting the equipment up and over the lip.

**Section Three (3)**

Section three (3) will consist of the following items:

- One (1) storage trough to hold up to two (2) 8’ long PVC tubes, each with an inside diameter of 2.50". The storage trough will be deep enough to allow the PVC tubes to inset approximately 8.00" into the trough.

The restraint for this equipment will be a single nylon strap across the center of the storage trough.

**Section Four (4)**

Section four (4) will consist of the following items:

- One (1) storage trough to hold one (1) stokes basket. The dimensions of the stokes basket will be STOKES STORAGE TROUGH 25”W x 12”H x 90” L
- Two (2) storage troughs for miscellaneous item storage. The inside dimensions of each trough will be 12.75" wide x 12.75" high x 8’ deep.

The restraint for this equipment will be heavy black nylon webbing made of 1.00" nylon strap sewn together into a 2.00" box pattern. The nylon webbing will be permanently mounted at the bottom of this section. The top and sides will be secured with mechanical buckles allowing the webbing to be completely removed from the storage section.

**Section Five (5)**

Section five (5) will consist of the following items:

- One (1) storage trough to hold up to six (6) 7’ long PVC tubes each with an inside diameter of 4.00".
The restraint for this equipment will be a single nylon strap across the center of the storage trough.

**Section Six (6)**
Section six (6) will comprise the open area above section five (5). A fixed partition will be installed to fill the open space between the top of storage trough in section five (5) and the rear wall of the rear compartment. This will create a flat floor in this section so that it can be used to store miscellaneous long items.

The restraint for this equipment will be a 2.00" high lip on the floor of the compartment. Removal of the equipment will require lifting the equipment up and over the lip.

**Section Seven (7)**
Section seven (7) will consist of the following items:

- Four (4) plastic pike pole storage tubes.

The restraint for the equipment in this section will be a single nylon strap across that is long enough to cover all four tubes.

**Section Eight (8)**
Section eight (8) will consist of the following items:

- One (1) storage trough for storage of pickets. This inside dimensions of this storage trough will be 7.17" wide x 15.00" high x 8' deep.
- One (1) storage trough to hold one (1) 12' folding ladder

The restraint for this equipment will be one (1) vertically hinged, single pan door constructed of aluminum treadplate with a lift and turn latch.

**Additional Information**
The configuration of the equipment in the rack will be: 12' folding ladder trough beneath the picket trough

(If no configuration is specified, equipment will be arranged as best determined by the apparatus manufacturer)

All equipment will be arranged inside the rack to allow the equipment to be removed independently without the removal of adjacent equipment. Long equipment mounted in the rack may protrude into the forward body compartment(s) which may create situations where items mounted in those forward compartment(s) interfere with the removal of equipment inside this rack. In order to prevent interference covers will be provided over any equipment troughs that extend into the forward compartmentation. The covers will be finished to match the compartment interior.
The make and model of the ladders will be: (1) Duo Safety 1200A 35' 2 section, (1) Duo Safety 1200A 28' 2 section, (1) Duo Safety 875 16' Roof, (1) Duo Safety 585A 12' Folding

The make, model and length of the pike poles will be: (2) 8' NUPLA 36564 RH-8DA and (4) 12' NUPLA 36212YPD-12

All PVC tubes, pickets and the plywood in this rack will be provided and installed by the customer.

**MODIFICATION, SLIDE OUT TRAY STOPS**
The slide-out tray stops will be reinforced to prevent the possibility of the stops from failing or the slide tracks from twisting.

The reinforcement will be applied to a total of five (5) slide-out tray(s) located D5/P5 TWO FULL WIDTH TRAYS, D5 ONE 1/2 TRAY, P5 ONE 1/2 TRAY AND D3 ONE TRAY.

**FLOOR EXTENSION**
There will be a floor extension from the transversed area over the frame to the compartment door. The extension will have a 1.50" vertical lip and a return bend. The extension will be support by angles off the side partitions of the compartment.

A total of three (3) will be provided and located D5 forward of partition, P5 forward of partition and R1.

**STORAGE TROUGH**
A trough assembly will be provided for storing equipment in compartment as tight to ceiling as possible in D4/P4.

The trough(s) will be fabricated of .125" aluminum with the exterior finished to match the compartment interior. The interior of the trough(s) will not be finished. The storage trough clear dimensions will be as wide as possible from front wall to aft wall, 7.25" tall and as long as possible (approx 96").

There will be a heavy black nylon webbing made of 1.00" nylon strap with a 2.00" box pattern secured with mechanical buckles provided to hold the equipment in place.

There will be one (1) storage trough(s) provided.

**AIR BAG RACK**
A rack for 13 air bag(s) will be installed in a horizontal orientation within the LOCATE IN P3 AS FAR INWARD AS POSSIBLE. CUSTOMER FOUND THAT ONE OF THEIR BAGS IS DEEPER THAN THEY THOUGHT.

The clear rack slot dimensions will be Row1: 1- 37x37(KPI-68), Row2: 1- 28x28(KPI-44), Row3: 1-6x6 (KPI-1), 2-6x12 (KPI-3), 1-10x10(KPI-5), Row4: 1-26x20(KPI-28), Row5: 1-15x15(KPI-12),1-6x6(KPI-1), 1-10x10(KPI-5), Row6: 1-15x15(KPI-12), 1-15x21(KPI-17), Row7: 1-42x15(KPI35L).
The rack will be fabricated of 0.125" aluminum, and will be finished to match the compartment interior. Access to each air bag will be provided through a semi-circle cutout in the leading edge of each slot. Nylon straps with hook and loop closures will be provided to hold the air bags in the rack.

**CABLE TRAY LATCH**
A cable release will be provided to allow single handed operation of the latches for tilt trays. A cable will connect the two (2) pull knobs so when you pull the cable from the center, it triggers the dual knobs and releases the tray. The cable will be plastic coated.

A total of 11 will be provided all slide out tilt down trays.

**REAR WALL, BODY MATERIAL**
The rear wall will be smooth and the same material as the body.

**TOW EYES**
Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the chassis frame rails. The inner and outer edges of the tow eyes will have a radius.

**COMPARTMENT BLISTER**
A blister in the compartment ahead of the rear wheels will be provided to clear the front bracket of the Firemaax suspension. This blister will take away some of the interior area of the compartment.

**DOOR GUARD**
11 compartment doors will include an L-shaped guard designed to protect the bottom and interior side of the roll-up door from damage when in the retracted position and contain any water spray while the door is being opened. The guard will be fabricated from stainless steel and installed all roll-up doors.

**PULL STRAP, DOOR**
There will be 11 compartment doors provided with pull straps. The compartment door(s) to be provided with a pull strap will be D2, D3, D1, D4, P1, P2, P3, D5, P4, P5 and R1.

**COMPARTMENT LIGHTING**
There will be 11 compartments with Amdor, Model AY-9220, white 12-volt DC LED compartment light strips. The lights will be mounted with mechanical fasteners.

There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.

The lights will be activated when the battery switch is on and the respective compartment door is opened.
ADDITIONAL COMPARTMENT LIGHTING
There will be two (2) Amdor, Model AY-9220-72, 71.18" long white 12-volt DC LED light stick(s) provided. These lights will be installed (1) each centered on inside of top doors for walkway lumber compartments on top of body. The lights will be mounted with mechanical fasteners.

Opening the compartment door(s) will automatically turn the compartment lighting on.

These lights may be load managed when the parking brake is applied.

HATCH COMPARTMENT LIGHTING
There will be an Amdor LumaBar, Model AY-9220-0**, LED strip light mounted on the hinged side in the interior of each hatch compartment. The length of the light strip will be as long as practical depending on the size of the opening and available light strip lengths.

Each light will be wired to an automatic door switch and to the "open door" indicator inside the cab.

STANDARD DEPTH SLIDE-OUT ADJUSTABLE HEIGHT TRAY
There will be five (5) slide-out trays provided.

Each tray will have 2.00" high sides and a capacity rating of up to 250 lb in the extended position.

Each tray will be as deep as possible for a standard depth compartment and as wide as possible for the specified mounting location.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located (2) above floor tray in D4, (1) above floor tray in P4, (2) in D1.

STANDARD DEPTH SLIDE-OUT ADJUSTABLE HEIGHT PEGBOARD TRAY
There will be one (1) slide-out tray provided. Each tray will be constructed of 0.19" thick aluminum pegboard.

Each tray will have 2.00" high sides and a capacity rating of up to 500 lb in the extended position.

Each tray will be as deep as possible for a standard depth compartment and as wide as possible for the specified mounting location.
Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located (1) in P1 above floor tray.

**HALF DEPTH SLIDE-OUT UTILITY TRAY**

There will be two (2) slide-out trays provided for use in the transverse side body compartment(s).

Each tray will be a utility style tray that is rated for up to 500 lb in the extended position. The bottom of each tray will be constructed of 0.19" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends and tracks. The corners will be welded.

Each tray will have 3.00" high sides, will be half the depth of the transverse compartment and will be as wide as possible for the designated mounting location.

Each tray will be supported with a minimum of six (6) ball bearing rollers. Each tray will slide out two thirds (2/3) of its length in one (1) direction only.

Automatic locks will be provided for both the in and out positions. The trip mechanism for the locks will be located at the front of each tray for ease of use with a gloved hand.

The vertical location of each tray within the compartment will be adjustable.

The tray(s) will be located (1) D5 rear of partition approx 25" from floor tray, (1) P5 rear of partition approx 25" from floor tray.

**HALF DEPTH SLIDE-OUT UTILITY TRAY**

There will be two (2) slide-out trays provided for use in the transverse side body compartment(s).

Each tray will be a utility style tray that is rated for up to 500 lb in the extended position. The bottom of each tray will be constructed of 0.19" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends and tracks. The corners will be welded.

Each tray will have 3.00" high sides.

Each tray will be supported with a minimum of six (6) ball bearing rollers. Each tray will slide out two thirds (2/3) of its length in one (1) direction only.

Automatic locks will be provided for both the in and out positions. The trip mechanism for the locks will be located at the front of each tray for ease of use with a gloved hand.
The vertical location of each tray within the compartment will be adjustable.

The tray(s) will be located (1) D4 JUST BELOW SLIDE OUT TILT TRAY, (1) P4 JUST BELOW SLIDE OUT TILT TRAY. The depth of the tray(s) will be as deep as possible up to the ladder storage troughs from R1.

**STANDARD DEPTH SLIDE-OUT/TILT-DOWN TRAY**
There will be four (4) slide-out trays provided.

The bottom of each tray will have constructed of 0.188" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit.

The tray will have 3.00" high sides, will be full depth for a standard depth compartment and will be as wide as possible for the specified mounting location.

A spring-loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. The tray will be equipped with ball bearing rollers for smooth operation.

Rubber padded stops will be provided for the tray in the extended position.

The capacity rating of the tray will be a minimum of 200 lb in the extended position.

The vertical position of the tray within the compartment will be adjustable.

The tray(s) will be located (2) in D2, (2) in P2.

**STANDARD DEPTH SLIDE-OUT/TILT-DOWN PEGBOARD TRAY**
There will be one (1) slide-out tray provided.

The bottom of each tray will have constructed of 0.188" thick aluminum pegboard while special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit.

The tray will have 3.00" high sides, will be full depth for a standard depth compartment and will be as wide as possible for the specified mounting location.

A spring-loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. The tray will be equipped with ball bearing rollers for smooth operation.

Rubber padded stops will be provided for the tray in both the stowed and extended positions.
The capacity rating of the tray will be a minimum of 200 lb in the extended position.

The vertical position of the tray within the compartment will be adjustable.

The tray(s) will be located (1) P1 right side of partition above upper floor tray.

**SPECIAL DEPTH SLIDE-OUT/TILT-DOWN TRAY**
There will be four (4) slide-out trays provided for use in the transverse side body compartment(s).

Each tray will be a slide-out/tilt down tray that is rated for up to 200 lb in the extended position. The bottom of each tray will have constructed of 0.19" aluminum while special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit.

The tray will have 3.00" high sides, will be as wide as possible for the specified mounting location and will have a maximum allowable depth of half the depth of the transverse compartment. The requested depth of the tray will be: (D4) as deep as possible up to the ladder trough from R1, (P4) as deep as possible up to the ladder trough from R1, (D3) as deep as possible up to the ladder trough from R1.

A spring-loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. Each tray will be equipped with ball bearing rollers for smooth operation.

Rubber padded stops will be provided for the tray in the extended position.

The vertical position of each tray within the compartment will be adjustable.

The tray(s) will be located (1) D4 below trough at top of compartment, (1) P4 below trough at top of compartment, (2) D3 equally spaced.

**HALF DEPTH SLIDE-OUT/TILT-DOWN TRAY**
There will be two (2) slide-out trays provided for use in the transverse side body compartment(s).

Each tray will be a slide-out/tilt down tray that is rated for up to 200 lb in the extended position. The bottom of each tray will have constructed of 0.188" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit.

The tray will have 3.00" high sides, will be half depth of the transverse compartment and will be as wide as possible for the specified mounting location.

A spring-loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. Each tray will be equipped with ball bearing rollers for smooth operation.

Rubber padded stops will be provided for the tray in the extended position.
The vertical position of each tray within the compartment will be adjustable.

The tray(s) will be located (1) D5 rear of partition above slide out tray, (1) P5 rear of partition above slide out tray.

**STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED PEGBOARD TRAY**

There will be one (1) floor mounted slide-out tray(s) with 2.00" sides provided (1) P1 compartment floor. The tray(s) will be constructed of pegboard. The pegboard will consist of 0.19" aluminum with 0.20" diameter holes punched 1.00" on center in a pegboard pattern. The finish will be painted to match compartment interior. A capacity rating will not be available on this tray due to the pegboard construction.

Each tray will be mounted on two (2) under mount, roller bearing type slides. Each slide will be rated at 250 lb with a factor of safety of two (2).

To ensure years of dependable service the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slide will require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40-hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

**STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED TRAY**

There will be six (6) floor mounted slide-out tray(s) with 2.00" sides provided (1) D4, (1) D5 rear of partition, (1) P4, (1) P5 rear of partition AND TWO (2) IN P1 REAR OF DIVIDER. Each tray will be rated for up to 500 lb in the extended position. The tray(s) will be constructed of 0.19" aluminum. The finish will be painted to match compartment interior.

Each tray will be mounted on two (2) under mount, roller bearing type slides. Each slide will be rated at 250 lb with a factor of safety of two (2).

To ensure years of dependable service the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slide will require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40-hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a
heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

**TWO (2) WAY UTILITY SLIDE-OUT FLOOR MOUNTED TRAY**

There will be two (2) floor mounted utility slide-out tray(s) provided (2) equal size max width forward of the partition in D5/P5. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of .19" thick aluminum for the tray bottom and special aluminum extrusions for the tray sides, ends and tracks. The corners will be welded. The finish will be painted to match compartment interior.

The tray will be 3.00" high x full depth of the transverse compartment x as wide as possible for the compartment.

The tray will be supported with a minimum of six (6) ball bearing rollers. The tray will slide out two thirds (2/3) of its length to either side of the apparatus.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

**TOOLBOARD ADDED TO STANDARD DEPTH SLIDE-OUT TRAY**

An aluminum toolboard will be provided and mounted in a standard depth slide-out tray (tray not included). The toolboard will be constructed of 0.19" thick aluminum that is painted spatter gray to match compartment interior. The toolboard will be provided with 0.20" diameter holes in a pegboard pattern with 1.00" centers between holes. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The toolboard will span the full depth of the standard depth slide-out tray and will be as tall as possible for the specified mounting location.

The toolboard will be mounted on aluminum tracks to allow for side to side adjustment within the tray.

The total capacity rating of the toolboard will vary depending on the tray it is mounted in (capacity rating for the toolboard will match the capacity rating of the tray it is mounted in).

A total of Two (2) tool board(s) will be provided and mounted in the slide-out tray(s) located (1) in each upper floor tray rear of the partition in P1.

**TOOLBOARD ADDED TO TRANSVERSE SLIDE-OUT TRAY**

An aluminum toolboard will be provided and mounted in a two (2)-way slide-out tray that spans the full depth of a transverse compartment (tray not included). The toolboard will be constructed of 0.19" thick
aluminum that is painted spatter gray to match compartment interior. The toolboard will be provided with 0.20" diameter holes in a pegboard pattern with 1.00" centers between holes. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The toolboard will span the full depth of the slide-out tray and will be as tall as possible for the specified mounting location.

The toolboard will be mounted on aluminum tracks to allow for side to side adjustment within the tray.

The total capacity rating of the toolboard will vary depending on the tray it is mounted in (capacity rating for the toolboard will match the capacity rating of the tray it is mounted in).

A total of Two (2) toolboard(s) will be provided and mounted in the slide-out tray(s) located (1) centered in each tray forward of the partition in D5/P5.

**SWING-OUT TOOLBOARD**

A swing-out aluminum toolboard will be provided. The toolboard will be constructed of 0.19" thick aluminum that is painted spatter gray to match compartment interior. The toolboard will be provided with 0.20" diameter holes in a pegboard pattern with 1.00" centers between holes. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.

The board will be mounted on a pair of pivoting devices to provide easy movement in and out of the compartment. The pivoting devices will be located at the top and bottom along one (1) side of the board. The pivoting devices will be located at the front of the compartment.

The toolboard shall have a maximum load rating of 400 lb.

Positive locks will be provided for toolboard in both the stowed and extended positions.

The toolboard will be mounted on adjustable tracks from front to back within the compartment.

There will be a total of Two (2) swing-out toolboard(s) provided. The toolboard(s) will be UPPER PORTION OF D1 TO EXTEND FROM THE FLOOR LEVEL OF D2 AS HIGH AS POSSIBLE.

Two (2) partitions horizontally mounted and bolted in place, will be installed in in P1 at a height allowing 10" clear from floor tray to slide out tray and an additional 10" clear from slide out tray to bottom of floor extension (approx 22.25" from floor) AND ONE (1) IN P3

**ADDITIONAL COMPARTMENT LOUVERS**

A set of additional louvers will be provided in HATCH AREA FOR THE HYDRAULIC POWER UNIT. The quantity of additional sets of louvers is one (1).
MATTING, COMPARTMENT FLOOR
Turtle Tile compartment matting will be provided in eight (8) compartments on the compartment floor. The locations are, P5 forward of partition, P3, P2, R1, D1, D2, D3, D5 forward of partition.

The Turtle Tile will be black, and the leading edge of the matting will include the beveled edge. The beveled edge will be black.

MATTING, COMPARTMENT SHELVING
Turtle Tile compartment matting will be provided in 32 shelves. The locations are, ALL SHELVES, SLIDE OUT TRAYS AND SLIDE OUT TOOLBOARD TRAYS.

The color of the Turtle Tile will be black.

MATTING, FLOOR OF HATCH COMPARTMENT
There shall be Turtle Tile compartment matting provided on the floor of the designated hatch compartment(s).

The color of Turtle Tile matting shall be black.

The Turtle Tile matting shall be provided on the floor of a total of four (4) hatch compartment(s) located each larger outboard hatch compartment not containing reels.

PEGBOARD
There will be One (1) partition aluminum pegboard partition/s bolted in (1) in P1 20.25" clear from front door opening.

The pegboard will be .188" thick with .20" diameter holes punched 1.00" on center in a pegboard pattern.

Each partition will be the full vertical height of the compartment.

The pegboard will be painted to match the compartment interior.

ALUMINUM PEGBOARD
Two (2) horizontally installed tracks, with .19" aluminum pegboard will be installed on the side wall of one (1) compartments. The holes will be .203" diameter, punched 1.00" on center. The pegboard will be spatter gray painted. The locations are P1 entire aft wall (false bulkhead over tailights etc).

Retainers will be used to mount the pegboard to the tracks.

ALUMINUM PEGBOARD
Two (2) horizontally installed tracks, with 0.19" aluminum pegboard will be installed on the back wall of two (2) compartments. The holes will be .203" diameter, punched 1.00" on center. The pegboard will be spatter gray painted. The pegboard(s) will be in D1 and P1.
Retainers will be used to mount the pegboard to the tracks.

**PVC STORAGE TUBE**
A PVC storage tube will be provided for equipment storage at the left side of the 16' roof ladder in R1. The dimensions of the equipment will be 2.5" ID x 8' long (for reach poles).

A total of two (2) will be provided.

**RUB RAIL**
Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

**BODY FENDER CROWNS**
Stainless steel fender crowns will be provided around the rear wheel openings.

A rubber welting will be provided between the body and the crown to seal the seam and restrict moisture from entering.

- Six (6) handrails, will be provided mounted one (1) each between compartments D4/D5, P4/P5, ONE (1) EACH REAR OF D1 AND P1 and (2) determined at post paint.

The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a white LED light. The handrails will be activated with the application of the parking brake.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

**FENDER PANEL STORAGE COMPARTMENT BETWEEN TANDEMS**
An equipment storage compartment will be provided in the center of the body fender panel between the tandem rear axles and above the hitch receiver that is also located between the tandem rear axles (hitch receiver priced separately). The compartment will be 26.00" (660 mm) deep and approximately 23.13" (588 mm) wide at the top. The bottom of the compartment will taper along the sides and raise up in the center to accommodate the hitch receiver.

A horizontally hinged, lift-up door will be provided. The door will be large enough to cover both the storage compartment and the hitch receiver. The door will be constructed of stainless steel with a polished finish. The door will have a chrome plated flush lift & turn latch. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.
A total of two (2) compartment(s) will be provided. The storage compartment(s) will be located on the driver's and passenger's side fender panel(s).

**STORAGE COMPARTMENT**

A total of one (1) fender panel storage compartment(s) will be provided. PASSENGER SIDE FORWARD FENDER PANEL. Each compartment will be RECTANGULAR SHAPED AS LARGE AS POSSIBLE. APPROXIMATELY 15.00" WIDE x 6.00" HIGH shaped compartment that maximizes the available storage space in the corner of the fender panel.

The floor of the compartment will be lined with rubber and will be furnished with a drain hole.

A stainless-steel door will be provided. The door will have a polished finish. A chrome plated flush lift & turn latch will be provided to contain the equipment. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

**FENDER PANEL STORAGE COMPARTMENT WITH COMMON DEF FILL DOOR**

A bolt-in equipment storage compartment shall provide in the corner of the body fender panel, adjacent to the DEF fill. The compartment shall have a flat top with tapered lower sides. The interior of the compartment shall be 26.00" deep, 12.00" wide at the top, and 8.88" high at its tallest point.

Access panels shall be provided in the floor of the over the wheel compartment and on the adjacent wall of the body compartment immediately forward of the fender panel. These access panels shall be large enough to allow for proper installation of the bolt-in storage compartment after installation of the DEF tank and also to connect the DEF lines.

A full width door shall be provided to cover the both the storage area and the DEF fill. The full width door shall be a single, vertically hinged door that is constructed of stainless steel with a polished finish. The door shall have a chrome plated flush lift & turn latch. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.

**STORAGE COMPARTMENT**

A total of one (1) fender panel storage compartment(s) will be provided. Passenger rear fender panel. Each compartment will be a triangular shaped compartment that maximizes the available storage space in the corner of the fender panel.

The floor of the compartment will be lined with rubber and will be furnished with a drain hole.

A stainless-steel door will be provided. The door will have a polished finish. A chrome plated flush lift & turn latch will be provided to contain the equipment. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.
FENDER PANEL STORAGE COMPARTMENT WITH COMMON FUEL FILL DOOR
An equipment storage compartment will provide in the corner of the body fender panel. The compartment opening will encompass the fuel fill. The shape of the compartment will conform to the shape in the corner of the fender panel with a flat top and side and another angled side that follows the contour of the wheel well. A dividing wall will be provided inside the compartment to separate the fuel fill from the storage area. The storage area will be 26.00" deep and sized to maximize the amount of space available around the fuel fill in the corner of the fender panel.

A full width door will be provided to cover the both the storage area and the fuel fill. The full width door will be a single, vertically hinged door that is constructed of stainless steel with a polished finish. The door will have a chrome plated flush lift & turn latch. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.

EXTENSION LADDERS
There will be one (1) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.

There will be one (1) 28', two (2) section, aluminum, Duo-Safety Series 1200A extension ladder provided.

ROOF LADDER
There will be one (1) 16' aluminum Duo-Safety Series 875-A roof ladder(s) provided.

FOLDING LADDER
One (1) 12' aluminum, Series 585-A Duo-Safety folding ladder will be installed in a U-shaped trough inside the ladder storage compartment.

8' PIKE POLE
There will be 8' Nupla RH-8DA aluminum pike pole(s) provided with D-grip handles and roof/vent rubbish hooks. Two (2) pike poles will be provided. The pike pole(s) will be in trough left of 35' ladder in R1 with depths offset so hooks are one in front of the other.

12' PIKE POLE
Four (4) pike poles, 12' long with a Nupla Featherlight fiberglass handle will be provided and located in pike poles tubes at top of R1.

SLIDE-OUT PLATFORM
Six (6) slideout platforms will be provided one (1) each under compartments D1 (rear of wheel chock and receiver tube), D4, D5, P1 (rear of receiver tube), P4 and P5. The capacity rating will be 500 lbs in the extended position. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.
There will be an Amdor LumaBar H2O, Model AY-9500-0** white 12-volt DC LED light provided to illuminate the ground area.

**AIR HORN SYSTEM**
One (1) chrome finish, stutter tone, Grover, Model 1510, air horn approximately 24.50" long will be provided and recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.

The air horn will be located on the left side of the bumper, just outside of the frame rail.

**AIR HORN CONTROL**
The air horn will be actuated by a chrome push button switch located on the officer side of the engine tunnel and by a foot switch on the driver's side.

**ELECTRONIC SIREN**
A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

Electronic siren head will be recessed in the overhead console above the engine tunnel on the officer side.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

**ELECTRONIC SIREN SPEAKER**
There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless-steel grille provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the left side of the front bumper, towards the outside.

**MECHANICAL SIREN**
There will be a Federal Signal Model Q2B mechanical siren furnished on the front of the apparatus. The siren will be energized from a battery direct circuit through a 2-gauge cable to a solenoid that is energized from the emergency master switch. Additional customer selectable controls will be included for the momentary activation of this siren.

There will be a momentary siren brake switch provided in the cab on the switch panel.

The mechanical siren will be recessed in the front bumper in the center. The siren will be properly supported using the bumper framework.
MECHANICAL SIREN CONTROL
The mechanical siren will be activated when the emergency master switch is on, the parking brake is released and the following:

- when a push button located on the officer's side instrument panel is activated
- when a foot switch on the driver's side is activated

SIREN BRAKE SWITCH
A mechanical siren brake switch will be installed switch panel #10, position #5. This switch will be a red momentary rocker switch.

FRONT ZONE UPPER WARNING LIGHTS
There will be one (1) 81.00" Whelen® Freedom IV™ lightbar mounted on the cab roof.

The lightbar will include the following:

- One (1) red flashing LED module in the driver's side rear corner position.
- One (1) red flashing LED module in the driver's side end position.
- One (1) red flashing LED module in the driver's side front corner position.
- One (1) red flashing LED module in the driver's side first front position.
- One (1) red flashing LED module in the driver's side second front position.
- One (1) white flashing LED module in the driver's side third front position.
- One (1) red steady burn LED module in the driver's side fourth front position.
- One (1) red flashing LED module in the driver's side fifth front position.
- Open in the driver's side sixth front position.
- One (1) 795 LED traffic light controller sent to national standard high priority in the center positions.
- Open in the passenger's side sixth front position.
- One (1) red flashing LED module in the passenger's side fifth front position.
- One (1) red steady burn LED module in the passenger's side fourth front position.
- One (1) white flashing LED module in the passenger's side third front position.
- One (1) red flashing LED module in the passenger's side second front position.
- One (1) red flashing LED module in the passenger's side first front position.
- One (1) red flashing LED module in the passenger's side front corner position.
- One (1) red flashing LED module in the passenger's side end position.
- One (1) red flashing LED module in the passenger's side rear corner position.

There will be clear lenses and colored filters included on the lightbar.

The following switches may be installed in the cab on the switch panel to control the lightbar:
• a switch to control the flashing LED modules.
• the traffic light controller by a cab switch with emergency master control.
• no momentary switch to activate the traffic light controller.

The two (2) white flashing LED modules and the traffic light controller will be disabled when the parking brake is applied.

The eight (8) red flashing LED modules in the front positions may be load managed when the parking brake is applied.

SIDE WARNING LIGHTS
There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the cab doors.
Each lightbar will include the following:

• One (1) red flashing LED module in the outside rear corner position.
• One (1) red flashing LED module in the rear outside position.
• One (1) red flashing LED module in the front outside position.
• One (1) red flashing LED module in the outside front corner position.

There will be clear lenses and colored filters included on the lightbar.

There will be a switch in the cab on the switch panel to control the lightbars.

These lights may be load managed when the parking brake is applied.

FRONT ZONE LOWER WARNING LIGHTS
Two (2) Whelen model M6* LED flashing warning lights with chrome flange will be provided on the front of the cab above the headlights.

The driver's side front warning light to be red.

The passenger's side front warning light to be red.

Both lights will include a lens that is the same color as the LED's.

There will be a switch located in the cab, on the switch panel, to control the lights.

HEADLIGHT FLASHER
The high beam headlights will flash alternately between the left and right side.

There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on.
The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

**SIDE ZONE LOWER LIGHTING**
There will be four (4) Whelen®, flashing LED warning lights with chrome trim installed per the following:

- Two (2) Model M6**, 4.31" high x 6.75" long x 1.37" deep lights, one (1) each side on the front cab corner. The driver's side, side front light to include red warning LEDs and the passenger's side, side front light to include red warning LEDs.
- Two (2) Model WIONSMC*, 1.68" high x 5.93" long x 1.12" deep lights, one (1) each side above rear wheels. The driver's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs.
- The warning light lens colors of the front lights to be the same color as the LEDs and the warning light lens color of the rear lights to be clear.

There will be a switch in the cab on the switch panel to control the lights.

**SIDE WARNING LIGHTS**
There will be two (2) Whelen, Model M6* LED flashing warning light(s) with bezel(s) provided rear of crew cab doors.

The color of the lights will be red.

All of these lights will include a lens color that is the same as the LED's

These lights will be activated with the Side Zone Lower warning lights.

**RUBRAIL WARNING LIGHTS**
There will be six (6) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails one (1) each centered below the following compartments: D1, D4, D5, P1, P4 and P5. The lights will NOT be mounted with the rubber gasket behind the light which will allow the light(s) to fit in the rub rails.

The color of each light will be red LED with a clear lens.

Each light will be provided with a chrome plated ABS flange.

The light(s) will be activated with the side warning switch.

**REAR ZONE LOWER LIGHTING**
There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus.
CITY OF SACRAMENTO FIRE DEPARTMENT  
Specifications one (1) Pierce Velocity Heavy Duty Rescue  
January 16, 2018 (Quote Number 90116-18)  

- The driver's side rear light to be red  
- The passenger's side rear light to be red  

Both lights will include a lens that is the same color as the LED's.  

There will be a switch located in the cab on the switch panel to control the lights.  

**WARNING LIGHTS (REAR AND SIDE UPPER ZONES)**  
Six (6) Whelen, model M9* LED flashing warning lights will be provided at the rear of the apparatus.  

The side forward and rear upper light(s) on the driver's side to be red.  

The rear upper light(s) on the driver's side to be red.  

The rear upper light(s) on the passenger's side to be red.  

The side forward and rear upper light(s) on the passenger's side to be red.  

These lights will include a lens that is the same color as the LED's.  

There will be a switch located in the cab on the switch panel to control the lights.  

**TRAFFIC DIRECTING LIGHT**  
There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus.  

The Whelen, Model TACTL5, control head will be included with this installation.  

The controller will be energized when the battery switch is on.  

The auxiliary flash to be activated when the emergency master switch is on.  

This traffic directing light will be recessed within a treadplate step at the rear of the apparatus.  

The traffic directing light controller will be located within the overhead recessed console above the engine tunnel on the driver's side.  

**120 VOLT RECEPTACLES**  
There will be two (2), 15/20-amp 120-volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless-steel wall plate(s), installed two (2) in P3 on the floor the receptacles facing straight up in the air (one in the back corner, one in the front corner) and as close as possible to the inside right wall. Per Photo #61 & 62. The NEMA configuration for the receptacle(s) will be 5-20R.  

The receptacle(s) will be powered from the shoreline inlet.
There will be a label installed near the receptacle(s) that state the following:

- Line Voltage
- Current Rating (amps)
- Phase
- Frequency
- Power Source

**TIE OFF MOUNT**

A chrome plated tie off mount rated at a 9,000lb straight line pull will be provided for use with any equally rated 2.00” receiver tube on the vehicle. The mount will be secured to the receiver with a hitch pin, allowing it to be used in multiple locations.

A total of six (6) will be provided for the receiver tubes located SHIP LOOSE.

**SPARE FASTENERS**

One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit will be provided.

**LOOSE EQUIPMENT**

The following loose equipment list is PER UNIT and will be provided by the sales organization and prior to final delivery. **NOTE THAT ITEMS SHADED IN GREY ARE NOT INCLUDED WITH THE PROPOSAL!**

<table>
<thead>
<tr>
<th>#</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER &amp; MODEL</th>
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<tr>
<td>1</td>
<td>Clip Board: Posse Bottom Opening Box, Silver</td>
<td>Galls: #CP033 SIL</td>
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<td>2</td>
<td>Emergency Response Guide Book: DOT</td>
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<tr>
<td>3</td>
<td>Map Book: City Map</td>
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<td>Map Book: City Map X-Pages</td>
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<td>Radio 800 MHZ</td>
<td>Motorola APX6500</td>
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<td>Radio VHF</td>
<td>Kenwood TK-790</td>
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<td>8</td>
<td>Battery Charger: portable radio battery charger</td>
<td>AT4-2066IFD 4 bank conditioning charger for APX6000 NiCad/NiMH batteries w/ heavy duty wiring harness for installation on vehicle</td>
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<td></td>
<td>Description</td>
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<td>Radio Interface Module, David Clark model U3816</td>
<td>David Clark model U3816</td>
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<td>Remote Push To Talk Kit</td>
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<td>Intercom Master Unit, David Clark model U3800</td>
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<td>Power Cable, David Clark model C3820</td>
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<td>Remote Headset Station, David Clark model U3801</td>
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<td>Hook, Headset, NFPA Compliant</td>
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<td>Headset, David Clark model H3442 Under Helmet, Flex Mic</td>
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<td>Interface Cable for VHF Radio</td>
<td>David Clark C3821 Radio Interface Cord</td>
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<td>Interface Cable for 800 Mhz Radio</td>
<td>David Clark C38-21RD1 Radio Interface Cord / Motorola</td>
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<td>David Clark H6240-51 Radio Direct Headset - APX, TRBO</td>
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<td>Air horn handheld, Co2 Personal</td>
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<td>Air horn replacement canisters handheld co2 2/pack personnel</td>
<td>sonic blast refill 5 oz/fsb5r</td>
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<td>1 - KPI74 89.2 TON MAXIFORCE AIR BAG</td>
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<td>1ea 22-890900 DUAL DEADMAN SAFETY CONTROL VALVE</td>
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<td>*1ea 22-895401 PRESSURE REG. 5500-135PSI</td>
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<td>*5ea 3/8&quot; X 16' AIR HOSE,</td>
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<td>*1ea OF BELOW COLORS</td>
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<td>*22-890513 RED,</td>
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<td>*4ea 22-890490 INLINE RELIEF VALVE</td>
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<td>*2ea PARATECH NIPPLE X 1/4NPTM</td>
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<td>*1ea SHUTOFF ADAPTER NIPPLE WITH INDUSTRIAL</td>
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<td>*2ea &quot;Y&quot; WITH 2-CPLGS &amp; 1-NIPPLE</td>
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<td>*1ea SHUTOFF ADAPTER NIPPLE WITH TWIST LOCK</td>
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<td>*1ea CARRY CASE</td>
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<td>10 TON KEV AIR CUSHION KIT, *CONSISTING OF:</td>
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<td>*2- 22887010K TYPE 'B/K' AIR CUSHION</td>
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<td>*1- 22887011K CARRYING CASE</td>
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<td>*1- 22887305 DUAL CONTROLLER</td>
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<td>*1- 22887400 1&quot; X 20' RED L.P. HOSE</td>
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<td>*1- 22890513 3/8&quot; X 16' BLACK H.P. HOSE</td>
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<td>*1- 22887099K REPAIR KIT</td>
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<td>1/4 IN. UNIVERSAL COUPLER KIT</td>
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<td>Air Gun: QUICK-CHANGE BLOW GUN KIT</td>
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<td>TIRE INFLATOR WITH GAUGE</td>
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<td>Air Chisel Kit: STANDARD DUTY AIR HAMMER RESCUE KIT CONSISTING OF: 1ea. 1974 HAMMER FOR .401&quot; SHANK TOOLS, 1ea. 33005-9 RETAINER, 1ea. 8245H REGULATOR, 2ea. 3159-PL DOUBLE BLADE PANEL CUTTER (NON-TURN), 2ea. 3156-PL KWIK CUTTER (NON-TURN), 2ea. 3156-18-PL 18&quot; KWIK CUTTER (NONTURN), 1ea. 940-PL MOIL POINT (TURN-TYPE), 1ea. 998 3/4&quot;X15' HOSE, 2ea. 992 MALE CONNECTOR (1/4&quot;NPT HOSE AND HAMMER), 1ea. 996 MALE COUPLER (1/4&quot;NPT REGULATOR), 1ea. 993 FEMALE COUPLER (1/4&quot;NPT HOSE), 1ea. 8246 GAUGE GUARD, 1ea. 5317 20&quot; STEEL KIT BOX, 1ea. 8259 KIT BOX LINER 1ea. 1074 4oz. OIL 1ea. 674-RT TRIM REMOVAL TOOL</td>
<td>711 RK AJAX</td>
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<td>Ventilation Blower: VS16M05 16&quot; VARI SPD ELEC BLOWER-0.5HP MOTOR</td>
<td>9101500 TMPST</td>
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<td>36</td>
<td>Drill: 1/2 IN HAMMER DRILL, 2,800 RPM, 48,000 BLOWS/MIN</td>
<td>495-5376-20 MILWAUKEE</td>
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<td>Grinder: 4-1/2&quot; SMALL ANGLE GRINDER, 7.5 AMP, 10,000 RPM, LOCK-ON, XL PADDLE SWITCH</td>
<td>495-6140-30 MILWAUKEE</td>
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<td>Portable Light: 500W Halogen Floor Stand Temporary Job Site Light, Black/Yellow, 4500 Lumens</td>
<td>Grainger 4VM72</td>
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<td>Flashlight: SL20X-LED HALOGEN/LED FLSHT W/ DC CHRG CORD</td>
<td>20202 STRMLIT</td>
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<td>Boxlite: w/charger</td>
<td>Streamlight #Vulcan w/exit lights yellow</td>
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<td>Strobe Light Kit: RED HIGH INTENSITY STROBE KIT w/ CLR LENS</td>
<td>12000 LIGHTMAN &amp; 30000 LIGHTMAN</td>
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<td>Megaphone: Deluxe StreetThunder Megaphone</td>
<td>Galls AP193</td>
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<td>43</td>
<td>M18 / M12 RAPID CHARGE STATION, LITHIUM-ION, 120 VOLT, RED/BLACK</td>
<td>495-48-59-1807 MILWAUKEE</td>
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<td>M18 FUEL PADDLE NO-LOCK GRINDER KIT, HIGH DEMAND, 18 V, 8,500 RPM</td>
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<td>M18 FUEL SAWZALL RECIPROCATING SAW, 18 V, 9 A-H, REDLITHIUM, 1-1/8&quot; STROKE</td>
<td>495-48-59-1890PS MILWAUKEE</td>
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<td>M18 FUEL 7-1/4&quot; CIRCULAR SAW HD KIT</td>
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<td>M18 HIGH-PERFORMANCE CORDLESS DRILL/DRIVERS, 1/2&quot; CHUCK, 1,200 INCHLBD TORQUE</td>
<td>495-2704-22</td>
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<td>M18 FUEL SAWZALL RECIPROCATING SAWS, 18 V, 4 A-H REDLITHIUM, 1-1/8&quot; STROKE</td>
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<td>Sawzall: 12A SAWZALL RECIP SAW, 1-1/8&quot; STROKE, WITH CARRYING CASE</td>
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<td>Search cam</td>
<td>FL360 ATC usar tasc force kit #1 part #0607-01-001</td>
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<td>4 SENSOR SEISMIC / ACOUSTIC LISTENING SYSTEM</td>
<td>6020-01-004 SAVOX</td>
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<td>52</td>
<td>Electric palm nailer</td>
<td>Milwaukee m12 cordless model #2458-21</td>
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<td>M12 REDLITHIUM BATTERY</td>
<td>495-48-11-2401</td>
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<td>Electric compound miter saw</td>
<td>Milwaukee 12&quot; comp. miter saw #6955-20</td>
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<td>DEEP CUT VARIABLE BAND SAW, TOP DHANDLE/TOP T-HANDLE, 380' PER MIN, INCLUDES CASE</td>
<td>495-6232-21</td>
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<td>7 1/4&quot; WORM DRIVE SAW</td>
<td>495-6477-20</td>
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<td>10-1/4 IN CIRCULAR SAW</td>
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<td>Electric chainsaw</td>
<td>Husqvarna # 414EL</td>
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<td>REBAR CUTTER KIT,10 AMPS,3/4 IN CAP</td>
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<td>Electric rebar cutter blades</td>
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<td>cordless roto hammer</td>
<td>Hilti combihammer TE30-a36w/box #3500960</td>
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<td>roto hammer battery</td>
<td>hilti battey b36/6.0 #32018896</td>
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<td>Electric roto hammer cored</td>
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<td>1-1/8&quot; HEX BREAKER HAMMER KIT, 15.0 AMPS, 1100 BLOWS PER MINUTE</td>
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<td>1-1/8&quot; HEX BREAKER HAMMER KIT, 15.0 AMPS, 1300 BLOWS PER MINUTE</td>
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<td>1-1/8&quot; HEX BREAKER HAMMER, 15.0 AMPS, 1000 BLOWS PER MINUTE</td>
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<td>Core hole saw</td>
<td>Hilti Core rig starter kit #3483076</td>
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<td>Core hole saw part</td>
<td>Hilti kwik-lock starter kit 1/2 &quot; #3449393</td>
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<td>Core hole saw bit</td>
<td>Hilti core bit DD-XBI 2' x 17&quot; LCS 3-pack #3527685</td>
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<td>Core hole Vacuum pump</td>
<td>Hilti Vacuum pump DDVP-U #408998</td>
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<td>Core hole saw water tank</td>
<td>Hilti poertable water supply tank 10 L #365595</td>
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<td>HIGH VOLTAGE DETECTOR</td>
<td>TIC300PRO AMPROBE</td>
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<td>Electric adapters</td>
<td>twist lock I5-20 to 2- way 15/20 amp adapters house</td>
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<td>electrical junction box</td>
<td>Power distribution box LS -30 amp to 4 I5-20R #6508GU</td>
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<td>electric winch</td>
<td>Warn Zeon 10-5 recovery winch with spydra rope #war89611 &amp; hitch mount for winch</td>
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<td>80</td>
<td>electric winch kit</td>
<td>Warn epic acc kit #war97570</td>
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<td>COMPLETE PACK EXOTHERMIC CUTTING SYSTEM (DOES NOT INCLUDE O2 BOTTLE)</td>
<td>358-6399-1002 ARCAIR</td>
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<td>SLICE EXOTHERMIC CUTTING ROD, UNCOATED, 1/4&quot; X 22&quot;, 5 EACH PER CARTON</td>
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<td>358-4304-9002 ARCAIR</td>
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<td>Vacuum: SALVAGE MASTER WATER VAC WITH SQUEEGEE ADAPTER</td>
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<td>970200 SPERIAN</td>
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<td>Ventilation Blower: BD-18-H-4.8 BELT DRIVE BLOWER W/ 4.8HP HONDA ENGINE</td>
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<td>910-1020 TMPST</td>
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<td>Gas Can: 1GAL IIAF RED SFTY CAN 5/8&quot; METAL HOSE</td>
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<td>7210120 JUSTRITE</td>
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<td>Gas generator 3000 watt</td>
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<td>honda EB3000 c</td>
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<td>Gas Generator: EU 2000 GENERATO WITH 500W LIGHT</td>
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<td>TEU2000DB TELELITE</td>
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<td>Circular Saw: 12&quot; K760 RESCUE CUT-OFF SAW</td>
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<td>Circular Saw: 14&quot; K970 II CUT-OFF SAW</td>
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<td>90</td>
<td>Rescue Saw: 20&quot; FIRE RESCUE SAW W/ BULLET CHAIN</td>
<td>3</td>
<td>CE2188RS520A CUTEDG</td>
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<td>91</td>
<td>Flathead Axe- 8# FLATHEAD AXE, 36&quot; FIBERGLASS HANDLE, POLISHED HEAD</td>
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<td>36FF-8 FIRE AXE</td>
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<td>92</td>
<td>Pickhead Axe- 6# PICKHEAD AXE- 32&quot; FBRGLS HANDLE, POLISHED HEAD</td>
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<td>32PF-6 FIRE AXE</td>
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<td>93</td>
<td>30&quot; HOOLIGAN TOOL FORGED STEEL</td>
<td>2</td>
<td>22000680 PARATECH</td>
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<td>94</td>
<td>Bar: 60&quot; 18# PINCHPOINT STEEL CROWBAR</td>
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<td>95</td>
<td>Bar: 6&quot; NEW YORK ROOF HOOK, STEEL</td>
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<td>RH6 FIRE HOOKS</td>
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<td>96</td>
<td>13.5&quot; FLAT PRY BAR</td>
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<td>37342 CRAFTSMAN</td>
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<td>97</td>
<td>Bar: 0.75X36&quot; CHISEL &amp; GOOSENECK END STEEL WRECKING BAR</td>
<td>2</td>
<td>75036 COUNCIL</td>
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<td>100</td>
<td>10&quot; X 1-1/4&quot; STEEL CLAW BAR, BLACK</td>
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<td>DWHT55524 DEWALT</td>
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<td>101</td>
<td>20145-V224HE 12&quot; BI-METAL HACKSAW BLADE, PK10</td>
<td>1</td>
<td>4RA72 LENOX</td>
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<tr>
<td>102</td>
<td>saw blade 10 1/4&quot;</td>
<td>2</td>
<td>diablo #D1040W</td>
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<td>103</td>
<td>saw blade 12&quot;</td>
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<td>diablo #D1244X</td>
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<td>104</td>
<td>BAND SAW BLADE, 18 TPI, 1/2 X 44 7/8, BI-METAL</td>
<td>495-48-39-0524 MILWAUKEE</td>
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<td>105</td>
<td>saw blade 7 1/4&quot;</td>
<td>diablo #D0724R</td>
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<td>106</td>
<td>Blade sawzall</td>
<td>milwaukee #49-22-1135</td>
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<td>107</td>
<td>PLASTIC AMMO BOX</td>
<td>61451 BUNKER HILL</td>
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<td>108</td>
<td>Handle: Yellow Fiberglass Handle, Length 58&quot;</td>
<td>Grainger 1NFF5</td>
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<td>109</td>
<td>DECON CLOTHES BUCKET W/ LID, 5-GALLON CAPACITY, RED COLOR</td>
<td>HM350 HMDQE</td>
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<td>110</td>
<td>Broom: Corn Fiber Blend Corn Broom</td>
<td>Grainger 3ZJD7</td>
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<td>111</td>
<td>BLACK 20' 3/8&quot; CHAIN WITH CLEVIS GRAB HOOKS ON EACH END</td>
<td>G8-3820 BA PROD</td>
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<td>112</td>
<td>Come-a-long: 2-TON COME-A-LONG, CABLE PULLER</td>
<td>C-2A SPEC SERV</td>
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<tr>
<td>113</td>
<td>LOAD BINDER, 1/2&quot;, 3/8&quot; CHAIN, 12000 LB, 6&quot; LIFT, YELLOW</td>
<td>HS125-0858 PEERLESS</td>
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<td>114</td>
<td>Tool chest: 26 IN. 6-DRAWER HEAVY-DUTY BALL BEARING TOP CHEST - BLACK</td>
<td>113835 CRAFTSMAN</td>
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<td>115</td>
<td>reciver mounted tow eye</td>
<td>#RM1225</td>
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<td>116</td>
<td>Reciver shackle</td>
<td>procomp reciver shackle #69312</td>
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<td>117</td>
<td>Lift strap 10'</td>
<td>tuff edge -II type 4 # ee2804tf</td>
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<td>118</td>
<td>Lift strap 12'</td>
<td>tuff edge -II type 4 # ee2804tf</td>
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<td>119</td>
<td>3/8 G8x10&quot;W/GRABS--BLACK</td>
<td>G83810 BA PROD</td>
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<td>120</td>
<td>3/4&quot; X 6 1/2&quot; COLD CHISEL</td>
<td>42975 CRAFTSMAN</td>
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<td>121</td>
<td>Come-a-long: 2-TON COME-A-LONG, CABLE PULLER</td>
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<td>122</td>
<td>62001 MICRO-CLICKER TORQUE WRENCH 1/2&quot; DRIVE</td>
<td>00931425000P CRAFTSMAN</td>
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<td>123</td>
<td>48&quot; RED ALL-CAST HI LIFT JACK</td>
<td>HL-485 BLMFLD</td>
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<td>124</td>
<td>bolt cutter: 48 &quot;</td>
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<td>125</td>
<td>36&quot; Bolt Cutter: GEN PURPOSE CUTTER 36&quot;</td>
<td>0390MC HKP</td>
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<td>126</td>
<td>Cutter: GEN PUR CUTTER FG HNDL 18&quot;</td>
<td>0090FC HKP</td>
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<td>127</td>
<td>Dust Pan: Plastic Dust Pan, Overall Length 16-55/64&quot;, Overall Width 27-39/64&quot;</td>
<td>Grainger 53UJ79</td>
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<td>128</td>
<td>20-lb ABC Dry Chem Extinguisher, 20# ABC EXTINGUISHER</td>
<td>A411 AMEREX</td>
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<td>129</td>
<td>2.5GAL 2A WATER FIRE EXTINGUISHER</td>
<td>240 AMEREX</td>
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<td>130</td>
<td>Staple Gun: 7-1/2&quot; Heavy Duty Staple Gun, Gray</td>
<td>Grainger 3FRA7</td>
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<td>131</td>
<td>High-Tension Hacksaw, 12-inch (12132HT50)</td>
<td>12132HT50 LENOX</td>
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<td>132</td>
<td>20145-V224HE 12&quot; BI-METAL HACKSAW BLADE, PK10</td>
<td>4RA72 LENOX</td>
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<td>133</td>
<td>Hammer: 32 OZ. BALL PEIN HAMMER</td>
<td>38467 CRAFTSMAN</td>
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<td>134</td>
<td>Hammer: 12 OZ. BALL PEIN HAMMER</td>
<td>38464 CRAFTSMAN</td>
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<td>135</td>
<td>19 OZ. HEAVY CONSTRUCTION STEEL HANDLE HAMMER</td>
<td>38061 CRAFTSMAN</td>
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<td>136</td>
<td>Hammer: SF3 3# DEAD BLOW HAMMER</td>
<td>10030 NUP</td>
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<td>137</td>
<td>Hammer: BD10 SLEDGE HAMMER WITH 32&quot; HANDLE</td>
<td>27100 NUP</td>
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<td>138</td>
<td>Hammer: BD3 3# SLEDGE HAMMER WITH 14&quot; HANDLE</td>
<td>27030 NUP</td>
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<td>139</td>
<td>Broom: Wire Push Broom, Block Size 18&quot;, Hardwood Block Material</td>
<td>Grainger 3U775</td>
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<td>140</td>
<td>Handle: Wet Mop Handle, Quick Change, 60&quot;L</td>
<td>Grainger 1TZB1</td>
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<td>141</td>
<td>MCLEOD TOOL, 48&quot; HNDL FRST SER SPEC 5100-353D</td>
<td>MT48FSS COUNCIL</td>
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<td>142</td>
<td>Car-Entry Kits: BIGEASY &quot;GLO&quot; LOCKOUT TOOLS DELUXE KIT, INCLUDES: BIGEASY &quot;GLO&quot; TOOL, BIGEASY NON-MARRING WEDGE - 32920, BIGEASY PAINT PROTECTOR - 32924, SUREGRIP LOCK KNOB LIFTER - 32930, BIGEASY EASY WEDGE (INFLATABLE) - 32922, BIGEASY CARRYING CASE - 32935</td>
<td>3295SDLX STECK</td>
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<td>143</td>
<td>K-Tool Kit: WITH POUCH &amp; KEY TOOLS</td>
<td>KT K-TOOL</td>
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<td>144</td>
<td>SPANNER, ALUM</td>
<td>11201 CASCADE</td>
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<td>145</td>
<td>7&quot; Rafter Angle Aluminum Square</td>
<td>Craftsman #39601</td>
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<td>Item</td>
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<td>146</td>
<td>16 in. x 24 in. Steel Framing Square</td>
<td>Empire # 1110</td>
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<td>147</td>
<td>True Blue 48 in. I-Beam Level</td>
<td>Empire # E55.48</td>
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<td>148</td>
<td>8 in. True Blue Magnetic Billet Torpedo Level</td>
<td>Empire # EM71.8</td>
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<td>149</td>
<td>3.75# PULASKI MATTOCK AX 36&quot; WOOD HNDL- 38PE136</td>
<td>375MA</td>
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<td>150</td>
<td>Picket: RQ3-PICKET</td>
<td>AN3300 RES SRCE</td>
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<td>151</td>
<td>Pliers: 9-1/2&quot; ARC JOINT PLIERS</td>
<td>45381 CRAFTSMAN</td>
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<td>152</td>
<td>Pliers: 7&quot; DIAGONAL PLIERS</td>
<td>45076 CRAFTSMAN</td>
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<td>153</td>
<td>STRAIGHT DUCKBILL SNIP, 12-3/4&quot;, 22 MILD/24 STAINLESS STEEL</td>
<td>2VU98 IRWIN</td>
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<td>154</td>
<td>7 &quot; LINESMAN PLIERS</td>
<td>45093 CRAFTSMAN</td>
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<td>155</td>
<td>8&quot; LONG NOSE PLIERS</td>
<td>45103 CRAFTSMAN</td>
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<td>156</td>
<td>8&quot; SLIP JOINT PLIERS</td>
<td>45379 CRAFTSMAN</td>
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<td>157</td>
<td>Pike Pole: YPD-12 12' HD CLASSIC NUPLAGLAS PIKE POLE, WITH BUTT END</td>
<td>36212 NUPLA</td>
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<td>158</td>
<td>Pike Pole: YPDH-6 6' HD CLASSIC NUPLAGLAS PIKE POLE, WITH D-HANDLE</td>
<td>36106 NUPLA</td>
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<td>159</td>
<td>Pole: NEW YORK ROOF HOOK, STEEL, W/ DHANDLE</td>
<td>RH8D FIRE HOOKS</td>
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<td>160</td>
<td>Rake: SFR4 FIRE RAKE WITH 60&quot; HANDLE</td>
<td>69214 NUP</td>
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<td>161</td>
<td>Saw: 24 IN. FINE 12 PT. CARPENTER HANDSAW WITH SOFT GRIP HANDLE</td>
<td>36266 CRAFTSMAN</td>
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<td>162</td>
<td>Set: punch/chisel, 16 pc set</td>
<td>SK Professional Tools #6016</td>
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<td>163</td>
<td>Set: 254 PIECE MECHANICS TOOL SET WITH 75TOOTH RATCHET</td>
<td>36254 CRAFTSMAN</td>
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<td>164</td>
<td>Craftsman: 11 pc. Standard Combination Wrench Set</td>
<td>45011 CRAFTSMAN</td>
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<td>165</td>
<td>Shovel: RP2L #2 ROUND POINT SHOVEL W/48&quot; HANDLE</td>
<td>69048 NUP</td>
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<td>166</td>
<td>Shovel: AGS10DE #10 ALUM SCOOP SHOVEL WITH 27&quot; D GRIP</td>
<td>72155 NUP</td>
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<td>167</td>
<td>Shovel: SP2L #2 SQUARE POINT SHOVEL WITH 48&quot; HANDLE</td>
<td>69148 NUP</td>
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<td>168</td>
<td>SP2D30 #2 SQUARE POINT SHOVEL W/ 30&quot; D HANDL</td>
<td>69130 NUP</td>
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<td>169</td>
<td>RP14D30 #2 ROUND POINT SHOVEL W/30&quot; D HANDLE</td>
<td>69230 NUP</td>
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<td>170</td>
<td>shovel: Folding small</td>
<td>Gerber folding shovel</td>
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<td>171</td>
<td>Square: 16 IN. COMBINATION SQUARE</td>
<td>39681 CRAFTSMAN</td>
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## CITY OF SACRAMENTO FIRE DEPARTMENT
### Specifications one (1) Pierce Velocity Heavy Duty Rescue
#### January 16, 2018 (Quote Number 90116-18)

<table>
<thead>
<tr>
<th>Item</th>
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<th>Quantity</th>
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<tbody>
<tr>
<td>172</td>
<td>Squeegee: 30” CURVED SQUEEGEE W/HNDL</td>
<td>1</td>
<td>230 ROWCO</td>
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<td>173</td>
<td>Squeegee: 36” CURVED SQUEEGEE W/HNDL</td>
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<td>236 ROWCO</td>
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<td>174</td>
<td>Squeegee: 18” STRAIGHT SQUEEGEE W/HNDL</td>
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<td>018 ROWCO</td>
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<td>175</td>
<td>Squeegee: 36” STRAIGHT SQUEEGEE W/HANDLE</td>
<td>2</td>
<td>036 ROWCO</td>
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<td>176</td>
<td>Staples: Cable Staple, 9/16in, Steel, NM Cable, Pk500</td>
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<td>Grainger 6LVE3</td>
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<td>177</td>
<td>Wheelbarrow: Wheelbarrow, 6 cu. ft. Capacity, Tray Material: Steel, Number of Wheels: 1</td>
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<td>Grainger 2MVU6</td>
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<td>178</td>
<td>Craftsman: 12” ADJUSTABLE WRENCH</td>
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<td>44605 CRAFTSMAN</td>
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<td>179</td>
<td>Craftsman: 8” ADJUSTABLE WRENCH</td>
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<td>44603 CRAFTSMAN</td>
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<td>180</td>
<td>Wrench: 10 IN. PIPE WRENCH, STEEL</td>
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<td>51651 CRAFTSMAN</td>
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<td>181</td>
<td>Craftsman: 14” STEEL PIPE WRENCH</td>
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<td>51652 CRAFTSMAN</td>
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<td>182</td>
<td>Wrench: Aluminum 36” Straight Pipe Wrench, 5” Jaw Capacity</td>
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<td>Grainger 6A654</td>
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<tr>
<td>183</td>
<td>Cribbing: 2”x4”x18”, douglas fir, cross grain</td>
<td>24</td>
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<td>184</td>
<td>Cribbing: 4”x4”x18”, douglas fir, cross grain</td>
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<td>185</td>
<td>Cribbing: veh step chocks(30’-2”x6” bases, 5-2”x4” teirs ea. Shorter 6” going up) douglas fir cross grain</td>
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<td>186</td>
<td>Cribbing: wedges, 2”x4”x18”, pair, douglas fir cross grain</td>
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<tr>
<td>187</td>
<td>Cribbing: wedges, 4”x4”x18”, pair, douglas fir cross grain</td>
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<td>188</td>
<td>UTILITY DRY BOX</td>
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<td>560215 WISE</td>
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<td>189</td>
<td>TU32 TIRFOR WIRE ROPE HOIST, 8000LB LIFTING CAPACITY</td>
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<td>03219902430K GRIPHOIST</td>
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<td>190</td>
<td>4X4 CLAMP</td>
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<td>C4 ELLIS</td>
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<td>191</td>
<td>4X4 JACK WRENCH</td>
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<td>H4 ELLIS</td>
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<td>192</td>
<td>4X4 SCREW JACK WITH PAINTED FINISH</td>
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<td>SJ-4 ELLIS</td>
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<td>193</td>
<td>Hydraulic speed shores</td>
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<td>28”-46”x 7” #V-07-46</td>
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<td>22”-36” x 7” #v-07-36</td>
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<td>17&quot;-27 x 7&quot; #V-07-27</td>
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<td>196</td>
<td>Hydraulic speed shores pump</td>
<td>speed shore #HVP-2000</td>
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<td>197</td>
<td>Hydraulic speed shore pump</td>
<td>#RT-48</td>
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<td>198</td>
<td>Craftsman: 9-PIECE FULL POLISH METRIC COMBINATION WRENCH SET</td>
<td>45010 CRAFTSMAN</td>
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<td>199</td>
<td>Chains: Pulling chain set 3/8&quot;</td>
<td>HomalTro Inc. #150.582.152</td>
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<td>200</td>
<td>Cutter: CC 5050i Cutter Core</td>
<td>HomalTro Inc. #158.012.163</td>
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<td>201</td>
<td>Hydraulic hose: HOSE CORE 32' BLUE</td>
<td>HomalTro Inc. #158.572.128</td>
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<td>202</td>
<td>Hydraulic hose: HOSE CORE 32' ORANGE</td>
<td>HomalTro Inc. #158.572.125</td>
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<td>203</td>
<td>Hydra Ram: HYDRARAM II TOOL- 6&quot; MAX THRUST</td>
<td>HR2 FIRE HOOKS</td>
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<td>204</td>
<td>Jack: 12.5-TON HYDR BOTTLE JACK #45312</td>
<td>JHJ125 JET</td>
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<tr>
<td>205</td>
<td>Jack: 20 TON BOTTLE JACK</td>
<td>JHJ225 JET</td>
<td>2</td>
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<tr>
<td>206</td>
<td>Power Unit: HomalTro, SR 20 PC 2 - Core Duo Pump Gas</td>
<td>HomalTro Inc. 158.152.178</td>
<td>1</td>
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<tr>
<td>207</td>
<td>Ram: TR 5340 Telescopic Ram w/ laser</td>
<td>HomalTro Inc. #158.032.030</td>
<td>1</td>
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<tr>
<td>208</td>
<td>Ram: TR 5350 Telescopic Ram W/ Laser</td>
<td>HomalTro Inc. #158.032.031</td>
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<tr>
<td>209</td>
<td>Ram: TR 5370 Telescopic Ram W/ Laser</td>
<td>HomalTro Inc. #158.032.032</td>
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<td>210</td>
<td>Spreader: SP 5240 Spreader Core</td>
<td>HomalTro Inc. #158.012.135</td>
<td>1</td>
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<tr>
<td>211</td>
<td>Support: HRS22 RAM SUPPORT</td>
<td>HomalTro Inc. #158.181.012</td>
<td>1</td>
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<tr>
<td>212</td>
<td>Tips: Pulling attachments set for SP S240/S250</td>
<td>HomalTro Inc. #150.182.274</td>
<td>1</td>
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<tr>
<td>213</td>
<td>Ladder: 14’ attic, aluminum</td>
<td>Duo-Safe</td>
<td>1</td>
</tr>
<tr>
<td>214</td>
<td>Ladder: 24’ extension, aluminum</td>
<td>Duo-Safe</td>
<td>1</td>
</tr>
<tr>
<td>215</td>
<td>Ladder: 35’ extension 3 fly, aluminum</td>
<td>Duo-Safe</td>
<td>1</td>
</tr>
<tr>
<td>216</td>
<td>Ladder: 16’ roof ladder, aluminum</td>
<td>Duo-Safe</td>
<td>1</td>
</tr>
<tr>
<td>217</td>
<td>Blanket: wool</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>218</td>
<td>Kit: ALS Bag, loaded per Co. protocol</td>
<td>See SFD EMS Div for contents</td>
<td>1</td>
</tr>
</tbody>
</table>
**Specifications one (1) Pierce Velocity Heavy Duty Rescue**  
*January 16, 2018 (Quote Number 90116-18)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>Kit: BLS Bag, loaded per Co. protocol</td>
<td>See SFD EMS Div for contents</td>
</tr>
<tr>
<td>220</td>
<td>Kit: OB</td>
<td>See SFD EMS Div for contents</td>
</tr>
<tr>
<td>221</td>
<td>Medical: Oxygen cylinder w/regulator &amp; cover</td>
<td>See SFD EMS Div for contents</td>
</tr>
<tr>
<td>222</td>
<td>Monitor: EKG-Defib</td>
<td>Zoll M-Series, See SFD EMS for contents</td>
</tr>
<tr>
<td>223</td>
<td>Splints: cardboard, misc</td>
<td>See SFD EMS Div for contents</td>
</tr>
<tr>
<td>224</td>
<td>Suction Unit</td>
<td>See SFD EMS Div for contents</td>
</tr>
<tr>
<td>225</td>
<td>Fire Fighter Drop Bag: (BLACK) for door wedges</td>
<td>First In # 97063B</td>
</tr>
<tr>
<td>226</td>
<td>Carabiner: ORA ALUM SCREW-LOCK CARABINER</td>
<td>300169 CMC</td>
</tr>
<tr>
<td>227</td>
<td>Fire Fighter Drop Bag: (RED)</td>
<td>First In # 97063R</td>
</tr>
<tr>
<td>228</td>
<td>8MM RED RESCUE PRUSIK / LRH CORD FT, 5 X 75' LENGTHS</td>
<td>293038 CMC</td>
</tr>
<tr>
<td>229</td>
<td>Split Ring: 2in Split Ring, Nickel-Plated Steel, PK10</td>
<td>Grainger 16D511</td>
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<tr>
<td>230</td>
<td>BLA #2 ROPE BAG</td>
<td>430205 CMC</td>
</tr>
<tr>
<td>231</td>
<td>Blade: 1&quot;X12&quot; CHOPPER 12-TIP CARBIDE SAW BLADE</td>
<td>CBT1212T FIRE HOOKS</td>
</tr>
<tr>
<td>232</td>
<td>Blade: circular 12&quot; rescue multi purpose blade w/ 1&quot; arbor</td>
<td>CDP # SB60R12</td>
</tr>
<tr>
<td>233</td>
<td>Blade: circular saw 12&quot; diamond concrete, wet/dry. Heavy duty 12&quot;x125x1&quot; w/1&quot; arbor</td>
<td>CDP# MND1212</td>
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<tr>
<td>234</td>
<td>Blade: circular saw 12&quot; masonry composite, abrasive 12&quot;x5/32x1&quot; w/1&quot; arbor</td>
<td>CDP# L5317</td>
</tr>
<tr>
<td>235</td>
<td>Blade: TYPE 1 HIGH SPEED CUTOFF WHEEL, 12&quot;x5/32x20mm</td>
<td>F5293 FLEXOVIT</td>
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<tr>
<td>236</td>
<td>Blade: 1&quot;X14&quot; CHOPPER 30-TIP CARBIDE SAW BLADE</td>
<td>CBT1430T FIRE HOOKS</td>
</tr>
<tr>
<td>237</td>
<td>Blade: circular saw 14&quot;, rescue multi purpose w/1&quot; arbor</td>
<td>CDP# SB60R14</td>
</tr>
<tr>
<td>238</td>
<td>Blade: circular saw 14&quot;, diamond concrete, wet/dry w/1&quot; arbor</td>
<td>CDP # ZM80B101412</td>
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<tr>
<td>239</td>
<td>Blade: circular saw, 14&quot;, masonry composite w/1&quot; arbor</td>
<td>CDP# L5727</td>
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<tr>
<td>Part No.</td>
<td>Description</td>
<td>Make or Model</td>
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<tr>
<td>240</td>
<td>Blade: TYPE 1 HIGH SPEED CUTOFF WHEEL, 14&quot;x5/32&quot;x20mm</td>
<td>F5693 FLEXOVIT</td>
</tr>
<tr>
<td>241</td>
<td>Block: ladder wedge</td>
<td>hilti bit</td>
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<tr>
<td>242</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 1/4&quot;X6&quot;</td>
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<tr>
<td>243</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 3/8&quot;x6&quot;</td>
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<tr>
<td>244</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 1/2&quot;x6&quot;</td>
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<tr>
<td>245</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 5/8&quot; x8&quot;</td>
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<tr>
<td>246</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 3/4&quot; x 12&quot;</td>
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<tr>
<td>247</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit TE-CX 1&quot;X18&quot;</td>
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<td>248</td>
<td>roto hammer bits TE 30</td>
<td>hilti bit point # TE-CP-SM 25</td>
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<td>249</td>
<td>roto hammer bits TE 30</td>
<td>hilti flat chisel/scaper TE_CP SPM #282303</td>
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<tr>
<td>250</td>
<td>roto hammer bits TE 80 hilti</td>
<td>breaker point chisel TE-YP36 #282264</td>
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<tr>
<td>251</td>
<td>roto hammer bits TE80 hilti</td>
<td>breaker point chisel TE-YP50 #282265</td>
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<td>252</td>
<td>roto hammer bits TE80 hilti</td>
<td>breaker narrow flat TE-YP FM 36 # 282268</td>
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<td>253</td>
<td>roto hammer bits TE80 hilti</td>
<td>breaker narrow flat TE-YP FM 50 # 282269</td>
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<tr>
<td>254</td>
<td>roto hammer bits TE80 hilti</td>
<td>breaker wide flat TE-YP SPM #282273</td>
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<tr>
<td>255</td>
<td>roto hammer bits TE80 hilti</td>
<td>roto concrete 1/2&quot;X16&quot; #206510</td>
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<tr>
<td>256</td>
<td>roto hammer bits TE80 hilti</td>
<td>roto concrete 3/4&quot;X16&quot; #293473</td>
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<tr>
<td>257</td>
<td>20&quot; METAL HAND BOX</td>
<td>65220 CRAFTSMAN</td>
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<tr>
<td>258</td>
<td>26&quot; POWER LATCH TOOL BOX</td>
<td>17185156 CRAFTSMAN</td>
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<tr>
<td>259</td>
<td>Bucket: Yellow Plastic Mop Bucket and Wringen, 8-3/4 gal.</td>
<td>Grainger 2PYH4</td>
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<tr>
<td>260</td>
<td>Can harness: WATER CAN / EXTINGUISHER HARNESS CARRYING SYSTEM</td>
<td>CH-312 FIRE HOOKS</td>
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<tr>
<td>261</td>
<td>Carry-All: DEBRIS CARRIER</td>
<td>Cascade # 24316</td>
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<tr>
<td>262</td>
<td>Chain loop: 20&quot; BULLET CHAIN LOOP</td>
<td>CEBUL66A CUTEDG</td>
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<tr>
<td>263</td>
<td>Chain loop: 20&quot; RAPTOR CARBIDE CHAIN</td>
<td>TV415002 TMPST</td>
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<td></td>
<td>Description</td>
<td>Code/Model</td>
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<tr>
<td>264</td>
<td>Chain loop: 20&quot; NON CARBIDE TIPPED CHAIN LOOP</td>
<td>CE2766A Cutedg</td>
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<tr>
<td>265</td>
<td>Cooler: 400 SERIES COOLER, 2 GALLON, RED/YELLOW</td>
<td>385-421 Igloo</td>
</tr>
<tr>
<td>266</td>
<td>Cover: 10V 3'x16' RED 10oz VINYL HALL RUNN</td>
<td>10vhr316r gos</td>
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<tr>
<td>267</td>
<td>Cover: salvage, blue disposable, 16'x20', 3.2 mil Polyethylene Waterproof Tarp, Blue</td>
<td>Grainger 22jc29</td>
</tr>
<tr>
<td>268</td>
<td>Cover: 12C 12'X14' O.D. GREEN 12oz CANV SALV COVER</td>
<td>12csc1214 gos</td>
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<tr>
<td>269</td>
<td>Cover: 10V 12'X14' RED 10oz VINYL SALV COVER</td>
<td>10vsc1214r gos</td>
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<tr>
<td>270</td>
<td>Cylinder: oxygen, 40CF DOT cylinder - 3AA2015 filled w/ compressed oxygen</td>
<td>Cyl-40</td>
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<tr>
<td>271</td>
<td>Cylinder: oxygen, 80CF DOT cylinder - 3AA2015 filled w/ compressed oxygen</td>
<td>Cyl-70/80</td>
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<td>272</td>
<td>GPSMAP64ST</td>
<td>0100119920 Garmin</td>
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<tr>
<td>273</td>
<td>GENERAL USE HASP, 6&quot;, 4 PER BOX</td>
<td>470-706-d master lock</td>
</tr>
<tr>
<td>274</td>
<td>GENERAL USE HASP, 3.5&quot;, 4 PER BOX</td>
<td>470-703-d master lock</td>
</tr>
<tr>
<td>275</td>
<td>4 1/2&quot; HARD WROUGHT STEEL BODY HASP, 4 PER BOX</td>
<td>470-704-dpf master lock</td>
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<tr>
<td>276</td>
<td>YELLOW RAILROAD CHALK, 72 PER BOX</td>
<td>71192 Dixon</td>
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<tr>
<td>277</td>
<td>Lumber crayon: Lumber Crayon with 1/2&quot; Tip Size, Red; PK12</td>
<td>Grainger 5w543</td>
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<tr>
<td>278</td>
<td>Lumber crayon: Lumber Crayon with 1/2&quot; Tip Size, Yellow; PK12</td>
<td>Grainger 5w542</td>
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<td>279</td>
<td>Pencil: Oversized Carpenter Pencil</td>
<td>Home Depot 10351</td>
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<td>280</td>
<td>Mop head: Side Gate Rayon Strip Mop Head, Blue</td>
<td>Grainger 1tyy7</td>
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<td>281</td>
<td>10-POCKET CONTRACTOR'S RIG</td>
<td>Hds858759 Husky</td>
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<td>282</td>
<td>Nails: #9 x 3-1/4 in. 16-Penny Vinyl-Coated Steel Sinker Nails (1 lb.-Pack)</td>
<td>Home Depot 16ctdskr1</td>
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<tr>
<td>283</td>
<td>Nails: #8 x 3 in. 16-Penny Bright Steel Duplex Nails (1 lb.-Pack)</td>
<td>Home Depot 16dup1</td>
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<tr>
<td>284</td>
<td>Nails: #11-1/2 x 2-3/8 in. 8-Penny Vinyl-Coated Steel Sinker Nails (1 lb.-Pack)</td>
<td>Home Depot 8ctdskr1</td>
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<tr>
<td>285</td>
<td>Plumb bob: Brass 16oz.</td>
<td>Empire 16oz. Plumb Bob mdl#916br</td>
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<tr>
<td>286</td>
<td>Powder actuated Nailer</td>
<td>Hilti Dx2 with cleaning kit</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Model/Part Number</td>
</tr>
<tr>
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<tr>
<td>287</td>
<td>Padlock: Alike-Keyed Padlock, Open Shackles Type, 15/16&quot; Shackles Height, Silver</td>
<td>Grainger 1U161</td>
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<tr>
<td>288</td>
<td>Pail: 2 gal. Silver Galvanized Steel Mop Bucket, 1 EA</td>
<td>Grainger 2MPE5</td>
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<td>289</td>
<td>Paint: Solvent-Based Precision Line Marking Paint, Alert Orange/APWA Orange, 17 oz.</td>
<td>Grainger 6KPO2</td>
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<td>290</td>
<td>Tapered Redwood Pipe Plugs, 1/2&quot; to 1-1/4&quot;</td>
<td>140-1012-5</td>
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<tr>
<td>291</td>
<td>Tapered Redwood Pipe Plugs, 3/4&quot; to 1-1/2&quot;</td>
<td>140-1015-0</td>
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<tr>
<td>292</td>
<td>Tapered Redwood Pipe Plugs, 2&quot;</td>
<td>140-1020-0</td>
</tr>
<tr>
<td>293</td>
<td>3/8&quot; MANILA ROPE, 35 FT</td>
<td>ROPE-3-8 DUO</td>
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<tr>
<td>294</td>
<td>1/2&quot; WHI GEN USE LIFELINE ROPE, 200 FT</td>
<td>263200 CMC</td>
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<tr>
<td>295</td>
<td>21 PC. COBALT DRILL BIT SET</td>
<td>S64085 CRAFTSMAN</td>
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<tr>
<td>296</td>
<td>Set: 12 PC. WOOD-BORING BIT SET</td>
<td>20860 CRAFTSMAN</td>
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<tr>
<td>297</td>
<td>Set: Masonry Drill Bit Set, Straight, 7 pcs.</td>
<td>DeWalt DW5207</td>
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<tr>
<td>298</td>
<td>MAXFIT 72 PC. STEEL DRIVING BIT SET</td>
<td>DWA2SLS72BO DEWALT</td>
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<tr>
<td>299</td>
<td>Sheeting: 100 ft. x 20 ft. Polyethylene Construction Film, Clear</td>
<td>Grainger 4JX90</td>
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<tr>
<td>300</td>
<td>Strap: ladder 36&quot;, leather</td>
<td>made by shop</td>
</tr>
<tr>
<td>301</td>
<td>100' STAINLESS STEEL SAE LONG TAPE MEASURE, BLACK/YELLOW</td>
<td>34-130 STANLEY</td>
</tr>
<tr>
<td>302</td>
<td>30&quot;X1&quot; TAPE RULE POWERLOCK</td>
<td>33430 STANLEY</td>
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<tr>
<td>303</td>
<td>Duct Tape:</td>
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<tr>
<td>304</td>
<td>Barrier Tape: Barricade Tape, Danger, Red, 1000 ft, Poly</td>
<td>Grainger 21YH37</td>
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<tr>
<td>305</td>
<td>Tape: PVC Electrical Tape, Rubber Tape Adhesive, 7.00 mil Thick, 3/4&quot; X 66 ft., Black, 1 EA</td>
<td>Grainger 49XZ33</td>
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<td>306</td>
<td>Barrier Tape: &quot;Fire Line Do Not Cross&quot; (Barricade Tape, Yellow/Black, 1000 ft x 3 in)</td>
<td>Grainger 4ACD5</td>
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<td>307</td>
<td>27&quot; 90 DEG TORCH, TIPS 81 &amp; 83, 2.5 GAL GAS TANK, 50' GAS HOSE &amp; 50' OXY HOSE, OXY-BACKFLASH ARRESTER, SPARE PARTS, TOOLS STRIKER MANUALS &amp; TRAINING VIDEO</td>
<td>6050 PETROGEN</td>
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<tr>
<td>No.</td>
<td>Description</td>
<td>Brand/Model</td>
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<tr>
<td>308</td>
<td>PETROGEN 6051 OPTIONAL HEAVY RESCUE AUXILIARY PACKAGE</td>
<td>LOT</td>
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<tr>
<td>309</td>
<td>Wedge: door, wood, 1”x6”x8”</td>
<td>made by shop</td>
</tr>
<tr>
<td>310</td>
<td>Wedge: wood, for sprinkler head shut-off</td>
<td>made by shop</td>
</tr>
<tr>
<td>311</td>
<td>SCBA Bracket: WALKAWAY BRACKET</td>
<td>SC50H5SF ZICO</td>
</tr>
<tr>
<td>312</td>
<td>Belt: LARGE 40-48” POSITIONING &amp; BODY BELT- POLY- WITH FRICTION BUCKLE 2 DRINGS 3” BODY PAD</td>
<td>7463 GEMTOR</td>
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<tr>
<td>313</td>
<td>Chock: wheel, supplied w/ apparatus, folding units</td>
<td>Pack-A-Cone:</td>
</tr>
<tr>
<td>314</td>
<td>Traffic cones: 30” (75cm) Extreme PRO 5 PAC, 5 Pack PROfessional Series Light-Up Cones</td>
<td>Pack-A-Cone: Item# PAC-512-30 <a href="http://www.packacone.cone">www.packacone.cone</a></td>
</tr>
<tr>
<td>315</td>
<td>Fussee, highway: 20 MINUTE RED FUSEE, NO SPIKE OR STAND, 72 PER</td>
<td>0720 ORION</td>
</tr>
<tr>
<td>316</td>
<td>Gloves: Welding Gloves,Stick,14”,L,PR</td>
<td>Grainger 4JF96</td>
</tr>
<tr>
<td>317</td>
<td>Goggles: welding, Ift Front Welding Goggles, Shade 5 Filter, 2” x 4-1/4” Viewing Area</td>
<td>Grainger 1UYF9</td>
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<tr>
<td>318</td>
<td>Reflector Set: emergency road triangles. Usually comes w/ apparatus</td>
<td>#5050HSP</td>
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<tr>
<td>319</td>
<td>Thermal Imaging Camera: (TIC)</td>
<td>ISG Elite K1000 XRHR with the following accessories: (2) truck charger, (1) desktop charger, (1) retractable lanyard, (1) AA clamshell battery holder, (2) 5-hour batteries</td>
</tr>
<tr>
<td>320</td>
<td>Search Rope: Large area search rope kit, including drop ropes &amp; bags</td>
<td>Lee &amp; Assoc: 200’ Finish Link Rit Rope w/ Kevlar sheathed rope &amp; bag, RSK-RITPRICH200M</td>
</tr>
<tr>
<td>321</td>
<td>20’ lateral search lines in a red bag for above “KIT”</td>
<td>Lee &amp; Associates 20’ Lateral Search Line Kit Red Bag RSK-LEE0200-020GMG</td>
</tr>
<tr>
<td>322</td>
<td>Water Throw Bags</td>
<td>BG3137 - THROWBAG-RS STANDARD LG-75’ POLY/KRN 3/8</td>
</tr>
<tr>
<td>323</td>
<td>Decal: helmet, crescent, white “Sacramento”, for Petzl Helmets</td>
<td>Cascade</td>
</tr>
<tr>
<td>324</td>
<td>Rescue Helmet: (red)</td>
<td>team wendy exfil sar tactical tw-82n-or</td>
</tr>
<tr>
<td>325</td>
<td>Rescue Helmet: (black)</td>
<td>team wendy exfil sar tactical tw-82n-or</td>
</tr>
<tr>
<td>326</td>
<td>Light: YELLOW KINGLITE PRO 4000 HAND HELD LIGHT</td>
<td>4000BY PELICAN</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Part Number</td>
</tr>
<tr>
<td>------</td>
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<td>-------------</td>
</tr>
<tr>
<td>327</td>
<td>Whistle, w/ lanyard</td>
<td>WH7945 - WHISTLE-FOX 40 FLEX COIL</td>
</tr>
<tr>
<td>328</td>
<td>Cap: Galvanized Malleable Iron Cap, 1/2&quot; Pipe Size, FNPT Connection Type</td>
<td>Grainger SP901</td>
</tr>
<tr>
<td>329</td>
<td>Cap: Galvanized Malleable Iron Cap, 3/4&quot; Pipe Size, FNPT Connection Type</td>
<td>Grainger SP902</td>
</tr>
<tr>
<td>330</td>
<td>Head: 135 DEG SPRKLR HD W/BULB</td>
<td>SP135 BECO</td>
</tr>
<tr>
<td>331</td>
<td>Head: 155DEG PENDANT SPRINKLER HEAD MODEL 'U' BULB TYPE</td>
<td>SP155 BECO</td>
</tr>
<tr>
<td>332</td>
<td>Head: 135 DEG UPRGT SPRKLR HD W/BULB</td>
<td>SU135 BECO</td>
</tr>
<tr>
<td>333</td>
<td>1.5X100' CPLD 1.5NH YEL, 187SPEC TYPE II SJ HOSE</td>
<td>187I15X100YFN NAFH</td>
</tr>
<tr>
<td>334</td>
<td>Hose: 75 ft. x 3/4&quot; dia. Water Hose, Reinforced PVC, 500 psi, Green</td>
<td>Grainger 20L436</td>
</tr>
<tr>
<td>335</td>
<td>Kit: SPRINKLER HEAD SHUTOFF KIT, CONSISTING OF THE BELOW LINE ITEMS: 6 - SP200 BECO 200DEG PENDANT SPRINKLER HEAD MDL 'U' BULB TYPE, 6 - SP155 BECO 155DEG PENDANT SPRINKLER HEAD MODEL 'U' BULB TYPE, 2 - SSV SPRINKLER STOP VALVE, 1 - SHC12 BECO SPRINKLER HEAD CABINET, FITS 12-SPR HEADS, 1 - SPWR2 BECO SPRINKLER WRENCH FOR 1/2&quot; GL &amp; U STYLE, 4 - 10780001 AKR QUICKFIT SPRINKLER SHUTOFF</td>
<td>SHSK PKG</td>
</tr>
<tr>
<td>336</td>
<td>Nozzle: garden w/lever shut-off</td>
<td>Home Depot 573TFRHD</td>
</tr>
<tr>
<td>337</td>
<td>Plug: Galvanized Malleable Iron Square Head Plug, 1/2&quot; Pipe Size, MNPT Connection Type</td>
<td>Grainger SPAT1</td>
</tr>
<tr>
<td>338</td>
<td>Plug: Galvanized Malleable Iron Square Head Plug, 3/4&quot; Pipe Size, MNPT Connection Type</td>
<td>Grainger SPAT2</td>
</tr>
<tr>
<td>339</td>
<td>Pump: 3/4HP SUBMERSIBLE PUMP W/ MUSHROOM STRAINER</td>
<td>90101128FKMS PROSSER</td>
</tr>
<tr>
<td>340</td>
<td>Shut-off: QUICKFIT SPRINKLER SHUTOFF</td>
<td>10780001 AKR</td>
</tr>
<tr>
<td>341</td>
<td>Cord: Round Buna-N Rubber Cord Stock, 4.0mm Dia., 10 Ft., 70 Durometer, Black (knife attachment stock)</td>
<td>Grainger 6RTUS</td>
</tr>
<tr>
<td>342</td>
<td>Rope: 3/8&quot; MANILA ROPE, 150 FT</td>
<td>ROPE-3-8 DUO</td>
</tr>
<tr>
<td>343</td>
<td>Wood: 1&quot;x6&quot;x8&quot;, materials for door wedges</td>
<td></td>
</tr>
<tr>
<td>344</td>
<td>Wood: 2x4x12&quot; douglas fur</td>
<td>wedges</td>
</tr>
<tr>
<td></td>
<td>Item Description</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>345</td>
<td>Wood: 2x4x18&quot;, douglas fir, cribbing materials</td>
<td>40</td>
</tr>
<tr>
<td>346</td>
<td>Wood: 2x6x8, douglas fir, step chalk materials</td>
<td>2</td>
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<tr>
<td>347</td>
<td>Wood: 4x4x18&quot;, douglas fir, cribbing materials, wedges</td>
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<tr>
<td>348</td>
<td>Wood: 4x4x18&quot;, douglas fir, cribbing materials</td>
<td>40</td>
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<tr>
<td>349</td>
<td>Wood: 4&quot;x4&quot;x16'</td>
<td>12</td>
</tr>
<tr>
<td>350</td>
<td>Wood: 2&quot;x12&quot;x 10'</td>
<td>8</td>
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<tr>
<td>351</td>
<td>Wood: 4'x8'x1/2&quot; 5 plywood</td>
<td>6</td>
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<tr>
<td>352</td>
<td>Wood: 4'x8'x3/4&quot;  Finn-Form Trenshore sheeting</td>
<td>8</td>
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<tr>
<td>353</td>
<td>Electric cord: 100', 12/3, 100 ft. Indoor, Outdoor Lighted Extension Cord; Max Amps: 15.0, Number of Outlets: 1, Black</td>
<td>2</td>
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<tr>
<td>354</td>
<td>Electric Cord: 50', 12/3, 50 ft. Indoor, Outdoor Lighted Extension Cord; Max Amps: 15.0, Number of Outlets: 1, Black</td>
<td>6</td>
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<tr>
<td>355</td>
<td>Electric Cord: 25', 14/3, 25 ft. Indoor, Outdoor Lighted Extension Cord; Max Amps: 15.0, Number of Outlets: 1, Black</td>
<td>6</td>
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<tr>
<td>356</td>
<td>6&quot; BLUE 8-HOUR SNAPLIGHT</td>
<td>1</td>
</tr>
<tr>
<td>357</td>
<td>6&quot; GREEN 12-HOUR SNAPLIGHT</td>
<td>1</td>
</tr>
<tr>
<td>358</td>
<td>6&quot; RED 12-HOUR SNAPLIGHT</td>
<td>1</td>
</tr>
<tr>
<td>359</td>
<td>6&quot; WHITE 8-HOUR SNAPLIGHT</td>
<td>1</td>
</tr>
<tr>
<td>360</td>
<td>6&quot; YELLOW 12-HOUR SNAPLIGHT</td>
<td>1</td>
</tr>
<tr>
<td>361</td>
<td>Paint: Solvent-Base Precision Line Marking Paint, Alert Orange/APWA Orange, 17 oz.</td>
<td>18</td>
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<tr>
<td>362</td>
<td>1/2&quot; BLUE/WHI STATIC-PRO LIFELINE ROPE 20 FT</td>
<td>2</td>
</tr>
<tr>
<td>363</td>
<td>1/2&quot; YEL/ WHI STATIC-PRO LIFELINE 20 FT</td>
<td>4</td>
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<tr>
<td>364</td>
<td>1/2&quot; BLUE/WHI STATIC-PRO LIFELINE ROPE 75 FT</td>
<td>1</td>
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<tr>
<td>365</td>
<td>1/2&quot; YEL/ WHI STATIC-PRO LIFELINE 75 FT</td>
<td>1</td>
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<tr>
<td>366</td>
<td>1/2&quot; RED/WHITE STATIC-PRO LIFELINE 200 FT</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Bracket</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------</td>
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</tr>
<tr>
<td>367</td>
<td>1/2&quot; RED/WHITE STATIC-PRO LIFELINE 400 FT</td>
<td>281203 CMC</td>
</tr>
<tr>
<td>368</td>
<td>1/2&quot; RED/WHITE STATIC-PRO LIFELINE 600 FT</td>
<td>281203 CMC</td>
</tr>
<tr>
<td>369</td>
<td>1/2&quot; ORA/WHI STATIC-PRO LIFELINE 200FT</td>
<td>281201 CMC</td>
</tr>
<tr>
<td>370</td>
<td>1/2&quot; ORA/WHI STATIC-PRO LIFELINE 400FT</td>
<td>281201 CMC</td>
</tr>
<tr>
<td>371</td>
<td>1/2&quot; ORA/WHI STATIC-PRO LIFELINE 600FT</td>
<td>281201 CMC</td>
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<tr>
<td>372</td>
<td>ORA #1 ROPE BAG</td>
<td>430101 CMC</td>
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<tr>
<td>373</td>
<td>ORA #4 RESCUE ROPE BAG</td>
<td>430401 CMC</td>
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<tr>
<td>374</td>
<td>ORA #6 ROPE BAG</td>
<td>430601 CMC</td>
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<tr>
<td>375</td>
<td>ORA #2 ROPE BAG</td>
<td>430201 CMC</td>
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<tr>
<td>376</td>
<td>SMA BLUE PROSERIES ANCHOR STRAP</td>
<td>201022 CMC</td>
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<tr>
<td>377</td>
<td>MED BLUE PROSERIES ANCHOR STRAP</td>
<td>201023 CMC</td>
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<tr>
<td>378</td>
<td>BLUE PROSERIES 3'-7' VARIABLE ANCHOR STRAP</td>
<td>201020 CMC</td>
</tr>
<tr>
<td>379</td>
<td>PROSERIES LOAD RELEASE STRAP</td>
<td>201108 CMC</td>
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<td>380</td>
<td>PROSERIES PICK OFF STRAP</td>
<td>201106 CMC</td>
</tr>
<tr>
<td>381</td>
<td>PRUSIK SEWN LOOP, GRE 8MM, LONG</td>
<td>293086 CMC</td>
</tr>
<tr>
<td>382</td>
<td>PRUSIK SEWN LOOP, RED 8MM, SHRT</td>
<td>293083 CMC</td>
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<tr>
<td>383</td>
<td>RED ASCENDER</td>
<td>341103 CMC</td>
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<tr>
<td>384</td>
<td>RESCUE RACK</td>
<td>300890 CMC</td>
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<tr>
<td>385</td>
<td>ALUMINUM RESCUE 8 WITH EARS</td>
<td>300840 CMC</td>
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<tr>
<td>386</td>
<td>BLUE ALUMINUM ANCHOR PLATE</td>
<td>300610 CMC</td>
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<td>387</td>
<td>2-1/4&quot;X1/2&quot; GRE SINGLE HD2 PULLEY</td>
<td>300441 CMC</td>
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<td>388</td>
<td>DOUBLE ALUM SWIVEL PULLEY GENERAL USE</td>
<td>300432 CMC</td>
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<td>389</td>
<td>SINGLE SS PMP SWIVEL PULLEY GENERAL USE</td>
<td>300430 CMC</td>
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<td>390</td>
<td>1&quot; GRE TUBULAR WEBBING 5 FT</td>
<td>200106 CMC</td>
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<tr>
<td>391</td>
<td>1&quot; YELLOW TUBULAR WEBBING, 12 FT</td>
<td>200107 CMC</td>
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<td>392</td>
<td>1&quot; BLUE TUBULAR WEBBING 15 FT</td>
<td>200102 CMC</td>
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<td>393</td>
<td>1&quot; ORA TUBULAR WEBBING 20 FT</td>
<td>200101 CMC</td>
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<td>394</td>
<td>1&quot; BLA TUBULAR WEBBING 6.5 FT</td>
<td>200105 CMC</td>
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<td>395</td>
<td>PROSERIES BRITE ALU SCREW-LOCK D CARABINER</td>
<td>300221 CMC</td>
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<tr>
<td>396</td>
<td>RED MPD ROPE RESCUE SYSTEM, FOR 13MM ROPE SIZE</td>
<td>333000 CMC</td>
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<td>397</td>
<td>RED RIGTECH PACK</td>
<td>441103 CMC</td>
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<td>398</td>
<td>16X10&quot; ULTRA PRO 4 EDGE PROTECTOR</td>
<td>294044 CMC</td>
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<td>399</td>
<td>ENFORCER LOAD CELL KIT UL CERTIFIED TO NFPA</td>
<td>300750 CMC</td>
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<td>Item</td>
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<tr>
<td>400</td>
<td>RESCUE SPEC PAK PATIENT EXTRICATION SYSTEM</td>
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<td>401</td>
<td>SYSTEM LIFTING BRIDLESPEC PAK</td>
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<td>402</td>
<td>SKED BASIC RESCUE SYSTEM ORANGE WITH COBRA BUCKLES</td>
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<td>403</td>
<td>STRETCHER CMC PROSERIES SS, TAPERED</td>
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<td>404</td>
<td>FERNO FASTRAP QUICK RESTRAINT SYSTEM</td>
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<td>405</td>
<td>PATIENT TIE-IN SYSTEM PELVIS HARNESS</td>
<td>2</td>
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<td>406</td>
<td>PROSERIES LIFESAVER VICTIM CHEST HARNESS</td>
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<td>407</td>
<td>PROSERIES LIFESAVER VICTIM HARNESS</td>
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<tr>
<td>408</td>
<td>Line Gun</td>
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<td>409</td>
<td>ASCENTION, LEFT</td>
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<tr>
<td>410</td>
<td>ASCENTION, RIGHT</td>
<td>2</td>
</tr>
<tr>
<td>411</td>
<td>LITE ALLOY STEEL LOCKING D CARABINER</td>
<td>40</td>
</tr>
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<td>412</td>
<td>KOOTENAY KNOT-PASSING PULLEY</td>
<td>4</td>
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<td>413</td>
<td>ACCESS PULLEY SYSTEM, CONSISTING OF: 7/16&quot; 1X200' STATIC-PRO LIFELINE * 1ea. ACCESS PULLEY * 1ea. ACCESS DOUBLE PULLEY * 2ea. PROSERIES ALUM MANUAL-LOCK CARABINER * 1ea. #2 ROPE BAG</td>
<td>1</td>
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<tr>
<td>414</td>
<td>SYSTEM AZTEK PROSERIES</td>
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<td>415</td>
<td>0.25&quot; REPLACEMENT AZTEK QUICK RELEASE PIN</td>
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<td>416</td>
<td>MULTI-UNIT EDGE ROLLER, MEDIUM, 3 UNITS, 8.25&quot;L X 26.5&quot;W</td>
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<td>417</td>
<td>SAND/SLATE RESCUE SWIVEL</td>
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<td>418</td>
<td>PROSERIES SWIVEL</td>
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<td>419</td>
<td>ROCK EXOTICA AZ VORTEX TRIPOD</td>
<td>CONSISTING OF:</td>
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<tr>
<td></td>
<td>.1 ea HEAD SET</td>
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</tr>
<tr>
<td></td>
<td>.3 ea UPPER LEGS</td>
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</tr>
<tr>
<td></td>
<td>.7 ea LOWER LEGS</td>
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</tr>
<tr>
<td></td>
<td>.3 ea RAPTOR FEET</td>
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</tr>
<tr>
<td></td>
<td>.3 ea FLAT FEET</td>
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<tr>
<td></td>
<td>.1 ea HEAD SET PULLEY WHEEL</td>
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<tr>
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<td>.4 ea HEAD PINS</td>
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<td>.11 ea LEG PINS</td>
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<td>.1 ea HEAD BAG</td>
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<td></td>
<td>.4 ea LEG BAGS</td>
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<tr>
<td></td>
<td>.1 ea PIN BAG</td>
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<tr>
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<td>.15 ea PIN FLAGS</td>
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<td></td>
<td>.1 EA 40FT X 8MM CORD</td>
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<td></td>
<td>INSTRUCTION MANUAL</td>
<td>727300 CMC</td>
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<td>420</td>
<td>AZ VORTEX HEAD SET PULLEY WHEEL</td>
<td>727090 CMC</td>
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<td>421</td>
<td>AZORP KIT ARIZONAVORTEX</td>
<td>727400 CMC</td>
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<td>422</td>
<td>QUICK RELEASE PIN</td>
<td>727501 CMC</td>
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<tr>
<td>423</td>
<td>RED RESCUE ETRIER WITH TIE-IN, 60” LONG</td>
<td>201132 CMC</td>
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<td>424</td>
<td>SMA BASIC ROPE ACCESS HARNESS</td>
<td>3875 YATES</td>
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<td>425</td>
<td>MED BASIC ROPE ACCESS HARNESS</td>
<td>387M YATES</td>
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<td>426</td>
<td>LAR BASIC ROPE ACCESS HARNESS</td>
<td>387L YATES</td>
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<td>427</td>
<td>XLAR BASIC ROPE ACCESS HARNESS</td>
<td>387XL YATES</td>
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<td>428</td>
<td>CHEST ASCENDER EVO</td>
<td>343040 CMC</td>
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<td>429</td>
<td>8.75” ASCENDER LOOP</td>
<td>201986 CMC</td>
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<tr>
<td>430</td>
<td>9.5mm SEMI-CIRCULAR SCREW LINK, GALV. STEEL</td>
<td>HD26061 PMI</td>
</tr>
<tr>
<td>431</td>
<td>Breakout Rope Bag</td>
<td><a href="http://www.andersonrescue.com">www.andersonrescue.com</a></td>
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<td>432</td>
<td>Breakout Rope Bag</td>
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<tr>
<td>436</td>
<td>RED SHASTA GEAR BAG</td>
<td>440403 CMC</td>
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<td>437</td>
<td>SMA NVY Lassen Duffel Bag</td>
<td>440222 CMC</td>
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<td>438</td>
<td>SMA Red Lassen Duffel Bag</td>
<td>440223 CMC</td>
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<td>439</td>
<td>MED Red Lassen Duffel Bag</td>
<td>440233 CMC</td>
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<tr>
<td>440</td>
<td>SS 1/2” bolt hanger</td>
<td><a href="http://www.fixe.com">www.fixe.com</a></td>
</tr>
<tr>
<td>441</td>
<td>SS 1/2” ring anchor</td>
<td><a href="http://www.fixe.com">www.fixe.com</a></td>
</tr>
<tr>
<td>442</td>
<td>Red Head wedge anchors</td>
<td>1/2x5 1/2 Steel hex head <a href="http://www.homedepot.com">www.homedepot.com</a></td>
</tr>
<tr>
<td>443</td>
<td>Female dropped forged eye nut</td>
<td><a href="http://www.fastenal.com">www.fastenal.com</a></td>
</tr>
<tr>
<td>444</td>
<td>SPEC PAK SPREADER BAR</td>
<td>905SPREADER YATES</td>
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<td>445</td>
<td>BLACK MEDIUM CASE</td>
<td>1520B PELICAN</td>
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<tr>
<td>446</td>
<td>SURECLIP</td>
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<tr>
<td>447</td>
<td>PROSERIES XL RED ALU AUTO-LOCKING D CARABINE</td>
<td>6</td>
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<tr>
<td>448</td>
<td>AZTEK Elite Tactical System</td>
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<td>449</td>
<td>COYOTE AZTEK PACK</td>
<td>1</td>
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<td>450</td>
<td>LAR RED PETZL I'D SELF-BRAKING DESCENDER</td>
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<tr>
<td>451</td>
<td>Exponent Waterproof Jacket - Black XL</td>
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<td>452</td>
<td>Exponent Waterproof Jacket - Black L</td>
<td>4</td>
</tr>
<tr>
<td>453</td>
<td>Exponent Waterproof Pants - Black XXL</td>
<td>2</td>
</tr>
<tr>
<td>454</td>
<td>Exponent Waterproof Pants - Black XL</td>
<td>4</td>
</tr>
<tr>
<td>455</td>
<td>Exponent Waterproof Pants - Black L</td>
<td>2</td>
</tr>
<tr>
<td>456</td>
<td>1&quot; X 2' NYLON WEB LANYARD WITH DOUBLE LOCKING SNAP EACH END AND SHOCK-ABSORBING PACK 1 END</td>
<td>4</td>
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<tr>
<td>457</td>
<td>6' ADJ. SHOCK LANYARD WITH (2) 2.5&quot; STEEL LADDER HOOKS, BLACK WEBBING</td>
<td>4</td>
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<tr>
<td>458</td>
<td>Snap Hook</td>
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<td>459</td>
<td>Rope Grab</td>
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<td>460</td>
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<tr>
<td>461</td>
<td>Cable Grab</td>
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<td>K9 PROSERIES RAPPEL HARNESS</td>
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<td>DOUBLE RESCUE PULLEY</td>
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<td>466</td>
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<td>2XLARGE/REG FLUORESCENT YELLOWGREEN/BLACK SENTINEL WATER RESCUE DRY SUIT WITH ADJUSTABLE NECK SEAL</td>
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<td>Inflatable Raft/ NRS Otter self bailing</td>
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<td>Paddle /NRS</td>
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<td>MEDIUM CHARCOAL HEATHER NRS EXPEDITION UNION SUIT</td>
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<td>Wetsuit Hood - Oneil 1.5 mm</td>
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<td>Drysuit Liner - NRS</td>
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<td>NRS - ALL-TERRAIN BOOTIES IN THE FOLLOWING QUANTITIES &amp; SIZES: (2) 9 (2) 10 (4) 11 (4) 12 (4) 13 (2) 14</td>
<td>BO8800 RESC SRC</td>
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<td>80-EOS-II-MPLS-BK TEAM WENDY</td>
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<td>ORA FOX 40 WHISTLE</td>
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<td>PRINCETON TEC MERIDIAN STROBE LIGHT</td>
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<td>ORANGE NRS PILOT KNIFE</td>
<td>47300.02.101 NRS</td>
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<td>RQ3 STANDARD THROWBAG WITH 75’ OF 3/8” MAX-GRIP ROPE</td>
<td>BG3124 RESC SOURCE</td>
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<td>484</td>
<td>Diving Mask</td>
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<td>ASTRAL RESCUE PERSONAL FLOTATION DEVICE, RED M/L</td>
<td>40078.07.102 NRS</td>
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<td>ASTRAL RESCUE PERSONAL FLOTATION DEVICE, RED L/XL</td>
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<td>RED/BLACK RQ3 PPE EQUIPMENT DUFFEL, 30”x16”x16”</td>
<td>BG3500 RESC SRC</td>
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<td>BLACK RQ3 WET/DRY DUFFEL</td>
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<td>LARGE AQUAPAC WATERPF RADIO CASE</td>
<td>BG1420L RESC SOURCE</td>
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<td>RIVER X RESCUE BOARD, OVERSIZE</td>
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<td>Mobile Air Cart (Scott Safety)</td>
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<td>8” AC PLASTIC COMPAXIAL BLOWER SYSTEM W/ 8” MVP</td>
<td>952033M ALLEGRO</td>
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<td>12&quot; Strut Extension</td>
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<td>36&quot; Strut Extension</td>
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<td>6&quot; Square Swivel Base</td>
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<td>Dual Deadman Strut Controller G2 250 PSI / 17.2 Bar</td>
<td>22796103G2 PARA</td>
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<td>4x4&quot; Channel Base</td>
<td>22796134 PARA</td>
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<td>515</td>
<td>6x6&quot; Hinged Base Plate With Anchor Ring</td>
<td>22796150 PARA</td>
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<td>Tie Down Keys With J-Hook</td>
<td>22796161 PARA</td>
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<td>517</td>
<td>12x12&quot; Hinged Base With Anchor Ring</td>
<td>22796180C PARA</td>
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<td>518</td>
<td>Bipod Base</td>
<td>22796180E PARA</td>
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<td>519</td>
<td>25-36&quot; Acme Thread Rescue Strut</td>
<td>22796200 PARA</td>
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<td>37-58&quot; Acme Thread Rescue Strut</td>
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<td>19-25&quot; Acme Thread Rescue Strut</td>
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<td>12-15&quot; Acme Thread Rescue Strut</td>
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<td>Convex Multi Base</td>
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<td>72-116&quot; Acme Thread Long Shore Rescue Strut</td>
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<td>Shoring Hammer</td>
<td>22796430 PARA</td>
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<td>Bipod head</td>
<td>22796820 PARA</td>
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<td>Grade 100 Chain 20 FT</td>
<td>22796C1H PARA</td>
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<td>Hydrafusion Strut 16 Kit</td>
<td>2279HA16K PARA</td>
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<td>Trench Cushion 18in/3.25 Ton Capacity</td>
<td>22887060 PARA</td>
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<td>530</td>
<td>Single cushion Controller 7.25 psi</td>
<td>22887310 PARA</td>
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<td>1&quot;x20&quot; Red Air Hose W/ Q.D.</td>
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<td>1&quot;x20&quot; Blue Air Hose W/ Q.D.</td>
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<td>3/8&quot; 16&quot; BLA Hose W/ CPLGS</td>
<td>22890513 PARA</td>
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<td>3/8&quot; 32' YEL Hose W/ CPLGS</td>
<td>22890520 PARA</td>
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<td>3/8&quot; 32' Red Hose W/ CPLGS</td>
<td>22890521 PARA</td>
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<td>536</td>
<td>27' Ratchet Belt With Finger Hooks</td>
<td>22890553 PARA</td>
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<td>Y 2-Para Coupling X Maxiforce Nipple</td>
<td>22890736 PARA</td>
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<td>538</td>
<td>6000-3000# Pressure Regulator</td>
<td>22895400G2 PARA</td>
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<td>All Terrain 2-Strap Knee Pads, Black/Red, Universal</td>
<td>86500 IMPACO</td>
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<td>Elbow Pads</td>
<td>7104 Allegro</td>
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<td>541</td>
<td>Plastic Black Whistle With Lanyard</td>
<td>83045SR Spalding</td>
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LOOSE EQUIPMENT INSTALLATION
A loose equipment mounting allowance of $20,000.00 is included in the bid price to cover the cost of mounting the applicable equipment per the direction of the City of Sacramento. If the City of Sacramento exceeds the loose equipment mounting allowance, additional work can be performed at an additional cost of $115.00 per hour.

PAINT - BODY PAINTED TO MATCH CAB
The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.

3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. **Finish Sanding** - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.

5. **Sealer Primer** - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

6. **Basecoat Paint** - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

7. **Clear Coat** - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacture.

Each batch of basecoat color is checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment is used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading is used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

Pierce Manufacturing paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) meet or exceed the Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels meet or exceed the #6 A.C.T. standard in critical areas. These requirements are met in order for the exterior paint finish to be considered acceptable. The Pierce Manufacturing written paint standards will be available upon request.

The cab will be two-tone, with the roof section painted #20 White and lower section of the cab and body painted #356 RED.

**PAINT - ENVIRONMENTAL IMPACT**
Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
• Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
• Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
• Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient.
• Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
• Paint wastes are disposed of in an environmentally safe manner.
• Empty metal paint containers will be to recover the metal.
• Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

**PAINT CHASSIS FRAME ASSEMBLY**

The chassis frame assembly will be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted are:

• Frame rails
• Frame liners
• Cross members
• Axles
• Suspensions
• Steering gear
• Battery boxes
• Bumper extension weldment
• Frame extensions
• Body mounting angles
• Rear Body support substructure (front and rear)
• Pump house substructure
• Air tanks
• Fuel tank
• Castings
• Individual piece parts used in chassis and body assembly
Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

**HATCH COMPARTMENT HORIZONTAL COATING**

The top, horizontal surfaces of the rescue body hatch compartments will be coated with gray Safe-Stride® anti-slip coating. Only the top surface will be coated.

**PAINT AXLE ENDS**

The front and rear axle hubs will paint to match the primary exterior color of the apparatus. The color will be #356 RED.

**COMPARTMENT INTERIOR PAINT**

The compartment interior will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

**REFLECTIVE STRIPES**

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 4.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

The reflective band provided on the cab face will be below the headlights on the fiberglass.

**REAR CHEVRON STRIPING**

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the exterior rear wall. Rear compartment doors, entry doors, or walkway areas will not be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

**JOG(S) IN REFLECTIVE BAND**

The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately 45 degrees when installed.
REFLECTIVE STRIPE INSIDE EXTERIOR ACCESS CAB DOORS  
A 4.00" white reflective stripe will be provided inside two (2) cab doors. inside each EMS cabinet.

CAB DOOR REFLECTIVE STRIPE  
A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel.

This stripe will meet the NFPA 1901 requirement.

BODY STRIPE  
There shall be a genuine gold leaf stripe provided on each side of the body, over the fenders.

CAB STRIPE  
There will be a genuine gold leaf stripe on each side of the cab, low and over the fender.

GOLD LEAF LETTERING  
The lettering will be totally encapsulated between two (2) layers of clear vinyl.

Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.

REFLECTIVE LETTERING  
There will be reflective lettering, 6.00" high, with outline and shade provided. There will be six (6) letters provided.

There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be 15 letters provided.

There will be reflective lettering, 2.00" high, with outline and shade provided. There will be 14 letters provided.

Twenty-one (21) to forty (40) reflective lettering, 10.00" high, with outline and shade will be provided.

There will be reflective lettering, 8.00" high, with no outline or shade provided. There will be two (2) letters provided.

There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 24 letters provided.

There will be reflective lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.

There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be four (4) letters provided.
There will be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the R1. The lettering will be ruby red in color and 4.00" in size.

**VINYL LETTERING**
There will be non-reflective vinyl lettering, 9.00" high, with no outline or shade provided. There will be ten (10) letters provided.

There will be non-reflective vinyl lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.

Forty-one (41) to sixty (60) non-reflective vinyl lettering, 2.00" high, with no outline or shade will be provided.

**REFLECTIVE INSET LETTERING, "DIAL 911"**
Two sets of ruby red "inset" reflective lettering, "DIAL 911", will be supplied and installed inset in reflective band.

The reflective stripe will stop and "DIAL 911" will be placed within the break of the stripe.

"DIAL" will be vertical and as tall as the stripe. The "911" will be horizontal and as tall as the stripe.

**DEPT. EMBLEM**
There will be (1) one of vinyl emblem applied driver's side rear bulkhead. Emblems will be approximately 7.00" x 7.00" per graphics quote.

**DEPT. EMBLEM**
There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.

**CAB GRILLE DESIGN**
An American flag design will be painted on the cab grille.

**EAGLE HEAD/FLAG EMBLEMS**
A pair of emblems, 13.00" or less in diameter, featuring a "Flying American Flag" and an "Eagle Head", will be installed behind crew cab door upper 5x7 Freedom Flag. The design will be color imaged.

**MALTESE CROSS INSTALLATION**
There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed on cab doors.

**MANUAL, FIRE APPARATUS PARTS**
Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit.
One (1) compact disc (CD) will also be provided that will include all of the information from the above manual.

The manual will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate parts

The manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

**SERVICE PARTS INTERNET SITE**

The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

**MANUALS, CHASSIS SERVICE**

Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

The manuals will contain the following sections:

- Job number
- Table of contents
- Troubleshooting
- Front Axle/Suspension
- Brakes
- Engine
- Tires
- Wheels
- Cab
- Electrical, DC
CITY OF SACRAMENTO FIRE DEPARTMENT
Specifications one (1) Pierce Velocity Heavy Duty Rescue
January 16, 2018 (Quote Number 90116-18)

- Air Systems
- Plumbing
- Appendix

The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.

MANUALS, CHASSIS OPERATION
Two (2) chassis operation manuals will be provided.

One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.

ELECTRICAL WIRING DIAGRAMS
Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.

ONE (1) YEAR MATERIAL AND WORKMANSHIP
A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.

THREE (3) YEAR MATERIAL AND WORKMANSHIP
The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.

ENGINE WARRANTY
A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

STEERING GEAR WARRANTY
A Sheppard three (3) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.

FIFTY (50) YEAR STRUCTURAL INTEGRITY
The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.

FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY
The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.

REAR AXLE TWO (2) YEAR MATERIAL AND WORKMANSHIP WARRANTY
A Meritor axle limited warranty certificate, WA0046, is included with this proposal.

ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY
A Meritor Wabco™ABS brake system limited warranty certificate, WA0232, is included with this proposal.
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**TEN (10) YEAR STRUCTURAL INTEGRITY**
The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.

**TEN (10) YEAR PRO-RATED PAINT AND CORROSION**
A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.

**FIVE (5) YEAR MATERIAL AND WORKMANSHIP**
The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.

**CAMERA SYSTEM WARRANTY**
A Pierce fifty four (54) month warranty will be provided for the camera system.

**COMPARTMENT LIGHT WARRANTY**
The compartment lights will not offer an extended warranty.

**TRANSMISSION WARRANTY**
The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission.

Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.

**TRANSMISSION COOLER WARRANTY**
The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed $10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.

**FIFTEEN (15) YEAR STRUCTURAL INTEGRITY**
The Pierce heavy duty rescue apparatus body limited warranty certificate, WA0010, is included with this proposal.

**TEN (10) YEAR PRO-RATED PAINT AND CORROSION**
A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.

**THREE (3) YEAR MATERIAL AND WORKMANSHIP**
The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.
VEHICLE STABILITY CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

ENGINE INSTALLATION CERTIFICATION
The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

POWER STEERING CERTIFICATION
The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

CAB INTEGRITY CERTIFICATION
The fire apparatus manufacturer will provide a cab integrity certification with this proposal. The certification will state that the cab has been tested and certified by an independent third-party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state-licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below:

- European Occupant Protection Standard ECE Regulation No.29.
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.
- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Roof Crush
The cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of 10 metric tons.

Additional Roof Crush
The same cab will be subjected to a roof crush force of 100,000 lbs. This value exceeds the ECE 29 criteria by nearly 4.5 times.

Side Impact
The same cab will be subjected to dynamic preload where a 13,275 lb moving barrier slams into the side of the cab at 5.5 mph at a force of 13,000 ft-lbs. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.
Frontal Impact
The same cab will withstand a frontal impact of 32,600 ft-lbs of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact
The same cab will withstand a frontal impact of 65,200 ft-lbs of force using a moving barrier, (twice the force required by SAE J2420).

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

CAB DOOR DURABILITY CERTIFICATION
Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

WINDSHIELD WIPER DURABILITY CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

ELECTRIC WINDOW DURABILITY CERTIFICATION
Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.

SEAT BELT ANCHOR STRENGTH
Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.

SEAT MOUNTING STRENGTH
Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.
CAB DEFROSTER CERTIFICATION
Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

CAB HEATER CERTIFICATION
Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters will warm the cab 75°F from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

AMP DRAW REPORT
The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
  - The nameplate rating of the alternator.
  - The alternator rating under the conditions specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - The minimum continuous load of each component that is specified per:
    - Applicable NFPA 1901 or 1906 (Current Edition).
  - Additional loads that, when added to the minimum continuous load, determine the total connected load.
  - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

END OF PROPOSAL
# Fire and Rescue Apparatus

## One (1) Year Material and Workmanship

### Basic Apparatus

### Limited Warranty

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins</td>
<td>The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.</td>
</tr>
<tr>
<td>Warranty Period Ends After</td>
<td>Twelve (12) months.</td>
</tr>
<tr>
<td>Conditions and Exclusions</td>
<td>No specific exclusions apply</td>
</tr>
</tbody>
</table>

**1. LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories or of to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

**2. DISCLAIMERS OF WARRANTIES**

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

**3. BUYER’S EXCLUSIVE REMEDY.**

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

If the product fails to conform to the warranty set forth in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREAch OF WARRANTY.

**4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.**

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

**Note:** Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0008
Fire and Rescue Apparatus
Fifteen (15) Year Structural Integrity
Heavy Duty Rescue Body
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>The apparatus body shall be free from structural failures caused by defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Fifteen (15) Years - or - 100,000 Miles</td>
</tr>
</tbody>
</table>

Conditions and Exclusions:

This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis components or parts, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. This remedy shall be the exclusive and sole remedy for any breach of warranty.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, in no event shall Pierce be liable for any consequential, incidental, special, indirect, or punitive damages whatsoever, whether arising out of breach of contract, warranty, tort (including negligence and strict liability) or other theory of law or equity, with respect to vehicles or other products sold by Pierce, or their operation or failure to operate, or any defects therein, or any undertakings, acts or omissions related thereto, regardless of whether Pierce has been informed of the possibility of any such damages. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Custom Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period</td>
<td>Ten (10) Years - or - 100,000 Miles</td>
</tr>
<tr>
<td>Ends After:</td>
<td></td>
</tr>
</tbody>
</table>

Conditions and Exclusions:

This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus.

This warranty does not apply to damage caused by corrosion.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

5. NOTE

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

2/8/2010 WA0012
Fire and Rescue Apparatus

Five (5) Year Material and Workmanship

Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

| Coverage: | Command Zone control modules shall be free from failures caused by defects in material and workmanship |
| Warranty Begins: | The date of the original purchase invoice (issued when the product ships from the factory). |
| Warranty Period Ends After: | Five (5) Years |

Conditions and Exclusions:

This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

See Also Paragraphs 2 thru 4

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

2. DISCLAIMERS OF WARRANTIES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

3. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
## Three (3) Year Material and Workmanship

### Goldstar® Gold Leaf Lamination

#### Limited Warranty

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Years</td>
</tr>
</tbody>
</table>

#### Conditions and Exclusions:

This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

2. DISCLAIMERS OF WARRANTIES

The warranty set forth in Paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to, engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/22/2010 WA0018
# Fire and Rescue Apparatus

## Lifetime Fifty (50) Year Structural Integrity

### Chassis Frame & Crossmembers

## Limited Warranty

### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Custom chassis frame and cross members manufactured by Pierce shall be free from defects in material and workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory)</td>
</tr>
<tr>
<td>Warranty Period Ends After</td>
<td>Fifty (50) Years (Expected Life of Apparatus)</td>
</tr>
</tbody>
</table>

### Conditions and Exclusions:

- This warranty does not apply to damage caused by corrosion.
- This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. This LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

### 2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

### 3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof.
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs.

Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 5. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
## Three (3) Year Material and Workmanship
### TAK-4 Independent Front Suspension

#### Limited Warranty

1. **LIMITED WARRANTY**

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Years -or- 30,000 Miles</td>
</tr>
</tbody>
</table>

**Conditions and Exclusions:**

This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

**Get Also Paragraphs 2 thru 4**

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### DISCLAIMERS OF WARRANTIES

- **THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.**

### 3. BUYER’S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
# Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

## Coverage:

Exterior surfaces of the cab painted by Pierce shall be free from blistersing, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.

## Warranty Begins:

The date of the original purchase invoice (issued when the product ships from the factory).

## Warranty Period Ends After:

Ten (10) Years

This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:

- **Topcoat Durability & Appearance:** Gloss, Color Retention & Cracking
  - 0-72 months 100%
  - 73-96 months 50%
  - 97-120 months 25%

- **Integrity of Coating System:** Adhesion, Blistering/Bubbling
  - 0-36 months 100%
  - 37-84 months 50%
  - 85-120 months 25%

- **Corrosion:** Dissimilar Metal and Crevice
  - 0-36 months 100%
  - 37-48 months 50%
  - 49-72 months 25%
  - 73-120 months 10%

- **Corrosion Perforation**
  - 0-120 months 100%

This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

- Items not covered by this warranty include:
  - (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
  - (b) UV paint fade.
  - (c) Any cab not manufactured by Pierce.

- (d) Products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

## 2. Disclaimers of WARRANTIES

**The Warranty set forth in Paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby DISCLAIMS and EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.**

## 3. Buyer's Exclusive Remedy

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

## 4. Exclusion of CONSEQUENTIAL and INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
# Fire and Rescue Apparatus

## Ten (10) Year Pro-Rated Paint and Corrosion

### Custom Body

#### Limited Warranty

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After</td>
<td>Ten (10) Years</td>
</tr>
</tbody>
</table>

### Conditions and Exclusions:

- **Topcoat Durability & Appearance:** Gloss, Color Retention & Cracking
  - 0-72 months 100%
  - 73-96 months 50%
  - 97-120 months 25%

- **Integrity of Coating System:** Adhesion, Blistering/Bubbling
  - 0-36 months 100%
  - 37-84 months 50%
  - 85-120 months 25%

- **Corrosion:** Dissimilar Metal and Crevice
  - 0-36 months 100%
  - 37-48 months 50%
  - 49-72 months 25%
  - 73-120 months 10%

- **Corrosion Perforation**
  - 0-120 months 100%

This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.

### Items not covered by this warranty:

- (a) Damage from lack of maintenance and cleaning (property cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).
- (b) UV paint fade.
- (c) Any cab not manufactured by Pierce.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Cummins Warranty
Worldwide
Fire Apparatus/Crash Trucks
Coverage

Products Warranted
This Warranty applies to new diesel Engines sold by Cummins and delivered to the first user on or after April 1, 2007, that are used in fire apparatus truck and crash truck* applications Worldwide.

Base Engine Warranty
The Base Engine Warranty covers any failures of the Engine which result, under normal use and service, from a defect in material or factory workmanship (Warrantable Failure). This Coverage begins with the sale of the Engine by Cummins and ends five years or 100,000 miles (160,935 kilometers), whichever occurs first, after the date of delivery of the Engine to the first user.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.

Owner Responsibilities

Owner is responsible for the operation and maintenance of the Engine as specified in Cummins Operation and Maintenance Manuals. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Except for Engines disabled by a Warrantable Failure, Owner must also deliver the Engine to the repair facility.

Service locations are listed on the Cummins Worldwide Service Locator at cummins.com.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs and for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

Owner is responsible for a $100 (U.S. Dollars) deductible per each service visit under this plan in the 3rd, 4th and 5th years of Base Engine Warranty. The deductible will not be charged during the first 2 years of the Base Engine Warranty.

Limitations

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel...
exhaust fluid.
This Warranty does not apply to accessories supplied by Cummins which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans, air conditioning compressors, clutches, filters, transmissions, torque converters, vacuum pumps, power steering pumps, fan drives and air compressors. Cummins branded alternators and starters are covered for the first two years from the date of delivery of the Engine to the first user, or the expiration of the Base Engine Warranty, whichever occurs first.
Failures resulting in excessive oil consumption are not covered beyond the duration of the Coverage or 100,000 miles (160,935 kilometers) or 7,000 hours from the date of delivery of the Engine to the first user, whichever of the three occurs first. Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.
Failures of belts and hoses supplied by Cummins are not covered beyond the first year from the date of delivery of the Engine to the first user or the duration of the Warranty, whichever occurs first.
Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.
A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.
Cummins Inc. reserves the right to interrogate Electronic Control Module (ECM) data for purposes of failure analysis.
CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.
CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.
THIS WARRANTY AND THE EMISSION WARRANTY SET FORTH HEREINAFTER ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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Emission Warranty

Products Warranted
This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States** in vehicles designed for transporting persons or property on a street or highway. This Warranty applies to Engines delivered to the first user on or after September 1, 1992.

Coverage
Cummins warrants to the first user and each subsequent purchaser that the Engine is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. federal emission regulations applicable at the time of manufacture and that it is free from defects in material or factory workmanship which would cause it not to meet these regulations within the longer of the following periods: (A) Five years or 100,000 miles (160,935 kilometers) of operation, whichever occurs first, as measured from the date of delivery of the Engine to the first user or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

Limitations
Failures, other than those resulting from defects in material or factory workmanship, are not covered by this Warranty.
Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.
Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.
Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.
Cummins is not responsible for non-Engine repairs, “downtime” expenses, cargo damage, fines, all applicable taxes, all business costs or other losses resulting from a Warrantable Failure.
CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

* Airport operated crash trucks and fire department operated trucks employed to respond to fires, hazardous material releases, rescue and other emergency-type situations.

** United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.
NEW PRODUCT WARRANTY

PARTICIPATING OEM SALES
DISTRIBUTOR SALES

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS
USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- **WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- **REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission’s option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- **TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- **PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section “APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE.”
- **OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- **TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- **WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

  **Demonstration Service** - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

<table>
<thead>
<tr>
<th>APPLICABLE MODELS</th>
<th>WARRANTY LIMITATIONS (Whichever occurs first)</th>
<th>ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Months</td>
<td>Transmission Miles Or Kilometers</td>
</tr>
<tr>
<td>MT, MD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000, 3200, 3500, 3700</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Hydraulic Controls</td>
<td>0–24</td>
<td>No Limit</td>
</tr>
<tr>
<td>AT, 1000 Series™, 2000 Series™, 2400 Series™</td>
<td>0–36</td>
<td>No Limit</td>
</tr>
<tr>
<td>HT with Electronic Controls</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
<tr>
<td>HD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000 EVS, 2100 EVS, 2200 EVS, 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS</td>
<td>0–60</td>
<td>No Limit</td>
</tr>
</tbody>
</table>
WHAT IS NOT COVERED

• DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION — Defects and damage caused as the result of any of the following are not covered:
  — Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
  — Misuse of the vehicle;
  — Installation into unapproved applications and installations;
  — Alterations or modification of the transmission or the vehicle, and
  — Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
  — Anything other than defects in Allison Transmission material or workmanship

NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

• CHASSIS, BODY, and COMPONENTS — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).

• DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR’S MANUAL — Defects and damage caused by any of the following are not covered:
  — Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
  — Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator’s Manual.

• MAINTENANCE — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner’s responsibility.

• REPAIRS by UNAUTHORIZED DEALERS — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.

• USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.

• EXTRA EXPENSES — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.

• “DENIED PARTY” OWNERSHIP — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a “denied party” or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

** Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9

Form SE0616EN (201009)
Fire and Rescue Apparatus

54 Months Material and Workmanship

Camera System

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

| Coverage: | This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period. |
| Warranty Begins: | The date of delivery. |
| Warranty Period Ends After: | Fifty - Four (54) months |

Conditions and Exclusions:

This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

See Also Paragraphs 2 thru 4

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. This LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1 and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
LIMITED WARRANTY: The R. H. Sheppard Co. Inc., ("Sheppard") warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. ("Pierce") for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty SHALL NOT APPLY AND SHALL BE VOID. SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT. Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

REMEDIES: The sole and exclusive remedy of Pierce for Sheppard's breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:
Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free “Hotline” service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free “Hotline” for approval before product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PKG1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PKG1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce’s purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard’s determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty should not be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of $85.00 USD per hour for M110PKG1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PKG1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce’s discretion.
**Outside Purchases:** Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

**Warranty Documentation:** Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

**Parts Retention:** Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard’s determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

**Good-Will Requests:** Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

**RECALLS:** Sheppard retains the right to review information regarding federal motor vehicle recall and/or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be non-compliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

**MISCELLANEOUS:** This writing constitutes the full complete and final statement of Sheppard’s limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard’s failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.
Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

**COOPERATIVE EFFORT:** Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in-service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

**AGREEMENT:** This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of ______________, 2006.

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**R. H. SHEPPARD CO., INC.**

Authorized Signature

Title

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**PIERCE MANUFACTURING INC.**

Authorized Signature

Title
## Limited Warranty

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

### Coverage:

The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to $10,000 per occurrence is available for the first three (3) years.

### Warranty Begins:

The date of delivery to the first retail purchaser.

### Warranty Period Ends After:

Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage.

### Conditions and Exclusions:

This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.

This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.

Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.

Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization.

Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of $700 to remove, replace, or repair the oil cooler.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### Exclusions:

- This warranty does not cover repair or replacement due to manufacturer, assembly, or installation defects.
- This warranty does not cover defects caused by misuse, negligence, alteration, or repair performed by unauthorized persons.
- This warranty does not cover defects caused by use in不符合 Pierce’s recommendations.
- This warranty does not cover defects caused by use in不符合 Pierce’s recommendations.
- This warranty does not cover defects caused by use in不符合 Pierce’s recommendations.

### Disclaimers of Warranties

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### Buyers' Exclusive Remedy

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### Exclusion of Consequential and Incidental Damages

Notwithstanding anything to the contrary herein, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
## Three (3) Year Material and Workmanship

### Meritor Wabco ABS Brake System Limited Warranty

#### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Three (3) Year</td>
</tr>
<tr>
<td>Conditions and Exclusions:</td>
<td>The exclusions listed in the attached Meritor Wabco warranty description shall apply.</td>
</tr>
</tbody>
</table>

The limited warranty shall apply only if the product is properly maintained in accordance with Pierce’s maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period.

### Exclusions:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

### 2. DISCLAIMERS OF WARRANTIES

The warranty set forth in paragraph 1 is the sole and exclusive warranty given by Pierce. Pierce hereby disclaims and excludes all other warranties, whether express, implied or statutory, including without limitation any warranty of merchantability, any warranty of fitness for a particular purpose, and any warranties arising from course of dealing or usage of trade.

### 3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

### 4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary hereinafter or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
WARRANTY / MODEL
YEAR 2013 VEHICLES
WARRANTY INFORMATION CONTENTS

Effective Model Year 2013 Vehicles

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How to Read Warranty Coverage

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

Models or components that are approved for use by Meritor’s vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).
**HEAVY SERVICE WARRANTY INFORMATION**

### HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Motor Home
- National Guard
- Oil Field
- Oil Spill/Emergency Response
- Offshore/Comline
- On/Off Road Vocations
- Oil Field Truck
- Overhead Crane
- Utility Crane/ boom Truck
- Rear Loader
- Recycling Truck
- Residential Pick-Up
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

### HEAVY SERVICE TYPICALLY IS

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

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**FRONT DRIVE/NON-DRIVE STEER AXLES – 2/UNL/P&L**

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**CLUTCHES**

- 15.5” HD Clutch\(^1\)
- 15.5” TwinXTend
- 17” FreedomLine Clutch

\(^1\) Products with an in-service date prior to 11/01/02 warranted by Meritor Clutch Company.

**DRIVELINES – 1/UNL/P&L**

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<td>RC-23-160</td>
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<td>RS-26-185/380</td>
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<td>RS-26-185/380</td>
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**REAR DRIVE SINGLE AXLES – 2/UNL/P&L**

- Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.
## Off-Highway Service Warranty Information

### Industrial and Off-Highway Service Vehicles
- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

### Industrial and Off-Highway Service Typically Is
- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

### Drive Steer Axles – 1/UNL/P
<table>
<thead>
<tr>
<th>MOR</th>
<th>MOX</th>
<th>MOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF - 941</td>
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### Front Non-Drive Steer Axles – 1/UNL/P
<table>
<thead>
<tr>
<th>MOR</th>
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<tbody>
<tr>
<td>FF - 941</td>
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<td>FL - 941</td>
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</tr>
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### Planetary Axles – 1/UNL/P
<table>
<thead>
<tr>
<th>MOR</th>
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<th>MOT</th>
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<tr>
<td>FL - 941</td>
<td>MFS-16-122A-N</td>
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<td></td>
</tr>
</tbody>
</table>

### Rear Drive Single Axles – 1/UNL/P
| RS-23-186 | MS-30-616 | MS-35-380 |
| RS-23-380 | RS-30-185 | |
| RS-24-160 | RS-30-380 | |

### Drivelines – 1/UNL/P
<table>
<thead>
<tr>
<th>RPL</th>
<th>RN</th>
<th>MXL</th>
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<tbody>
<tr>
<td>MT-44-14X/P</td>
<td>MT-70-380</td>
<td>RT-46-164EH/P</td>
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<tr>
<td>MT-52-616</td>
<td>RT-44-145/P</td>
<td>RT-50-160/P</td>
</tr>
<tr>
<td>MT-58-616</td>
<td>RT-46-160/P</td>
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</tr>
</tbody>
</table>

### Rear Drive Tandem Axles – 1/UNL/P
| MT-44-14X/P | MT-70-380 | RT-46-164EH/P |
| MT-52-616 | RT-44-145/P | RT-50-160/P |
| MT-58-616 | RT-46-160/P | |

### Brake Components
- Cam P
- Cam Q Plus™
- ASA
- Hubs/Cast Drums and Other Wheel-end Components
- Hydraulic Disc Brakes
- All Other Brakes
- LX500 Feature[^1]

[^1]: Includes: bushing, seal, cam and ASA.

[^2]: Based on stamped wear diameter max.

### Meritor Wabco Components[^1]
- ABS (Anti-Lock Braking System) Air/Hydraulic: 3/300/P&L
- Air Dryers (ALL): 1/100/P&L
- Leveling Valves: 1/100/P&L
- Air Brake Valves: 1/100/P
- Clutch Controls[^2]: 2/200/P&L
- Air Compressors[^2]: 1/100/P&L
- Actuator: 1/100/P&L

[^1]: Warranted by Meritor WABCO Vehicle Control Systems.

[^2]: WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by Meritor WABCO. Please contact your respective dealer/distributor of those engines for warranty and servicing.
COVERAGE EXCLUSIONS:

Product Description

All
The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

Front Axles
King Pin Bushings.

Rear Axles
Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

Clutch
Friction face and mating surface of center and pressure plate, wear pads and clutch brake.

ASA
Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

ABS, Electronic Stability Control (ESC), Roll Stability Control (RSC) and OnGuard
Cut, broken, chaffed or otherwise damaged cable wires. Damaged sensors from removal when seized in block, or sensor adjustments/alignments. Valve failures due to contamination in air system. E.C.U. failures due to excessive over-voltage conditions.

Air Dryers
Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

Air System Components
Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals. Water and other contamination damage that is due to the use of a non-genuine air dryer cartridge will not be covered.

Cam Brake
Brake lining wear and brake shoe “rust-jacking.”

Disc Brake
Pad wear, rotor wear.

COVERAGE LIMITATIONS:

Product Description

All
Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Front Axles
Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake
Limited to bracket, brake spider and camshaft structural integrity.

X30
Wearable life is up to the discard diameter of the drum.

Disc Brake
Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
(1) **What is Covered by this Commercial Warranty?**

Meritor Inc. warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM’s vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component.

Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number I and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) **Designation of Vocational Use Required.**

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM, Meritor, Meritor-WABCO, and ZF engineering approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or contact Meritor regarding specific application approval questions on any product line.

(3) **What is the Cost of this Warranty?**

There is no charge to the Owner for this warranty.

(4) **What is not Covered by this Warranty?**

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocational designation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the transmission, axle, driveline, and/or clutch torque capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) **Remedy.**

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor’s option. Meritor reserves the right to require that all applicable failed materials are returned to Meritor for review and evaluation.

(6) **Disclaimer of Warranty.**

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) **Limitation of Remedies.**

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) **To Obtain Service.**

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) **Entire Agreement.**

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
Three (3) Year Material and Workmanship
Velocity and Impel Custom Chassis
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage: Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship.

Warranty Begins: The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.

Warranty Period & Ends After: Three (3) Years, or 30,000 Miles, or 5000 Engine Hours.

Conditions and Exclusions:

This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the drain pan pump and thermostat), under seat heaters coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Staden spring suspension components, and the gauge instrument cluster.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER’S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss or of damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce’s option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance by writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
Fire and Rescue Apparatus

Two (2) Year Material and Workmanship

Meritor Axles

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<table>
<thead>
<tr>
<th>Coverage:</th>
<th>The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty Begins:</td>
<td>The date of the original purchase invoice (issued when the product ships from the factory).</td>
</tr>
<tr>
<td>Warranty Period Ends After:</td>
<td>Two (2) Year</td>
</tr>
</tbody>
</table>

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured;

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department, or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMER OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for any loss or cost of damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.
**WARRANTY INFORMATION CONTENTS**

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Heavy Service .......................................................... 7-8
Off-Highway Service .................................................. 9
Terms and Conditions .................................................. 10

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**How to Read Warranty Coverage**

<table>
<thead>
<tr>
<th>Number of Years</th>
<th>Mileage (in thousands)</th>
<th>P=Parts Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unl=Unlimited</td>
<td>P&amp;L=Parts &amp; Labor</td>
</tr>
</tbody>
</table>

**Notice:**
Models or components that are approved for use by Meritor’s vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

**Advantage Program**

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).
**LINEHAUL WARRANTY INFORMATION**

**Linehaul Vehicles**
- Auto Hauler
- Bulk Hauler
- Chip Hauler (Truck)*
- Doubles
- Flatbed
- General Freight
- Grain Hauler
- Livestock Hauler
- Moving Van
- Pipe Hauler
- Refrigerated Freight
- Tanker
- Triples

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

**Linehaul Typically Is**
- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

**Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.**

**Front Non-Drive Steer Axles – 5/750/P&L**
- FD-965
- FF-941
- FF-942
- FF-943
- FF-944
- FF-961
- FF-966
- MFS-10-144A-N
- MFS-12-122A-N
- MFS-12-122B-N
- MFS-12-122C-N
- MFS-12-122A-N
- MFS-12-122B-N
- MFS-12-122C-N
- MFS-13-122A-N
- MFS-13-122B-N
- MFS-13-122C-N
- MFS-14-122A-N
- MFS-14-122B-N
- MFS-14-122C-N

**Rear Drive Single Axles – 5/750/P&L**
- RS-19-144/145/A
- RS-19-14X
- RS-21-144
- RS-21-145
- RS-21-160
- RS-23-160
- RS-23-161
- RS-23-186

**Rear Drive Tandem/Tridem Axles – 5/750/P&L**
- RT-34-144/P/A
- RT-40-145/A
- RT-40-160/P,1
- RT-46-160/P,1
- RT-46-164EH/P,1
- RT-50-160/P,1
- RT-34-145/P
- RT-40-145/P
- RT-40-160/P,1
- RT-46-160/P,1
- RT-46-164EH/P,1
- RT-50-160/P,1

**Drivelines**
- RPL
- MXL
- 155N
- 92N

**Notes:**
1. These models required for Chip Hauler and Linehaul warranty consideration.
2. Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.
LINEHAUL WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes 5/500/P, 1/100/L
LX500 Feature† 5/750/P&L
Q+ Drum Brake™ 5/500/P, 1/100/L
ASA 5/500/P, 1/Unl/P&L
Hubs/Cast Drums and Other Wheel-end Components 1/Unl/P
Hydraulic Disc Brakes 1/Unl/P
All Other Brakes 1/Unl/P
STEELite X30 Drum Brake™: 12-Years or Wearable Life/P
EX+ Air Disc Brake™ 5/500/P, 1/Unl/L

† Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.
‡ Based on stamped wear diameter max.

EX+ Air Disc Brake™

Trailer Axles

Beam and Brackets 5/500/P, 1/100/L
Wheel End Systems†
Standard System‡ 1/100/P&L
PreSet by Meritor§ 5/500/P&L
AxlePak® 5P/L
AxlePak® 7P/L

† Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
‡ When installed by Meritor.
§ Requires approved hubcap stating PreSet by Meritor on hubcap face.

TAG/Pusher Axles

TQ, TQD, TR, TRD Beam and Brackets 5/750/P&L

For brake components and ABS coverage, refer to appropriate product warranties.

Meritor Tire Inflation System by PSI

MTIS Components 3/500/P&L

Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram)†
Major Structural Components 5/500/P, 1/100/L
Curbing Damage Warranty‡ 5/500/P, 1/100/L
Height Control Valve 1/100/P&L
Shock Absorbers 2/200/P&L
Air Springs 2/200/P, 1/100/L
Bushings 7/700/P, 5/500/L
PinLoc Air Controls 1/100/P&L
PinLoc Actuator 3/300/P&L

† Fastener torque coverage is limited to 2/Unl P&L when torqued by Meritor (For axle and ABS coverage, refer to appropriate product warranties.)
‡ “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.
GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Tour Bus
- Wrecker

Lower mileage operations (less than 60,000 miles/year)
Generally, on-road service (less than 10% off-road)
An average of three (3) miles between starting and stopping

Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

| FF-941 | FF-941 | MFS-7-163C-N | MFS-12-122B-N | MFS-13-132B-N | MFS-20-135A-N |
| FF-942 | FF-942 | MFS-8-113B-N | MFS-12-122C-N | MFS-13-132C-N | MFS-20-133A-N |
| FF-943 | FF-943 | MFS-8-143A-N | MFS-12-132B-N | MFS-13-143A-N | MFS-20-135A-N |
| FF-944 | MFS-6-151A-N | MFS-8-153B-N | MFS-12-143A-N | MFS-14-134A-N | MFS-20H-193A-N |
| FF-946 | MFS-6-153B-N | MFS-8-163B-N | MFS-12-144A-N | MFS-14-122A-N | MFS-22H-135A-N |
| FF-961 | MFS-6-162B-N | MFS-10-122A | MFS-12-144A-N | MFS-14-143A-N | MFS-22H-193A-N |
| FF-996 | MFS-6-153C-N | MFS-10-143A-N | MFS-12E-143A-N | MFS-16-122A-N | MFS-22H-135A-N |
| FG-941 | MFS-7-113C-N | MFS-12-122A-N | MFS-13-122B-N | MFS-18-133A-N |

Can also be used with reduced steer angles in tag position in Coach Applications.

Rear Drive Single Axles – 2/Unl/P&L

| MS-17-13X | MS-21-144 | RC-23-162 | MS-26-616 | 79163 |
| MS-17-14X | MS-23-17X | RC-23-165 | MS-26-616-SP |
| MS-19-13X | RS-21-145/A | RS-23-160 | RS-30-185 |
| MS-19-14X | RS-21-610 | RS-23-161 | MS-30-616 |
| RS-17-144/145/A | RC-22-145 | RS-23-186 | MS-30-616-SP |
| MS-21-13X | RC-23-160 | RC-25-160 | 71162 |
| MS-21-14X | RC-23-161 | RS-26-185 | 71163 |

\[1 \text{ Can also be used with reduced steer angles in tag position in Coach Applications.}]

Rear Drive Tandem – 3/Unl/P&L

| RT-40-160/P | RT-46-160/P | RT-46-164EH/P |
| RT-40-160/P | RT-46-160/P | RT-50-160/P |

Drivelines

| RPL | 4/400/P, 1/Unl/P&L |
| MXL | 3/350/P, 1/Unl/P&L |
| 155N | 1/Unl/P |
| 92N | 1/Unl/P |

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

| MT-34-14X/P | MT-44-14X/P | MT-58-616 |
| RT-34-144/P/A | RT-44-145/P | RT-58-185 |
| MT-40-14X/P | MT-46-169 | MT-70-380 |
| MT-40-144/P | MT-52-616 | RZ-166 |
| RT-40-145/A | RT-52-185 | RZ-188 |

\[1 \text{ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.} \]
GENERAL SERVICE WARRANTY INFORMATION

Brake Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam Q Series Trailer Brakes</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>LX500 Feature</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Cam P</td>
<td>2/200/P</td>
</tr>
<tr>
<td>Cam</td>
<td>3/Unl/P</td>
</tr>
<tr>
<td>Q+ Drum Brake™</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Q+ Drum Brake™</td>
<td>2/200/P, 3/Unl/P</td>
</tr>
<tr>
<td>ASA</td>
<td>3/Unl/P</td>
</tr>
<tr>
<td>ASA³</td>
<td>2/200/P</td>
</tr>
<tr>
<td>Hubs/Cast Drums and Other Wheel-end Components</td>
<td>1/Unl/L</td>
</tr>
<tr>
<td>Hydraulic Disc Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>All Other Brakes</td>
<td>1/Unl/P</td>
</tr>
<tr>
<td>STEELite X30 Drum Brake™</td>
<td>12-Years or Wearable Life/P</td>
</tr>
<tr>
<td>EX+ Air Disc Brake™</td>
<td>2/Unl/P &amp; L</td>
</tr>
</tbody>
</table>

1 Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.
2 Based on stamped wear diameter max.
3 Applies to Tour Bus and Cross Country Coach only.

Trailer Axles

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam and Brackets</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Wheel End Systems²</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Standard System</td>
<td>5/Unl/P</td>
</tr>
<tr>
<td>AxlePak5</td>
<td>7/500/P</td>
</tr>
<tr>
<td>AxlePak7</td>
<td>3/Unl/P</td>
</tr>
</tbody>
</table>

1 9000 Series is 3/Unl/P, 1/Unl/L
3 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
5 When installed by Meritor.
6 When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/500P, 3/500L.
7 When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/700P, 3/500L.
8 For brake components and ABS coverage, refer to appropriate product warranties.

Chassis Axles (2000 Series/ChassiPak)

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam &amp; Brackets</td>
<td>6/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Wheel End Systems¹</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Standard System</td>
<td>7/500/P</td>
</tr>
<tr>
<td>AxlePak7</td>
<td>3/Unl/P</td>
</tr>
</tbody>
</table>

1 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

Trailer Air Suspension Systems

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPA38/40 (Tandem Axle Parallelogram)</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/500/P, 1/100/L</td>
</tr>
<tr>
<td>Curbing Damage Warranty³</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>2/Unl/P &amp; L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P &amp; L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>7/700/P, 5/500/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>PinLoc Air Controls</td>
<td>3/Unl/P &amp; L</td>
</tr>
<tr>
<td>PinLoc Air Actuator</td>
<td>3/Unl/P &amp; L</td>
</tr>
<tr>
<td>MPA20 (Single Axle Parallelogram)</td>
<td>5/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/100/P, 1/Unl/L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P &amp; L</td>
</tr>
<tr>
<td>Air Springs</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings</td>
<td>7/700/P, 5/500/L</td>
</tr>
<tr>
<td>MTA (Trailing Arm)</td>
<td>5/Unl/P, 3/Unl/L</td>
</tr>
<tr>
<td>Major Structural Components</td>
<td>5/100/P, 1/Unl/L</td>
</tr>
<tr>
<td>Height Control Valve</td>
<td>1/Unl/P &amp; L</td>
</tr>
<tr>
<td>Shock Absorbers</td>
<td>2/Unl/P &amp; L</td>
</tr>
<tr>
<td>Air Springs and Rebound Straps</td>
<td>2/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>Bushings⁴</td>
<td>5/100/P, 3/Unl/L</td>
</tr>
</tbody>
</table>

¹ Fastener torque coverage is limited to 2/Unl P & L when torqued by Meritor
² “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.
³ Raw wood applications 3/Unl/P, 1/Unl/L

TAG/Pusher Axles

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TQ, TQD, TR, TRD Beam and Brackets</td>
<td>3/Unl/P, 1/Unl/L</td>
</tr>
<tr>
<td>MC12002, MC14002, MC16003, FH946</td>
<td>2/Unl/P &amp; L</td>
</tr>
</tbody>
</table>

¹ For brake components and ABS coverage, refer to appropriate product warranties.
² Fastener torque coverage is limited to 2/Unl P & L when torqued by Meritor
³ Raw wood applications 3/Unl/P, 1/Unl/L

Meritor® Tire Inflation System by PSI

<table>
<thead>
<tr>
<th>Component</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTIS Components</td>
<td>3/500/P &amp; L</td>
</tr>
</tbody>
</table>

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# Heavy Service Warranty Information

## Heavy Service Vehicles
- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rapid Intervention Vehicle (RIV)
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

## Heavy Service Typically Is
- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/stops (up to 10 stops per mile)

## Coverage under Meritor’s warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

## Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Front Drive/Non-Drive Steer Axles – 2/Unl/P&amp;L</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD-965</td>
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<tr>
<td>FF-941</td>
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<td>FF-946</td>
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<td>FG-941</td>
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<tr>
<td>FG-943</td>
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</tbody>
</table>

## Drivelines

<table>
<thead>
<tr>
<th>Drivelines</th>
<th>RPL</th>
<th>3/Unl/P, 1/Unl/P&amp;L</th>
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<tbody>
<tr>
<td>92N</td>
<td>1/Unl/P&amp;L</td>
<td></td>
</tr>
<tr>
<td>MXL</td>
<td>1/Unl/P&amp;L</td>
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</tbody>
</table>

## Rear Drive Single Axles – 2/Unl/P&L

<table>
<thead>
<tr>
<th>Rear Drive Single Axles – 2/Unl/P&amp;L</th>
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<tbody>
<tr>
<td>MS-17-14X</td>
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<tr>
<td>MS-19-14X</td>
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<td>MS-21-145</td>
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<td>RS-30-616-SP</td>
</tr>
</tbody>
</table>

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HEAVY SERVICE WARRANTY INFORMATION

**Rear Drive Tandem/Tridem Axles – 2/Unl/P&L**

| MT-34-14X/P | RT-44-145/P | MT-58-616 | RZ-166 |
| MT-34-144/P/A | RT-46-169 | MT-58-616-SP | RZ-188 |
| MT-40-14X/P | MT-52-616 | RT-58-185/3801,2 | |
| RT-40-145/A | MT-52-616-SP | RT-70-380 | |
| MT-44-14X/P | MT-52-185/3801,2 | MT-70-380 | |

1 Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.
2 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

**Brake Components**

| Cam P | 3/Unl/P |
| Cam P1 | 2/100/P |
| Cam Cast Plus™ | 2/100/P&L |
| Q+ Drum Brake™ | 3/Unl/P&L |
| Q+ Drum Brake™2 | 2/100/P&L |
| ASA | 3/Unl/P |
| ASA2 | 2/100/P |
| Hubs/Cast Drums and Other Wheel-end Components | 1/Unl/P |
| Hydraulic Disc Brakes | 1/Unl/P |
| All Other Brakes | 1/Unl/P |
| EX+ Air Disc Brake | 2/100/P&L |

1 Based on stamped wear diameter max.
2 Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.
3 Warranty for all non-Meritor ASAs supplied by Meritor for all Heavy Service vocations is 1/100/P.

**Rear Drive Tandem – 3/Unl/P&L**

| RT-40-160/P/A3 | MT-58-616 |
| RT-46-160/P/A1,3 | MT-58-616-SP |
| RT-46-164EH/P/A2,3 | RT-70-380 |
| RT-50-160/P/A3 | MT-70-380 |

1 U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.
2 Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.
3 Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

**Meritor Tire Inflation System by PSI**

| MTIS Components | 3/500/P&L |

**Trailer Air Suspension Systems**

| MTA (Trailing Arm) | 5/Unl/P, 1/Unl/L |
| Height Control Valve | 1/Unl/P&L |
| Shock Absorbers | 2/Unl/P&L |
| Air Springs | 2/Unl/P, 1/Unl/L |
| Bushings1 | 5/Unl/P, 3/Unl/L |

1 Raw wood applications 3/Unl/P, 1/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

**Center Non-drive Axles – 2/Unl/P&L**

| MC26000 | 71063 |
| 79063 |

**Trailer Axles**

| Beam and Brackets1 | 5/Unl/P, 1/Unl/L |
| Wheel End Systems2 | 1/Unl/P&L |

1 Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
2 When installed by Meritor.

(For brake components and ABS coverage, refer to appropriate product warranties.)
OFF-HIGHWAY SERVICE WARRANTY

Industrial And Off-Highway Service Vehicles

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All-Terrain Crane
- Rough Terrain Crane
- Forestry
- Material Handling
- Specialized Heavy Haul
- Specialized Mining
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

Industrial And Off-Highway Service Typically Is

- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Drive Steer Axles – 1/Unl/P

- MOR
- MOX
- MOC

Front Non-Drive Steer Axles – 1/Unl/P

- FF - 941
- MFS-12-143A-N
- MFS-18-135A-N
- FF - 943
- MFS-12-144A-N
- MFS-18-193A-N
- FF - 961
- MFS-13-143A-N
- MFS-20-133A-N
- FF - 966
- MFS-13-144A-N
- MFS-20-135A-N
- FG - 941
- MFS-14-143A-N
- MFS-20H-193A-N
- FG - 943
- MFS-16-122A-N
- MFS-22H-135A-N
- FL - 941
- MFS-16-143A-N
- MFS-22H-193A-N
- FL - 943
- MFS-18-133A-N
- MON-ZO FAMILY

Rear Drive Tandem Axles – 2/Unl/P

- MT-44-14X/P
- MT-52-616
- MT-58-616-SP
- RT-44-145/P
- RT-46-160/P
- RZ-166

Rear Drive Single Axles – 1/Unl/P

- RS-23-186
- RS-24-160-SP
- RS-30-185
- RS-23-380
- MS-30-616
- RS-30-380
- RS-24-160
- MS-30-616-SP
- MS-35-380

Rear Drive Single Axles – 1/Unl/P

- FF - 941
- MFS-12-143A-N
- MFS-18-135A-N
- FF - 943
- MFS-12-144A-N
- MFS-18-193A-N
- FF - 961
- MFS-13-143A-N
- MFS-20-133A-N
- FF - 966
- MFS-13-144A-N
- MFS-20-135A-N
- FG - 941
- MFS-14-143A-N
- MFS-20H-193A-N
- FG - 943
- MFS-16-122A-N
- MFS-22H-135A-N
- FL - 941
- MFS-16-143A-N
- MFS-22H-193A-N
- FL - 943
- MFS-18-133A-N
- MON-ZO FAMILY

Rear Drive Tandem Axles – 2/Unl/P

- MT-44-14X/P
- MT-52-616
- MT-58-616-SP
- RT-44-145/P
- RT-46-160/P
- RZ-166

Rear Drive Tandem Axles – 2/Unl/P

- MT-44-14X/P
- MT-52-616
- MT-58-616-SP
- RT-44-145/P
- RT-46-160/P
- RZ-166

Brake Components

- Cam P
- Q+ Drum Brake™
- ASA
- Hubs/Cast Drums and Other Wheel-end Components
- Hydraulic Disc Brakes
- All Other Brakes
- 3/Unl/P
- 3/Unl/P
- 3/Unl/P
- 1/Unl/P
- 1/Unl/P
- 1/Unl/P
TERMS AND CONDITIONS

Coverage Exclusions

Product Description

All
The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

Front Axles
King Pin Bushings.

Rear Axles
Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

ASA
Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

Cam Brake
Brake lining wear and brake shoe “rust-jacking.”

Disc Brake
Pad wear, rotor wear.

Coverage Limitations

Product Description

All
Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Front Axles
Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles
The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake
Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30
Wearable life is up to the discard diameter of the drum.

Disc Brake
Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.
TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?
Meritor Inc. warrants to the owner (“Owner”) that the components listed in this publication, which have been installed by an Original Equipment Manufacturer (“OEM”) as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM’s vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication MTP-12126 for drivelines, and/or contact Meritor regarding specific approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, and/or visit meritor.com for more information about lubrication and maintenance.

(2) Designation of Vocational Use Required.
To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor’s warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

(3) What is the Cost of this Warranty?
There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?
This warranty does not cover normal wear and tear, nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle’s configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not sold by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.
The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor’s option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.
This warranty is expressly in lieu of all other warranties or conditions, expressed, implied or statutory including any implied warranty of merchantability or fitness for particular purpose.

(7) Limitation of Remedies.
In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.
If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.
This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.
First Amendment to Self-Contained Breathing Apparatus (SCBA)  
Master Price Agreement  

Product Adjustment

This Amendment to the Master Price Agreement is entered into this _3rd_ day of November, 2017 by PUBLIC PROCUREMENT AUTHORITY (“Purchaser”) and L.N. Curtis and sons (CURTIS) (“Vendor”) based upon the sales and/or service of Self-Contained Breathing Apparatus (SCBA).

RECITALS

WHEREAS, Purchaser and Vendor entered into a Master Price Agreement on or about June 20, 2017 and by this reference incorporated herein; and

WHEREAS, 4.9 of the Master Price Agreement permits that new products that meet the scope of work may be added to the Master Price Agreement; and

WHEREAS, Vendor included SCBA systems, cylinders, regulators, facepieces, and parts and accessories in its response; and

WHEREAS, Vendor has provided notice it began supplying MSA SCBA systems, cylinders, regulators, facepieces, and parts and accessories; and

WHEREAS, Vendor has provided notice on or about October 24, 2017 to add MSA SCBA systems, cylinders, regulators, facepieces, and parts and accessories to the Master Price Agreement at equivalent or better discount off list pricing for SCBA systems, cylinders, regulators, facepieces, and parts and accessories already included in the Master Price Agreement; and

WHEREAS, Purchaser and Vendor desire that the Master Price Agreement shall be amended in part to reflect the product addition;

NOW, THEREFORE, Purchaser and Vendor enter into the following:

AMENDMENT TO MASTER PRICE AGREEMENT FOR SELF-CONTAINED BREATHING APPARATUS

1. **Adjustment to Product Offering on Self-Contained Breathing Apparatus.**  Attachment A to the Master Purchase Agreement shall be amended in its entirety to read as follows:
**ATTACHMENT A**

to Master Price Agreement by and between VENDOR and PURCHASER.

**PRODUCTS, SERVICES, SPECIFICATIONS AND PRICES**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Part Number</th>
<th>Product Name and Description Alphabetic within Product Category</th>
<th>Discount Off List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category 1:</strong></td>
<td><strong>Open-Circuit Self-Contained (SCBA) and/or Closed-Circuit SCBA System</strong></td>
<td></td>
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</tr>
<tr>
<td>Avon Protection</td>
<td>Current Catalog</td>
<td>SCBA - Backframe to include alarms, electronics, &amp; pneumatics</td>
<td>5%</td>
</tr>
<tr>
<td>Draeger Safety</td>
<td>Current Catalog</td>
<td>SCBA - Backframe to include alarms, electronics, &amp; pneumatics</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell Safety</td>
<td>Current Catalog</td>
<td>SCBA - Backframe to include alarms, electronics, &amp; pneumatics</td>
<td>15%</td>
</tr>
<tr>
<td>MSA G1 SCBA</td>
<td>Current Catalog (MSA G1 SCBA Fire Service Edition Systems Configurator)</td>
<td>SCBA - Backframe to include alarms, electronics, &amp; pneumatics</td>
<td>20%</td>
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<tr>
<td><strong>Category 2:</strong></td>
<td><strong>Facepieces</strong></td>
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<td>Avon Protection</td>
<td>Current Catalog</td>
<td>SCBA Facepieces</td>
<td>5%</td>
</tr>
<tr>
<td>Draeger Safety</td>
<td>Current Catalog</td>
<td>SCBA Facepieces</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell Safety</td>
<td>Current Catalog</td>
<td>SCBA Facepieces</td>
<td>15%</td>
</tr>
<tr>
<td>MSA G1 SCBA</td>
<td>Current Catalog (MSA G1 Facepiece Configurator)</td>
<td>SCBA -Facepieces</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Category 3:</strong></td>
<td><strong>Regulator System, Intermediate Pressure Hose, Rapid Intervention Crew/Company Universal Air Connection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avon Protection</td>
<td>Current Catalog</td>
<td>SCBA Regulators, RIC/UAC Connection</td>
<td>5%</td>
</tr>
<tr>
<td>Draeger Safety</td>
<td>Current Catalog</td>
<td>SCBA Regulators, RIC/UAC Connection</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell Safety</td>
<td>Current Catalog</td>
<td>SCBA Regulators, RIC/UAC Connection</td>
<td>15%</td>
</tr>
<tr>
<td>MSA G1 SCBA</td>
<td>Current Catalog</td>
<td>SCBA Regulators, RIC/UAC Connection</td>
<td>10%</td>
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<tr>
<td><strong>Category 4:</strong></td>
<td><strong>Cylinders</strong></td>
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<table>
<thead>
<tr>
<th>Company</th>
<th>Catalog Type</th>
<th>Product Type</th>
<th>Percentage</th>
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</thead>
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<tr>
<td>Avon Protection</td>
<td>Current Catalog</td>
<td>SCBA Cylinders</td>
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<tr>
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<td>Current Catalog</td>
<td>SCBA Cylinders</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell Safety</td>
<td>Current Catalog</td>
<td>SCBA Cylinders</td>
<td>15%</td>
</tr>
<tr>
<td>MSA G1 SCBA</td>
<td>Current Catalog</td>
<td>SCBA Cylinders</td>
<td>10%</td>
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</tbody>
</table>

### Category 5: Maintenance and Service

<table>
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<tr>
<th>Service Provider</th>
<th>Catalog Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>CurtisCARE Compressor Service</td>
<td>Current Catalog</td>
<td>Maintenance and Service of Breathing Air Compressors</td>
<td>Net</td>
</tr>
<tr>
<td>CurtisCARE Fit Testing</td>
<td>Current Catalog</td>
<td>Mask Fit Testing and Service</td>
<td>Net</td>
</tr>
<tr>
<td>CurtisCARE Mako Brand Comp. Service</td>
<td>Current Catalog</td>
<td>Maintenance and Service of Breathing Air Compressors</td>
<td>Net</td>
</tr>
<tr>
<td>CurtisCARE Mobile Hydrotesting</td>
<td>Current Catalog</td>
<td>Cylinder Hydrostatic Testing Service</td>
<td>Net</td>
</tr>
<tr>
<td>CurtisCARE SCBA Service</td>
<td>Current Catalog</td>
<td>SCBA Maintenance and Service</td>
<td>Net</td>
</tr>
<tr>
<td>Honeywell PosiChek</td>
<td>Current Catalog</td>
<td>Flow Testing Equipment</td>
<td>Net</td>
</tr>
<tr>
<td>OHD</td>
<td>Current Catalog</td>
<td>Fit Testing Equipment</td>
<td>5%</td>
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</table>

### Category 6: Other

<table>
<thead>
<tr>
<th>Company</th>
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<tr>
<td>Avon Protection</td>
<td>Current Catalog</td>
<td>SCBA PASS Devices and Other Accessories</td>
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<tr>
<td>Draeger Safety</td>
<td>Current Catalog</td>
<td>Gas Detection Equipment</td>
<td>5%</td>
</tr>
<tr>
<td>Draeger Safety</td>
<td>Current Catalog</td>
<td>SCBA PASS Devices and Other Accessories</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell Safety</td>
<td>Current Catalog</td>
<td>SCBA PASS Devices and Other Accessories</td>
<td>15%</td>
</tr>
<tr>
<td>Honeywell BW Systems</td>
<td>Current Catalog</td>
<td>Gas Detection Equipment</td>
<td>5%</td>
</tr>
<tr>
<td>Rae Systems</td>
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<td>Gas Detection Equipment</td>
<td>5%</td>
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<td>Industrial Scientific</td>
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<td>SE International</td>
<td>Current Catalog</td>
<td>Radiation Detection</td>
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<td>Smith Detection</td>
<td>Current Catalog</td>
<td>Gas Detection Equipment</td>
<td>Net</td>
</tr>
<tr>
<td>Eagle Air</td>
<td>Current Catalog</td>
<td>Breathing Air Compressors</td>
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<td>MSA G1 SCBA</td>
<td>Current Catalog</td>
<td>SCBA Parts &amp; Accessories</td>
<td>10%</td>
</tr>
<tr>
<td>Air Systems International</td>
<td>Current Catalog</td>
<td>Breathing Air Accessories</td>
<td>5%</td>
</tr>
</tbody>
</table>
Pricing contained in this Attachment A shall be extended to all NPPGov members upon execution of the Intergovernmental Agreement.

2. **Full Force and Effect.** In each and every other respect, the terms of the Master Price Agreement, as amended, entered into between the parties on or about June 20, 2017 shall remain in full force and effect during the term of the agreement and the parties hereto hereby ratify said Master Price Agreement in its entirety, as if fully set out herein, along with the modifications identified herein.

**IN WITNESS WHEREOF,** the parties have hereto signed this Amendment on the day and year first above written.

PUBLIC PROCUREMENT AUTHORITY:

_______________________________    Date _November 3, 2017_______
BY: Heidi Arnold
ITS: Contract Manager

L.N. CURTIS & SONS:

_______________________________    Date _November 3, 2017_______
BY: Nick Lawrence
ITS: Director, Special Programs
This Master Price Agreement is effective as of the date of the last signature below (the “Effective Date”) by and between the PUBLIC PROCUREMENT AUTHORITY, an Oregon public corporation under ORS Chapter 190 (“PPA” or “Purchaser”) and L.N. Curtis and sons (CURTIS) (“Vendor”).

RECITALS

WHEREAS, the Vendor is in the business of selling certain Self-Contained Breathing Apparatus (SCBA) and related products and services, as further described herein; and

WHEREAS, the Vendor desires to sell and the Purchaser desires to purchase certain products and related services all upon and subject to the terms and conditions set forth herein; and

WHEREAS, the Vendor was awarded the opportunity to complete a Master Price Agreement with the Public Procurement Authority as a result of its response to Request for Proposal No. 1610 for Self-Contained Breathing Apparatus (SCBA); and

WHEREAS, Purchaser and Vendor desire to extend the terms of this Master Price Agreement to benefit other qualified government members of National Purchasing Partners, LLC dba FireRescue GPO, dba Law Enforcement GPO and dba NPPGov;

NOW, THEREFORE, Vendor and Purchaser, intending to be legally bound, hereby agree as follows:

ARTICLE 1 – CERTAIN DEFINITIONS

1.1 “Agreement” shall mean this Master Price Agreement, including the main body of this Agreement and Attachments A-F attached hereto and by this reference incorporated herein, including Purchaser’s Request for Proposal No. 1610 (herein “RFP”) and Vendor’s Proposal submitted in response to the RFP (herein “Vendor’s Proposal”) as referenced and incorporated herein as though fully set forth (sometimes referred to collectively as the “Contract Documents”).

1.2 “Applicable Law(s)” shall mean all applicable federal, state and local laws, statutes, ordinances, codes, rules, regulations, standards, orders and other governmental requirements of any kind.

1.3 “Employee Taxes” shall mean all taxes, assessments, charges and other amounts whatsoever payable in respect of, and measured by the wages of, the Vendor’s employees (or subcontractors), as required by the Federal Social Security Act and all amendments thereto and/or any other applicable federal, state or local law.
1.4  “Purchaser’s Destination” shall mean such delivery location(s) or destination(s) as Purchaser may prescribe from time to time.

1.5  “Products and Services” shall mean the products and/or services to be sold by Vendor hereunder as identified and described on Attachment A hereto and incorporated herein, as may be updated from time to time by Vendor to reflect products and/or services offered by Vendor generally to its customers.

1.6  “Purchase Order” shall mean any authorized written order for Products and Services sent by Purchaser to Vendor via mail, courier, overnight delivery service, email, fax and/or other mode of transmission as Purchaser and Vendor may from time to time agree.

1.7  “Unemployment Insurance” shall mean the contribution required of Vendor, as an employer, in respect of, and measured by, the wages of its employees (or subcontractors) as required by any applicable federal, state or local unemployment insurance law or regulation.

1.8  “National Purchasing Partners” or “(NPP)” is a subsidiary of two nonprofit health care systems. The Government Division of NPP, herein after referred to as “NPPGov”, provides group purchasing marketing and administrative support for governmental entities within the membership. NPPGov’s membership includes participating public entities across North America.

1.9  “Lead Contracting Agency” shall mean the Public Procurement Authority, which is the governmental entity that issued the Request for Proposal and awarded this resulting Master Price Agreement.

1.10 “Participating Agencies” shall mean members of National Purchasing Partners for which Vendor has agreed to extend the terms of this Master Price Agreement pursuant to Article 2.5 and Attachment C herein. For purposes of cooperative procurement, “Participating Agency” shall be considered “Purchaser” under the terms of this agreement.

1.11 “Parties” shall mean the Purchaser and Vendor.

ARTICLE 2 – AGREEMENT TO SELL

2.1  Vendor hereby agrees to sell to Purchaser such Products and Services as Purchaser may order from time to time by Purchase Order, all in accordance with and subject to the terms, covenants and conditions of this Agreement. Purchaser agrees to purchase those Products and Services ordered by Purchaser by Purchase Order in accordance with and subject to the terms, covenants and conditions of this Agreement.

2.2  Vendor may also add additional products and services provided that any additions reasonably fall within the intent of the original RFP specifications. Pricing on additions shall be equivalent to the percentage discount for other similar products. Vendor may provide a web-link with current product listings, which may be updated periodically, as allowed by the terms of the resulting Master Price Agreement. Vendor may replace or add product lines to an existing
contract if the line is replacing or supplementing products on contract, is equal or superior to the original products offered, is discounted in a similar or to a greater degree, and if the products meet the requirements of the solicitation. No products may be added to avoid competitive procurement requirements. PPA may reject any additions without cause.

2.3 All Purchase Orders issued by Purchaser to Vendor for Products during the term (as hereinafter defined) of this Agreement are subject to the provisions of this Agreement as though fully set forth in such Purchase Order. The vendor retains authority to negotiate above and beyond the terms of this agreement to meet the customer or vendor contract requirements. In the event that the provisions of this Agreement conflict with any Purchase Order issued by Purchaser to Vendor, the provisions of this Agreement shall govern. No other terms and conditions, including, but not limited to, those contained in Vendor’s standard printed terms and conditions, on Vendor’s order acknowledgment, invoices or otherwise, shall have any application to or effect upon or be deemed to constitute an amendment to or to be incorporated into this Agreement, any Purchase Order, or any transactions occurring pursuant hereto or thereto, unless this Agreement shall be specifically amended to adopt such other terms and conditions in writing by the parties.

2.4 Notwithstanding any other provision of this Agreement to the contrary, the Lead Contracting Agency shall have no obligation to order or purchase any Products and Services hereunder and the placement of any Purchase Order shall be in the sole discretion of the Participating Agencies. This Agreement is not exclusive. Vendor expressly acknowledges and agrees that Purchaser may purchase at its sole discretion, Products and Services that are identical or similar to the Products and Services described in this Agreement from any third party.

2.5 In case of any conflict or inconsistency between any of the Contract Documents, the documents shall prevail and apply in the following order of priority:

(i) This Agreement;
(ii) Vendor’s Proposal; and
(iii) The RFP.

2.6 Extension of contract terms to Participating Agencies:

2.6.1 Vendor agrees to extend the same terms, covenants and conditions available to Purchaser under this Agreement to Participating Agencies, that have executed an Intergovernmental Cooperative Purchasing Agreement (“IGA”) as may be required by each Participating Agency’s local laws and regulations, in accordance with Attachment C. Each Participating Agency will be exclusively responsible for and deal directly with Vendor on matters relating to ordering, delivery, inspection, acceptance, invoicing, and payment for Products and Services in accordance with the terms and conditions of this Agreement as if it were “Purchaser” hereunder. Any disputes between a Participating Agency and Vendor will be resolved directly between them under and in accordance with the laws of the State in which the Participating Agency exists.
Pursuant to the IGA, the Lead Contracting Agency shall not incur any liability as a result of the access and utilization of this Agreement by other Participating Agencies.

2.6.2 This Solicitation meets the public contracting requirements of the Lead Contracting Agency and may not be appropriate under or meet Participating Agencies’ procurement laws. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

2.6.3 Vendor acknowledges execution of a Vendor Administration Fee Agreement with NPPGov, pursuant to the terms of the RFP.

2.7 Oregon Public Agencies are prohibited from use of products and services offered under this contract that are already provided by qualified nonprofit agencies for disabled individuals as listed on the Department of Administrative Service’s Procurement List (“Procurement List”) pursuant to ORS 279.835-.855. See www.OregonRehabilitation.org/qrf for more information. Vendor shall not sell products and services identified on the Procurement List (e.g., reconditioned toner cartridges) to Purchaser or Participating Agencies within the state of Oregon.

ARTICLE 3 – TERM AND TERMINATION

3.1 The initial contract term shall be for three (3) calendar years from the effective date of this Agreement (“Initial Term”). Upon termination of the original three (3) year term, this Agreement shall automatically extend for up to three (3) successive one (1) year periods; (each a “Renewal Term”); provided however, that the Lead Contracting Agency and/or the Vendor may opt to decline extension of the MPA by providing notification in writing at least thirty (30) calendar days prior to the annual automatic extension anniversary of the initial term.

3.2 Either Vendor or the Lead Contracting Agency may terminate this Agreement by written notice to the other party if the other party breaches any of its obligations hereunder and fails to remedy the breach within thirty (30) days after receiving written notice of such breach from the non-breaching party.

ARTICLE 4 – PRICING, INVOICES, PAYMENT AND DELIVERY

4.1 Purchaser shall pay Vendor for all Products and Services ordered and delivered in compliance with the terms and conditions of this Agreement at the pricing specified for each such Product and Service on Attachment A, including shipping. Unless Attachment A expressly provides otherwise, the pricing schedule set forth on Attachment A hereto shall remain fixed for the Initial Term of this Agreement; provided that manufacturer pricing is not guaranteed and may be adjusted based on the next manufacturer price increase. Pricing contained in Attachment A shall be extended to all NPPGov, FireRescue GPO and Law Enforcement GPO members upon execution of the IGA.
4.2 Vendor shall submit original invoices to Purchaser in form and substance and format reasonably acceptable to Purchaser. All invoices must reference the Purchaser’s Purchase Order number, contain an itemization of amounts for Products and Services purchased during the applicable invoice period and any other information reasonably requested by Purchaser, and must otherwise comply with the provisions of this Agreement. Invoices shall be addressed as directed by Purchaser.

4.3 Unless otherwise specified, Purchaser is responsible for any and all applicable sales taxes. Attachment A or Vendor’s Proposal (Attachment D) shall specify any and all other taxes and duties of any kind which Purchaser is required to pay with respect to the sale of Products and Services covered by this Agreement and all charges for packing, packaging and loading.

4.4 Except as specifically set forth on Attachments A and F, Purchaser shall not be responsible for any additional costs or expenses of any nature incurred by Vendor in connection with the Products and Services, including without limitation travel expenses, clerical or administrative personnel, long distance telephone charges, etc. (“Incidental Expenses”).

4.5 Price reductions or discount increases may be offered at any time during the contract term and shall become effective upon notice of acceptance from Purchaser.

4.6 Notwithstanding any other agreement of the parties as to the payment of shipping/delivery costs, and subject to Attachments A, D, and F herein, Vendor shall offer delivery and/or shipping costs prepaid FOB Destination as follows: CURTIS will provide a quote to all State of Hawaii inquiries requesting to “piggy-back” on any resulting contract between CURTIS and the PPA. CURTIS price quotes for Hawaiian inquiries will be FOB: Destination that will be calculated using the following formula: list price less the brand discount plus an estimated freight charge. CURTIS will estimate freight by using the UPS freight calculator listed at [UPS Freight Calculator](https://wwwapps.ups.com/fctc/timeandcost?loc=en_US&ActionOriginPair=SeamlessExperience_StartSession&FREIGHT_TYPE=LTL) and other calculators made publically available by other shipping companies. CURTIS will always seek best value for our customers.

CURTIS will provide a quote to all other states in the contiguous 48 plus Alaska requesting to “piggy-back” on any resulting contract between CURTIS and the PPA. CURTIS quoted prices for shipments to the continental USA plus Alaska will be FOB: Origin and will be calculated using the following formula: list price less the brand discount.

The customer invoice will include actual freight charges as a separate line item. If there are handling fees, these also shall be included in the pricing.

4.7 Unless otherwise directed by Purchaser for expedited orders, Vendor shall utilize such common carrier for the delivery of Products and Services as Vendor may select; provided, however, that for expedited orders Vendor shall obtain delivery services hereunder at rates and
terms not less favorable than those paid by Vendor for its own account or for the account of any other similarly situated customer of Vendor.

4.8 Vendor shall have the risk of loss of or damage to any Products until delivery to Purchaser. Purchaser shall have the risk of loss of or damage to the Products after delivery to Purchaser. Title to Products shall not transfer until the Products have been delivered to and accepted by Purchaser at Purchaser’s Destination.

4.9 New products that meet the scope of work may be added to the contract. Pricing shall be equivalent to the percentage discount for other products. Vendor may replace or add product lines to an existing contract if the line is replacing or supplementing products on contract, is equal or superior to the original products offered, is discounted in a similar or to a greater degree, and if the products meet the requirements of the solicitation. No products may be added to avoid competitive procurement requirements.

ARTICLE 5 – INSURANCE

5.1 During the term of this Agreement, Vendor shall maintain at its own cost and expense (and shall cause any subcontractor to maintain) insurance policies providing insurance of the kind and in the amounts generally carried by reasonably prudent manufacturers in the industry, with one or more reputable insurance companies licensed to do business in Oregon and any other state or jurisdiction where Products and Services are sold hereunder. Such certificates of insurance shall be made available to the Lead Contracting Agency upon 48 hours notice. BY SIGNING THE AGREEMENT PAGE THE VENDOR AGREES TO THIS REQUIREMENT AND FAILURE TO MEET THIS REQUIREMENT WILL RESULT IN CANCELLATION OF THIS MASTER PRICE AGREEMENT.

5.2 All insurance required herein shall be maintained in full force and effect until all work or service required to be performed under the terms of this Agreement is satisfactorily completed and formally accepted. Any failure to comply with the claim reporting provisions of the insurance policies or any breach of an insurance policy warranty shall not affect coverage afforded under the insurance policies to protect the Lead Contracting Agency. The insurance policies may provide coverage that contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to the Lead Contracting Agency under such policies. Vendor shall be solely responsible for the deductible and/or self-insured retention and the Lead Contracting Agency, at its option, may require Vendor to secure payment of such deductibles or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

5.3 Vendor shall carry Workers’ Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over Vendor’s employees engaged in the performance of the work or services, as well as Employer’s Liability insurance. Vendor waives all rights against the Lead Contracting Agency and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the Workers’
Compensation and Employer’s Liability or commercial umbrella liability insurance obtained by Vendor pursuant to this agreement.

5.4 Insurance required herein shall not be permitted to expire, be canceled, or materially changed without thirty-days (30-days) prior written notice to the Lead Contracting Agency.

**ARTICLE 6 – INDEMNIFICATION AND HOLD HARMLESS**

6.1 Vendor agrees that it shall indemnify, defend and hold harmless Lead Contracting Agency, its respective officials, directors, employees and agents (collectively, the “Indemnitees”), from and against any and all damages, claims, losses, expenses, costs, obligations and liabilities (including without limitation reasonable attorney’s fees), suffered directly or indirectly by any of the Indemnitees to the extent of, or arising out of, (i) any breach of any covenant, representation or warranty made by Vendor in this Agreement, (ii) any failure by Vendor to perform or fulfill any of its obligations, covenants or agreements set forth in this Agreement, (iii) the negligence or intentional misconduct of Vendor, any subcontractor of Vendor, or any of their respective employees or agents, (iv) any failure of Vendor, its subcontractors, or their respective employees to comply with any Applicable Law, (v) any litigation, proceeding or claim by any third party relating in any way to the obligations of Vendor under this Agreement or Vendor’s performance under this Agreement, (vi) any Employee Taxes or Unemployment Insurance, or (vii) any claim alleging that the Products and Services or any part thereof infringe any third party’s U.S. patent, copyright, trademark, trade secret or other intellectual property interest. Such obligation to indemnify shall not apply where the damage, claim, loss, expense, cost, obligation or liability is due to the breach of this Agreement by, or negligence or willful misconduct of, Lead Contracting Agency or its officials, directors, employees, agents or contractors. The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph. The indemnity obligations of Vendor under this Article shall survive the expiration or termination of this Agreement for two years.

6.2 **LIMITATION OF LIABILITY:** IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR INJURIES TO PERSONS OR TO PROPERTY OR LOSS OF PROFITS OR LOSS OF FUTURE BUSINESS OR REPUTATION, WHETHER BASED ON TORT OR BREACH OF CONTRACT OR OTHER BASIS, EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

6.3 The same terms, conditions and pricing of this Agreement may be extended to government members of National Purchasing Partners, LLC. In the event the terms of this Agreement are extended to other government members, each government member (procuring party) shall be solely responsible for the ordering of goods and services under this Agreement. A non-procuring party shall not be liable in any fashion for any violation by a procuring party, and the procuring party shall hold non-procuring
parties or unrelated purchasing parties harmless from any liability that may arise from action or inaction of the procuring party.

ARTICLE 7 – WARRANTIES

Purchaser shall refer to Vendor’s Proposal for all Vendor and manufacturer express warranties, as well as those warranties provided under Attachment B herein.

ARTICLE 8 - INSPECTION AND REJECTION

8.1    Purchaser shall have the right to inspect and test Products at any time prior to shipment, and within a reasonable time after delivery to the Purchaser’s Destination. Products not inspected within a reasonable time after delivery shall be deemed accepted by Purchaser. The payment for Products shall in no way impair the right of Purchaser to reject nonconforming Products, or to avail itself of any other remedies to which it may be entitled.

8.2    If any of the Products are found at any time to be defective in material or workmanship, damaged, or otherwise not in conformity with the requirements of this Agreement or any applicable Purchase Order, as its exclusive remedy, Purchaser may at its option and at Vendor’s sole cost and expense, elect either to (i) return any damaged, non-conforming or defective Products to Vendor for correction or replacement, or (ii) require Vendor to inspect the Products and remove or replace damaged, non-conforming or defective Products with conforming Products. If Purchaser elects option (ii) in the preceding sentence and Vendor fails promptly to make the necessary inspection, removal and replacement, Purchaser, at its option, may inspect the Products and Vendor shall bear the cost thereof. Payment by Purchaser of any invoice shall not constitute acceptance of the Products covered by such invoice, and acceptance by Purchaser shall not relieve Vendor of its warranties or other obligations under this Agreement.

8.3    The provisions of this Article shall survive the expiration or termination of this Agreement.

ARTICLE 9 – SUBSTITUTIONS

Except as otherwise permitted hereunder, Vendor may not make any substitutions of Products, or any portion thereof, of any kind without the prior written consent of Purchaser.

ARTICLE 10 - COMPLIANCE WITH LAWS

10.1    Vendor agrees to comply with all Applicable Laws and at Vendor’s expense, secure and maintain in full force during the term of this Agreement, all licenses, permits, approvals, authorizations, registrations and certificates, if any, required by Applicable Laws in connection with the performance of its obligations hereunder. At Purchaser’s request, Vendor shall provide to Purchaser copies of any or all such licenses, permits, approvals, authorizations, registrations and certificates.
10.2 Purchaser has taken all required governmental action to authorize its execution of this Agreement and there is no governmental or legal impediment against Purchaser’s execution of this Agreement or performance of its obligations hereunder.

**ARTICLE 11 – PUBLICITY / CONFIDENTIALITY**

11.1 No news releases, public announcements, advertising materials, or confirmation of same, concerning any part of this Agreement or any Purchase Order issued hereunder shall be issued or made without the prior written approval of the Parties. Neither Party shall in any advertising, sales materials or in any other way use any of the names or logos of the other Party without the prior written approval of the other Party.

11.2 Any knowledge or information which Vendor or any of its affiliates shall have disclosed or may hereafter disclose to Purchaser, and which in any way relates to the Products and Services covered by this Agreement shall not, unless otherwise designated by Vendor, be deemed to be confidential or proprietary information, and shall be acquired by Purchaser, free from any restrictions, as part of the consideration for this Agreement.

**ARTICLE 12 - RIGHT TO AUDIT**

Subject to Vendor’s reasonable security and confidentiality procedures, Purchaser, or any third party retained by Purchaser, may at any time upon prior reasonable notice to Vendor, during normal business hours, audit the books, records and accounts of Vendor to the extent that such books, records and accounts pertain to sale of any Products and Services hereunder or otherwise relate to the performance of this Agreement by Vendor. Vendor shall maintain all such books, records and accounts for a period of at least three (3) years after the date of expiration or termination of this Agreement. The Purchaser’s right to audit under this Article 12 and Purchaser’s rights hereunder shall survive the expiration or termination of this Agreement for a period of three (3) years after the date of such expiration or termination.

**ARTICLE 13 - REMEDIES**

Except as otherwise provided herein, any right or remedy of Vendor or Purchaser set forth in this Agreement shall not be exclusive, and, in addition thereto, Vendor and Purchaser shall have all rights and remedies under applicable law, including without limitation, equitable relief. The provisions of this Article shall survive the expiration or termination of this Agreement.

**ARTICLE 14 - RELATIONSHIP OF PARTIES**

Vendor is an independent contractor and is not an agent, servant, employee, legal representative, partner or joint venturer of Purchaser. Nothing herein shall be deemed or construed as creating a joint venture or partnership between Vendor and Purchaser. Neither Party has the power or authority to bind or commit the other.
ARTICLE 15 - NOTICES

All notices required or permitted to be given or made in this Agreement shall be in writing. Such notice(s) shall be deemed to be duly given or made if delivered by hand, by certified or registered mail or by nationally recognized overnight courier to the address specified below:

If to Lead Contracting Agency:
Public Procurement Authority
25030 SW Parkway Ave.
Suite 330
Wilsonville OR 97070
ATTN: Heidi Arnold

If to Vendor:
L.N. Curtis and sons
1800 Peralta Street
Oakland, CA 94067
ATTN: Nick Lawrence

Either Party may change its notice address by giving the other Party written notice of such change in the manner specified above.

ARTICLE 16 - FORCE MAJEURE

Except for Purchaser’s obligation to pay for products and services delivered, delay in performance or non-performance of any obligation contained herein shall be excused to the extent such failure or non-performance is caused by force majeure. For purposes of this Agreement, “force majeure” shall mean any cause or agency preventing performance of an obligation which is beyond the reasonable control of either Party hereto, including without limitation, fire, flood, sabotage, shipwreck, embargo, strike, explosion, labor trouble, accident, riot, acts of governmental authority (including, without limitation, acts based on laws or regulations now in existence as well as those enacted in the future), acts of nature, and delays or failure in obtaining raw materials, supplies or transportation. A Party affected by force majeure shall promptly provide notice to the other, explaining the nature and expected duration thereof, and shall act diligently to remedy the interruption or delay if it is reasonably capable of being remedied. In the event of a force majeure situation, deliveries or acceptance of deliveries that have been suspended shall not be required to be made upon the resumption of performance.

ARTICLE 17 - WAIVER

No delay or failure by either Party to exercise any right, remedy or power herein shall impair such Party’s right to exercise such right, remedy or power or be construed to be a waiver of any default or an acquiescence therein; and any single or partial exercise of any such right, remedy or power shall not preclude any other or further exercise thereof or the exercise of any
other right, remedy or power. No waiver hereunder shall be valid unless set forth in writing executed by the waiving Party and then only to the extent expressly set forth in such writing.

**ARTICLE 18 - PARTIES BOUND; ASSIGNMENT**

This Agreement shall inure to the benefit of and shall be binding upon the respective successors and assigns of the Parties hereto, but it may not be assigned in whole or in part by Vendor without prior written notice to Purchaser which shall not be unreasonably withheld or delayed.

**ARTICLE 19 - SEVERABILITY**

To the extent possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law. If any provision of this Agreement is declared invalid or unenforceable, by judicial determination or otherwise, such provision shall not invalidate or render unenforceable the entire Agreement, but rather the entire Agreement shall be construed as if not containing the particular invalid or unenforceable provision or provisions and the rights and obligations of the Parties shall be construed and enforced accordingly.

**ARTICLE 20 - INCORPORATION; ENTIRE AGREEMENT**

20.1 All the provisions of the Attachments hereto are hereby incorporated herein and made a part of this Agreement. In the event of any apparent conflict between any provision set forth in the main body of this Agreement and any provision set forth in the Attachments, including the RFP and/or Vendor’s Proposal, the provisions shall be interpreted, to the extent possible, as if they do not conflict. In the event that such an interpretation is not possible, the provisions set forth in the main body of this Agreement shall control.

20.2 This Agreement (including Attachments and Contract Documents hereto) constitutes the entire agreement of the Parties relating to the subject matter hereof and supersedes any and all prior written and oral agreements or understandings relating to such subject matter.

**ARTICLE 21 - HEADINGS**

Headings used in this Agreement are for convenience of reference only and shall in no way be used to construe or limit the provisions set forth in this Agreement.

**ARTICLE 22 - MODIFICATIONS**

This Agreement may be modified or amended only in writing executed by Vendor and the Lead Contracting Agency. The Lead Contracting Agency and each Participating Agency contracting hereunder acknowledge and agree that any agreement entered into in connection with any Purchase Order hereunder shall constitute a modification of this Agreement as between the Vendor and the Participating Agency. Any modification of this Agreement as between Vendor
and any Participating Agency shall not be deemed a modification of this Agreement for the benefit of the Lead Contracting Agency or any other Participating Agency.

**ARTICLE 23 - GOVERNING LAW**

This Agreement shall be governed by and interpreted in accordance with the laws of the state of Oregon or in the case of a Participating Agency’s use of this agreement, the laws of the state in which the Participating Agency exists, without regard to its choice of law provisions.

**ARTICLE 24 - COUNTERPARTS**

This Agreement may be executed in counterparts all of which together shall constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year last written below.

**PURCHASER:**

Signature: ____________________________
Printed Name: Heidi Arnold
Title: Contract Manager
Public Procurement Authority
Dated: June 20, 2017____________________

**VENDOR:**

Signature: ____________________________
Printed Name: Nick Lawrence
Title: Director, Special Programs
L.N. Curtis and sons (CURTIS)
Dated: June 20, 2017____________________
ATTACHMENT A

to Master Price Agreement by and between VENDOR and PURCHASER.

PRODUCTS, SERVICES, SPECIFICATIONS AND PRICES

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<td>Industrial Scientific</td>
<td>Current Catalog</td>
<td>Gas Detection Equipment</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>SE International</td>
<td>Current Catalog</td>
<td>Radiation Detection</td>
<td>Net</td>
<td></td>
</tr>
<tr>
<td>Smith Detection</td>
<td>Current Catalog</td>
<td>Gas Detection Equipment</td>
<td>Net</td>
<td></td>
</tr>
<tr>
<td>Eagle Air</td>
<td>Current Catalog</td>
<td>Breathing Air Compressors</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Air Systems International</td>
<td>Current Catalog</td>
<td>Breathing Air Accessories</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

Pricing contained in this Attachment A shall be extended to all NPPGov members upon execution of the Intergovernmental Agreement.
ATTACHMENT B

to Master Price Agreement by and between VENDOR and PURCHASER.

ADDITIONAL SELLER WARRANTIES

To the extent possible, Vendor will make available all warranties from third party manufacturers of Products not manufactured by Vendor, as well as any warranties identified in this Agreement and Vendor’s Proposal.
ATTACHMENT C

to Master Price Agreement by and between VENDOR and PURCHASER.

PARTICIPATING AGENCIES

The Lead Contracting Agency in cooperation with National Purchasing Partners (NPPGov) entered into this Agreement on behalf of other government agencies that desire to access this Agreement to purchase Products and Services. Vendor must work directly with any Participating Agency concerning the placement of orders, issuance of the purchase orders, contractual disputes, invoicing, and payment. The Lead Contracting Agency shall not be held liable for any costs, damages, etc., incurred by any Participating Agency.

Any subsequent contract entered into between Vendor and any Participating Agency shall be construed to be in accordance with and governed by the laws of the state in which the Participating Agency exists. Each Participating Agency is required to execute an Intergovernmental Cooperative Purchasing Agreement (“IGA”), as set forth on the NPPGov website, www.nppgov.com. The IGA allows the Participating Agency to purchase Products and Services from the Vendor in accordance with each Participating Agency’s legal requirements as if it were the “Purchaser” hereunder.
ATTACHMENT D

to Master Price Agreement by and between VENDOR and PURCHASER.

Vendor’s Proposal
(The Vendor’s Proposal is not attached hereto.)
(The Vendor’s Proposal is incorporated by reference herein.)
ATTACHMENT E

to Master Price Agreement by and between VENDOR and PURCHASER.

Purchaser’s Request for Proposal
(The Purchaser’s Request for Proposal is not attached hereto.)
(The Purchaser’s Request for Proposal is incorporated by reference herein.)
ATTACHMENT F

to Master Price Agreement by and between VENDOR and PURCHASER.

ADDITIONAL VENDOR TERMS OF PURCHASE, IF ANY.

None
NOTICE OF SOLICITATION

PUBLIC PROCUREMENT AUTHORITY

SOLICITATION FOR: SELF-CONTAINED BREATHING APPARATUS (SCBA)

Notice is hereby given that the Public Procurement Authority will accept sealed proposals for SELF-CONTAINED BREATHING APPARATUS (SCBA) at the address listed below, until 5:00 PM PST on DECEMBER 12, 2016. Those proposals will be for the Public Procurement Authority and members of National Purchasing Partners Government Division (“NPPGov”) across the nation, including but not limited to governmental units incorporated by “ATTACHMENT H” of the Request for Proposal (RFP), WIPHE members identified in “ATTACHMENT G” of the RFP, as well as government units in all other states (collectively, “Participating Agencies”). Significant sales potential exists because the resulting Master Price Agreement for national proposers will include piggy backing language that permits use of the Master Price Agreement nationwide without the need for Participating Agencies to duplicate the formal solicitation process and expend staff resources and funds.

All Proposals must be signed, sealed and addressed to:

Mailing Address:

PPA SELF-CONTAINED BREATHING APPARATUS (SCBA) RFP #1610
Public Procurement Authority
c/o Heidi Arnold, Contract Manager
25030 SW Parkway Ave.
Suite 330
Wilsonville, OR 97070

NOTE: THE PUBLIC PROCUREMENT AUTHORITY WILL NOT ACCEPT PROPOSAL ENVELOPES WITH INSUFFICIENT POSTAGE.

INQUIRIES:

PPA SELF-CONTAINED BREATHING APPARATUS (SCBA) RFP #1610
Public Procurement Authority
c/o Heidi Arnold
25030 SW Parkway Ave.
Suite 330
Wilsonville, OR 97070

855-524-4572 or questions@ppa-or.gov

The solicitation documents may be reviewed at the office address listed above.


REQUESTS FOR PROPOSALS (RFP’s) ARE AVAILABLE FOR VIEWING AND/OR DOWNLOADING ONLINE AT www.ppa-or.gov, www.findrfp.com and www.nppgov.com
SOLICITATIONS FOR: SELF-CONTAINED BREATHING APPARATUS (SCBA)

1.0 INTENT:

1.1 GENERAL INTENT

The Public Procurement Authority (“PPA”) serves as the “Lead Contracting Agency” for this solicitation
on behalf of its members, and as authorized by the PPA Intergovernmental Agreement, which is an agreement for intergovernmental cooperation among select local Oregon governments and recognized under ORS Chapter 190. PPA, in association with the members of National Purchasing Partners, LLC dba NPPGov (hereinafter referred to as “NPPGov”), comprises a cooperative procurement group. NPPGov membership includes government entities, non-profit organizations across the nation, members of FireRescue GPO and Law Enforcement GPO, Hawaii, Idaho and Oregon local government units (ATTACHMENT H), and WIPHE members (ATTACHMENT G), as well as all other government units in all other states, as authorized under the terms of the Intergovernmental Cooperative Purchasing Agreement executed by all Lead Contracting and Participating Agencies (the foregoing list of entities hereinafter referred to as “Participating Agencies”). This procurement group is soliciting proposals from qualified companies (hereinafter referred to as “Proposer”) to enter into a Master Price Agreement for SELF-CONTAINED BREATHING APPARATUS (SCBA).

The intent of this Interstate Cooperative Procurement Solicitation (hereinafter referred to as “Solicitation” or “RFP”) is to invite Proposers to submit a competitive pricing proposal offering SELF-CONTAINED BREATHING APPARATUS (SCBA) to PPA, which will then be made available to NPPGov members locally and nationwide; to reduce expenses by eliminating multiple requests for proposals and multiple responses by Vendors; and to obtain discounted pricing through volume purchasing. Significant sales potential exists because the Master Price Agreement will be used nationwide without the need for Participating Agencies to duplicate the formal solicitation process and expend staff resources. Preferably, the successful Proposer will provide its entire catalog of products and/or services in order that Participating Agencies who wish to access the Master Price Agreement may order a broad range of goods and services as needed.

With the exception of successful local Proposer(s) capable of servicing PPA and Participating Agencies within the state of Oregon, successful Proposer(s) should have a strong national presence for SELF-CONTAINED BREATHING APPARATUS (SCBA) for use by government agencies nationwide.

This Solicitation meets Oregon public contracting requirements and may not be appropriate under or meet Participating Agencies’ procurement laws. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

1.2 POTENTIAL MARKET

The PPA is publishing this RFP to create publicly awarded contracts for use by it’s members, which may also benefit the thousands of fellow members of NPPGov, FireRescue GPO and Law Enforcement GPO. These are nationwide programs representing member government agencies in all 50 states. We encourage each Proposer’s response to be a collaborative effort including manufacturer and distributor (when they are not the same company) to ensure nationwide contract utilization.

Proposer’s response should also take into consideration the considerable market potential for this Solicitation. Because the successful proposal will be incorporated into a nationwide purchasing program including thousands of local government participants, the PPA believes that contracts created from this Solicitation will provide vendors with a significant market advantage. Members of NPPGov, FireRescue GPO and Law Enforcement GPO and current vendors who participate in the program indicate the ability to shorten the sale cycle by eliminating the need to complete individual RFP processes is a significant advantage to participation.

The PPA believes that participation in the NPPGov purchasing program benefits both its Participating Agencies and successful Proposers. NPPGov engages with successful proposers who complete the Vendor Administration Agreement through a marketing and sales partnership. This partnership includes (but is not limited to) contract promotion to members, contract administration support to potential customers and live customer phone support.
1.3 REQUIREMENTS

1.3.1 The RFP and resulting Master Price Agreement are anticipated for use by the PPA’s government members, as well as other Participating Agencies across the nation. The PPA has entered into an Intergovernmental (interlocal) Cooperative Purchasing Agreement with other Participating Agencies for the purpose of obtaining Master Price Agreements with various vendors. Interlocal cooperative purchasing agreements allow Participating Agencies to make purchases at the PPA’s accepted proposal price, terms and conditions, provided that the Participating Agency has satisfied all of its local and state cooperative procurement requirements. By submitting a proposal, the Proposer(s) agrees to make the same proposal terms and price, exclusive of any possible rebates, incentives, freight and transportation fees, available to other Participating Agencies. The PPA and NPPGov will not incur any direct liability with respect to specifications, delivery, payment, or any other aspect of purchases by such Participating Agencies or nonprofit institutions. The Intergovernmental Cooperative Purchasing Agreement is incorporated by reference herein and is available upon request — See Attachment A.

The successful Proposer must work directly with the Participating Agencies concerning the placement of orders, disputes, invoicing and payment. The PPA and NPPGov shall not be held liable for any costs or damages incurred by or as a result of the actions of the Vendor or any Participating Agency. Successful Proposers must comply with the state and local laws, rules and regulations in each state and locality where the product or service is provided.

1.3.2 Each Participating Agency shall execute a Participating Agency Endorsement and Authorization included in the Intergovernmental Cooperative Purchasing Agreement. While the terms of the Master Price Agreement shall govern the general pricing terms, each Participating Agency may request modification of the Master Price Agreement in accordance with each Participating Agency’s state and/or local purchasing laws, rules, regulations and procedures, provided said modifications are not material changes. Each Participating Agency may, at its discretion, and upon written agreement by the Participating Agency and Successful Proposer, request additional legal and procedural provisions not included herein that the successful Proposer must adhere to if it wishes to conduct business with said Participating Agency using the Master Price Agreement.

1.3.3 NPPGov, FireRescue GPO and Law Enforcement GPO provide vendor exposure/marketing and contract utilization support for the successful Proposer’s products and services. Successful Proposers servicing the awarded contract to Participating Agencies shall pay a Contract Administration Fee representing 1% percent of actual net sales under the Master Price Agreement as established in the NPPGov Vendor Administration Agreement (available upon request). Administration fee may not be listed or charged as a separate line item to users of the contract. The value of trade-ins or rebates shall not affect the amount of the administration fee paid to NPPGov. A portion of the 1% fee may be paid to the Western Fire Chiefs Association pursuant to agreements with NPPGov, Fire Rescue GPO, and Law Enforcement GPO for distribution to the relevant fire chiefs association where the purchase was made.

1.4 MULTIPLE AWARDS

Multiple awards may be granted to meet the requirements of this Solicitation provided that such awards are differentiated by product make and model, service, and/or distribution regions and capabilities of the successful Proposers. Specifically, the PPA may award separate contracts to Proposers in order to cover all local and national geographical markets, electronic purchasing capabilities, and products and services identified in this Request for Proposal, as well as the diverse and large number of Participating Agencies. The award of multiple contracts is to be determined upon receipt and review of all proposals, and based upon the general criteria provided herein. The PPA may solicit proposals from local qualified companies with or without a national presence provided that the successful Proposer is able to provide the PPA with the products and services requested. Multiple awards will ensure fulfillment of current and future requirements of the diverse and large number of Participating Agencies. In the event a local Proposer with no national distribution capabilities best meets the proposal selection criteria, multiple local and
nationwide responsive proposals may be awarded simultaneously in the best interests of local commerce, compliance with local laws, and the Participating Agencies nationwide.

Proposers should be able to serve the needs of Participating Agencies on a national basis. However, this requirement shall not exclude local Proposers without a national presence that are capable of meeting the requirements of the PPA within the state of Oregon.

1.5 CONTRACT USAGE

The actual utilization of any Master Price Agreement will be at the sole discretion of PPA and the other Participating Agencies. It is the intent of this Request for Proposal and resulting Master Price Agreement that Participating Agencies may buy directly from Successful Proposers without the need for further solicitation. However, Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements as well as the need for further notice prior to utilizing the Master Price Agreement.

1.6 BACKGROUND OF NPPGov

NPPGov, owned by two non-profit healthcare organizations, provides group purchasing opportunities and purchasing administrative support for governmental entities and nonprofit institutions within its membership. NPPGov’s membership includes participating public and nonprofit entities across North America.

1.7 EQUAL OPPORTUNITY

The PPA encourages Minority and Women-owned Small Business Proposers to submit proposals.

1.8 QUALIFIED REHABILITATION FACILITIES

Oregon Public Agencies are prohibited from use of products and services offered under this contract that are already provided by qualified nonprofit agencies for disabled individuals as listed on the Department of Administrative Service’s Procurement List pursuant to ORS 279.835 ORS 279.855. Please see www.OregonRehabilitation.org/qrf for more information.

2.0 SCOPE OF WORK:

2.1 REQUIREMENTS OF PROPOSERS SUBMITTING A RESPONSE:

Proposers must present clear and concise evidence indicating Proposer’s ability to comply with the requirements stated herein and to provide and deliver the specified products and services to Participating Agencies.

2.1.1 PROPOSER COMMITMENTS

Each Proposer is required to commit to low pricing, and accurate and timely reporting to NPPGov pursuant to the reporting requirements identified in the NPPGov Vendor Administration Agreement (available upon request). In addition, successful Proposer(s) with a national presence must commit to marketing of the Master Price Agreement nationwide and that the sales force will be trained, engaged and committed to offering NPPGov pricing to member government agencies nationwide, including the opportunity for NPPGov to train the Vendor sales staff.

2.1.2 PROPOSERS MUST COMPLETE “ATTACHMENT B” – PROPOSER PROFILE WORKBOOK”.

2.2 PRODUCTS AND SERVICES:
2.2.1 Provide a description of the SELF-CONTAINED BREATHING APPARATUS (SCBA) offered as set forth in ATTACHMENT C. The primary objective is for the Proposer(s) to provide the Proposer(s)’s entire catalog of products and services ("catalog discount") that are responsive to this RFP so that Participating Agencies may order a broad range of products and services as appropriate for their needs.

2.2.2 All products offered must be new, unused and most current product lines, unless otherwise clearly identified as remanufactured goods.

2.2.3 Describe any special programs that Proposer offers that shall improve the ability of the Participating Agencies to access the products, such as retail store availability, expedited delivery intervals, item sourcing, or other unique plans and services.

2.2.4 Additional Benefits: Proposer shall identify any other added value it offers to the Public Procurement Authority ("PPA") and Participating Agencies (e.g. convenience cards, individual/member discounts, additional admin fee, etc.)

2.3 PRICING:

2.3.1 Pricing for the products and services may be based on “ATTACHMENT D” - PRICING SCHEDULE as follows:

A A fixed percentage (%) off marked price based on the Proposer’s catalog or retail store price for each CATEGORY specified in ATTACHMENT D – PRICING SCHEDULE. Proposer shall identify the catalog used.

Option (A) is preferred. If option (A) is not feasible proposer may use option (B) provided Proposer includes a justification.

B Alternatively, contract pricing may be based upon fixed prices (contingencies for economic price adjustments must be identified in the proposal), or a combination fixed percentage off and firm fixed prices. Proposer may offer additional discounts to PPA and Participating Agencies based on volume.

If proposers are responding with option “B”, proposers may request price increases based on manufacturer costs, cost of labor and/or materials that must be supported by appropriate documentation. If PPA agrees to the price modification, PPA may approve in writing, including electronic mail, without the need for a written amendment to the Master Price Agreement.

2.3.2 Proposers may also add additional products and services provided that any additions reasonably fall within the intent of the original RFP specifications. Pricing on additions shall be equivalent to the percentage discount for other similar products. Proposer may provide a web-link with current product listings, which may be updated periodically, as allowed by the terms of the resulting Master Price Agreement. Proposer may replace or add product lines to an existing contract if the line is replacing or supplementing products on contract, is equal or superior to the original products offered, is discounted in a similar or to a greater degree, and if the products meet the requirements of the solicitation. No products may be added to avoid competitive procurement requirements. PPA may reject any additions without cause.

2.3.3 Explain any additional pricing incentives that may be available such as large volume purchases, cash terms, or rebates to Participating Agencies. However, steeper discounts are preferred to rebates.

2.3.4 All pricing proposals shall clearly explain how freight and/or delivery costs are determined as described in ATTACHMENT D PRICING SCHEDULE herein.
2.3.5 If applicable, please describe any discounts offered to individual employees or volunteers of the PPA or a Participating Agency.

2.4 TAX:

Proposers shall strictly adhere to all federal, state and local tax requirements applicable to their operation, and to any contract or activity resulting from this Solicitation.

3.0 SPECIAL TERMS & CONDITIONS:

3.1 MASTER PRICE AGREEMENT TERM:

As a result of this Solicitation the successful Proposer(s) shall be awarded a Master Price Agreement for a three (3) year period. The Master Price Agreement may be extended up to a maximum of three (3) additional one (1) year periods.

3.2 MASTER PRICE AGREEMENT ACCESS PROVISIONS

Utilization of the Master Price Agreement will be at the discretion of the Public Procurement Authority (“PPA”) and Participating Agencies. The PPA shall be under no obligation to purchase off of the Master Price Agreement. Assuming all local competitive solicitation requirements have been met, Participating Agencies may purchase directly from the successful Proposer(s) without the need for further solicitation.

3.3 INDEMNIFICATIONS AND INSURANCE:

Indemnification and insurance requirements will vary based on the nature of the RFP. Proposer is responsible for submitting appropriate indemnification and insurance coverage as applicable.

3.3.1 Indemnification

The successful Proposer shall indemnify the PPA and NPPGov as specified in the Master Price Agreement.

3.3.2 Insurance Requirements.

Proposer(s), at Proposer(s)’s own expense, shall purchase and maintain the herein stipulated minimum insurance from a reputable company or companies duly licensed by the State of Oregon. In lieu of State of Oregon licensing, the stipulated insurance may be purchased from a company or companies that are authorized to do business in the State of Oregon, provided that said insurance companies meet the approval of the PPA.

Proposer(s)’s insurance shall be primary insurance with respect to the PPA, and any insurance or self-insurance maintained by the PPA shall not contribute to it.

Award of this Solicitation is contingent upon the required insurance policies and/or endorsements identified herein. The PPA shall not be obligated to review such policies and/or endorsements or to advise Proposer(s) of any deficiencies in such policies and endorsements, and such receipt shall not relieve Proposer(s) from, or be deemed a waiver of the PPA’s right to insist on strict fulfillment of Proposer(s)’s obligations under this RFP.

The insurance policies required by this RFP, except Workers’ Compensation, shall name the PPA, its agents, representatives, officers, directors, officials and employees as an Additional Insured.

The policies required hereunder, except Workers’ Compensation, shall contain a waiver of
transfer of rights of recovery (subrogation) against the PPA, its agents, representatives, officers, directors, officials and employees for any claims arising out of Proposer(s)’s work or service.

3.3.3 Commercial, automobile and workers’ compensation insurance.

3.3.3.1 Commercial General Liability. Proposer(s) shall maintain Commercial General Liability Insurance (CGL) and, if necessary, Commercial Umbrella Insurance. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of the Master Price Agreement.

3.3.3.2 Automobile Liability. Proposer(s) shall maintain Automobile Liability Insurance and, if necessary, Commercial Umbrella Insurance. If hazardous substances, materials, or wastes are to be transported, MCS 90 endorsement shall be included.

3.3.3.3 Workers’ Compensation and Employer’s Liability. Proposer(s) shall carry Workers’ Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over Proposer(s)’s employees engaged in the performance of the work or services, as well as Employer’s Liability insurance.

In case any work is subcontracted, Proposer(s) will require the SubProposer(s) to provide Workers’ Compensation and Employer’s Liability insurance to at least the same extent as required of Proposer(s).

4.0 SCHEDULE, RESPONSE PREPARATION AND SUBMISSION

4.1 SCHEDULE OF EVENTS

4.1.1 Publication of Request for Proposal

Publication of this Solicitation conforms with ORS 279B, to include Public Notice by publication in a newspaper of general circulation in the area where the Public Procurement Authority ("PPA") is located no less than 30 days prior to the proposal due date, as well as posting of the Public Notice on the web site that typically posts Public Notices concerning the PPA.

Solicitation Notice Publications: October 26, 2016; November 2, 2016

4.1.2 Question and Answer period

The PPA will post questions and answers concerning this Solicitation no later than 14 days prior to the proposal due date. All questions shall be submitted in writing via email to Heidi Arnold, Contract Manager, at questions@ppa-or.gov. The PPA reserves the right to accept and answer questions after the question and answer period has expired. All questions and answers will be posted with the original solicitation on the PPA website at www.ProcurementAuthority.org.

4.1.3 Submission of Proposals

There will be no mandatory pre-proposal meeting. All questions must be submitted via email as directed above. If necessary, questions can be submitted in writing to Public Procurement Authority, c/o Heidi Arnold, 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070 or questions@ppa-or.gov.

Close date: Deadline for submission of proposals is 5:00 PM PST, on December 12, 2016. The
PPA must receive all proposals before **5:00 PM PST** on the above closing date in the office of the Public Procurement Authority, c/o Heidi Arnold, Contract Manager, 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070.

**Approximate opening date: 9:00 AM PST on December 13, 2016** at the office of the Public Procurement Authority, c/o Heidi Arnold, 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070.

**Proposal selection and negotiation: December 13, 2016 to Januar 16, 2017.**

**Approximate award date: February 1, 2017.**

All responses to this Solicitation become the property of the PPA. Proposers should mark those aspects of the proposal that they consider trade secrets and exempt from public disclosure. The PPA will not be held accountable if parties other than the PPA obtain material from proposal responses without the written consent of the Proposer(s).

### 4.1.4 Withdrawal of Proposal

The Proposer(s) may withdraw its proposal at any time prior to the hour and date set for the receipt of proposals. Withdrawal will not preclude the submission of another proposal prior to the deadline.

### 4.2 REVIEW, INQUIRIES AND NOTICES:

#### 4.2.1 The solicitation documents may be reviewed in person at the following address:

**Public Procurement Authority**  
25030 SW Parkway Ave.  
Suite 330  
Wilsonville, OR 97070

All inquiries concerning information herein shall be addressed to:

**Public Procurement Authority**  
c/o Heidi Arnold  
25030 SW Parkway Ave.  
Suite 330  
Wilsonville, OR 97070

Administrative telephone inquiries shall be addressed to:

Heidi Arnold, 855-524-4572  
Email inquiries shall be addressed to:

questions@ppa-or.gov

**Inquiries may be submitted by telephone but must be followed up in writing. No oral communication is binding on the PPA.**

#### 4.2.2 Proposal Interpretation of the RFP Documents and Issuance of Addenda

If any Proposer(s) finds discrepancy in, or omissions from, or is in doubt to the true meaning of any part of the RFP document, he/she shall submit a written request for a clarification or interpretation thereof to:
Public Procurement Authority  
c/o Heidi Arnold  
25030 SW Parkway Ave.  
Suite 330  
Wilsonville, OR 97070

Any request for clarification or interpretation must be received at least ten (10) calendar days prior to the RFP closing date.

The PPA is not responsible for any explanation, clarification, interpretation, or approval made or given in any manner, except by addenda. Addenda, if necessary, will be issued not later than five (5) days prior to the RFP closing date by publication on the PPA’s web site and NPPGov website.

Oral interpretations or statements cannot modify the provisions of this Request for Proposal. If inquiries or comments by Proposers raise issues that require clarification by the PPA, or the PPA decides to revise any part of this Request for Proposal, addenda will be published and provided to all persons who receive the Request for Proposal. Receipt of an addendum must be acknowledged by signing and returning it with the proposal.

4.3 INSTRUCTIONS FOR PREPARING AND SUBMITTING PROPOSALS:

Proposers are to provide two (2) hard copies and two (2) electronic copies of the complete proposal. Each electronic copy is to be submitted on a USB flash drive with the core response in a file less than 10 MB, when possible. Electronic files may be used by the Evaluation Committee so they should be organized and named in an easy to understand manner. Proposers are to address proposals identified with return address, RFP number and title in the following manner:

**PPA SELF-CONTAINED BREATHING APPARATUS (SCBA) RFP #1610**  
Public Procurement Authority  
c/o Heidi Arnold, Contract Manager  
25030 SW Parkway Ave.  
Suite 330  
Wilsonville, OR 97070

All prices shall be held firm for a period of sixty (60) days after the Solicitation closing date. Any Proposer may withdraw its proposal if a Master Price Agreement has not been executed within sixty (60) days from the RFP closing date.

4.4 EXCEPTIONS AND DEVIATIONS TO THE RFP

The Proposer shall identify and list all exceptions taken to all sections of this RFP and list these exceptions, referencing the section (paragraph) where the exception exists and stating the proposed revision. The Proposer shall list these exceptions under the heading, “Exception to the Solicitation, RFP Number 1610.” Exceptions not listed under the heading “Exception to the Solicitation, RFP Number 1610.” shall be considered invalid. The PPA reserves the right to reject exceptions, render the proposal non-responsive, enter into negotiation on any of the Proposer exceptions, or accept any or all exceptions.

The Proposer shall detail any and all deviations from specifications, if any, contained in this Solicitation and Attachments, as requested. The PPA may accept or reject deviations, and all PPA decisions shall be final.

4.5 RESPONSE FORMAT AND CONTENT:

To aid in the evaluation, it is desired that all proposals follow the same general format. The proposals are
to be submitted in binders and have sections tabbed as follows:

4.5.1 Letter of Transmittal
4.5.2 Table of Contents
4.5.3 Short introduction and executive summary. This section shall contain an outline of the general approach utilized in the proposal.
4.5.4 The proposal should contain a statement of all of the programs and services proposed, including conclusions and generalized recommendations. Proposals should be all-inclusive, detailing the Proposer’s best offer. Additional related services should be incorporated into the proposal, if applicable.
4.5.5 Qualifications – This section shall describe the Proposer’s ability and experience related to the programs and services proposed.
4.5.6 Exceptions to the Solicitation, RFP Number 1610.
4.5.7 PRICING SCHEDULE (“ATTACHMENT D”).
4.5.8 PROPOSER PROFILE WORKBOOK (“ATTACHMENT B”).
4.5.9 Complete, Current Catalog Pricing shall be submitted on a USB flash drive.
4.5.10 Format Proposal to specifically address each individual sub-section and sub-set of the SCOPE OF WORK (Section 2.0).
4.5.11 Signed Addenda, if any.
4.5.12 Proposal Final Certification.

5.0 EVALUATION AND POST SUBMISSION

5.1 EVALUATION OF PROPOSAL – SELECTION FACTORS:

A Proposal Evaluation Committee will be appointed by the Public Procurement Authority (“PPA”) on behalf of its membership to evaluate each Proposal and prepare a scoring of each Proposal. Each Proposal received and reviewed shall be awarded points under each criterion solely on the judgment and determination of the Evaluation Committee and the PPA. There is a maximum score of 500 points and Proposer’s average total score must be at least 200 points for consideration of an award. Proposals will be evaluated on the following criteria and further defined in the Proposal Evaluation Form (ATTACHMENT E) utilizing the point system indicated on the form:


At the PPA’s discretion, Proposers may be invited to make presentations to the Evaluation Committee. PPA reserves the right to make multiple awards to meet the national membership needs of this Solicitation.

5.1.1 Additional criteria/preferences that are not necessarily awarded points.

5.1.1.1 Pursuant to ORS 279A.125, Lead Contracting Agency shall give preference to the procurement of goods manufactured from recycled materials.
5.1.1.2 Pursuant to ORS 279A.120, Lead Contracting Agency shall give preference to goods and services that have been manufactured or produced within the State of Oregon if price, fitness, availability and quality are otherwise equal; and the Lead Contracting Agency shall add a percent increase to the proposal of a nonresident Proposer equal to the percent, if any, of the preference given to the Proposer in the state in which the Proposer resides. All Proposers shall identify the state to which it is a resident bidder.

5.1.1.3 Lead Contracting Agency shall consider proposals for printing, binding and stationary work in accordance with ORS 282.210, incorporated herein by this reference.

5.1.1.4 Proposer shall comply with all federal, state and local laws applicable to the work under the Master Price Agreement awarded as a result of this Solicitation, including, without limitation, the provisions of ORS 279A and ORS 279B, including those provisions set forth on “ATTACHMENT F”, attached hereto and incorporated herein by this reference.

5.1.1.5 Pursuant to Section 1.7, the Lead Contracting Agency encourages Minority and Women-owned Small Business Proposers to submit proposals.

5.2 RIGHT OF PUBLIC PROCUREMENT AUTHORITY TO AWARD OR REJECT PROPOSALS

5.2.1 The Request for Proposal does not commit the PPA to award a Master Price Agreement for the products or services specified within the Request for Proposal document. The PPA may cancel the procurement or reject any or all proposals in accordance with ORS 279B.100. Under no circumstance will the PPA pay the costs incurred in the preparation of a response to this request.

5.2.2 The PPA reserves the right to:

5.2.2.1 Accept or reject any or all proposals received as a result of the Request for Proposals;
5.2.2.2 Negotiate any contractual terms and conditions with any qualified Proposer(s);
5.2.2.3 Accept a proposal and subsequent offers for a Master Price Agreement from other than the lowest cost proposer;
5.2.2.4 Waive or modify any irregularities in proposals received after prior notifications to the Proposer(s).

5.2.3 The award, if there is one, will be made to that Proposer(s) who is determined to be the most qualified, responsible and responsive within a competitive price range based upon the evaluation of the information furnished under this RFP.

5.3 PROTEST PROCESS

A prospective Proposer may protest the procurement process of the Solicitation for an Agreement solicited under ORS 279B. Before seeking judicial review, a prospective Proposer must file a written protest with the PPA and exhaust all administrative remedies. Written protests must be delivered to the PPA at 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070 not less than ten (10) days prior to the date upon which all proposals are due. The written protest shall contain a statement of the desired changes to the procurement process or Solicitation document that the protestor believes will remedy the conditions upon which the protest is based. The PPA shall consider the protest if it is timely filed and meets the conditions set forth in ORS 279B.405. The PPA shall respond pursuant to ORS 279B.405. If the PPA upholds the protest, in whole or in part, the PPA may in its sole discretion either issue an Addendum reflecting its disposition or cancel the procurement or solicitation. The PPA may extend the due date of proposals if it determines an extension is necessary to consider and respond to the protest.
A Proposer may protest the Award of the Contract, or the intent to Award the Contract, if the conditions set forth in ORS 279B.410 are satisfied. Judicial review of the protest and the PPA’s decision shall be governed by ORS 279B.415.

5.4 NON-ASSIGNMENT

If a Master Price Agreement is awarded, Proposer shall not assign the Agreement in part or in total.

5.5 POST AWARD MEETING:

The successful Proposer(s) may be required to attend a post-award meeting with the PPA to discuss the terms and conditions of the Master Price Agreement.
5.6 PROPOSAL FINAL CERTIFICATION
The Proposer must certify the following:

a) I hereby certify that the Proposal contained herein fully and exactly complies with the instruction for proposers and specifications as they appear in this Notice of Solicitation.

b) I hereby further certify that I am authorized by the Board of Directors or Corporate Officers of the Corporation to sign the Requests for Proposals and proposals in the name of the corporation listed below:

Proposer Name: _________________________________
Signature: _________________________________
Name Typed: ______________________ Title: ____________________
Proposer is a resident bidder of the state of ________________
Date: ______________________
ATTACHMENT A

INTERGOVERNMENTAL COOPERATIVE PURCHASING AGREEMENT

(The Intergovernmental Cooperative Purchasing Agreement is not attached hereto, but the current version is available upon request from the Lead Public Agency)

(The Intergovernmental Cooperative Purchasing Agreement is incorporated by reference herein)
ATTACHMENT B

Proposer Profile Workbook to be completed by all responders as directed herein (fillable form available upon request)

1.0 General questions (Section 1.1 only to be completed by vendors with a national presence; i.e. vendors with a sales territory in 25 states or more).

1.1 The “Yes” or “No” questions below are to help evaluators familiarize themselves with national vendors. Circle “Yes” or “No” as it applies to your company.

✓ Do you have a national sales force adequate in size to meet the demands of multiple agencies and their unique needs for the products and services listed herein? Yes or No

✓ Do you have a national distribution network that will support sales resulting from this RFP? Yes or No

✓ Can you provide product availability to meet the requirements for materials and services listed herein for government and nonprofit agencies nationwide in a timely manner? Yes or No

✓ Does your company have the ability to provide toll-free telephone/fax access, and an online presence? Yes or No

✓ Can you provide a single point of contact (National Account Manager) to interact with the lead agency and NPPGov staff? Yes or No

✓ Are you a strong competitor in the industry with a minimum of three consecutive years of demonstrated success in all business practices and pursuits? Yes or No

1.2 Additional Information:

1.2.1 Provide at least three references of government agencies within the United States that have purchased products/services from Proposer similar to those specified in this solicitation within the last year. If proposed products/services are new to market, please use most similar business references available. Include:

  1.2.3.1.1 Agency name and address
  1.2.3.1.2 Contact name, phone and email
  1.2.3.1.3 Description of products/services sold and date.
  1.2.3.1.4 PPA may use other information, however learned, in evaluation of the response.

1.2.2 OPTIONAL: If a Dun and Bradstreet Comprehensive Report (or similar) for your company is available, please submit it with your response.

1.2.3 OPTIONAL: Attach any case studies, white papers and/or testimonials supporting your company and products/services.

2.0 ABOUT PROPOSER:

2.1 Complete Exhibit 1
2.2 Complete the following table

<table>
<thead>
<tr>
<th>2.2.1 State of incorporation:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2.2 Federal Tax Identification Number:</td>
<td></td>
</tr>
<tr>
<td>2.2.3 If applicable to the product(s) and/or service(s), describe the Proposer's ability to conduct E-commerce. [Insert response in box below]</td>
<td></td>
</tr>
<tr>
<td>2.2.4 Describe Proposer's system for processing orders from point of customer contact through delivery and billing. [Insert response in box below]</td>
<td></td>
</tr>
<tr>
<td>2.2.5 Describe Proposer's ability to provide detailed electronic reporting of quarterly sales correlated with NPP member ID numbers of Participating Agency purchases as set forth in Addendum A to Vendor Administration Agreement (VAA), a copy of which is available upon request from the PPA. [Insert response in box below]</td>
<td></td>
</tr>
<tr>
<td>2.2.6 Describe the capacity of Proposer to meet Minority and Women Business Enterprises (MWBE) preferences, which may vary among Participating Agencies. [Insert response in box below]</td>
<td></td>
</tr>
<tr>
<td>2.2.7 Proposer acknowledges compliance with Davis Bacon wage requirements where labor is concerned by indicating &quot;yes&quot; or &quot;no&quot; below.</td>
<td></td>
</tr>
</tbody>
</table>

3.0 DISTRIBUTION SYSTEM:

| 3.1 Describe distribution of products and services available in Proposer's response through Proposer's distribution system (including Alaska and Hawaii), including any limitations. [Insert response in box below] |  |
| 3.2 Provide Proposer's shipping and delivery policy, including standard delivery time and any options and costs for expedited delivery and return policies. [Insert response in box below] |  |
3.3 Third party and/or subcontracting may be allowed. If applicable, detail the sub-contracting process (ordering, shipment, invoicing, billing) for those products not carried in Proposer’s distribution center. Alternatively, if proposer utilizes a third party ordering, shipment, invoicing or billing partner, please describe in detail. [Insert response in box below]

3.4 What is Proposer’s backorder policy? Is your policy to classify as “immediate or cancel” (requiring the Participating Agency to reorder if item is backordered) or “good until cancelled”? [Insert response in box below]

4.0 MARKETING:

4.1 Outline Proposer’s plan for marketing the Products and Services to the Participating Agencies on a local and national basis. Include any marketing incentives such as committed dollars for advertising, conferences/travel and custom marketing materials. [may attach marketing plan or insert response in box below]

4.2 Explain how Proposer will educate its local and national sales force about the use of the Master Price Agreement. [Insert response in box below]

5.0 Proposer point of contact (POC) who will administer, coordinate, and manage this program with NPP and the Public Procurement Authority.

| Contact Person: | Title: |
| Mailing Address: | |
| City: | State & Zip: |
| Email Address: | |
| Phone #: | Fax #: |

* Attach current resume of National Account Manager that will be the POC managing this contract.

6.0 CUSTOMER SUPPORT SERVICES:

Explain Proposer’s policy regarding each of the following if applicable to product(s) and/or service(s):

6.1 Auditing for order completeness. [Insert response in box below]
<table>
<thead>
<tr>
<th>6.2 Replacement policy (i.e., damaged or defective goods). [Insert response in box below]</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3 Minimum order requirement (e.g., Individual item vs. case lot). [Insert response in box below]</td>
</tr>
<tr>
<td>6.4 Customer service hours/days of operation [Insert response in boxes below]</td>
</tr>
<tr>
<td>Monday:</td>
</tr>
<tr>
<td>6.5 Special Orders. [Insert response in box below]</td>
</tr>
<tr>
<td>6.6 Post sale services issues. [Insert response in box below]</td>
</tr>
<tr>
<td>6.7 Repair services, including repair warranty programs, if any. Proposer shall identify, where applicable, authorized factory repair facilities that will honor the warranty of items on contract. [Insert response in box below]</td>
</tr>
<tr>
<td>6.8 Technical support services Proposer provides. [Insert response in box below]</td>
</tr>
<tr>
<td>6.9 Product substitution policy. [Insert response in box below]</td>
</tr>
<tr>
<td>6.10 Identify trade-in program criteria (if applicable). [Insert response in box below]</td>
</tr>
<tr>
<td>6.11. After hours service (including weekends and holidays) [Insert response in boxes below]</td>
</tr>
<tr>
<td>Monday:</td>
</tr>
<tr>
<td>6.12 Shipment tracking. [Insert response in box below]</td>
</tr>
<tr>
<td>6.13 Back order tracking process. [Insert response in box below]</td>
</tr>
</tbody>
</table>
6.14 Return Item process, including any/all associated fees (e.g., restocking, shipping, turnaround time on returns). [Insert response in box below]

6.15 Electronic billing. [Insert response in box below]

6.16 Explain how Proposer will resolve complaints, issues, or challenges. [Insert response in box below]

6.17 Other services not already covered. [Insert response in box below]

7.0 DELIVERY AND FREIGHT CHARGES:

7.1 Identify delivery and/or shipping costs or provide a shipping rate schedule based on weight, item, and/or destination for all items ordered within the continental U.S. (and Hawaii/Alaska). The Proposer shall identify all exceptions to this shipping rate schedule. [Insert response in box below]

7.2 Identify policy for transfer of product ownership (delivery) and damage/issue resolution. [Insert response in box below]

7.3 Per Attachment I, Proposer acknowledges that F.O.B Destination with all transportation and handling charges paid by the Proposer will be offered when doing business with agencies in the State of Hawaii. Additionally, responsibility and liability for loss or damage will remain with Proposer until final inspection and acceptance when responsibility will pass to the buyer. [Insert response in box below]
Exhibit 1
SELF-CONTAINED BREATHING APPARATUS (SCBA) Coverage

SELF-CONTAINED BREATHING APPARATUS (SCBA) RETAIL, DISTRIBUTION AND SERVICE/SUPPORT LOCATIONS

<p>| State          | Number of retail stores in each state? (leave blank for none) | Number of distribution centers in each state? (leave blank for none) | Number of support locations in each state? (leave blank for none) |
|----------------|---------------------------------------------------------------|________________________________________________________________<strong>|</strong>______________________________________________________________|
| ALABAMA        |                                                               |                                                                     |                                                                    |
| ALASKA         |                                                               |                                                                     |                                                                    |
| ARIZONA        |                                                               |                                                                     |                                                                    |
| ARKANSAS       |                                                               |                                                                     |                                                                    |
| CALIFORNIA     |                                                               |                                                                     |                                                                    |
| COLORADO       |                                                               |                                                                     |                                                                    |
| CONNECTICUT    |                                                               |                                                                     |                                                                    |
| DELAWARE       |                                                               |                                                                     |                                                                    |
| FLORIDA        |                                                               |                                                                     |                                                                    |
| GEORGIA        |                                                               |                                                                     |                                                                    |
| HAWAII         |                                                               |                                                                     |                                                                    |
| IDAHO          |                                                               |                                                                     |                                                                    |
| ILLINOIS       |                                                               |                                                                     |                                                                    |
| INDIANA        |                                                               |                                                                     |                                                                    |
| IOWA           |                                                               |                                                                     |                                                                    |
| KANSAS         |                                                               |                                                                     |                                                                    |
| KENTUCKY       |                                                               |                                                                     |                                                                    |
| LOUISIANA      |                                                               |                                                                     |                                                                    |
| MAINE          |                                                               |                                                                     |                                                                    |
| MARYLAND       |                                                               |                                                                     |                                                                    |
| MASSACHUSETTS  |                                                               |                                                                     |                                                                    |
| MICHIGAN       |                                                               |                                                                     |                                                                    |
| MINNESOTA      |                                                               |                                                                     |                                                                    |
| MISSISSIPPI    |                                                               |                                                                     |                                                                    |
| MISSOURI       |                                                               |                                                                     |                                                                    |
| MONTANA        |                                                               |                                                                     |                                                                    |
| NEBRASKA       |                                                               |                                                                     |                                                                    |
| NEVADA         |                                                               |                                                                     |                                                                    |
| NEW HAMPSHIRE  |                                                               |                                                                     |                                                                    |
| NEW JERSEY     |                                                               |                                                                     |                                                                    |
| NEW MEXICO     |                                                               |                                                                     |                                                                    |
| NEW YORK       |                                                               |                                                                     |                                                                    |
| NORTH CAROLINA |                                                               |                                                                     |                                                                    |
| NORTH DAKOTA   |                                                               |                                                                     |                                                                    |
| OHIO           |                                                               |                                                                     |                                                                    |
| OKLAHOMA       |                                                               |                                                                     |                                                                    |
| OREGON         |                                                               |                                                                     |                                                                    |
| PENNSYLVANIA   |                                                               |                                                                     |                                                                    |</p>
<table>
<thead>
<tr>
<th>State</th>
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<tbody>
<tr>
<td>RHODE ISLAND</td>
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<tr>
<td>SOUTH CAROLINA</td>
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<td>SOUTH DAKOTA</td>
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<td>TENNESSEE</td>
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<tr>
<td>WASHINGTON</td>
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<tr>
<td>WEST VIRGINIA</td>
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<tr>
<td>WISCONSIN</td>
</tr>
<tr>
<td>WYOMING</td>
</tr>
</tbody>
</table>
Exhibit 2

Declaration of Non Collusion

The undersigned does hereby declare that there has been no collusion between the undersigned, the Public Procurement Authority, and National Purchasing Partners, and in further support of said Declaration, states as follows:

The person, firm, association, co-partnership or corporation herein named has not, either directly or indirectly, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding or solicitation in the preparation and submission of a proposal to the Public Procurement Authority for consideration in the award of a contract or Master Price Agreement negotiated as a result of this Request for Proposal.

DATED this _____ day of ______________, ______.

________________________________________
(Name of Firm)

By: ____________________________________
   (Authorized Signature)

Title: _________________________________
These specifications are intended to cover the complete range of Self-Contained Breathing Apparatus. Several categories and sub-categories are included below but are in no means intended to limit the proposer to responding to just these categories if there are other related products and services that Proposer would like to be considered for the award. Proposers should respond with pricing for all products and services they wish to be considered in the evaluation for a possible award and master price agreement.

The following categories are provided to indicate the intended extent of the RFP but do not necessarily represent the format of the Proposer’s response. Proposers may combine any and all categories and elements in a format that is most appropriate to represent their business in their response.

Proposers should indicate if there is any individual contract/pricing available to employees and volunteers of government and/or non-profit organizations, as well as if there is any required relationship to a corporate/organizational contract or account for employees and volunteers to access the individual contract/pricing.

NOTE: Proposers are not required to respond to all categories. Proposals will only be evaluated based on the categories to which they respond.

CATEGORY 1: OPEN-CIRCUIT SELF-CONTAINED (SCBA) AND/OR CLOSED-CIRCUIT SCBA SYSTEMS: SCBA shall be certified by the National Institute for Occupational Safety and Health (NIOSH) under current Title 42, part 84 of the Code of Regulations for 30-, 45-, or 60-minute rated service life and for storage. SCBA shall be compliant with all current related performance requirements of the NFPA. SCBA shall include primary audible alarms, and secondary (redundant) alarms. All electronic components shall be certified as intrinsically safe per Underwriters Laboratories (UL) 913.

CATEGORY 2: FACEPIECES: Shall be constructed to: fit various facial shapes and sizes; contain a replaceable, non-shatter-type, polycarbonate (or equal) to provide a satisfactory field of vision; allow air to enter the facepiece in a manner that shall reduce the possibility of moisture accumulation on the lens; employ an adjustable strap headband assembly; contain an easily removable exhalation module; removable speaking diaphragm; have field-replaceable components throughout; removable nose cup; and a removable adapter onto which the second stage regulator attaches. Include any available options such as heads up displays, thermal imaging displays, communications systems, etc.
CATEGORY 3: REGULATOR SYSTEM, INTERMEDIATE PRESSURE HOSE, RAPID INTERVENTION CREW/COMPANY UNIVERSAL AIR CONNECTION (RIC UAC): Shall be designed to operate in two independent stages: first stage shall be mounted directly on the cylinder valve; second stage shall be designed to provide positive pressure during an NFPA breathing machine test at a minimum of 70-psi inlet pressure. Regulator system shall be constructed to contain a pressure-reducing valve to reduce pressure from the cylinder; contain an over-pressurization relief valve; provide uniform flow performance throughout the full cylinder pressure range; include a metal inlet filter to retain particles of 30 microns or greater; and incorporate a RIC UAC.

CATEGORY 4: CYLINDERS: Shall pass all United States Department of Transportation (USDOT) testing requirements for cylinder volume, weight, construction materials, and maximum pressures. Cylinder valve shall include gauges, handwheel with safety locking collar device, and conform to the Compressed Gas Association (CGA) standard for thread connection for low and high pressure. Cylinder recharging stations, cylinder testing (members shall receive all testing certificates).

CATEGORY 5: MAINTENANCE, SERVICE AND TESTING: Any services and options related to the maintenance, service and testing of products and equipment offered in any of the categories

CATEGORY 6: OTHER: Other related self-contained breathing apparatus (SCBA) options not included in other categories including but not limited to integrated PASS alarms, command post air supply monitoring, physiological monitoring, personnel tracking, etc. Supplied Air Breathing Apparatus (SABA) equipment may also be offered in this category.
ATTACHMENT D
PRICING SCHEDULE

The intent is for each Proposer to submit their complete product line so that Participating Agencies may order a wide array of products and services as appropriate for their needs. Proposer is encouraged but is not required to respond to all categories. Proposer may suggest additional categories and sub-categories as applicable. Proposer may subcontract items Proposer does not supply.

The Proposer should not necessarily limit the proposal to the performance of the services in accordance with this document but should outline any additional services and their costs if the Proposer deems them necessary to accomplish the program.

Pricing and resulting relative discount to PPA and NPPGov membership shall be clearly delineated on each proposal. Contract admin fee (established in the “Requirements” Section of the RFP) may not be listed or charged as a separate line item to users of the contract. Contract pricing shall be based upon:

1) Fixed discount(s) off published price list(s) or catalog(s)
2) Firm fixed price with economic adjustment (contingencies for economic price adjustments must be identified in the proposal)
3) A combination of the above.

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Percentage (%) off List Price* (OR fixed price if % off pricing is not available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN-CIRCUIT SELF-CONTAINED (SCBA) AND/OR CLOSED-CIRCUIT SCBA SYSTEMS</td>
<td></td>
</tr>
<tr>
<td>FACEPIECES</td>
<td></td>
</tr>
<tr>
<td>REGULATOR SYSTEM, INTERMEDIATE PRESSURE HOSE, RAPID INTERVENTION CREW/COMPANY UNIVERSAL AIR CONNECTION (RIC UAC)</td>
<td></td>
</tr>
<tr>
<td>CYLINDERS</td>
<td></td>
</tr>
<tr>
<td>MAINTENANCE, SERVICE AND TESTING</td>
<td></td>
</tr>
<tr>
<td>OTHER</td>
<td></td>
</tr>
</tbody>
</table>

* Identify source of list price and publication date or expiration date.

Options
Proposers shall provide pricing on all options, modifications, and accessories in a format that best represents their product line and pricing structure. This may include specific pricing for some options and may also include general pricing/discounts for categories of options. Proposer may also indicate availability and pricing of all other non-specified options. The intent is to provide proposers the opportunity to present as much product as possible in the format that fits within their individual
formatting needs so that the resulting award allows PPA and NPPGov members the greatest number of procurement options.

Miscellaneous
Proposers should include any applicable pricing information related to Section 2.3 of the RFP including but not limited to: large volume purchases, cash terms, rebates, freight/delivery costs and individual discounts.
Proposals will be evaluated using a two-step process.

The first step evaluates the responsiveness of the proposer and determines 1) if the proposer is deemed fully responsive enabling the proposal to move to the second step and 2) if the proposal will be evaluated as a local response (within the State of Oregon) or a national response (covering the entire U.S. or a large region of the U.S.).

The second step of the evaluation process will only occur with proposals deemed fully responsive from the first step. The second step fully evaluates the proposers response based on the criteria found in the proposal evaluation form.

**STEP 1**
Proposal Responsiveness

<table>
<thead>
<tr>
<th>Component</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted on time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal signed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed Proposer Workbook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included pricing structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included references</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deemed Fully Responsive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Categorized as Local or National</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 669 of 814
**STEP 2**  
**Full Evaluation of Proposal**

**Point Value Definitions**  
5- Excellent – Substantially exceeds requirements  
4- Very Good - Meet all requirements  
3- Good – Meets most requirements  
2- Satisfactory – Minimally meets requirements  
1- Unsatisfactory – Requirements essentially not met  
0- No Response provided

<table>
<thead>
<tr>
<th>Component Evaluated</th>
<th>Weight</th>
<th>Possible Points (0-5)</th>
<th>Total Points (Weight x PP)</th>
<th>Evaluator's Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pricing</strong>: Product price analysis and discounts proposed including favorable pricing for cooperative purchasing</td>
<td>25</td>
<td></td>
<td></td>
<td>Comments:</td>
</tr>
<tr>
<td><strong>Product Line (by category)</strong>: Breadth, variety, quality of product line and warranties available.</td>
<td>15</td>
<td></td>
<td></td>
<td>Comments:</td>
</tr>
<tr>
<td><strong>Marketing</strong>: The Proposer's marketing plan to promote the resulting contractual agreement and ability to incorporate use of agreement in their sales system throughout indicated coverage region.</td>
<td>15</td>
<td></td>
<td></td>
<td>Comments:</td>
</tr>
<tr>
<td><strong>Customer Service</strong>: Support dedicated to Lead Contracting and Participating Agencies. Ability to conduct e-commerce and meet promised delivery timelines. Additional services offered.</td>
<td>15</td>
<td></td>
<td></td>
<td>Comments:</td>
</tr>
<tr>
<td>Coverage: Ability to provide products and services for indicated coverage region including distribution, retail &amp; service facilities, coordination of manufacturer and distribution, and staff availability. *Note Exhibit 1 from PPW</td>
<td>15</td>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Proven Experience &amp; References: Proposer’s success in providing products and services in a timely manner including Past Performance Information (PPI) review.</td>
<td>10</td>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conformance: Completeness of proposal and the degree to which the Proposer responds to the terms and all requirements of the RFP requirements and specifications.</td>
<td>5</td>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td>General Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name of Evaluator _________________________
Signature _________________________________
Date ______________________
ATTACHMENT F

OREGON REVISED STATUTES (AS MAY BE AMENDED) REQUIREMENTS

Successful Proposer (Contractor) shall comply with the requirements of this ATTACHMENT F to the extent required by any applicable federal or state law.

1. Contractor shall pay promptly, as due, all persons supplying labor or materials for the performance of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor.

2. Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract.

3. Contractor shall not permit any lien or claim to be filed or prosecuted against the PPA or any Participating Agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted.

4. Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167

5. If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the PPA or any Participating Agency may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the PPA or any Participating Agency is unable to determine the validity of any claim for labor or material furnished, the District may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

6. Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

7. In a contract for personal services, contractor shall pay employees at least time and half for all overtime worked in excess of 40 hours in any one week under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq.). In contracts for services, contractors shall pay employees at least time and a half pay for work performed on the legal holidays specified in a collective bargaining agreement or in ORS 279B.020(1)(b)(B) to (G) and for all time worked in excess of 10 hours in any one day or in excess of 40 hours in any one week, whichever is greater.

8. The Contractor must give notice in writing to employees who work on this contract, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and the days per week that the employees may be required to work.

9. All subject employers working under the contract are either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126.

10. All sums due the State Unemployment Compensation Trust Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid.

11. The contract may be canceled at the election of PPA for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.
(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women, emerging small business enterprises certified under ORS 200.055, or business enterprises owned or controlled by or that employ a disabled veteran in obtaining any required subcontractors.
ATTACHMENT G
WIPHE RESPONSE FORM

THIS FORM MUST BE RETURNED WITH SOLICITATION RESPONSE

Vendor servicing Washington State AGREES to sell items included in this solicitation to WIPHE institutions at prices offered, unless otherwise noted below:

________ DOES NOT agree to sell to WIPHE Institutions.

________ AGREES to sell to WIPHE Institutions at same prices and discounts, with the following exceptions: (attach additional pages as necessary)

Vendor must state geographic areas or specific institution(s) listed below within the State of Washington that are EXCLUDED from the contract(s) resulting from this solicitation:


If Vendor agrees to sell to the WIPHE Institutions, a WIPHE Contract number will be assigned and the information will be reported to the Council of Presidents. The Council of Presidents notifies all the other schools when a WIPHE contract has been awarded and a master list will be maintained and the WIPHE website updated. WIPHE shall determine, at its absolute discretion, whether it shall accept and/or utilize the contract resulting from the Request for Proposal.
Washington Institutions of Public Higher Education (WIPHE)

FOUR-YEAR UNIVERSITIES

CENTRAL WASHINGTON UNIVERSITY
EASTERN WASHINGTON UNIVERSITY
THE EVERGREEN STATE COLLEGE
UNIVERSITY OF WASHINGTON
WASHINGTON STATE UNIVERSITY
WESTERN WASHINGTON UNIVERSITY
COMMUNITY AND TECHNICAL COLLEGES:
BATES Technical College
BELLEVUE Community College
BELLINGHAM Technical College
BIG BEND Community College
CASCADE Community College
CASCADIA College
CENTRALIA College
CLARK College
CLOVER PARK Technical College
COLUMBIA BASIN College
EDMONDS Community College
EVERETT Community College

Miscellaneous local agencies within Washington State*

ADAMS COUNTY
PUYALLUP SCHOOL DIST 3
KITSAP COUNTY
FIFE SCHOOL DIST 417
RIVERVIEW SCHOOL DIST 407
GONZAGA UNIVERSITY
PLANNED PARENTHOOD OF WESTERN WASHINGTON
SNOHOMISH COUNTY
MASON COUNTY
FEDERAL WAY SCHOOL DIST
SPOKANE COUNTY
ISSAQUAH SCHOOL DIST 411
ADAMS COUNTY FIRE DISTRICT
ADAMS COUNTY HEALTH DISTRICT
AFFILIATED HEALTH SERVICES
ALDERWOOD WATER DISTRICT
ANACORTES PORT OF
ANACORTES SCHOOL DISTRICT 103
ANNAPOLIS WATER DISTRICT
ASOTIN COUNTY
AUBURN SCHOOL DISTRICT 408
BAINBRIDGE IS SCHOOL DISTRICT 303
BAINBRIDGE ISLAND FIRE DEPARTMENT
BAINBRIDGE ISLAND PARKS
BATTLE GROUND SCHOOL DISTRICT 119
BELLEVUE SCHOOL DISTRICT 405
BELLINGHAM PORT OF
BELLINGHAM SCHOOL DISTRICT 501
BENTON COUNTY
BENTON COUNTY FIRE DISTRICT
GRAYS HARBOR College
GREEN RIVER Community College
HIGHLINE Community College
LAKE WASHINGTON Technical College
LOWER COLUMBIA College
OLYMPIC College
 PENINSULA College
PIERCE College
RENTON Technical College
SEATTLE CENTRAL Community Colleges
SHORELINE Community College
SKAGIT Valley College
SOUTH PUGET SOUND Community College
SPOKANE Community Colleges
STATE BOARD for Technical & Community Colleges
WENATCHEE Valley College
YAKIMA Valley Community College
WHATCOM Community College
BENTON COUNTY PUD
BENTON FRANKLIN COUNTY
BENTON FRANKLIN PRIVATE INDUST CNCL
BENTON PORT OF
BETHEL SCHOOL DISTRICT 403
BIG BROTHERS BIG SISTERS OF KING CO
BIRCH BAY WATER & SEWER DISTRICT
BLANCHET SCHOOL DISTRICT
BREMERTON KITSAP CO HEALTH DISTRICT
BREMERTON PORT OF
BREMERTON SCHOOL DISTRICT 100
BURLINGTON EDISON SCHOOL DIST 100
CANCER RESEARCH AND BOISTATISTICS
CASCADE BLUE MT FD SHR
CASCADE IRRIGATION DISTRICT
CASHMERE SCHOOL DISTRICT 222
CATHOLIC COMM SVCS OF KING CO
CENTRAL KITSAP SCHOOL DISTRICT 401
CENTRAL WAS COMP MENTAL HEALTH
CENTRALIA SCHOOL DISTRICT 40
CHEHALIS SCHOOL DISTRICT 302
CHelan COUNTY
CHELAN COUNTY COMMUNITY HOSPITAL
CHELAN COUNTY FIRE DISTRICT
CHELAN COUNTY PUD 1
CHELAN DOUGLAS COUNTY HEALTH DIST
CHENEY CARE CENTER
CHILD CARE RESOURCE & REFERRAL
CHILDRENS THERAPY CENTER
CHIMACUM SCHOOL DISTRICT 49
CLALLAM COUNTY
SUQUAMISH TRIBE
SW CLEAN AIR AGENCY
SWINOMISH TRIBE
TACOMA DAY CHILD CARE AND PRESCHOOL
TACOMA MUSICAL PLAYHOUSE
TACOMA PORT OF
TACOMA SCHOOL DISTRICT 10
TACOMA-PIERCE CO
TAHOMA SCHOOL DISTRICT 409
TERRACE HEIGHTS SEWER DISTRICT
THURSTON COMMUNITY TELEVISION
THURSTON COUNTY
THURSTON COUNTY CONSERVATION DIST
THURSTON COUNTY FIRE DISTRICT
TOPPENISH SCHOOL DISTRICT 202
TOUCHET SD 300
TRIUMPH TREATMENT SERVICES
TUKWILA SCHOOL DIST 406
TUMWATER SCHOOL DISTRICT 33
U S DEPARTMENT OF TRANSPORTATION
UNITED WAY OF KING COUNTY
UNIVERSITY PLACE SCHOOL DIST
UPPER SKAGIT INDIAN TRIBE
VAL VUE SEWER DISTRICT
VALLEY TRANSIT
VALLEY WATER DISTRICT
VANCOUVER PORT OF
VANCOUVER SCHOOL DISTRICT 37
VASHON ISLAND SCHOOL DISTRICT 402
VERA IRRIGATION
VETERANS ADMINISTRATION
VOLUNTEERS OF AMERICA
WA ASSOC OF SCHOOL ADMINISTRATORS
WA ASSOC SHERIFFS & POLICE CHIEFS
WA GOVERNMENTAL ENTITY POOL
WA LABOR COUNCIL AFL-CIO
WA PUBLIC PORTS ASSOCIATION
WA RESEARCH COUNCIL
WA ST ASSOCIATION OF COUNTIES
WA STATE PUBLIC STADIUM AUTHORITY
WAHKIAKUM COUNTY
WALLA WALLA COLLEGE
WALLA WALLA COUNTY
WALLA WALLA COUNTY FIRE DISTRICT
WALLA WALLA PORT OF
WALLA WALLA SD 140
WASHINGTON ASSOCIATION
WASHINGTON COUNTRIES RISK POOL
WASHINGTON FIRE COMMISSIONERS ASSOC
WASHINGTON HEALTH CARE ASSOCIATION
WASHINGTON PUBLIC AFFAIRS NETWORK
WASHINGTON STATE MIGRANT COUNCIL
WEST VALLEY SCHOOL DISTRICT 208
WEST VALLEY SCHOOL DISTRICT 363
WESTERN FOUNDATION THE
WHATCOM CONSERVATION DIST
WHATCOM COUNTY
WHATCOM COUNTY FIRE DISTRICT
WHATCOM COUNTY RURAL LIBRARY DIST
WHIDBEY GENERAL HOSPITAL
WHITMAN COUNTY
WHITWORTH WATER
WILLAPA COUNSELING CENTER
WILLAPA VALLEY SCHOOL DISTRICT 160
WILLAPA VALLEY WATER DISTRICT
WINLOCK SCHOOL DISTRICT 232
WOODINVILLE FIRE & LIFE SAFETY DIST
WOODLAND PORT OF
YAKIMA COUNTY
YAKIMA COUNTY FIRE DISTRICT
YAKIMA COUNTY REGIONAL LIBRARY
YAKIMA SCHOOL DISTRICT 7
YAKIMA VALLEY FARMWORKERS CLINIC
YAKIMA-TIETON IRRIGATION DISTRICT
YLEM COMMUNITY SCHOOL DISTRICT
YMCA - TACOMA PIERCE COUNTY
YMCA OF GREATER SEATTLE

*Washington State cities and other unnamed Washington State local and municipal agencies may also utilize the resulting Master Price Agreement; provided they enter into the Intergovernmental Cooperative Purchasing Agreement.*
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This may not be a complete list of all Oregon cities, but all other Oregon cities shall be incorporated by this reference.
Idaho’s Incorporated Cities

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This may not be a complete list of all Idaho cities, but all other Idaho cities shall be incorporated by this reference.

Idaho’s Counties

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This may not be a complete list of all Idaho local government units, but all other Idaho local government units shall be incorporated by this reference.
ATTACHMENT I
HAWAII STATE REQUIREMENTS

PARTICIPATING ADDENDUM
(hereinafter “Addendum”)
For
Add description of goods & services

MASTER AGREEMENT NO. Add contract no.
(hereinafter “Master Agreement”)
Between
Insert Contractor Name
(hereinafter "Contractor")
and
State of Hawaii
(hereinafter “Participating State”)


This Addendum will add the State of Hawaii as a Participating State to purchase from the Master Agreement Number insert contract number with insert contractor name.

1. Scope:

This addendum covers describe services lead by insert lead State for use by state agencies and other entities located in the Participating State authorized by the state’s statutes to utilize state contracts.

2. Participation:

All jurisdictions located within the State of Hawaii, which have obtained prior written approval by its Chief Procurement Officer, will be allowed to purchase from the Master Agreement. Private nonprofit health or human services organizations with current purchase of service contracts governed by Hawaii Revised Statutes (HRS) chapter 103F are eligible to participate in the SPO price/vendor list contracts upon mutual agreement between the Contractor and the non-profit. (Each such participating jurisdiction and participating nonprofit is hereinafter referred to as a “Participating Entity”). Issues of interpretation and eligibility for participation are solely within the authority of the Administrator, State Procurement Office.

3. Changes: Replace with specific changes or statements that no changes are required

A. Usage Reports. Contractor shall submit a quarterly State of Hawaii gross sales report to the Participating State contact person listed in Paragraph 5 (or as amended), below, in accordance with the following schedule (or as required):

<table>
<thead>
<tr>
<th>Quarter Ending</th>
<th>Report Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 31</td>
<td>April 30</td>
</tr>
<tr>
<td>June 30</td>
<td>July 31</td>
</tr>
<tr>
<td>September 30</td>
<td>October 31</td>
</tr>
<tr>
<td>December 31</td>
<td>January 31</td>
</tr>
</tbody>
</table>
The quarterly report will be subtotaled by each Purchasing Entity. The quarterly report shall also include any adjustments from prior periods.

B. The validity of this Addendum, any of its terms or provisions, as well as the right and duties of the parties in this Addendum, shall be governed by the laws of the State of Hawaii. A copy of the Attorney General’s General Conditions can be found at http://spo.hawaii.gov/wp-content/uploads/2014/02/103D-General-Conditions.pdf. Any action at law or in equity to enforce or interpret the provisions of this Addendum shall be brought in a court of competent jurisdiction in Honolulu, Hawaii.

C. Inspection of Facilities. Pursuant to HRS § 103D-316, the Participating State, at reasonable times, may inspect the part of the plant or place of business of the Contractor or any subcontractor that is related to the performance of a Master Agreement and this Addendum.

D. Campaign Contributions. The Contractor is notified of the applicability of HRS § 11-355, which prohibits campaign contributions from Contractor during the term of the Addendum if the contractor is paid with funds appropriated by the Hawaii State Legislature.

E. Purchases by State of Hawaii government entities under this Master Agreement is not mandatory. This Addendum is secondary and non-exclusive.

F. The State of Hawaii’s purchasing card (pCard) is required to be used by the States executive departments/agencies (excluding the Department of Education, the Hawaii Health System Corporation, the Office of Hawaiian Affairs, and the University of Hawaii) for all orders totaling less than $2,500. For purchases of $2,500 or more, agencies may use the pCard, subject to its credit limit or issue a purchase order.

Contractor(s) shall forward original invoice(s), directly to the ordering agency. General excise tax shall not be applied to the delivery charge.

Pursuant to HRS § 103-10, Participating State and any agency of the Participating State or any county, shall have thirty (30) calendar days after receipt of invoice or satisfactory delivery of goods to make payment. Any interest for delinquent payment shall be as allowed by HRS § 103-10.

G. Pursuant to HRS §103D-310(c), if Contractor is doing business in the Participating State, Contractor is required to comply with all laws governing entities doing business in the Participating State, including the following HRS chapters.

1. Chapter 237, General Excise Tax Law;
2. Chapter 383, Hawaii Employment Security Law;
3. Chapter 386, Workers’ Compensation;
4. Chapter 392, Temporary Disability Insurance;
5. Chapter 393, Prepaid Health Care Act; and

The Hawaii Compliance Express (HCE) is utilized for verification of compliance. The SPO will conduct periodic checks to confirm Contractor’s compliance on HCE throughout the term of the Addendum.
H. Effective Date and Contract Period. This Addendum is effective upon the date of execution by the Participating State and shall continue for the term set forth in the Master Agreement.

4. Lease Agreements:

Leasing is not authorized by this Addendum

5. Primary Contact:

The primary contact individual for this Addendum are as follows (or their named successors):

<table>
<thead>
<tr>
<th>Participating State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: Name of purchasing specialist</td>
</tr>
<tr>
<td>Address: State Procurement Office 1151 Punchbowl Street, Room 416 Honolulu, HI 96813</td>
</tr>
<tr>
<td>Telephone: phone number</td>
</tr>
<tr>
<td>Fax: (808) 586-0570</td>
</tr>
<tr>
<td>E-Mail: specialist e-mail address</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Address:</td>
</tr>
<tr>
<td>Telephone:</td>
</tr>
<tr>
<td>Fax:</td>
</tr>
<tr>
<td>E-Mail:</td>
</tr>
</tbody>
</table>

6. Subcontractors:

Subcontractors are (or are not) allows under this Addendum.

7. Freight Charges (unless otherwise stated in the master contract):

Prices proposed will be the delivered price to any state agency or political subdivision. All deliveries will be F.O.B. destination with all transportation and handling charges paid by the Contractor. Responsibility and liability for loss or damage will remain with Contractor until final inspection and acceptance when responsibility will pass to the Buyer except as to latent defects, fraud, and Contractor’s warranty obligations. Any portion of a full order originally shipped without transportation charges (that failed to ship with the original order, thereby becoming back-ordered) will also be shipped without transportation charges.

8. Purchase Order and Payment Instructions:

All purchase orders issued by Participating Entities under this Addendum shall include the Participating State contract number and Price List Contract Number.

- Purchase Orders and Payments shall be made to add contractor name or authorized subcontractors, if any.

9. Participating Entity as Individual Customer:

Each Participating Entity shall be treated as an individual customer. Except to the extent modified by this Addendum, each Participating Entity will be responsible to follow the terms and conditions of the
Master Agreement; and will have the same rights and responsibilities for their purchases as the Lead State has in the Master Agreement. Each Participating Entity will be responsible for its own charges, fees, and liabilities. Each Participating Entity will have the same rights to any indemnity or to recover any costs allowed in the Master Agreement for their purchases. The Contractor will apply the charges to each Participating Entity individually.

10. Entire Contract:

This Addendum and the Master Agreement set forth the entire agreement, and all the conditions, understandings, promises, warranties and representations among the parties with respect to this Addendum and the Master Agreement, and supersedes any prior communications, representations or agreements whether, oral or written, with respect to the subject matter hereof.

Terms and conditions inconsistent with, contrary or in addition to the terms and conditions of this Addendum and the Master Agreement, that are included in any purchase order or otherwise shall be void. The terms and conditions of this Addendum and the Master Agreement shall govern in the case of any such inconsistent, contrary, or additional terms.

IN VIEW OF THE ABOVE, the parties execute this Addendum by their signatures, on the dates below.

<table>
<thead>
<tr>
<th>Participating State: STATE OF HAWAII</th>
<th>Contractor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature:</td>
<td>Signature:</td>
</tr>
<tr>
<td>Name: SARAH ALLEN</td>
<td>Name:</td>
</tr>
<tr>
<td>Title: Administrator, SPO</td>
<td>Title:</td>
</tr>
<tr>
<td>Date:</td>
<td>Date:</td>
</tr>
</tbody>
</table>

APPROVED AS TO FORM:

Deputy Attorney General
Intergovernmental Cooperative Purchasing Agreement

This Intergovernmental Agreement (Agreement) is by and between the “Lead Contracting Agency” and participating government entities (“Participating Agencies”), that are members of National Purchasing Partners (“NPP”), including members of FireRescue GPO and Public Safety GPO, that agree to the terms and conditions of this Agreement. The Lead Contracting Agency and all Participating Agencies shall be considered as “parties” to this agreement.

WHEREAS, upon completion of a formal competitive solicitation and selection process, the Lead Contracting Agency has entered into Master Price Agreements with one or more Vendors to provide goods and services, often based on national sales volume projections;

WHEREAS, NPP provides group purchasing, marketing and administrative support for governmental entities. NPP’s marketing and administrative services are free to its membership, which includes participating public entities and nonprofit institutions throughout North America.

WHEREAS, NPP has instituted a cooperative purchasing program under which member Participating Agencies may reciprocally utilize competitively solicited Master Price Agreements awarded by the Lead Contracting Agency;

WHEREAS, the Master Price Agreements provide that all qualified government members of NPP may purchase goods and services on the same terms, conditions and pricing as the Lead Contracting Agency, subject to applicable local and state laws of the Participating Agencies;

WHEREAS, the parties agree to comply with the requirements of the Intergovernmental Cooperation Act as may be applicable to the local and state laws of the Participating Agencies;

WHEREAS, the parties desire to conserve and leverage resources, and to improve the efficiency and economy of the procurement process while reducing solicitation and procurement costs;

WHEREAS, the parties are authorized and eligible to contract with governmental bodies and Vendors to perform governmental functions and services, including the purchase of goods and services; and

WHEREAS, the parties desire to contract with Vendors under the terms of the Master Price Agreements;

NOW, THEREFORE, the parties agree as follows:
ARTICLE 1: LEGAL AUTHORITY

Each party represents and warrants that it is eligible to participate in this Agreement because it is a local government created and operated to provide one or more governmental functions and possesses adequate legal authority to enter into this Agreement.

ARTICLE 2: APPLICABLE LAWS

The procurement of goods and services subject to this Agreement shall be conducted in accordance with and subject to the relevant statutes, ordinances, rules, and regulations that govern each party’s procurement policies. Competitive Solicitations are intended to meet the public contracting requirements of the Lead Contracting Agency and may not be appropriate under, or satisfy Participating Agencies’ procurement laws. It is the responsibility of each party to ensure it has met all applicable solicitation and procurement requirements. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

ARTICLE 3: USE OF BID, PROPOSAL, OR PRICE AGREEMENT

a. A “procuring party” is defined as the Lead Contracting Agency or any Participating Agency that desires to purchase from the Master Price Agreements awarded by the Lead Contracting Agency.

b. Each procuring party shall be solely responsible for their own purchase of goods and services under this Agreement. A non-procuring party shall not be liable in any fashion for any violation of law or contract by a procuring party, and the procuring party shall hold non-procuring parties and all unrelated procuring parties harmless from any liability that may arise from action or inaction of the procuring party.

c. The procuring party shall not use this agreement as a method for obtaining additional concessions or reduced prices for similar goods and services outside the scope of the Master Price Agreement.

d. The exercise of any rights or remedies by the procuring party shall be the exclusive obligation of such procuring party.

e. The cooperative use of bids, proposals or price agreements obtained by a party to this Agreement shall be in accordance with the terms and conditions of the bid, proposal or price agreement, except as modified where otherwise allowed or required by applicable law, and does not relieve the party of its other solicitation requirements under state law or local policies.
ARTICLE 4: PAYMENT OBLIGATIONS

The procuring party will make timely payments to Vendors for goods and services received in accordance with the terms and conditions of the procurement. Payment for goods and services, inspections and acceptance of goods and services ordered by the procuring party shall be the exclusive obligation of such procuring party. Disputes between procuring party and Vendor shall be resolved in accordance with the law and venue rules of the state of the procuring party.

ARTICLE 5: COMMENCEMENT DATE

This Agreement shall take effect after execution of the “Lead Contracting Agency Endorsement and Authorization” or “Participating Agency Endorsement and Authorization,” as applicable.

ARTICLE 6: TERMINATION OF AGREEMENT

This Agreement shall remain in effect until terminated by a party giving 30 days written notice to “Lead Contracting Agency”

ARTICLE 7: ENTIRE AGREEMENT

This Agreement and any attachments, as provided herein, constitute the complete Agreement between the parties hereto, and supersede any and all oral and written agreements between the parties relating to matters herein.

ARTICLE 8: CHANGES AND AMENDMENTS

This Agreement may be amended only by a written amendment executed by all parties, except that any alterations, additions, or deletions of this Agreement which are required by changes in Federal and State law or regulations are automatically incorporated into this Agreement without written amendment hereto and shall become effective on the date designated by such law or regulation.

ARTICLE 9: SEVERABILITY

All parties agree that should any provision of this Agreement be determined to be invalid or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.

THIS INSTRUMENT HAS BEEN EXECUTED IN TWO OR MORE ORIGINALS BY EXECUTION AND ATTACHMENT OF “THE LEAD CONTRACTING AGENCY ENDORSEMENT AND AUTHORIZATION” OR “PARTICIPATING AGENCY ENDORSEMENT AND AUTHORIZATION,” AS APPLICABLE. ONCE EXECUTED, IT IS THE RESPONSIBILITY OF EACH PARTY TO FILE THIS AGREEMENT WITH THE PROPER AGENCY IF REQUIRED BY LOCAL OR STATE LAW.
PUBLIC PROCUREMENT AUTHORITY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of the Public Procurement Authority ("Lead Contracting Agency") that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Public Procurement Authority to Participating Agencies locally, regionally, and nationally through NPP. Copies of Master Price Agreements and any amendments thereto made available by the Public Procurement Authority will be provided to Participating Agencies and NPP to facilitate use by Participating Agencies.

The undersigned understands that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agencies.

The undersigned affirms that he/she is an agent of the Public Procurement Authority and is duly authorized to sign this Public Procurement Authority Endorsement and Authorization.

[Signature]
BY: Jeffrey D. Johnson
ITS: Administrator/Board Member

Date: 2-13-2014

Public Procurement Authority Contact Information:

Contact Person: Heidi Chames
Address: 25030 SW Parkway Ave., Suite 330
          Wilsonville, OR 97070
Telephone No.: 855-524-4572
Email: questions@procurementauthority.org
PARTICIPATING AGENCY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of ____________ ("Participating Agency") that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Lead Contracting Agency to Participating Agencies locally, regionally, and nationally through NPP.

The undersigned further acknowledges that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agency and that neither the Lead Contracting Agency nor NPP shall be held liable for any costs or damages incurred by or as a result of the actions of the Vendor or any other Participating Agency. Upon award of contract, the Vendor shall deal directly with the Participating Agency concerning the placement of orders, disputes, invoicing and payment.

The undersigned affirms that he/she is an agent of ________________ and is duly authorized to sign this Participating Agency Endorsement and Authorization.

__________________________________________ Date: ________________
BY: ______________________________________
ITS: ______________________________________

Participating Agency Contact Information:

Contact Person: _____________________________
Address: __________________________________
__________________________________________
Telephone No.:_____________________________
Email:____________________________________
Quotation

CUSTOMER: Sacramento City Fire Department 5770 Freeport Blvd. Ste 200 Sacramento CA 95822

SHIP TO: Sacramento City Fire Department Attn: Chief Costamagna 5770 Freeport Blvd. Ste 200 Sacramento CA 95822

QUOTATION NO. 72052
ISSUED DATE 1/11/2018
EXPIRATION DATE 2/15/2018

SALESPERSON PJ Kurpinsky
CUSTOMER SERVICE REP John Cassani
pkurpinsky@lncurtis.com jcassani@lncurtis.com
510-517-9611 510-268-3305

REQUISITION NO. C36654
REQUESTING PARTY
CUSTOMER NO. Net 30
TERMS FR
OFFER CLASS

F.O.B. DEST
SHIP VIA Best Way
REQ. DELIVERY DATE

NOTES & DISCLAIMERS
THANK YOU FOR THIS OPPORTUNITY TO QUOTE. WE ARE PLEASED TO OFFER REQUESTED ITEMS AS FOLLOWS. IF YOU HAVE ANY QUESTIONS, NEED ADDITIONAL INFORMATION, OR WOULD LIKE TO PLACE AN ORDER, PLEASE CONTACT YOUR SALESPERSON OR CUSTOMER SERVICE REP AS NOTED ABOVE.
TRANSPORTATION IS INCLUDED IN BELOW PRICING.

<table>
<thead>
<tr>
<th>LN</th>
<th>QTY</th>
<th>UNIT</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>UNIT PRICE</th>
<th>TOTAL PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td></td>
<td>B4A15M3D4U</td>
<td>EagleAir® Model B4A15M3D4U BaronCFS Breathing Air Compressor System – 20.7 cfm, 6000 psig, driven by a 15-hp 3-phase electric motor, complete with three SCBA certified containment fill station and standard accessories plus Air Monitor System (combination CO/moisture monitor), two (2) 6000 psig UN/ISO cascade-piped cylinders, SCBA spacer kits, M4 (one valve per bank) four-bank cascade controls, auto bypass system, overtime timer with shutdown &amp; warning light and MSA quick-fill adapters on the three fill whips as per the attached specifications. Estimated shipping weight is 3,800 lbs.</td>
<td>$52,190.00</td>
<td>$104,380.00</td>
</tr>
</tbody>
</table>

***PER FRGPO CONTRACT PRICING***
<table>
<thead>
<tr>
<th>LN</th>
<th>QTY</th>
<th>UNIT</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>UNIT PRICE</th>
<th>TOTAL PRICE</th>
</tr>
</thead>
</table>

DUNS NUMBER: 009224163  
SIC CODE: 5099  
FEDERAL TAX ID: 94-1214350

THIS PRICING REMAINS FIRM UNTIL 2/15/2018. CONTACT US FOR UPDATED PRICING AFTER THIS DATE.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal</td>
<td>$104,380.00</td>
</tr>
<tr>
<td>Tax Total</td>
<td>$8,611.35</td>
</tr>
<tr>
<td>Transportation</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$112,991.35</strong></td>
</tr>
</tbody>
</table>
Amendment to Fire Apparatus Master Price Agreement

Pricing Adjustment and Product Update

This Amendment to the Master Price Agreement is effective this 6th day of April 2017 by the PUBLIC PROCUREMENT AUTHORITY ("Purchaser") and E.J. METALS, INC. ("Vendor") based upon the sales and/or service of Fire Apparatus.

RECITALS

WHEREAS, Purchaser and Vendor entered into a Master Price Agreement on or about May 4, 2015 and by this reference incorporated herein; and

WHEREAS, Article 4.1 of the Master Price Agreement provides for price adjustments based on manufacturer cost increases; and

WHEREAS, Vendor has provided notice of pricing adjustment due to manufacturer cost increases on or about March 13, 2017; and

WHEREAS, Vendor included Ultra High Pressure (UHP) Fire Suppression Systems and options in its proposal; and

WHEREAS, new UHP Fire Suppression Systems and options have become available; and

WHEREAS, Vendor has provided notice on or about March 13, 2017 to include the new UHP Fire Suppression Systems and options at the same discount off list pricing as existing UHP Fire Suppression Systems and options on the Master Price Agreement; and

WHEREAS, Purchaser and Vendor desire that the Master Price Agreement shall be amended in part to reflect the pricing adjustment, and product updates;

NOW, THEREFORE, Purchaser and Vendor enter into the following:

AMENDMENT TO FIRE APPARATUS
MASTER PRICE AGREEMENT

1. Adjustment to Pricing and Products on Fire Apparatus. Attachment A to the Master Price Agreement shall be amended in its entirety to read as follows:

"ATTACHMENT A

to Master Price Agreement by and between VENDOR and PURCHASER.

PRODUCTS, SERVICES, SPECIFICATIONS AND PRICES"
<table>
<thead>
<tr>
<th>E.J. Metals Model Number</th>
<th>Product Description</th>
<th>2017 List Price</th>
<th>Discount % From List Price</th>
<th>Proposed 2017 PPA Price</th>
<th>FOB Terms</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWF350</td>
<td>E.J. Metals Ford F-350 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and Ultra High Pressure Fire Suppression System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 150 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$119,554.56</td>
<td>7%</td>
<td>$111,733.23</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWF550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and Ultra High Pressure Fire Suppression System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$133,765.16</td>
<td>7%</td>
<td>$125,014.17</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWFH550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed hybrid aluminum body with compartments and Ultra High Pressure Fire System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$139,991.67</td>
<td>7%</td>
<td>$130,833.34</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWFHT550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and dual pumps, 120 GPM @ 140 PSI high volume pump and 6 GPM @ 2,800 PSI high pressure pump, high pressure discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$181,892.00</td>
<td>7%</td>
<td>$169,992.52</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EDF550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with QuickForce aluminum body with compartments and dual pumps, 120 GPM @ 140 PSI high volume pump and 6 GPM @ 2,800 PSI high pressure pump, high pressure discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1901 compliant.</td>
<td>$219,289.32</td>
<td>7%</td>
<td>$204,952.64</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EQA550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with QuickAttack aluminum body with compartments, diesel engine driven 150 GPM @ 170 PSI water pump with CAPS, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1901 compliant.</td>
<td>$212,816.91</td>
<td>7%</td>
<td>$198,854.31</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E602</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with 5 compartment light engine aluminum body with lap doors, 100 GPM @ 200 PSI water pump, integrated foam system, hose reel with hose, 300 gallon poly water tank with 10 gallon integral foam cell. NFPA 1906 compliant.</td>
<td>$162,832.11</td>
<td>7%</td>
<td>$170,871.13</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E643P</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with Type 6 flat bed aluminum body with compartments, 160 GPM @ 245 PSI water pump with integrated foam system, hose reel with hose, 300 gallon poly water tank with 12 gallon integral foam cell. NFPA 1906 compliant.</td>
<td>$177,196.81</td>
<td>7%</td>
<td>$165,606.36</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E.J. Metals Model Number</td>
<td>Product Description</td>
<td>2017 List Price</td>
<td>Discount From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>FCBO Terms</td>
<td>Warranty</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----------------</td>
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</tr>
<tr>
<td>EMP84500</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 500 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell, NFPA 1901 compliant.</td>
<td>$199,326.63</td>
<td>7%</td>
<td>$186,285.57</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EMP84750</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 750 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell, NFPA 1901 compliant.</td>
<td>$200,429.96</td>
<td>7%</td>
<td>$187,317.72</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EMP841000</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 1,000 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell, NFPA 1901 compliant.</td>
<td>$201,506.06</td>
<td>7%</td>
<td>$188,418.86</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
</tbody>
</table>

**MODEL - RIV, Rapid Intervention Vehicle**

<table>
<thead>
<tr>
<th>E.J. Metals Model Number</th>
<th>Product Description</th>
<th>2017 List Price</th>
<th>Discount From List Price</th>
<th>Proposed 2017 PPA Price</th>
<th>FCBO Terms</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERIV</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with RIV aluminum body with compartments, twin-agent unit (TAW), 250 GPM @ 150 PSI water pump, 450 lb dry chemical discharge system, hose reels for both systems, 300 gallon poly water tank with 30 gallon integral foam cell, NFPA 414 compliant.</td>
<td>$303,826.90</td>
<td>7%</td>
<td>$283,763.46</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EM40</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with RIV aluminum body with compartments, 450 lb dry chemical discharge system, 150 gallon AFFF self contained foam agent system, twin discharge hose reel, NFPA 414 compliant.</td>
<td>$210,590.91</td>
<td>7%</td>
<td>$196,813.93</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
</tbody>
</table>

**MODEL - Light, Medium Rescue**

<table>
<thead>
<tr>
<th>E.J. Metals Model Number</th>
<th>Product Description</th>
<th>2017 List Price</th>
<th>Discount From List Price</th>
<th>Proposed 2017 PPA Price</th>
<th>FCBO Terms</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERSQ60</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with 10' seven compartment walk-around aluminum rescue body, NFPA 1901 compliant.</td>
<td>$137,434.83</td>
<td>7%</td>
<td>$129,443.77</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>ERUTL650</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with 10' six compartment walk-around aluminum utility rescue body, NFPA 1901 compliant.</td>
<td>$135,694.40</td>
<td>7%</td>
<td>$126,817.20</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EJMVO001</td>
<td>Ford chassis upgrade to super cab (extended cab). All Ford F-series models</td>
<td>$4,503.75</td>
<td>7%</td>
<td>$4,582.94</td>
<td>All Ford models, F-350-F550</td>
<td></td>
</tr>
<tr>
<td>EJMVO002</td>
<td>Ford chassis upgrade to 4-door crew cab, All Ford F-series models</td>
<td>$6,451.20</td>
<td>7%</td>
<td>$6,029.16</td>
<td>All Ford models, F-350-F550</td>
<td></td>
</tr>
<tr>
<td>EJMVO003</td>
<td>Spare wheel and tire, mounted</td>
<td>$429.06</td>
<td>7%</td>
<td>$400.99</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO004</td>
<td>Wheel covers, stainless steel, 4-wheels, installed</td>
<td>$1,061.54</td>
<td>7%</td>
<td>$992.19</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO005</td>
<td>Wheels / Tires, Super single wheels and tires (no dual rear wheels), four (4) complete, 255 size, installed</td>
<td>$6,334.09</td>
<td>7%</td>
<td>$5,919.71</td>
<td>All models with dual rear wheels</td>
<td></td>
</tr>
<tr>
<td>EJMVO006</td>
<td>Wheels / Tires, Super single wheels and tires (no dual rear wheels), four (4) complete, 285 size, installed</td>
<td>$7,501.61</td>
<td>7%</td>
<td>$7,010.85</td>
<td>All models with dual rear wheels</td>
<td></td>
</tr>
<tr>
<td>EJMVO007</td>
<td>Seat, officer seat, Firefighter SCBA seat, ISO standard seat, installed</td>
<td>$1,692.35</td>
<td>7%</td>
<td>$1,582.10</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO008</td>
<td>Seats, crew cab, Firefighter SCBA seat, ISO standard seat, 4-door Fords, price per seat, up to three per truck</td>
<td>$2,069.65</td>
<td>7%</td>
<td>$1,934.25</td>
<td>All models with crew cab option</td>
<td></td>
</tr>
<tr>
<td>EJMVO009</td>
<td>Bracket, SCBA seat, lock and load SCBA bracket in seat, installed</td>
<td>$219.52</td>
<td>7%</td>
<td>$205.53</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO010</td>
<td>Seat insert, covers SCBA bottle in SCBA seats, installed</td>
<td>$133.40</td>
<td>7%</td>
<td>$124.67</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO011</td>
<td>Monitor, seat belt monitor, all crew seats, installed</td>
<td>$4,671.49</td>
<td>7%</td>
<td>$4,365.88</td>
<td>All models with crew cab option</td>
<td></td>
</tr>
<tr>
<td>EJMVO012</td>
<td>Mud Flaps, per pair, installed</td>
<td>$332.80</td>
<td>7%</td>
<td>$311.03</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO013</td>
<td>MDT mount, officer side cab, installed</td>
<td>$675.21</td>
<td>7%</td>
<td>$631.04</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO014</td>
<td>Map light, cab mounted officer's light</td>
<td>$195.28</td>
<td>7%</td>
<td>$182.50</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO015</td>
<td>Fog lights, halogen, per pair, installed</td>
<td>$848.49</td>
<td>7%</td>
<td>$792.98</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO016</td>
<td>Running Boards, overlay Ford boards with tread plate, per pair, installed</td>
<td>$283.29</td>
<td>7%</td>
<td>$264.76</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO017</td>
<td>Running Boards, tread plate, per pair, installed</td>
<td>$2,385.94</td>
<td>7%</td>
<td>$2,229.85</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO018</td>
<td>Bumper extension, grill guard, Buck-Stop, installed</td>
<td>$3,845.38</td>
<td>7%</td>
<td>$3,594.75</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO019</td>
<td>Grill guard with winch mount, stainless steel, installed</td>
<td>$2,266.30</td>
<td>7%</td>
<td>$2,118.04</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO020</td>
<td>Winch, 12,000# fixed mount, installed</td>
<td>$3,028.15</td>
<td>7%</td>
<td>$2,830.05</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO021</td>
<td>Winch, 9,000# portable, mounted</td>
<td>$2,530.34</td>
<td>7%</td>
<td>$2,354.80</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO022</td>
<td>Winch, receiver, mounted in body, per each, installed</td>
<td>$715.99</td>
<td>7%</td>
<td>$668.31</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO023</td>
<td>Winch, power, required at each portable winch receiver location, installed</td>
<td>$258.06</td>
<td>7%</td>
<td>$250.52</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO024</td>
<td>Trailer hitch, Class V, includes wire harness, installed</td>
<td>$1,162.03</td>
<td>7%</td>
<td>$1,086.01</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO025</td>
<td>Trailer brake controller, Installed</td>
<td>$369.67</td>
<td>7%</td>
<td>$345.67</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO026</td>
<td>Antenna mount, base &amp; cable only, radio, roof mount, installed</td>
<td>$357.54</td>
<td>7%</td>
<td>$334.16</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO027</td>
<td>Battery conditioner, Kussmaul Auto Charge 1000 with auto-eject, installed</td>
<td>$1,603.46</td>
<td>7%</td>
<td>$1,458.56</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO028</td>
<td>Power point, 12-volt, installed</td>
<td>$127.52</td>
<td>7%</td>
<td>$119.46</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO029</td>
<td>Power leads, 12-volt. + sil - for radio connection, installed</td>
<td>$119.54</td>
<td>7%</td>
<td>$111.81</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO030</td>
<td>Handlight, Streamlight model X401, installed</td>
<td>$424.93</td>
<td>7%</td>
<td>$397.13</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO031</td>
<td>Body length, flatbeds, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$2,530.34</td>
<td>7%</td>
<td>$2,354.80</td>
<td>All flatbeds</td>
<td></td>
</tr>
<tr>
<td>EJMVO032</td>
<td>Body length, mini pumper, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$4,385.93</td>
<td>7%</td>
<td>$4,096.84</td>
<td>All mini pumper bodies</td>
<td></td>
</tr>
<tr>
<td>EJMVO033</td>
<td>Body length, rescue bodies, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$4,084.29</td>
<td>7%</td>
<td>$3,817.09</td>
<td>All rescue bodies</td>
<td></td>
</tr>
<tr>
<td>EJMVO036</td>
<td>Camera, back up system, Safety Vision, installed</td>
<td>$1,691.48</td>
<td>7%</td>
<td>$1,560.82</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO037</td>
<td>Shelf, 500#, adjustable, compartment, installed</td>
<td>$434.56</td>
<td>7%</td>
<td>$406.13</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO038</td>
<td>Shelf, 500#, adjustable, transverse, compartment, installed</td>
<td>$893.87</td>
<td>7%</td>
<td>$835.39</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO039</td>
<td>Tray, 500#, adjustable, slide-out, compartment, installed</td>
<td>$759.10</td>
<td>7%</td>
<td>$709.44</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO040</td>
<td>Tray, 1000#, slide-out, adjustable, full width transverse, compartment, installed</td>
<td>$1,382.05</td>
<td>7%</td>
<td>$1,291.64</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO041</td>
<td>Tray, 2000#, slide-out, full bed aluminum tray, bed liner finish, installed</td>
<td>$2,533.09</td>
<td>7%</td>
<td>$2,367.37</td>
<td>All models with open rear</td>
<td></td>
</tr>
<tr>
<td>E.J. Metals Part Number</td>
<td>Option Description</td>
<td>2017 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>Option Model Availability</td>
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</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------</td>
<td>----------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td>EJJM0042</td>
<td>Tray, 500#, slide-out till-down, compartment, installed</td>
<td>$ 856.62</td>
<td>7%</td>
<td>$ 837.96</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0043</td>
<td>Tool board, peg board style, slide-out, compartment, installed</td>
<td>$ 1,222.53</td>
<td>7%</td>
<td>$ 1,142.55</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0044</td>
<td>Tool board, peg board style, fixed wall mount, compartment, per each wall, installed</td>
<td>$ 605.09</td>
<td>7%</td>
<td>$ 555.50</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0045</td>
<td>Turtle tile matting for compartment floor per compartment, installed</td>
<td>$ 132.02</td>
<td>7%</td>
<td>$ 123.38</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0046</td>
<td>Turtle tile matting for shelf or tray per shelf, installed</td>
<td>$ 86.64</td>
<td>7%</td>
<td>$ 80.97</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0047</td>
<td>Heater, compartment heater from chassis coolant, installed</td>
<td>$ 651.83</td>
<td>7%</td>
<td>$ 609.19</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0048</td>
<td>Vent, compartment vent additional, per compartment, installed</td>
<td>$ 63.29</td>
<td>7%</td>
<td>$ 59.12</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0049</td>
<td>Handrail, extra per each, installed</td>
<td>$ 258.53</td>
<td>7%</td>
<td>$ 241.62</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0050</td>
<td>Guards, body bottom corners, diamond plate, per pair, installed</td>
<td>$ 181.23</td>
<td>7%</td>
<td>$ 169.37</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0051</td>
<td>Guard, front of body, full coverage, diamond plate, installed</td>
<td>$ 728.85</td>
<td>7%</td>
<td>$ 681.17</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0052</td>
<td>Skirt, body skirt on rear side of fastened bodies, pair, painted, installed</td>
<td>$ 1,155.15</td>
<td>7%</td>
<td>$ 1,079.56</td>
<td>All fastened bodies</td>
<td></td>
</tr>
<tr>
<td>EJJM0053</td>
<td>Skirt, body skirt on rear side of fastened bodies, pair, diamond plate, installed</td>
<td>$ 935.13</td>
<td>7%</td>
<td>$ 873.95</td>
<td>All fastened bodies</td>
<td></td>
</tr>
<tr>
<td>EJJM0054</td>
<td>Compartment, SCBA spare bottle storage in wheel well area, single bottle, installed</td>
<td>$ 391.92</td>
<td>7%</td>
<td>$ 366.28</td>
<td>All models, as fits in designated area</td>
<td></td>
</tr>
<tr>
<td>EJJM0055</td>
<td>Bracket, SCBA mount, Zico, KD-ULLH, per each, installed</td>
<td>$ 192.54</td>
<td>7%</td>
<td>$ 179.94</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0056</td>
<td>Doors, lap doors IPOP/roll doors, price per vehicle</td>
<td>$ 1,529.59</td>
<td>7%</td>
<td>$ 1,452.98</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0057</td>
<td>Lock, roll-up door, per door, installed</td>
<td>$ 79.76</td>
<td>7%</td>
<td>$ 74.54</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0058</td>
<td>Lock, lap door, per door, installed</td>
<td>$ 74.76</td>
<td>7%</td>
<td>$ 70.24</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0059</td>
<td>&quot;E&quot; Track, cargo retention, wall or floor mount, 5&quot;, section, installed</td>
<td>$ 110.02</td>
<td>7%</td>
<td>$ 102.82</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0060</td>
<td>Tire Mount, spare tire, fixed, installed</td>
<td>$ 170.53</td>
<td>7%</td>
<td>$ 159.37</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0061</td>
<td>Tire Mount, spare tire, swing out, installed</td>
<td>$ 360.30</td>
<td>7%</td>
<td>$ 336.73</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0062</td>
<td>Air Compressor, 12-volt, 3 gallon, installed</td>
<td>$ 121.02</td>
<td>7%</td>
<td>$ 113.10</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0063</td>
<td>Ramp, ATV loading, mounted</td>
<td>$ 783.86</td>
<td>7%</td>
<td>$ 732.58</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0064</td>
<td>Ladder, roof access, pool style, installed</td>
<td>$ 1,115.27</td>
<td>7%</td>
<td>$ 1,042.31</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0065</td>
<td>Step, folding, with light, installed</td>
<td>$ 247.52</td>
<td>7%</td>
<td>$ 231.33</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0066</td>
<td>Step, swing down, installed</td>
<td>$ 577.58</td>
<td>7%</td>
<td>$ 536.79</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0067</td>
<td>Step, camper style, swing out, installed</td>
<td>$ 495.07</td>
<td>7%</td>
<td>$ 452.68</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0068</td>
<td>Ladder, roof access, swing down, Zico Quik-Ladder, installed</td>
<td>$ 1,919.76</td>
<td>7%</td>
<td>$ 1,794.17</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0069</td>
<td>Light, scene, Whelen, 12-volt, 600 Opti-Scene LED, per each, installed</td>
<td>$ 291.53</td>
<td>7%</td>
<td>$ 272.46</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0070</td>
<td>Light, scene, Whelen, 12-volt, Pioneer Plus, PCP2 LED, per each, installed</td>
<td>$ 1,567.70</td>
<td>7%</td>
<td>$ 1,465.14</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0071</td>
<td>Light, scene, FRC, 12-volt, Spectral,ED, per each, installed</td>
<td>$ 1,446.69</td>
<td>7%</td>
<td>$ 1,352.05</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0072</td>
<td>Light, scene, telescoping, 12-volt, 300 watt, FRC, installed</td>
<td>$ 1,083.65</td>
<td>7%</td>
<td>$ 1,012.76</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0073</td>
<td>Light, scene, telescoping, 12-volt, Pioneer Plus, PCP2 LED, installed</td>
<td>$ 2,330.93</td>
<td>7%</td>
<td>$ 2,178.44</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0074</td>
<td>Light, traffic advisor, Whelen TAL65, installed</td>
<td>$ 753.60</td>
<td>7%</td>
<td>$ 704.30</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0075</td>
<td>Light, warning light, pair, IAT standard, Whelen 803, installed</td>
<td>$ 470.31</td>
<td>7%</td>
<td>$ 436.64</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0076</td>
<td>Light, warning light, pair, IAT standard, Whelen 903, installed</td>
<td>$ 704.09</td>
<td>7%</td>
<td>$ 658.03</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0077</td>
<td>Flasher, headlight flasher, installed</td>
<td>$ 224.15</td>
<td>7%</td>
<td>$ 209.49</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0078</td>
<td>Light, scene, telescoping, 12-volt, FRC Spectral,ED, installed</td>
<td>$ 2,117.78</td>
<td>7%</td>
<td>$ 1,978.23</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0079</td>
<td>Light, engine compartment, installed</td>
<td>$ 96.26</td>
<td>7%</td>
<td>$ 89.96</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0080</td>
<td>Reel, booster hose reel with 1.00&quot; booster hose, installed</td>
<td>$ 2,931.89</td>
<td>7%</td>
<td>$ 2,746.08</td>
<td>All models with high pressure pumps 8 GPM or greater</td>
<td></td>
</tr>
<tr>
<td>EJJM0081</td>
<td>Reel, additional, ultra high pressure hose reel with 150&quot; hose and EJM nozzle, 8 GPM pumps or less, installed</td>
<td>$ 3,237.18</td>
<td>7%</td>
<td>$ 3,025.40</td>
<td>All models with ultra high pressure pumps 8 GPM or greater</td>
<td></td>
</tr>
<tr>
<td>EJJM0082</td>
<td>Reel, additional, ultra high pressure hose reel with 150&quot; hose and EJM nozzle, 10 GPM pumps or greater, installed</td>
<td>$ 6,737.01</td>
<td>7%</td>
<td>$ 6,296.27</td>
<td>All models with ultra high pressure pumps 10 GPM or greater</td>
<td></td>
</tr>
<tr>
<td>EJJM0083</td>
<td>Turret, bumper mount, TFT Tornado with remote, high volume pumps, installed</td>
<td>$ 9,353.98</td>
<td>7%</td>
<td>$ 8,742.04</td>
<td>All models with high volume pumps</td>
<td></td>
</tr>
<tr>
<td>EJJM0084</td>
<td>Turret, bumper mount, TFT Tornado with remote, ultra high pressure pumps, installed</td>
<td>$ 12,486.64</td>
<td>7%</td>
<td>$ 11,669.76</td>
<td>All models with ultra high pressure pumps</td>
<td></td>
</tr>
<tr>
<td>EJJM0085</td>
<td>Foam tank, 50 gallon IPOP 30 gallon tank, integral to water tank, installed</td>
<td>$ 352.04</td>
<td>7%</td>
<td>$ 329.01</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0086</td>
<td>Generator, Honda 5000 watt, gas, portable, mounted</td>
<td>$ 3,967.40</td>
<td>7%</td>
<td>$ 3,707.85</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJJM0087</td>
<td>Generator, Honda 6500 watt, gas, portable, mounted</td>
<td>$ 4,573.85</td>
<td>7%</td>
<td>$ 4,274.83</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>E.J. Metals Part Number</td>
<td>Option Description</td>
<td>2017 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>Option Model Availability</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------------------------</td>
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<td>---------------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td>EJMVO004</td>
<td>Breaker box, with 20-amp breakers, installed</td>
<td>$536.32</td>
<td>7%</td>
<td>$501.23</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO005</td>
<td>Receptacle, 120-volt, 15-amp twist lock, installed</td>
<td>$247.52</td>
<td>7%</td>
<td>$231.33</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO006</td>
<td>Receptacle, 120-volt, 15-amp, straight blade, duplex, installed</td>
<td>$199.41</td>
<td>7%</td>
<td>$186.36</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO007</td>
<td>Receptacle, 120-volt, 20-amp twist lock, installed</td>
<td>$247.52</td>
<td>7%</td>
<td>$231.33</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO008</td>
<td>Receptacle, 120-volt, 20-amp, straight blade, duplex, installed</td>
<td>$199.41</td>
<td>7%</td>
<td>$186.36</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO009</td>
<td>Receptacle, 240-volt, 20-amp twist lock, installed</td>
<td>$269.53</td>
<td>7%</td>
<td>$251.50</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO100</td>
<td>Receptacle, 240-volt, 33-amp twist lock, installed</td>
<td>$269.53</td>
<td>7%</td>
<td>$251.50</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO101</td>
<td>Light, 120-volt, 500 watt, recessed body mount, installed</td>
<td>$632.58</td>
<td>7%</td>
<td>$591.20</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO102</td>
<td>Light, 120-volt, 500 watt, telescoping push-up pole, installed</td>
<td>$875.99</td>
<td>7%</td>
<td>$818.68</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO103</td>
<td>Light, 120-volt, 500 watt, telescoping tri-pod, vehicle mount, installed</td>
<td>$1,321.55</td>
<td>7%</td>
<td>$1,235.09</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO104</td>
<td>Reel, electric cord, with 200' 10/3 SO cord and plug end, installed</td>
<td>$2,791.62</td>
<td>7%</td>
<td>$2,606.99</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO105</td>
<td>Hydraulic tool circuit, one tool, 10,500 PSI, installed</td>
<td>$7,583.50</td>
<td>7%</td>
<td>$7,068.69</td>
<td>All models with five</td>
<td></td>
</tr>
<tr>
<td>EJMVO106</td>
<td>Hydraulic tool circuit, two tools, 10,500 PSI, installed</td>
<td>$11,138.97</td>
<td>7%</td>
<td>$10,410.25</td>
<td>All models with five</td>
<td></td>
</tr>
<tr>
<td>EJMVO107</td>
<td>Hydraulic tool reel, with 100' of twin hydraulic hose, installed</td>
<td>$3,923.00</td>
<td>7%</td>
<td>$3,797.90</td>
<td>All models with five</td>
<td></td>
</tr>
<tr>
<td>EJMVO108</td>
<td>Paint, 2-tone paint IPC single color, installed</td>
<td>$2,072.40</td>
<td>7%</td>
<td>$1,936.82</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO109</td>
<td>Paint, compartment interior spatter gray, installed</td>
<td>$1,746.48</td>
<td>7%</td>
<td>$1,632.22</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO110</td>
<td>Paint, chassis wheels job color, four wheels, installed</td>
<td>$1,112.52</td>
<td>7%</td>
<td>$1,009.74</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO111</td>
<td>Undercoating, cab and body, Ziebart or equal, installed</td>
<td>$721.97</td>
<td>7%</td>
<td>$674.74</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO112</td>
<td>Transit Coating, protective shipping coating, installed</td>
<td>$588.59</td>
<td>7%</td>
<td>$550.08</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO113</td>
<td>Lettering, 3.00&quot;, reflective with shade and outline, up to 60 letters, installed</td>
<td>$325.91</td>
<td>7%</td>
<td>$304.59</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO114</td>
<td>Lettering, 3.00&quot;, Gold Leaf with shade and outline, up to 60 letters, installed</td>
<td>$1,372.42</td>
<td>7%</td>
<td>$1,282.64</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO115</td>
<td>Stripe, jog in Scotchfile strip, installed</td>
<td>$356.05</td>
<td>7%</td>
<td>$320.14</td>
<td>All models</td>
<td></td>
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<tr>
<td>EJMVO116</td>
<td>Graphics logo, department logo, pair, installed on cab</td>
<td>$701.34</td>
<td>7%</td>
<td>$655.46</td>
<td>All models</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E.J. Metals Part Number</th>
<th>Option Description</th>
<th>2017 List Price</th>
<th>Discount % From List Price</th>
<th>Proposed 2017 PPA Price</th>
<th>Option Model Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJMVO117</td>
<td>Wheel Chocks, folding with brackets, installed</td>
<td>$918.63</td>
<td>7%</td>
<td>$858.53</td>
<td>All models</td>
</tr>
<tr>
<td>EJMVO118</td>
<td>Fire extinguisher, 200 ABC, with bracket, installed</td>
<td>$218.65</td>
<td>7%</td>
<td>$204.35</td>
<td>All models</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E.J. Metals Model Number</th>
<th>Product Description</th>
<th>2017 List Price</th>
<th>Discount % From List Price</th>
<th>Proposed 2017 PPA</th>
<th>FOB Terms</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES8125G</td>
<td>8 GPM @ 2800 PSI UHP, 125-Gallons Water/5-Gallon Foam Jug, Gasoline Engine Powered,</td>
<td>$14,456.24</td>
<td>7%</td>
<td>$13,510.50</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td></td>
<td>3-gallon fuel tank, 150' of .375&quot; UHP hose, Pick-Up Truck Mountable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESTEMP8125G</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. 8 GPM @ 2,800 PSI, 125 gal</td>
<td>$14,952.18</td>
<td>7%</td>
<td>$13,974.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td></td>
<td>5 galons foam, 20 HP Honda gas engine. Electric rewind hose reel with 150' highpression hose and EJM triple operation nozzle, Honda auxiliary water transfer refill pump. Dry weight 655# Pick-Up Truck Mountable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV8125G</td>
<td>8 GPM @ 2800 PSI UHP. Gasoline Engine, 150' of .375&quot; Hose, 125-Gallons Water, 5-Gallon Foam Jug, Diamond Plate Compartments, Long Handled Tool Storage, Rear Cargo Area</td>
<td>$32,238.63</td>
<td>7%</td>
<td>$30,129.56</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES550G</td>
<td>8 GPM @ 1800 PSI UHP, Gasoline Engine, 150' of .375&quot; Hose, 50-Gallons Water, 5-Gallon Foam Jug. 1.5 Galon Fuel Tank, 2-Door Jeep Application</td>
<td>$15,887.87</td>
<td>7%</td>
<td>$14,348.48</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Price</td>
<td>VAT</td>
<td>Total</td>
<td>Origin</td>
<td>Duration</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------</td>
<td>---------</td>
<td>------</td>
<td>---------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>ES670G</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. 6 GPM @ 1,800 PSI. 70 gallon poly tank, 5 gallons foam. 150°F. Honda gas engine. Electric rewind hose reel with 150°F high pressure hose and EJM triple operation nozzle. Dry weight 410#. Drop-in skid unit.</td>
<td>$14,801.44</td>
<td>7%</td>
<td>$13,833.12</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES670D</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 6 GPM @ 1,500 PSI. 70 gallon poly tank. 5 gallons foam. 94.4 HP Kubota diesel engine. Electric rewind hose reel with 150°F high pressure hose and EJM triple operation nozzle. Dry weight 540#.</td>
<td>$18,752.86</td>
<td>7%</td>
<td>$17,526.04</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES850G</td>
<td>8 GPM @ 2500 PSI UHP, Gasoline Engine, 150°F of .375&quot; Hose, 100-Gallons Water, 5-Gallons Foam, 3-Gallon Fuel Tank.</td>
<td>$14,382.51</td>
<td>7%</td>
<td>$13,441.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES820G</td>
<td>8 GPM @ 2500 PSI UHP, Gasoline Engine, 1-Hose Reel, 150°F of .375&quot; Hose, 200-Gallons Water, 5-Gallon Foam Jug, 5-Gallon Fuel Tank</td>
<td>$16,720.89</td>
<td>7%</td>
<td>$15,627.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES100G</td>
<td>10 GPM @ 1500 PSI, Gasoline Engine, 5-Gallons Foam, 150°F of .50&quot; Hose, 3-Gallon Fuel Tank, Customer Provided Water Tank</td>
<td>$18,242.07</td>
<td>7%</td>
<td>$17,048.66</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200G</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 16 GPM @ 1,500 PSI. 200 gallon poly tank. 5 gallons foam. 22 HP Honda gas engine. Electric rewind hose reel with 150°F high pressure hose and EJM triple operation nozzle. Dry weight 520#.</td>
<td>$30,091.46</td>
<td>7%</td>
<td>$28,122.86</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200G.2</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. Drop-in twin reel skid unit. 16 GPM @ 1,500 PSI. 8 GPM @ 1,800 PSI at each reel. 200 gallon poly tank, 5 gallons foam. 22 HP Honda gas engine. Electric rewind hose reels with 150°F high pressure hose on each and EJM triple operation nozzles. Dry weight 855#.</td>
<td>$37,261.87</td>
<td>7%</td>
<td>$34,824.18</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES200H</td>
<td>20 GPM @ 1550 PSI UHP, Hydraulically Driven, 2-Hose Reels, 150°F of .50&quot; hose each, 74&quot; long x 23&quot; wide x 31.5&quot; tall, 705 lbs. Dry, Customer Provided Water and Foam Tanks.</td>
<td>$33,180.83</td>
<td>7%</td>
<td>$31,010.12</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES10120300G</td>
<td>Dual Pump System, 10 GPM @ 1500 PSI / 120 GPM @ 145 PSI UHP, Gasoline Engine, UPH/FV Foam Systems, 3-Gallon Fuel Tank, 1.5&quot; HV Discharge, 1.5&quot; Pre-Connect, 2.5&quot; Auxiliary Suction, 300-Gallons Water / 10-Gallons Foam.</td>
<td>$41,393.72</td>
<td>7%</td>
<td>$38,685.72</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES10120300C</td>
<td>EI Metals Dual Pump Fire Suppression System. 10 GPM @ 1500 PSI ultra high pressure and 120 GPM @ 140 PSI high volume pump. 300 gallon poly tank, 30 gallons foam. 28 HP diesel engine. Electric rewind hose reel with 150°F high pressure hose and EJM triple operation nozzle. Dry weight 1,220#.</td>
<td>$49,352.37</td>
<td>7%</td>
<td>$46,123.71</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES612000H</td>
<td>Dual Pump System, 8 GPM @ 2800 PSI / 120 GPM @ 150 PSI Hydraulically Driven, UPH/FV Foam Systems, 2-Hyd. Tool Ckts., 1.5&quot; HV Discharge, Hose Reel Discharge, 2.5&quot; Auxiliary Suction, Customer Provided Water / Foam Tanks.</td>
<td>$54,368.64</td>
<td>7%</td>
<td>$50,811.81</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200D</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 16 GPM @ 1,500 PSI. 200 gallon poly tank, 5 gallons foam. 22 HP Honda gas engine. Electric rewind hose reel with 150°F high pressure hose and EJM triple operation nozzle. Dry weight 840#.</td>
<td>$32,604.47</td>
<td>7%</td>
<td>$30,658.38</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200D.2</td>
<td>EI Metals Ultra High Pressure Fire Suppression System. Drop-in twin reel skid unit. 16 GPM @ 1,500 PSI. 8 GPM @ 1,800 PSI at each reel. 200 gallon poly tank, 5 gallons foam. 22 HP Honda gas engine. Two electric rewind hose reels with 150°F high pressure hose on each and EJM triple operation nozzles. Dry weight 895#.</td>
<td>$39,974.88</td>
<td>7%</td>
<td>$37,359.70</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES61300G</td>
<td>Gas Engine Driven System, 16 GPM @ 1500 PSI UHP, 150°F of 3/4&quot; UHP hose, Electric Rewind Reel, Winterization Port, 1.50&quot; Tank/Fill Drain, 300-Gallons Water / 20-Gallons Foam Tank.</td>
<td>$23,569.96</td>
<td>7%</td>
<td>$22,029.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES20300G</td>
<td>Gas Engine Driven System, 20 GPM @ 1500 PSI UHP, 150°F of 3/4&quot; UHP hose, Electric Rewind Reel, Winterization Port, 1.50&quot; Tank/Fill Drain, 300-Gallons Water / 20-Gallons Foam Tank.</td>
<td>$25,458.29</td>
<td>7%</td>
<td>$23,747.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16300D</td>
<td>Diesel Engine Driven System, 16 GPM @ 1500 PSI UHP, 150°F of 3/4&quot; UHP hose, Electric Rewind Reel, Winterization Port, 1.50&quot; Tank/Fill Drain, 300-Gallons Water / 20-Gallons Foam Tank.</td>
<td>$26,573.45</td>
<td>7%</td>
<td>$24,835.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES20300D</td>
<td>Diesel Engine Driven System, 20 GPM @ 1500 PSI UHP, 150°F of 3/4&quot; UHP hose, Electric Rewind Reel, Winterization Port, 1.50&quot; Tank/Fill Drain, 300-Gallons Water / 20-Gallons Foam Tank.</td>
<td>$28,371.05</td>
<td>7%</td>
<td>$26,515.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ESC10G</td>
<td>Gas Engine Driven System, 10 GPM @ 1800 PSI UHP, 150°F of 3/8&quot; UHP hose, Electric Rewind Reel, Winterization Port, Customer Provided Water and Foam Tanks.</td>
<td>$9,837.22</td>
<td>7%</td>
<td>$8,446.00</td>
<td>Origin</td>
<td>12 months</td>
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</table>

**UHP PUMP SYSTEM OPTIONS**
<table>
<thead>
<tr>
<th>E.J. Metals</th>
<th>UHP Pump Engine Option Description</th>
<th>2017 List Price</th>
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<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJMP0119</td>
<td>6 GPM @ 1,800 PSI Gas Engine Driven System</td>
<td>$8,456.53</td>
<td>7%</td>
<td>$7,963.30</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0120</td>
<td>6 GPM @ 1,800 PSI Diesel Engine Driven System</td>
<td>$9,967.97</td>
<td>7%</td>
<td>$9,343.90</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0121</td>
<td>6 GPM @ 2,000 PSI Gas Engine Driven System</td>
<td>$9,366.32</td>
<td>7%</td>
<td>$8,753.48</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0122</td>
<td>5 GPM @ 2,800 PSI Diesel Engine Driven System</td>
<td>$12,107.59</td>
<td>7%</td>
<td>$11,315.50</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0123</td>
<td>10 GPM @ 1,500 PSI Gas Engine Driven System</td>
<td>$12,549.92</td>
<td>7%</td>
<td>$11,728.90</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0124</td>
<td>10 GPM @ 1,500 PSI Diesel Engine Driven System</td>
<td>$16,582.00</td>
<td>7%</td>
<td>$15,497.20</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0125</td>
<td>16 GPM @ 1,500 PSI Gas Engine Driven System</td>
<td>$15,168.02</td>
<td>7%</td>
<td>$14,110.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0126</td>
<td>16 GPM @ 1,500 PSI Diesel Engine Driven System</td>
<td>$19,172.52</td>
<td>7%</td>
<td>$17,916.24</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0127</td>
<td>20 GPM @ 1,500 PSI Gas Engine Driven System</td>
<td>$18,006.56</td>
<td>7%</td>
<td>$16,825.16</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0128</td>
<td>20 GPM @ 1,500 PSI Diesel Engine Driven System</td>
<td>$20,966.82</td>
<td>7%</td>
<td>$19,595.16</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>E.J. Metals</td>
<td>Water &amp; Foam Tank Option Description</td>
<td>2017 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
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</tr>
<tr>
<td>EJMP0129</td>
<td>70 Gallon NFPA Compliant</td>
<td>$1,610.56</td>
<td>7%</td>
<td>$1,595.20</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0130</td>
<td>70 Gallon Roto-Molded</td>
<td>$2,633.55</td>
<td>7%</td>
<td>$2,656.06</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0131</td>
<td>100 Gallon NFPA Compliant</td>
<td>$1,746.67</td>
<td>7%</td>
<td>$1,632.40</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0132</td>
<td>100 Gallon Roto-Molded</td>
<td>$2,633.55</td>
<td>7%</td>
<td>$2,656.06</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0133</td>
<td>125 Gallon NFPA Compliant</td>
<td>$2,109.61</td>
<td>7%</td>
<td>$1,917.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0134</td>
<td>125 Gallon Roto-Molded</td>
<td>$3,622.94</td>
<td>7%</td>
<td>$3,392.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
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<td>EJMP0135</td>
<td>150 Gallon NFPA Compliant</td>
<td>$2,449.87</td>
<td>7%</td>
<td>$2,399.80</td>
<td>Origin</td>
<td>12 months</td>
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<td>EJMP0136</td>
<td>150 Gallon Roto-Molded</td>
<td>$4,080.31</td>
<td>7%</td>
<td>$3,816.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0137</td>
<td>200 Gallon NFPA Compliant</td>
<td>$2,790.13</td>
<td>7%</td>
<td>$2,607.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0138</td>
<td>250 Gallon NFPA Compliant</td>
<td>$2,994.29</td>
<td>7%</td>
<td>$2,794.40</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0139</td>
<td>300 Gallon NFPA Compliant</td>
<td>$3,345.89</td>
<td>7%</td>
<td>$3,127.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0140</td>
<td>5 Gallon Foam Jug</td>
<td>$238.15</td>
<td>7%</td>
<td>$222.50</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0141</td>
<td>8 Gallon Integral Foam Cell</td>
<td>$578.44</td>
<td>7%</td>
<td>$540.60</td>
<td>Origin</td>
<td>12 months</td>
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<td>EJMP0142</td>
<td>10 Gallon Integral Foam Cell</td>
<td>$637.42</td>
<td>7%</td>
<td>$595.72</td>
<td>Origin</td>
<td>12 months</td>
</tr>
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<td>EJMP0143</td>
<td>15 Gallon Integral Foam Cell</td>
<td>$666.19</td>
<td>7%</td>
<td>$641.30</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0144</td>
<td>20 Gallon Integral Foam Cell</td>
<td>$725.89</td>
<td>7%</td>
<td>$678.40</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>E.J. Metals</td>
<td>UHP Hose Reel Option Description</td>
<td>2017 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
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<tr>
<td>EJMP0145</td>
<td>100 ft of .38&quot; hose, manual rewind</td>
<td>$2,041.56</td>
<td>7%</td>
<td>$1,908.00</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0146</td>
<td>150 ft of .38&quot; hose, manual rewind</td>
<td>$2,133.77</td>
<td>7%</td>
<td>$2,162.40</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0147</td>
<td>150 ft of .38&quot; hose, electric rewind</td>
<td>$2,394.29</td>
<td>7%</td>
<td>$2,795.40</td>
<td>Origin</td>
<td>12 months</td>
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<tr>
<td>EJMP0148</td>
<td>200 ft of .38&quot; hose, electric rewind</td>
<td>$3,413.94</td>
<td>7%</td>
<td>$3,196.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0149</td>
<td>100 ft of .50&quot; hose, electric rewind</td>
<td>$3,187.10</td>
<td>7%</td>
<td>$2,978.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0150</td>
<td>200 ft of .50&quot; hose, electric rewind</td>
<td>$3,567.06</td>
<td>7%</td>
<td>$3,333.70</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0151</td>
<td>21 100 ft of .50&quot; hose, electric rewind</td>
<td>$6,374.20</td>
<td>7%</td>
<td>$5,957.20</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0152</td>
<td>2 (2) 200 ft of .50&quot; hose, electric rewind</td>
<td>$7,134.12</td>
<td>7%</td>
<td>$6,667.40</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>E.J. Metals</td>
<td>Add-On Option Description</td>
<td>2017 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2017 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
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</tr>
<tr>
<td>EJMP0153</td>
<td>Water Level Gauge</td>
<td>$714.53</td>
<td>7%</td>
<td>$697.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0154</td>
<td>Foam Level Gauge</td>
<td>$714.53</td>
<td>7%</td>
<td>$697.60</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0155</td>
<td>Winterization Kit</td>
<td>$272.21</td>
<td>7%</td>
<td>$254.40</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0156</td>
<td>Water Tank 1.5&quot; Fill/Drain Valve</td>
<td>$538.75</td>
<td>7%</td>
<td>$503.50</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0157</td>
<td>Foam Refill System, 12V Honda Trash Pump</td>
<td>$759.91</td>
<td>7%</td>
<td>$710.20</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0158</td>
<td>Pump Panel Light</td>
<td>$204.16</td>
<td>7%</td>
<td>$190.80</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJMP0159</td>
<td>Front Turret (16 GPM minimum required)</td>
<td>$13,771.15</td>
<td>7%</td>
<td>$12,870.52</td>
<td>Origin</td>
<td>12 months</td>
</tr>
</tbody>
</table>
The pricing above is current as of January 1, 2017.

Pricing contained in this Attachment A shall be extended to all National Purchasing Partners government members upon execution of the Intergovernmental Agreement.

2. **Full Force and Effect.** In each and every other respect, the terms of the Master Price Agreement, as amended, entered into between the parties on or about May 4, 2015 shall remain in full force and effect during the term of the agreement and the parties hereto hereby ratify said Master Price Agreement in its entirety, as if fully set out herein, along with the modifications identified herein.

**IN WITNESS WHEREOF,** the parties have hereto signed this Amendment on the day and year first above written.

PUBLIC PROCUREMENT AUTHORITY:

\[\text{Heidi Arnold} \quad \text{Date} \quad 4/6/2017\]

BY: Heidi Arnold
ITS: Contract Manager

E.J. METALS, INC.:

\[\text{[Signature]} \quad \text{Date} \quad 4-6-2017\]

BY: 
ITS:
PUBLIC PROCUREMENT AUTHORITY
MASTER PRICE AGREEMENT

This Master Price Agreement is effective as of the date of the last signature below (the
"Effective Date") by and between the PUBLIC PROCUREMENT AUTHORITY ("PPA" or
"Purchaser") and E.J. Metals, Inc. ("Vendor").

RECITALS

WHEREAS, the Vendor is in the business of selling certain fire apparatus and related
products and services, as further described herein; and

WHEREAS, the Vendor desires to sell and the Purchaser desires to purchase certain
products and related services all upon and subject to the terms and conditions set forth herein;
and

WHEREAS, Purchaser and Vendor desires to extend the terms of this Master Price
Agreement to benefit other qualified government members of National Purchasing Partners, LLC
dba FireRescue GPO, dba Public Safety GPO, dba Law Enforcement GPO and dba NPPGov;

NOW, THEREFORE, Vendor and Purchaser, intending to be legally bound, hereby agree
as follows:

ARTICLE 1 – CERTAIN DEFINITIONS

1.1 "Parties" shall mean the Purchaser and Vendor.

1.2 "Agreement" shall mean this Master Price Agreement, including the main body of
this Agreement and Attachments A-F attached hereto and by this reference incorporated herein,
including Purchaser’s Request for Proposal RFP No. 1420 (herein “RFP”) and Vendor’s
Proposal submitted in response to the RFP (herein “Vendor’s Proposal”) as referenced and
incorporated herein as though fully set forth (sometimes referred to collectively as the “Contract
Documents”).

1.3 "Applicable Law(s)" shall mean all applicable federal, state and local laws,
statutes, ordinances, codes, rules, regulations, standards, orders and other governmental
requirements of any kind.

1.4 "Employeex Taxes" shall mean all taxes, assessments, charges and other amounts
whatsoever payable in respect of, and measured by the wages of, the Vendor’s employees (or
subcontractors), as required by the Federal Social Security Act and all amendments thereto
and/or any other applicable federal, state or local law.

1.5 "Purchaser’s Destination” shall mean such delivery location(s) or destination(s) as
Purchaser may prescribe from time to time.
1.6 "Products and Services" shall mean the products and/or services to be sold by Vendor hereunder as identified and described on Attachment A hereto and incorporated herein, as may be updated from time to time by Vendor to reflect products and/or services offered by Vendor generally to its customers.

1.7 "Purchase Order" shall mean any authorized written, electronic, telephone or fax order sent or made by Purchaser pursuant hereto, including, but not limited to, written purchase orders, requisitions sent by fax machine, and orders in such other form and/or mode of transmission as Purchaser and Vendor may from time to time agree. In addition, the parties agree that this Agreement and accepted Purchase Orders constitute a contract for the sale of goods and/or services and satisfy all statutory and legal formalities of a contract.

1.8 "Unemployment Insurance" shall mean the contribution required of Vendor, as an employer, in respect of, and measured by, the wages of its employees (or subcontractors) as required by any applicable federal, state or local unemployment insurance law or regulation.

1.9 "National Purchasing Partners (NPP)" is a subsidiary of two nonprofit health care systems. The Government Division of NPP, herein after referred to as "NPPGov", provides group purchasing marketing and administrative support for governamental entities within the membership. NPPGov’s membership includes participating public entities across North America.

1.10 "Lead Contracting Agency" shall mean the Public Procurement Authority, which is the governamental entity that issued the Request for Proposal and awarded this resulting Master Price Agreement.

1.11 "Participating Agencies" shall mean members of National Purchasing Partners for which Vendor has agreed to extend the terms of this Master Price Agreement pursuant to Article 2.5 and Attachment C herein. For purposes of cooperative procurement, "Participating Agency" shall be considered "Purchaser" under the terms of this agreement.

ARTICLE 2 – AGREEMENT TO SELL

2.1 Vendor hereby agrees to sell to Purchaser such Products and Services as Purchaser may order from time to time by Purchase Order, all in accordance with and subject to the terms, covenants and conditions of this Agreement. Purchaser agrees to purchase those Products and Services ordered by Purchaser by Purchase Order in accordance with and subject to the terms, covenants and conditions of this Agreement.

2.2 All Purchase Orders issued by Purchaser to Vendor for Products during the Term (as hereinafter defined) of this Agreement are subject to the provisions of this Agreement as though fully set forth in such Purchase Order. In the event that the provisions of this Agreement conflict with any Purchase Order issued by Purchaser to Vendor, the provisions of this Agreement shall govern. No other terms and conditions, including, but not limited to, those
contained in Vendor’s standard printed terms and conditions, on Vendor’s order acknowledgment, invoices or otherwise, shall have any application to or effect upon or be deemed to constitute an amendment to or to be incorporated into this Agreement, any Purchase Order, or any transactions occurring pursuant hereto or thereto, unless this Agreement shall be specifically amended to adopt such other terms and conditions in writing by the parties.

2.3 Notwithstanding any other provision of this Agreement to the contrary, Purchaser shall have no obligation to order or purchase any Products and Services hereunder and the placement of any Purchase Order shall be in the sole discretion of Purchaser. This Agreement is not exclusive. Vendor expressly acknowledges and agrees that Purchaser may purchase at its sole discretion, Products and Services which are identical or similar to the Products and Services described in this Agreement from any third party.

2.4 In case of any conflict or inconsistency between any of the Contract Documents, the documents shall prevail and apply in the following order of priority:

(i) This Agreement;
(ii) Vendor’s Proposal; and
(iii) The RFP.

Vendor’s Exception to Section 1.0 in the Proposal Profile Workbook is approved and by this reference incorporated herein.

2.5 Extension of contract terms to National Purchasing Partners, LLC

2.5.1 Pursuant to Section 1.0 of the RFP, Vendor agrees to extend the same terms, covenants and conditions available to Purchaser under this Agreement to other government agencies and non-profit entities that are members of National Purchasing Partners, that have executed an Intergovernmental Cooperative Purchasing Agreement (IGA) as a Participating Agency as may be required by the government agency’s local regulations, and that wish to access this Agreement in accordance with Attachment C which is attached hereto and incorporated herein by reference. Each Participating Agency will be exclusively responsible for and deal directly with Vendor on matters relating to ordering, delivery, inspection, acceptance, invoicing, and payment for Products and Services in accordance with the terms and conditions of this Agreement as if it were “Purchaser” hereunder. Any disputes between a Participating Agency and Vendor will be resolved directly between them under and in accordance with the laws of the State in which the Participating Agency exists. Pursuant to the IGA, the Lead Contracting Agency shall not incur any liability as a result of the access and utilization of this Agreement by other Participating Agencies.

2.5.2 This Solicitation meets the public contracting requirements of the Purchaser and may not be appropriate under or meet Participating Agencies’ procurement laws. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.
2.5.3 Vendor acknowledges execution of a Vendor Administration Fee Agreement with National Purchasing Partners, LLC, pursuant to the terms of the RFP.

2.6 Oregon Public Agencies are prohibited from use of products and services offered under this contract that are already provided by qualified nonprofit agencies for disabled individuals as listed on the Department of Administrative Service’s Procurement List (“Procurement List”) pursuant to ORS 279.835-.855. See www.OregonRehabilitation.org/qrf for more information. Vendor shall not sell products and services identified on the Procurement List (e.g., reconditioned toner cartridges) to Purchaser or Participating Agencies within the state of Oregon or to public institutions in other states with similar restrictions.

ARTICLE 3 – TERM AND TERMINATION

3.1 The initial contract term shall be for two (2) calendar years from the effective date of this Agreement. Upon termination of the original two (2) year term, this Agreement shall automatically extend for up to three (3) successive one (1) year periods; provided that the Lead Contracting Agency and/or the proposer may opt to decline extension of the MPA by providing notification in writing at least thirty (30) calendar days prior to the annual automatic extension anniversary of the original term.

3.2 Either party may terminate this Agreement by written notice to the other party if the other party breaches any of its obligations hereunder and fails to remedy the breach within thirty (30) days after receiving written notice of such breach from the non-breaching party.

ARTICLE 4 – PRICING, INVOICES, PAYMENT AND DELIVERY

4.1 Purchaser shall pay Vendor for all Products and Services ordered and delivered in compliance with the terms and conditions of this Agreement on the terms and at the pricing specified for each such Product and Service on Attachment A. Unless Attachment A expressly provides otherwise, the pricing schedule for Products and Services set forth on Attachment A hereto shall remain fixed for the entire term of the Agreement; provided that manufacturer pricing is not guaranteed and may be adjusted based on the next manufacturer price increase. Pricing contained in Attachment A shall be extended to all NPPCov, FireRescue GPO and Law Enforcement GPO members upon execution of the IGA.

4.2 Vendor shall submit original invoices to Purchase: in form and substance and format reasonably acceptable to Purchaser. All invoices must reference the Purchaser’s Purchase Order number, contain an itemization of amounts for Products and Services purchased during the applicable invoice period and any other information reasonably requested by Purchaser, and must otherwise comply with the provisions of this Agreement and such reasonable requirements as may be prescribed by Purchaser from time to time. Invoices shall be addressed as directed by Purchaser.

4.3 Unless otherwise specified, Purchaser is responsible for any and all applicable sales taxes. Attachment A or Vendor’s Proposal (Attachment D) shall specify any and all other taxes and duties of any kind which Purchaser is required to pay with respect to the sale of
Products and Services covered by this Agreement and all charges for packing, packaging and loading.

4.4 Except as specifically set forth on Attachments A and F, Purchaser shall not be responsible for any additional costs or expenses of any nature incurred by Vendor in connection with the Products and Services, including without limitation travel expenses, clerical or administrative personnel, long distance telephone charges, etc. ("Incidental Expenses"). To the extent that Attachment A expressly requires Purchaser to reimburse Vendor for Incidental Expenses, and notwithstanding anything else set forth in this Agreement, including Attachment A, Purchaser shall not be responsible for any such reimbursement unless the expenses to be reimbursed are (i) approved, in each instance, in advance by Purchaser; and (ii) substantiated by appropriate receipts and related documentation. It is acknowledged and agreed that Purchaser may, as a condition of its approval of any such Incidental Expense reimbursement, require in each instance Vendor to utilize suppliers or service providers prescribed by Purchaser, which may include suppliers or service providers which are affiliated with Purchaser.

4.5 Price reductions or discount increases may be offered at any time during the contract term and shall become effective upon notice of acceptance from Purchaser.

4.6 Notwithstanding any other agreement of the parties as to the payment of shipping/delivery costs, and subject to Attachments A and F herein, Vendor shall offer delivery and/or shipping costs prepaid FOB Destination to the requesting Participating Agency. If there are handling fees, these also shall be included in the pricing.

4.7 Unless otherwise directed by Purchaser for expedited orders, Vendor shall utilize such common carrier for the delivery of Products and Services as Vendor may select; provided, however, that for expedited orders Vendor shall obtain delivery services hereunder at rates and terms not less favorable than those paid by Vendor for its own account or for the account of any other similarly situated customer of Vendor. If Vendor for any reason anticipates difficulty in complying with the required delivery date, or in meeting any of the other requirements hereunder or under any Purchase Order, Vendor shall promptly notify Purchaser in writing. Except as otherwise provided in Article 16 below, if Vendor does not comply with the applicable delivery schedule, in addition to any other remedies it may have, Purchaser may require delivery by fastest method available and any actual out-of-pocket charges or costs resulting from such method (including, but not limited to, premium shipping rates, etc.), if any, must be fully prepaid and/or absorbed by Vendor without additional cost to Purchaser. It is Vendor’s responsibility to comply with the delivery schedule applicable to each Purchase Order accepted by Vendor.

4.8 Vendor shall have the risk of loss of or damage to any Products until passage of title to Purchaser. Purchaser shall have the risk of loss of or damage to the Products after title has passed to Purchaser. Title to Products shall not transfer until the Products have been delivered to and accepted by Purchaser at Purchaser’s Destination.
ARTICLE 5 – INSURANCE

5.1 During the term of this Agreement, Vendor shall maintain at its own cost and expense (and shall cause any subcontractor to maintain) insurance policies providing insurance of the kind and in the amounts generally carried by reasonably prudent manufacturers in the industry, with one or more reputable insurance companies licensed to do business in Oregon and any other state or jurisdiction where Products and Services are sold hereunder. Such certificates of insurance shall be made available to the PPA upon 48 hours notice. BY SIGNING THE AGREEMENT PAGE THE VENDOR AGREES TO THIS REQUIREMENT AND FAILURE TO MEET THIS REQUIREMENT WILL RESULT IN CANCELLATION OF THIS MASTER PRICE AGREEMENT.

5.2 All insurance required herein shall be maintained in full force and effect until all work or service required to be performed under the terms of the Master Price Agreement is satisfactorily completed and formally accepted. Any failure to comply with the claim reporting provisions of the insurance policies or any breach of an insurance policy warranty shall not affect coverage afforded under the insurance policies to protect the Public Procurement Authority. The insurance policies may provide coverage that contains deductibles or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to the Public Procurement Authority under such policies. Vendor shall be solely responsible for the deductible and/or self-insured retention and the Public Procurement Authority, at its option, may require Vendor to secure payment of such deductibles or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

5.3 Vendor shall carry Workers’ Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over Vendor’s employees engaged in the performance of the work or services, as well as Employer’s Liability insurance. Vendor waives all rights against the Public Procurement Authority and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the Workers’ Compensation and Employer’s Liability or commercial umbrella liability insurance obtained by Vendor pursuant to this agreement.

5.4 Insurance required herein shall not be permitted to expire, be canceled, or materially changed without thirty-days (30-days) prior written notice to the Public Procurement Authority.

ARTICLE 6 – INDEMNIFICATION AND HOLD HARMLESS

6.1 Vendor agrees that it shall indemnify, defend and hold harmless Purchaser, its respective officials, directors, employees and agents (collectively, the “Indemnities”), and National Purchasing Partners, LLC from and against any and all damages, claims, losses, expenses, costs, obligations and liabilities (including without limitation reasonable attorney’s fees), suffered directly or indirectly by any of the Indemnities by reason of, or arising out of, (i) any breach of any covenant, representation or warranty made by Vendor in this Agreement, (ii) any failure by Vendor to perform or fulfill any of its obligations, covenants or agreements set forth in this Agreement, (iii) the negligence or intentional misconduct of Vendor, any
subcontractor of Vendor, or any of their respective employees or agents, (iv) any failure of Vendor, its subcontractors, or their respective employees to comply with any Applicable Law, (v) any litigation, proceeding or claim by any third party relating in any way to the obligations of Vendor under this Agreement or Vendor’s performance under this Agreement, (vi) any Employee Taxes or Unemployment Insurance, or (vii) any claim alleging that the Products and Services or any part thereof infringe any third party’s U.S. patent, copyright, trademark, trade secret or other intellectual property interest. Such obligation to indemnify shall not apply where the damage, claim, loss, expense, cost, obligation or liability is due to the breach of this Agreement by, or negligence or willful misconduct of, Purchaser or its officials, directors, employees, agents or contractors. In addition, Vendor shall not be liable for infringement claims related to nonstandard or special-order product, the design of which is provided to Vendor by Purchaser. The amount and type of insurance coverage requirements set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph. The provisions of this Article shall survive the expiration or termination of this Agreement.

6.2 LIMITATION OF LIABILITY: IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR INJURIES TO PERSONS OR TO PROPERTY OR LOSS OF PROFITS OR LOSS OF FUTURE BUSINESS OR REPUTATION, WHETHER BASED ON TORT OR BREACH OF CONTRACT OR OTHER BASIS, EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

6.3 The same terms, conditions and pricing of this Agreement may be extended to government members of National Purchasing Partners, LLC. In the event the terms of this Agreement is extended to other government members, each government member (procuring party) shall be solely responsible for the ordering of goods and services under this Agreement. A non-procuring party shall not be liable in any fashion for any violation by a procuring party, and the procuring party shall hold non-procuring parties or unrelated purchasing parties harmless from any liability that may arise from action or inaction of the procuring party.

ARTICLE 7 – WARRANTIES

Purchaser shall refer to Vendor’s Proposal for all Vendor and manufacturer express warranties, as well as those warranties provided under Attachment B herein.

ARTICLE 8 - INSPECTION AND REJECTION

8.1 Purchaser shall have the right to inspect and test Products at any time prior to shipment, and within a reasonable time after delivery to the Purchaser’s Destination. Products not inspected within a reasonable time after delivery shall be deemed accepted by Purchaser. The payment for Products shall in no way impair the right of Purchaser to reject nonconforming Products, or to avail itself of any other remedies to which it may be entitled.
8.2 If any of the Products are found at any time to be defective in material or workmanship, damaged, or otherwise not in conformity with the requirements of this Agreement or any applicable Purchase Order, as its exclusive remedy, Purchaser may at its option and at Vendor’s sole cost and expense, elect either to (i) return any damaged, non-conforming or defective Products to Vendor for correction or replacement, or (ii) require Vendor to inspect the Products and remove or replace damaged, non-conforming or defective Products with conforming Products. If Purchaser elects option (ii) in the preceding sentence and Vendor fails promptly to make the necessary inspection, removal and replacement, Purchaser, at its option, may inspect the Products and Vendor shall bear the cost thereof. Payment by Purchaser of any invoice shall not constitute acceptance of the Products covered by such invoice, and acceptance by Purchaser shall not relieve Vendor of its warranties or other obligations under this Agreement.

8.3 The provisions of this Article shall survive the expiration or termination of this Agreement.

ARTICLE 9 – SUBSTITUTIONS

Except as otherwise permitted hereunder, Vendor may not make any substitutions of Products, or any portion thereof, of any kind without the prior written consent of Purchaser.

ARTICLE 10 - COMPLIANCE WITH LAWS

10.1 Vendor agrees to comply with all Applicable Laws. At Vendor’s expense, secure and maintain in full force during the term of this Agreement, all licenses, permits, approvals, authorizations, registrations and certificates, if any, required by Applicable Laws in connection with the performance of its obligations hereunder. At Purchaser’s request, Vendor shall provide to Purchaser copies of any or all such licenses, permits, approvals, authorizations, registrations and certificates.

10.2 Purchaser has taken all required governmental action to authorize its execution of this Agreement and there is no governmental or legal impediment against Purchaser’s execution of this Agreement or performance of its obligations hereunder.

ARTICLE 11 – PUBLICITY / CONFIDENTIALITY

11.1 No news releases, public announcements, advertising materials, or confirmation of same, concerning any part of this Agreement or any Purchase Order issued hereunder shall be issued or made without the prior written approval of the parties. Neither party shall in any advertising, sales materials or in any other way use any of the names or logos of the other party without the prior written approval of the other party.

11.2 Any knowledge or information which Vendor or any of its affiliates shall have disclosed or may hereafter disclose to Purchaser, and which in any way relates to the Products
and Services covered by this Agreement shall not, unless otherwise designated by Vendor, be
deemed to be confidential or proprietary information, and shall be acquired by Purchaser, free
from any restrictions, as part of the consideration for this Agreement.

**ARTICLE 12 - RIGHT TO AUDIT**

Subject to Vendor’s reasonable security and confidentiality procedures, Purchaser, or any
third party retained by Purchaser, may at any time upon prior reasonable notice to Vendor,
during normal business hours, audit the books, records and accounts of Vendor to the extent that
such books, records and accounts pertain to sale of any Products and Services hereunder or
otherwise relate to the performance of this Agreement by Vendor. Vendor shall maintain all such
books, records and accounts for a period of at least three (3) years after the date of expiration or
termination of this Agreement. The Purchaser’s right to audit under this Article 12 and
Purchaser’s rights hereunder shall survive the expiration or termination of this Agreement for a
period of three (3) years after the date of such expiration or termination.

**ARTICLE 13 - REMEDIES**

Except as otherwise provided herein, any right or remedy of Vendor or Purchaser set
forth in this Agreement shall not be exclusive, and, in addition thereto, Vendor and Purchaser
shall have all rights and remedies under applicable law, including without limitation, equitable
relief. The provisions of this Article shall survive the expiration or termination of this
Agreement.

**ARTICLE 14 - RELATIONSHIP OF PARTIES**

Vendor is an independent contractor and is not an agent, servant, employee, legal
representative, partner or joint venturer of Purchaser. Nothing herein shall be deemed or
construed as creating a joint venture or partnership between Vendor and Purchaser. Neither party
has the power or authority to bind or commit the other.

**ARTICLE 15 - NOTICES**

All notices required or permitted to be given or made in this Agreement shall be in
writing. Such notice(s) shall be deemed to be duly given or made if delivered by hand, by
certified or registered mail or by nationally recognized overnight courier to the address specified
below:

If to Purchaser:
Public Procurement Authority
25030 SW Parkway Ave.
Suite 330
Wilsonville OR 97070
ATTN: Heidi Arnold
If to Vendor:

E.J. Metals, Inc.
1201 Maple Creek Lane
New London, WI 54961
ATTN: Larry Grassl

Either party may change its notice address by giving the other party written notice of such change in the manner specified above.

ARTICLE 16 - FORCE MAJEURE

Delay in performance or non-performance of any obligation contained herein shall be excused to the extent such failure or non-performance is caused by force majeure. For purposes of this Agreement, "force majeure" shall mean any cause or agency preventing performance of an obligation which is beyond the reasonable control of either party hereto, including without limitation, fire, flood, sabotage, shipwreck, embargo, strike, explosion, labor trouble, accident, riot, acts of governmental authority (including, without limitation, acts based on laws or regulations now in existence as well as those enacted in the future), acts of God, and delays or failure in obtaining raw materials, supplies or transportation. A party affected by force majeure shall promptly provide notice to the other, explaining the nature and expected duration thereof, and shall act diligently to remedy the interruption or delay if it is reasonably capable of being remedied. In the event of a force majeure situation, deliveries or acceptance of deliveries that have been suspended shall not be required to be made upon the resumption of performance.

ARTICLE 17 - WAIVER

No delay or failure by either party to exercise any right, remedy or power herein shall impair such party's right to exercise such right, remedy or power or be construed to be a waiver of any default or an acquiescence therein; and any single or partial exercise of any such right, remedy or power shall not preclude any other or further exercise thereof or the exercise of any other right, remedy or power. No waiver hereunder shall be valid unless set forth in writing executed by the waiving party and then only to the extent expressly set forth in such writing.

ARTICLE 18 - PARTIES BOUND; ASSIGNMENT

This Agreement shall inure to the benefit of and shall be binding upon the respective successors and assigns of the parties hereto, but it may not be assigned in whole or in part by Vendor without the prior written consent of Purchaser which shall not be unreasonably withheld or delayed. Vendor shall not delegate its duties under this Agreement nor assign monies due or to become due to it hereunder without prior written consent of Purchaser. Purchaser may freely assign this Agreement to an instrumentality thereof or to a third party responsible for administering this Agreement on behalf of Purchaser.
ARTICLE 19 - SEVERABILITY

To the extent possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law. If any provision of this Agreement is declared invalid or unenforceable, by judicial determination or otherwise, such provision shall not invalidate or render unenforceable the entire Agreement, but rather the entire Agreement shall be construed as if not containing the particular invalid or unenforceable provision or provisions and the rights and obligations of the parties shall be construed and enforced accordingly.

ARTICLE 20 - INCORPORATION; ENTIRE AGREEMENT

20.1 All the provisions of the Attachments hereto are hereby incorporated herein and made a part of this Agreement. In the event of any apparent conflict between any provision set forth in the main body of this Agreement and any provision set forth in the Attachments, including the RFP and/or Vendor’s Proposal, the provisions shall be interpreted, to the extent possible, as if they do not conflict. In the event that such an interpretation is not possible, the provisions set forth in the main body of this Agreement shall control.

20.2 This Agreement (including Attachments and Contract Documents hereto) constitutes the entire agreement of the parties relating to the subject matter hereof and supersedes any and all prior written and oral agreements or understandings relating to such subject matter.

ARTICLE 21 - HEADINGS

Headings used in this Agreement are for convenience of reference only and shall in no way be used to construe or limit the provisions set forth in this Agreement.

ARTICLE 22 - MODIFICATIONS

This Agreement may be modified or amended only in writing executed by both parties hereto.

ARTICLE 23 - GOVERNING LAW

This Agreement shall be governed by and interpreted in accordance with the laws of the state of Oregon or in the case of a Participating Agency’s use of this agreement, the laws of the state in which the Participating Agency exists, without regard to its choice of law provisions.

ARTICLE 24 - COUNTERPARTS

This Agreement may be executed in counterparts all of which together shall constitute one and the same Agreement.
IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year last written below.

PURCHASER:

Signature: Heidi Arnold
Printed Name: Heidi Arnold
Title: Contracts Manager
Public Procurement Authority
Dated: May 4, 2015

VENDOR:

Signature: [Signature]
Printed Name: Kevin J. Quinn
Title: Owner / President
E.J. Metals, Inc.
Dated: May 4, 2015
ATTACHMENT A

to Master Price Agreement by and between VENDOR and PURCHASER.

PRODUCTS, SERVICES, SPECIFICATIONS AND PRICES

Fire Apparatus Pricing Schedule
(see next page)

<table>
<thead>
<tr>
<th>E.J. Metals Model Number</th>
<th>Product Description</th>
<th>2015 List Price</th>
<th>Discount % From List Price</th>
<th>Proposed 2015 PPA Price</th>
<th>FOB Terms</th>
<th>Warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWF350</td>
<td>E.J. Metals Ford F-350 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and Ultra High Pressure Fire Suppression System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 150 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$111,233.75</td>
<td>7%</td>
<td>$103,447.39</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWF550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and Ultra High Pressure Fire Suppression System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$124,706.00</td>
<td>7%</td>
<td>$115,976.56</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWFH550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed hybrid aluminum body with compartments and Ultra High Pressure Fire System, 16 GPM @ 1,550 PSI, discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$130,608.98</td>
<td>7%</td>
<td>$121,466.36</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EWFHT550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with flat bed aluminum body with compartments and dual pumps, 120 GPM @ 140 PSI high volume pump and 8 GPM @ 2,800 PSI high pressure pump, high pressure discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1906 compliant.</td>
<td>$170,332.25</td>
<td>7%</td>
<td>$158,408.99</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EQF550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with QuickForce aluminum body with compartments and dual pumps, 120 GPM @ 140 PSI high volume pump and 8 GPM @ 2,800 PSI high pressure pump, high pressure discharge reel with hose and nozzle, 300 gallon poly water tank. NFPA 1901 compliant.</td>
<td>$205,795.95</td>
<td>7%</td>
<td>$191,390.23</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>EQA550</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with QuickAttack aluminum body with compartments, diesel engine driven 150 GPM @ 170 PSI water pump with CAFS, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1901 compliant.</td>
<td>$199,650.35</td>
<td>7%</td>
<td>$185,674.83</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E652</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with 6 compartment light engine aluminum body with lap doors, 100 GPM @ 200 PSI water pump, integrated foam system, hose reel with hose, 300 gallon poly water tank with 10 gallon integral foam cell. NFPA 1906 compliant.</td>
<td>$171,223.50</td>
<td>7%</td>
<td>$159,237.66</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
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<tr>
<td>E643P</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis with Type 6 flat bed aluminum body with compartments, 160 GPM @ 245 PSI water pump with integrated foam system, hose reel with hose, 300 gallon poly water tank with 12 gallon integral foam cell. NFPA 1906 compliant.</td>
<td>$165,882.90</td>
<td>7%</td>
<td>$154,271.10</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E5BT</td>
<td>E.J. Metals Ford F-550 XL 2-door 4x4 chassis, brush truck aluminum body w/ compartments and dual pumps, 120 GPM @ 140 PSI high volume pump and 10 GPM @ 1,500 PSI high pressure pump, high pressure discharge reel with hose and nozzle, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1906 compliant.</td>
<td>$184,882.05</td>
<td>7%</td>
<td>$171,940.31</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E.J. Metals Model Number</td>
<td>Product, Description</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
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<tr>
<td><strong>MODEL - Mini Pumper</strong></td>
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<tr>
<td>MP84500</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 500 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1901 compliant.</td>
<td>$ 186,861.00</td>
<td>7%</td>
<td>$ 173,780.73</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>MP84750</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 750 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1901 compliant.</td>
<td>$ 187,907.00</td>
<td>7%</td>
<td>$ 174,753.51</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>MP841000</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with Mini-Pumper aluminum body with compartments and 1,000 GPM pump, integrated foam system, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 1901 compliant.</td>
<td>$ 189,022.00</td>
<td>7%</td>
<td>$ 175,790.46</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
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<tr>
<td><strong>MODEL - RIV, Rapid Intervention Vehicle</strong></td>
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<tr>
<td>RIV</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with RIV aluminum body with compartments, twin-agent unit (TAU), 250 GPM @ 150 PSI water pump, 450# dry chemical discharge system, hose reels for both systems, 300 gallon poly water tank with 30 gallon integral foam cell. NFPA 414 compliant.</td>
<td>$ 285,742.00</td>
<td>7%</td>
<td>$ 265,740.06</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>M440</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with RIV aluminum body with compartments, 450# dry chemical discharge system, 150 gallon AFFF self contained foam agent system, twin discharge hose reel. NFPA 414 compliant.</td>
<td>$ 197,540.00</td>
<td>7%</td>
<td>$ 183,712.20</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
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<tr>
<td><strong>MODEL - Light, Medium Rescue</strong></td>
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<tr>
<td>RSQ60</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with 10' seven compartment walk-a-round aluminum rescue body. NFPA 1901 compliant.</td>
<td>$ 128,185.00</td>
<td>7%</td>
<td>$ 119,212.05</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
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<tr>
<td>RUTL60</td>
<td>E.J. Metals Ford F-550 2-door 4x4 chassis with 10' six compartment walk-a-round aluminum utility rescue body. NFPA 1901 compliant.</td>
<td>$ 126,536.00</td>
<td>7%</td>
<td>$ 117,677.55</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td><strong>MODEL - Crew Carrier</strong></td>
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<tr>
<td>644</td>
<td>E.J. Metals IH/HC 2-door 2WD chassis 10-man crew carrier; aluminum body, HVAC system, individual seating with storage, similar to BLM model 644. NFPA 1906 compliant.</td>
<td>$ 190,348.00</td>
<td>7%</td>
<td>$ 177,023.64</td>
<td>Origin</td>
<td>Bumper-to-Bumper 12 months or 12,000 miles; whichever occurs first</td>
</tr>
<tr>
<td>E.J. Metals Part Number</td>
<td>Option Description</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>Option Model Availability</td>
<td></td>
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</tr>
<tr>
<td>JMVO001</td>
<td>Ford chassis upgrade to super cab (extended cab) All Ford F-series models</td>
<td>$3,533.11</td>
<td>7%</td>
<td>$3,285.79</td>
<td>All Ford models, F-350-F550</td>
<td></td>
</tr>
<tr>
<td>JMVO002</td>
<td>Ford chassis upgrade to 4-door crew cab, All Ford F-series models</td>
<td>$4,087.19</td>
<td>7%</td>
<td>$3,801.09</td>
<td>All Ford models, F-350-F550</td>
<td></td>
</tr>
<tr>
<td>JMVO003</td>
<td>Spare, wheel and tire, mounted</td>
<td>$406.76</td>
<td>7%</td>
<td>$378.29</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO004</td>
<td>Wheel covers, stainless steel, 4-wheels, installed</td>
<td>$1,006.48</td>
<td>7%</td>
<td>$936.03</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO005</td>
<td>Wheels / Tires, Super single wheels and tires IPO the dual rear wheels, four (4) complete, 265 size, installed</td>
<td>$6,004.98</td>
<td>7%</td>
<td>$5,584.83</td>
<td>All models with dual rear wheels</td>
<td></td>
</tr>
<tr>
<td>JMVO006</td>
<td>Wheels / Tires, Super single wheels and tires IPO the dual rear wheels, four (4) complete, 285 size, installed</td>
<td>$7,111.84</td>
<td>7%</td>
<td>$6,614.01</td>
<td>All models with dual rear wheels</td>
<td></td>
</tr>
<tr>
<td>JMVO007</td>
<td>Seat, officer seat, Firefighter SCBA seat IPO standard seat, installed</td>
<td>$1,604.89</td>
<td>7%</td>
<td>$1,492.55</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO008</td>
<td>Seats, crew cab, Firefighter SCBA seat IPO standard seat, 4-door Fords, price per seat, up to three per truck</td>
<td>$1,962.11</td>
<td>7%</td>
<td>$1,824.76</td>
<td>All models with crew cab option</td>
<td></td>
</tr>
<tr>
<td>JMVO009</td>
<td>Bracket, SCBA seat, lock and load SCBA bracket in seat, installed</td>
<td>$208.60</td>
<td>7%</td>
<td>$193.99</td>
<td>All models</td>
<td></td>
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<tr>
<td>JMVO010</td>
<td>Seat insert, covers SCBA bottle in SCBA seats, installed</td>
<td>$126.46</td>
<td>7%</td>
<td>$117.61</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO011</td>
<td>Monitor, seat belt monitor, all crew seats, installed</td>
<td>$4,428.77</td>
<td>7%</td>
<td>$4,118.75</td>
<td>All models with crew cab option</td>
<td></td>
</tr>
<tr>
<td>JMVO012</td>
<td>Mud Flaps, per pair, installed</td>
<td>$315.50</td>
<td>7%</td>
<td>$293.42</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO013</td>
<td>MDT mount, officers side cab, installed</td>
<td>$640.13</td>
<td>7%</td>
<td>$595.32</td>
<td>All models</td>
<td></td>
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<tr>
<td>JMVO014</td>
<td>Map light, cab mounted officer's light</td>
<td>$185.13</td>
<td>7%</td>
<td>$172.17</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO015</td>
<td>Fog lights, halogen, per pair, installed</td>
<td>$804.40</td>
<td>7%</td>
<td>$748.09</td>
<td>All models</td>
<td></td>
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<tr>
<td>JMVO016</td>
<td>Running Boards, overlay Ford boards with tread plate, per pair, installed</td>
<td>$268.57</td>
<td>7%</td>
<td>$249.77</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO017</td>
<td>Running Boards, tread plate, per pair, installed</td>
<td>$2,261.97</td>
<td>7%</td>
<td>$2,103.63</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO018</td>
<td>Bumper extension, grill guard, Buck-Stop, installed</td>
<td>$3,646.53</td>
<td>7%</td>
<td>$3,391.27</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO019</td>
<td>Grill guard with grill mount, stainless steel, installed</td>
<td>$2,148.55</td>
<td>7%</td>
<td>$1,998.15</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO020</td>
<td>Winch, 12,000# fixed mount, installed</td>
<td>$2,870.61</td>
<td>7%</td>
<td>$2,699.86</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO021</td>
<td>Winch, 9,000# portable, mounted</td>
<td>$2,398.66</td>
<td>7%</td>
<td>$2,230.94</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>JMVO022</td>
<td>Winch, receiver, mounted in body, per each, installed</td>
<td>$677.94</td>
<td>7%</td>
<td>$630.48</td>
<td>All models</td>
<td></td>
</tr>
<tr>
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<tr>
<td>EJMO0023</td>
<td>Winch, power, required at each portable winch receiver location, installed</td>
<td>$254.23</td>
<td>7%</td>
<td>$236.43</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0024</td>
<td>Trailer hitch. Class V, includes wire harness, installed</td>
<td>$1,101.65</td>
<td>7%</td>
<td>$1,024.54</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0025</td>
<td>Trailer brake controller, installed</td>
<td>$350.70</td>
<td>7%</td>
<td>$326.15</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0026</td>
<td>Antenna mount, base &amp; cable only, radio, roof mount, installed</td>
<td>$338.97</td>
<td>7%</td>
<td>$315.24</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0027</td>
<td>Battery conditioner, Kussmaul Auto Charge 1000 with auto-eject, installed</td>
<td>$1,520.15</td>
<td>7%</td>
<td>$1,413.74</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0028</td>
<td>Power point, 12-volt, installed</td>
<td>$121.25</td>
<td>7%</td>
<td>$112.76</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0029</td>
<td>Power leads, 12-volt. + &amp; - for radio connection, installed</td>
<td>$113.42</td>
<td>7%</td>
<td>$105.48</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0030</td>
<td>Handlight, Streamlight model X481, installed</td>
<td>$402.85</td>
<td>7%</td>
<td>$374.65</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0031</td>
<td>Body length, flatbeds, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$2,388.86</td>
<td>7%</td>
<td>$2,230.94</td>
<td>All flatbed bodies</td>
<td></td>
</tr>
<tr>
<td>EJMO0032</td>
<td>Body length, mini pumper, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$4,158.90</td>
<td>7%</td>
<td>$3,867.77</td>
<td>All mini pumper bodies</td>
<td></td>
</tr>
<tr>
<td>EJMO0033</td>
<td>Body length, rescue bodies, extend chassis wheelbase from 60&quot; to 84&quot;, additional compartment included</td>
<td>$3,872.08</td>
<td>7%</td>
<td>$3,601.03</td>
<td>All rescue bodies</td>
<td></td>
</tr>
<tr>
<td>EJMO0036</td>
<td>Camera, back up system, Safety Vision, installed</td>
<td>$1,603.59</td>
<td>7%</td>
<td>$1,491.34</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0037</td>
<td>Shelf, 500#, adjustable, compartment, installed</td>
<td>$411.98</td>
<td>7%</td>
<td>$383.14</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0038</td>
<td>Shelf, 500#, adjustable, transverse compartment, installed</td>
<td>$847.42</td>
<td>7%</td>
<td>$788.10</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0039</td>
<td>Tray, 500#, adjustable, slide-out, compartment, installed</td>
<td>$719.66</td>
<td>7%</td>
<td>$669.28</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0040</td>
<td>Tray, 1000#, slide-out, adjustable, full width transverse, compartment, installed</td>
<td>$1,310.25</td>
<td>7%</td>
<td>$1,216.53</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0041</td>
<td>Tray, 2000#, slide-out, full bed aluminum tray, bed liner finish, installed</td>
<td>$2,401.47</td>
<td>7%</td>
<td>$2,233.37</td>
<td>All models with open rear bed area</td>
<td></td>
</tr>
<tr>
<td>EJMO0042</td>
<td>Tray, 500#, slide-out tilt-down, compartment, installed</td>
<td>$850.03</td>
<td>7%</td>
<td>$790.53</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0043</td>
<td>Tool board, peg board style, slide-out, compartment, installed</td>
<td>$1,159.02</td>
<td>7%</td>
<td>$1,077.88</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0044</td>
<td>Tool board, peg board style, fixed wall mount, compartment, per each wall, installed</td>
<td>$573.64</td>
<td>7%</td>
<td>$533.49</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0045</td>
<td>Turtle tile matting for compartment floor per compartment, installed</td>
<td>$125.16</td>
<td>7%</td>
<td>$116.40</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0046</td>
<td>Turtle tile matting for shelf or tray per shelf, installed</td>
<td>$82.13</td>
<td>7%</td>
<td>$76.39</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMO0047</td>
<td>Heater, compartment heater from chassis coolant, installed</td>
<td>$617.97</td>
<td>7%</td>
<td>$574.71</td>
<td>All models</td>
<td></td>
</tr>
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</tr>
<tr>
<td>EJMVO046</td>
<td>Vents, compartment vents additional, per compartment, installed</td>
<td>$59.97</td>
<td>7%</td>
<td>$55.77</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO049</td>
<td>Handrail, extra per each, installed</td>
<td>$245.10</td>
<td>7%</td>
<td>$227.94</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO050</td>
<td>Guards, body bottom corners, diamond plate, per pair, installed</td>
<td>$161.66</td>
<td>7%</td>
<td>$150.35</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO051</td>
<td>Guard, front of body, full coverage, diamond plate, installed</td>
<td>$690.98</td>
<td>7%</td>
<td>$642.61</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO052</td>
<td>Skirt, body skirt on rear side of flatbed bodies, pair, painted, installed</td>
<td>$1,095.13</td>
<td>7%</td>
<td>$1,018.47</td>
<td>All flatbed bodies</td>
<td></td>
</tr>
<tr>
<td>EJMVO053</td>
<td>Skirt, body skirt on rear side of flatbed bodies, pair, diamond plate, installed</td>
<td>$886.54</td>
<td>7%</td>
<td>$824.48</td>
<td>All flatbed bodies</td>
<td></td>
</tr>
<tr>
<td>EJMVO054</td>
<td>Compartment, SCBA spare bottle storage in wheel well area, single bottle, installed</td>
<td>$371.56</td>
<td>7%</td>
<td>$345.55</td>
<td>All models, as fits in designated area</td>
<td></td>
</tr>
<tr>
<td>EJMVO055</td>
<td>Bracket, SCBA mount, Zico, KD-ULLH, per each, installed</td>
<td>$182.52</td>
<td>7%</td>
<td>$159.75</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO056</td>
<td>Doors, lap doors IPO roll doors, price per vehicle</td>
<td>$1,544.92</td>
<td>7%</td>
<td>$1,436.77</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO057</td>
<td>Lock, roll-up door, per door, installed</td>
<td>$75.62</td>
<td>7%</td>
<td>$70.32</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO058</td>
<td>Lock, lap door, per door, installed</td>
<td>$75.62</td>
<td>7%</td>
<td>$70.32</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO059</td>
<td>&quot;E&quot; Track, cargo retention, wall or floor mount, 5' section, installed</td>
<td>$104.30</td>
<td>7%</td>
<td>$97.00</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO060</td>
<td>Tire Mount, spare tire, fixed, installed</td>
<td>$161.66</td>
<td>7%</td>
<td>$150.35</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO061</td>
<td>Tire Mount, spare tire, swing out, installed</td>
<td>$341.58</td>
<td>7%</td>
<td>$317.67</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO062</td>
<td>Air Compressor, 12-volt, 3 gallon, installed</td>
<td>$114.73</td>
<td>7%</td>
<td>$106.70</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO063</td>
<td>Ramp, ATV loading, mounted</td>
<td>$743.13</td>
<td>7%</td>
<td>$691.11</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO064</td>
<td>Ladder, roof access, pool style, installed</td>
<td>$1,057.32</td>
<td>7%</td>
<td>$983.31</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO065</td>
<td>Step, folding, with light, installed</td>
<td>$234.67</td>
<td>7%</td>
<td>$216.24</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO066</td>
<td>Step, swing down, installed</td>
<td>$547.57</td>
<td>7%</td>
<td>$509.24</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO067</td>
<td>Step, camper style, swing out, installed</td>
<td>$469.34</td>
<td>7%</td>
<td>$436.49</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO068</td>
<td>Ladder, roof access, swing down, Zico Quik-Ladder, installed</td>
<td>$1,820.01</td>
<td>7%</td>
<td>$1,692.61</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO069</td>
<td>Light, scene, Whelen, 12-volt, 600 Opti-Scene LED, per each, installed</td>
<td>$276.39</td>
<td>7%</td>
<td>$257.04</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO070</td>
<td>Light, scene, Whelen, 12-volt Pioneer Plus, PCP2 LED, per each, installed</td>
<td>$1,486.25</td>
<td>7%</td>
<td>$1,382.21</td>
<td>All models</td>
<td></td>
</tr>
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</tr>
<tr>
<td>EJMVO071</td>
<td>Light, scene, FRC, 12-volt, SpectraLED, per each, installed</td>
<td>$1,371.52</td>
<td>7%</td>
<td>$1,275.52</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO072</td>
<td>Light, scene, telescoping, 12-volt, 300 watt, FRC, installed</td>
<td>$1,027.34</td>
<td>7%</td>
<td>$955.43</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO073</td>
<td>Light, scene, telescoping, 12-volt, Pioneer Plus, PCP2 LED, installed</td>
<td>$2,209.82</td>
<td>7%</td>
<td>$2,055.13</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO074</td>
<td>Light, traffic advisor, Whelen TAL65, installed</td>
<td>$714.44</td>
<td>7%</td>
<td>$664.43</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO075</td>
<td>Light, warning light, pair, IAT standard, Whelen 600, installed</td>
<td>$445.88</td>
<td>7%</td>
<td>$414.66</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO076</td>
<td>Light, warning light, pair, IAT standard, Whelen 900, installed</td>
<td>$667.51</td>
<td>7%</td>
<td>$620.78</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO077</td>
<td>Flasher, headlight flasher, installed</td>
<td>$212.51</td>
<td>7%</td>
<td>$197.63</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO078</td>
<td>Light, scene, telescoping, 12-volt, FRC SpectraLED, installed</td>
<td>$2,007.74</td>
<td>7%</td>
<td>$1,867.20</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO079</td>
<td>Light, engine compartment, installed</td>
<td>$91.26</td>
<td>7%</td>
<td>$84.87</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO080</td>
<td>Reel, booster hose reel with 1.00&quot; booster hose, installed</td>
<td>$2,779.55</td>
<td>7%</td>
<td>$2,584.98</td>
<td>All models with high volume pumps</td>
<td></td>
</tr>
<tr>
<td>EJMVO081</td>
<td>Reel, additional, ultra high pressure hose reel with 150&quot; hose and EJ/M nozzle, 8 GPM pumps or less, installed</td>
<td>$3,068.98</td>
<td>7%</td>
<td>$2,854.15</td>
<td>All models with ultra high pressure pumps 8 GPM or &lt;</td>
<td></td>
</tr>
<tr>
<td>EJMVO082</td>
<td>Reel, additional, ultra high pressure hose reel with 150&quot; hose and EJ/M nozzle, 10 GPM pumps or greater</td>
<td>$6,386.97</td>
<td>7%</td>
<td>$5,939.88</td>
<td>All models with ultra high pressure pumps 10 GPM or &gt;</td>
<td></td>
</tr>
<tr>
<td>EJMVO083</td>
<td>Turret, bumper mount, TFT Tornado with remote, high volume pumps, installed</td>
<td>$8,867.97</td>
<td>7%</td>
<td>$8,247.21</td>
<td>All models with high volume pumps</td>
<td></td>
</tr>
<tr>
<td>EJMVO084</td>
<td>Turret, bumper mount, TFT Tornado with remote, ultra high pressure pumps, installed</td>
<td>$11,637.86</td>
<td>7%</td>
<td>$11,009.21</td>
<td>All models with ultra high pressure pumps</td>
<td></td>
</tr>
<tr>
<td>EJMVO085</td>
<td>Foam tank, 50 gallon IPO 30 gallon tank, integral to water tank, installed</td>
<td>$333.75</td>
<td>7%</td>
<td>$310.39</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO086</td>
<td>Generator, Honda 5000 watt, gas, portable, mounted</td>
<td>$3,761.26</td>
<td>7%</td>
<td>$3,497.97</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO087</td>
<td>Generator, Honda 6500 watt, gas, portable, mounted</td>
<td>$4,336.20</td>
<td>7%</td>
<td>$4,032.67</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO088</td>
<td>Tray, generator, 500#, floor mount, slide-out, installed</td>
<td>$599.72</td>
<td>7%</td>
<td>$557.74</td>
<td>Use with Honda generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO089</td>
<td>Generator, Onan, Quiet Diesel, 6kW, installed</td>
<td>$10,830.08</td>
<td>7%</td>
<td>$10,071.97</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO090</td>
<td>Generator, Onan, Quiet Diesel, 8kW, installed</td>
<td>$15,273.19</td>
<td>7%</td>
<td>$14,204.07</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO091</td>
<td>Generator, Harrison hydraulic, 6kW, installed</td>
<td>$11,905.66</td>
<td>7%</td>
<td>$11,072.26</td>
<td>All models with PTO availability</td>
<td></td>
</tr>
<tr>
<td>EJMVO092</td>
<td>Inverter, 1600 watt Vanner inverter, 120-volt output, installed</td>
<td>$3,328.42</td>
<td>7%</td>
<td>$3,095.43</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO093</td>
<td>Generator, Harrison hydraulic, 8kW, installed</td>
<td>$13,747.83</td>
<td>7%</td>
<td>$12,785.48</td>
<td>All models with PTO availability</td>
<td></td>
</tr>
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<tr>
<td>EJMVO094</td>
<td>Breaker box, with 20-amp breakers, installed</td>
<td>$ 506.45</td>
<td>7%</td>
<td>$ 472.86</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO095</td>
<td>Receptacle, 120-volt, 15-amp twist lock, installed</td>
<td>$ 234.67</td>
<td>7%</td>
<td>$ 218.24</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO096</td>
<td>Receptacle, 120-volt, 15-amp, straight blade, duplex, installed</td>
<td>$ 189.04</td>
<td>7%</td>
<td>$ 175.81</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO097</td>
<td>Receptacle, 120-volt, 20-amp twist lock, installed</td>
<td>$ 234.67</td>
<td>7%</td>
<td>$ 218.24</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO098</td>
<td>Receptacle, 120-volt, 20-amp, straight blade, duplex, installed</td>
<td>$ 189.04</td>
<td>7%</td>
<td>$ 175.81</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO099</td>
<td>Receptacle, 240-volt, 20-amp twist lock, installed</td>
<td>$ 255.53</td>
<td>7%</td>
<td>$ 237.64</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO100</td>
<td>Receptacle, 240-volt, 30-amp twist lock, installed</td>
<td>$ 255.53</td>
<td>7%</td>
<td>$ 237.64</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO101</td>
<td>Light, 120-volt, 500 watt, recessed body mount, installed</td>
<td>$ 599.72</td>
<td>7%</td>
<td>$ 557.74</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO102</td>
<td>Light, 120-volt, 500 watt, telescoping push-up pole, installed</td>
<td>$ 830.48</td>
<td>7%</td>
<td>$ 772.34</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO103</td>
<td>Light, 120-volt, 500 watt, telescoping tri-pod, vehicle mount, installed</td>
<td>$ 1,252.88</td>
<td>7%</td>
<td>$ 1,165.18</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO104</td>
<td>Reel, electric cord, with 200' 10/3 SO cord and plug end, installed</td>
<td>$ 2,646.57</td>
<td>7%</td>
<td>$ 2,461.31</td>
<td>All models with generators</td>
<td></td>
</tr>
<tr>
<td>EJMVO105</td>
<td>Hydraulic tool circuit, one tool, 10,500 PSI, installed</td>
<td>$ 7,170.51</td>
<td>7%</td>
<td>$ 6,668.58</td>
<td>All models with live hydraulic power</td>
<td></td>
</tr>
<tr>
<td>EJMVO106</td>
<td>Hydraulic tool circuit, two tools, 10,500 PSI, installed</td>
<td>$ 10,560.21</td>
<td>7%</td>
<td>$ 9,820.99</td>
<td>All models with live hydraulic power</td>
<td></td>
</tr>
<tr>
<td>EJMVO107</td>
<td>Hydraulic tool reel, with 100' of twin hydraulic hose, installed</td>
<td>$ 3,624.37</td>
<td>7%</td>
<td>$ 3,370.66</td>
<td>All models with live hydraulic power</td>
<td></td>
</tr>
<tr>
<td>EJMVO108</td>
<td>Paint, 2-tone paint IPO single color, installed</td>
<td>$ 1,964.72</td>
<td>7%</td>
<td>$ 1,827.19</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO109</td>
<td>Paint, compartment interior spatter gray, installed</td>
<td>$ 1,655.74</td>
<td>7%</td>
<td>$ 1,539.83</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO110</td>
<td>Paint, chassis wheels job color, four wheels, installed</td>
<td>$ 1,054.72</td>
<td>7%</td>
<td>$ 980.89</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO111</td>
<td>Undercoating, cab and body, Ziebart or equal, installed</td>
<td>$ 684.46</td>
<td>7%</td>
<td>$ 636.55</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO112</td>
<td>Transit Coating, protective shipping coating, installed</td>
<td>$ 558.00</td>
<td>7%</td>
<td>$ 518.94</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO113</td>
<td>Lettering, 3.00&quot;, reflective with shade and outline, up to 60 letters, installed</td>
<td>$ 308.98</td>
<td>7%</td>
<td>$ 287.35</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO114</td>
<td>Lettering, 3.00&quot;, Gold Leaf with shade and outline, up to 60 letters, installed</td>
<td>$ 1,301.12</td>
<td>7%</td>
<td>$ 1,210.04</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO115</td>
<td>Stripe, jog in Scotchlite strip, installed</td>
<td>$ 375.47</td>
<td>7%</td>
<td>$ 349.19</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO116</td>
<td>Graphics logo, department logo, pair, installed on cab</td>
<td>$ 664.90</td>
<td>7%</td>
<td>$ 618.36</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>E.J. Metals Part Number</td>
<td>Option Description</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>Option Model Availability</td>
<td></td>
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</tr>
<tr>
<td>EJMVO117</td>
<td>Wheel Chocks, folding with brackets, installed</td>
<td>$ 870.89</td>
<td>7%</td>
<td>$ 809.93</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>EJMVO118</td>
<td>Fire extinguisher, 20# ABC, with bracket, installed</td>
<td>$ 207.29</td>
<td>7%</td>
<td>$ 192.78</td>
<td>All models</td>
<td></td>
</tr>
<tr>
<td>E.J. Metals Model Number</td>
<td>Product Description</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
<tr>
<td>-------------------------</td>
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</tr>
<tr>
<td>ES670</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 6 GPM @ 1,800 PSI, 70 gallon poly tank, 5 gallons foam. 13 HP Honda gas engine. Electric rewind hose reel with 150' high pressure hose and EJM triple operation nozzle. Dry weight 410#.</td>
<td>$15,956.00</td>
<td>7%</td>
<td>$14,839.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES8125</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 8 GPM @ 2,800 PSI, 125 gallon poly tank, 5 gallons foam. 20 HP Honda gas engine. Electric rewind hose reel with 150' high pressure hose and EJM triple operation nozzle. Honda auxiliary water transfer refill pump. Dry weight 660#.</td>
<td>$17,890.00</td>
<td>7%</td>
<td>$16,452.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 16 GPM @ 1,500 PSI, 200 gallon poly tank, 5 gallons foam. 22 HP Honda gas engine. Electric rewind hose reel with 150' high pressure hose and EJM triple operation nozzle. Dry weight 820#.</td>
<td>$28,528.00</td>
<td>7%</td>
<td>$26,531.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200.2</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in twin reel skid unit. 16 GPM @ 1,500 PSI, 8 GPM @ 1,800 PSI at each reel. 200 gallon poly tank, 5 gallons foam. 22 HP Honda gas engine. Two electric rewind hose reels with 150' high pressure hose on each and EJM triple operation nozzles. Dry weight 895#.</td>
<td>$35,326.00</td>
<td>7%</td>
<td>$32,853.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES670D</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 6 GPM @ 1,500 PSI, 70 gallon poly tank, 5 gallons foam. 9.4 HP Kubota diesel engine. Electric rewind hose reel with 150’ high pressure hose and EJM triple operation nozzle. Dry weight 540#.</td>
<td>$17,778.00</td>
<td>7%</td>
<td>$16,534.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES8125D</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 8 GPM @ 2,000 PSI, 125 gallon poly tank, 5 gallons foam. 9.4 HP Kubota diesel engine. Electric rewind hose reel with 150’ high pressure hose and EJM triple operation nozzle. Honda auxiliary water transfer refill pump. Dry weight 660#.</td>
<td>$19,016.00</td>
<td>7%</td>
<td>$17,685.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJ Metals Model Number</td>
<td>ProductDescription</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
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</tr>
<tr>
<td>EJ16200D</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 16 GPM @ 1,500 PSI. 200 gallon poly tank, 5 gallons foam. 22 HP Kubota diesel engine. Electric rewind hose reels with 150’ high pressure hose on each and EJM triple operation nozzles. Dry weight 895#.</td>
<td>$31,100.00</td>
<td>7%</td>
<td>$28,923.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ES16200D.2</td>
<td>EJ Metals Ultra High Pressure Fire Suppression System. Drop-in skid unit. 8 GPM @ 1,800 PSI at each reel. 200 gallon poly tank, 5 gallons foam. 22 HP Kubota diesel engine.</td>
<td>$37,896.00</td>
<td>7%</td>
<td>$35,245.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>EJ Metals</td>
<td>ProductDescription</td>
<td>2015 List Price</td>
<td>Discount % From List Price</td>
<td>Proposed 2015 PPA Price</td>
<td>FOB Terms</td>
<td>Warranty</td>
</tr>
<tr>
<td>ES10120300D</td>
<td>EJ Metals Dual Pump Fire Suppression System. 10 GPM @ 1,500 PSI ultra high pressure and 120 GPM @ 140 PSI high volume pump. 300 gallon poly tank, 30 gallons foam. 28 HP diesel engine. Electric rewind hose reel with 150’ high pressure hose and EJM triple operation nozzle. Dry weight 1,875#.</td>
<td>$49,996.00</td>
<td>7%</td>
<td>$46,496.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
<tr>
<td>ESFA120200</td>
<td>EJ Metals High Volume Fire Suppression System. Drop-in skid unit. 120 GPM @ 40 PSI. 200 gallon poly tank. 18 HP gas engine. Electric rewind hose reel with 100’ of 1.00” booster hose. Dry weight 900#.</td>
<td>$14,374.00</td>
<td>7%</td>
<td>$13,368.00</td>
<td>Origin</td>
<td>12 months</td>
</tr>
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</table>

### MODEL OPTIONS

<table>
<thead>
<tr>
<th>EJ Metals Part Number</th>
<th>OptionDescription</th>
<th>2015 List Price</th>
<th>Discount % From List Price</th>
<th>Proposed 2015 PPA Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJMS001</td>
<td>150 gallon water tank IPO 70 gallon</td>
<td>$915.00</td>
<td>7%</td>
<td>$851.00</td>
</tr>
<tr>
<td>EJMS002</td>
<td>200 gallon water tank IPO 70 gallon</td>
<td>$1,292.00</td>
<td>7%</td>
<td>$1,202.00</td>
</tr>
<tr>
<td>EJMS003</td>
<td>200 gallon water tank IPO 125 gallon</td>
<td>$687.00</td>
<td>7%</td>
<td>$639.00</td>
</tr>
<tr>
<td>EJMS004</td>
<td>300 gallon water tank IPO 125 gallon</td>
<td>$1,240.00</td>
<td>7%</td>
<td>$1,153.00</td>
</tr>
<tr>
<td>EJMS005</td>
<td>300 gallon water tank IPO 200 gallon</td>
<td>$596.00</td>
<td>7%</td>
<td>$554.00</td>
</tr>
<tr>
<td>EJMS010</td>
<td>Honda 4-cycle siphon pump</td>
<td>$707.00</td>
<td>7%</td>
<td>$658.00</td>
</tr>
</tbody>
</table>

Pricing contained in this Attachment A shall be extended to all National Purchasing Partners government members upon execution of the Intergovernmental Agreement.
ATTACHMENT B

to Master Price Agreement by and between VENDOR and PURCHASER.

ADDITIONAL SELLER WARRANTIES

To the extent possible, Vendor will make available all warranties from third party manufacturers of Products not manufactured by Vendor, as well as any warranties identified in this Agreement and Vendor's Proposal.
ATTACHMENT C

to Master Price Agreement by and between VENDOR and PURCHASER.

PARTICIPATING AGENCIES

Purchaser served as the Lead Contracting Agency in cooperation with National Purchasing Partners and on behalf of other government agencies that desire to access the Master price Agreement. Vendor must deal directly with any Participating Agency concerning the placement of orders, issuance of the purchase orders, contractual disputes, invoicing, and payment. The Purchaser is acting as "Lead Contracting Agency" for the Participating Agencies and shall not be held liable for any costs, damages, etc., incurred by any Participating Agency.

The subsequent contract shall be construed to be in accordance with and governed by the laws of the state in which the Participating Agency exists. Each Participating Agency is required to execute an Intergovernmental Cooperative Purchasing Agreement ("IGA"), as set forth on the National Purchasing Partners web site, www.nppgovernment.com and www.firerescue-gpo.com. The IGA allows the Participating Agency to purchase Products and Services from the Vendor in accordance with each Participating Agency’s legal requirements.
ATTACHMENT D

to Master Price Agreement by and between VENDOR and PURCHASER.

Vendor's Proposal
(The Vendor's Proposal is not attached hereto.)
(The Vendor's Proposal is incorporated herein.)
ATTACHMENT E

to Master Price Agreement by and between VENDOR and PURCHASER.

Purchaser’s Request for Proposal
(The Purchaser’s Request for Proposal is not attached hereto.)
(The Purchaser’s Request for Proposal is incorporated herein.)
ATTACHMENT F

to Master Price Agreement by and between VENDOR and PURCHASER.

ADDITIONAL VENDOR TERMS OF PURCHASE, IF ANY.
NOTICE OF SOLICITATION

PUBLIC PROCUREMENT AUTHORITY

RFP NUMBER 1420

SOLICITATION FOR: FIRE APPARATUS

Notice is hereby given sealed proposals will be received by the Public Procurement Authority at the address listed below, until 5:00 PM PST on February 12, 2015 for FIRE APPARATUS for the Public Procurement Authority and government members of National Purchasing Partners across the nation, including Oregon and Idaho governmental units incorporated by “ATTACHMENT H” of the RFP, WIPHE members identified in “ATTACHMENT G” of the RFP, as well as government units in all other states. Significant sales potential exists because the resulting Master Price Agreement for national proposers will include piggy backing language that will permit use of the Master Price Agreement nationwide without the need for Participating Agencies to duplicate the formal solicitation process and expend staff resources and funds.

All Proposals must be signed, sealed and addressed to:

Mailing Address:

PPA FIRE APPARATUS RFP #1420
Public Procurement Authority
c/o Heidi Chames
25030 SW Parkway Ave.
Suite 330
Wilsonville, OR 97070

and marked “RFP NUMBER 1420 FOR FIRE APPARATUS”

NOTE: THE PUBLIC PROCUREMENT AUTHORITY WILL NOT ACCEPT PROPOSAL ENVELOPES WITH INSUFFICIENT POSTAGE.

INQUIRIES:

PPA FIRE APPARATUS RFP #1420
Public Procurement Authority
c/o Heidi Chames
25030 SW Parkway Ave.
Suite 330
Wilsonville, OR 97070

855-524-4572 or questions@ProcurementAuthority.org


SOLICITATIONS FOR: FIRE APPARATUS

1.0 INTENT:

1.1 GENERAL INTENT

The Public Procurement Authority (PPA) serves as the “Lead Contracting Agency” for this solicitation on behalf of its members, and as authorized by the Public Procurement Authority Intergovernmental Agreement, which is an agreement for intergovernmental cooperation among select local Oregon governments and recognized under ORS Chapter 190, in association with National Purchasing Partners, LLC (NPP), on behalf of NPP’s government members (hereinafter referred to as “Participating Agencies”) across the nation, including members of FireRescue GPO (FRGPO) and Public Safety GPO (PSGPO), Idaho and Oregon local government units (ATTACHMENT H), and WIPHE members (ATTACHMENT G), as well as government units in all other states, as authorized under the terms of the Intergovernmental Cooperative Purchasing Agreement executed by all Lead Contracting and Participating
Agencies, a cooperative procurement group, is soliciting proposals from qualified companies (hereinafter referred to as “Vendor”) to enter into a Master Price Agreement for FIRE APPARATUS.

The intent of this Interstate Cooperative Procurement Solicitation (Solicitation) is to invite Proposers active in the retail and wholesale of FIRE APPARATUS to submit a competitive pricing proposal offering FIRE APPARATUS to PPA, which will then be made available to NPP members locally and nationwide; to reduce expenses by eliminating multiple requests for proposals and multiple responses by Vendors; and to obtain discounted pricing through volume purchasing. Significant sales potential exists because the Master Price Agreement will be used nationwide without the need for Participating Agencies to duplicate the formal solicitation process and expend staff resources. Preferably, the successful Proposer will provide its entire catalog (“catalog discount”) or products and/or services in order that NPP, FRGPO, and PSGPO members who wish to access the Master Price Agreement may order a broad range of goods and services as needed.

With the exception of successful local Proposer(s) capable of servicing PPA and NPP members within the state of Oregon, successful Proposer(s) should have a strong national presence for FIRE APPARATUS for use by government agencies nationwide.

This Solicitation meets Oregon public contracting requirements and may not be appropriate under or meet Participating Agencies’ procurement laws. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

1.2 POTENTIAL MARKET

The Public Procurement Authority is publishing this RFP with the express purpose to create publicly awarded contracts for use by its members, which may also benefit the thousands of fellow members of NPP, FireRescue GPO and Public Safety GPO. These are nationwide programs representing member government agencies in all 50 states. **We encourage proposer’s response be a collaborative effort including manufacturer and distributor (when they are not the same company) to ensure nationwide contract utilization.**

Proposer’s response should also take into consideration the considerable market potential for this solicitation. Because the successful bid will be incorporated into a nationwide purchasing program including thousands of local government participants, the PPA believes that contracts created from this solicitation will provide vendors with a significant market advantage. Members of NPP, FireRescue GPO and Public Safety GPO and current vendors who participate in the program indicate the ability to shorten the sale cycle by eliminating the need to complete individual RFP processes is a significant advantage to participation.

The PPA believes that participation in the NPP purchasing program, benefits both its participating agencies and successful proposers. NPP engages with successful proposers who complete the Vendor Administration Agreement through a marketing and sales partnership. This partnership includes (but is not limited to) contract promotion to members, contract administration support to potential customers and live customer phone support.

1.3 REQUIREMENTS

Solicitation is subject to the Public Procurement Authority’s General Conditions & Instructions to Proposer(s), if any, and the following requirements:

1.3.1 This RFP and resulting Master Price Agreement is anticipated for use by the Public Procurement Authority’s government members as well as other NPP member government entities and eligible nonprofit entities across the nation. The Public Procurement Authority has entered into an Intergovernmental (interlocal) Cooperative Purchasing Agreement with other Participating Agencies for the purpose of obtaining Master Price Agreements with various vendors. Interlocal purchasing agreements allow Participating Agencies to make purchases at the Public
Procurement Authority’s accepted proposal price, terms and conditions, provided that the Participating Agency has satisfied all of its local and state cooperative procurement requirements. By submitting a proposal, the Proposer(s) agrees to make the same proposal terms and price, exclusive of any possible rebates, incentives, freight and transportation fees, available to other Participating Agencies. The Public Procurement Authority and NPP will not incur any direct liability with respect to specifications, delivery, payment, or any other aspect of purchases by such Participating Agencies or nonprofit institutions. A true and correct copy of the Intergovernmental Cooperative Purchasing Agreement is attached hereto as “ATTACHMENT A”.

The successful Proposer must deal directly with the Participating Agencies concerning the placement of orders, disputes, invoicing and payment. The Public Procurement Authority and NPP shall not be held liable for any costs or damages incurred by or as a result of the actions of the Vendor or any Participating Agency. Successful Proposers must comply with the state and local laws, rules and regulations in each state and locality where the product or service is provided.

1.3.2 Each Participating Agency shall execute a Participating Agency Endorsement and Authorization included in the Intergovernmental Cooperative Purchasing Agreement. While the terms of the Master Price Agreement shall govern the general pricing terms, each Participating Agency may request modification of the Master Price Agreement in accordance with each Participating Agency’s state and/or local purchasing laws, rules, regulations and procedures. Each Participating Agency may, at its discretion, and upon written agreement by the Participating Agency and Successful Proposer, request additional legal and procedural provisions not included herein that the successful Proposer must adhere to if it wishes to conduct business with said Participating Agency using the Master Price Agreement.

1.3.3 NPP, FireRescue GPO and Public Safety GPO provide vendor exposure and marketing support for the successful Proposer’s products and services throughout its membership. Successful Proposers servicing the awarded contract to NPP members shall pay a Contract Administration Fee of $2000 per contract order (or invoice) under the Master Price Agreement as established in the NPP Vendor Administration Agreement (available upon request). A portion of the $2000 fee is paid to the Western Fire Chiefs Association pursuant to agreements with NPP, Fire Rescue GPO, and Public Safety GPO. Western Fire Chiefs Association also administers the solicitation and bidding processes for the PPA pursuant to a separate Administration Agreement at no cost to the PPA or its members.

1.4 MULTIPLE AWARDS

Multiple awards may be granted to meet the requirements of this Solicitation provided that such awards are differentiated by product make and model, service, and/or distribution regions and capabilities of the successful Proposers. Specifically, the Public Procurement Authority will award separate contracts to Proposers in order to cover all local and national geographical markets, electronic purchasing capabilities, and products and services identified in this Request for Proposal, as well as the diverse and large number of Participating Agencies. The award of multiple contracts is to be determined upon receipt and review of all proposals, and based upon the general criteria provided herein. The Public Procurement Authority may solicit proposals from local qualified companies with or without a national presence provided that the successful Proposer is able to provide the Public Procurement Authority with the products and services requested. Multiple awards will ensure fulfillment of current and future requirements of the diverse and large number of Participating Agencies. In the event a local Proposer with no national distribution capabilities best meets the proposal selection criteria, multiple local and nationwide responsive proposals may be awarded simultaneously in the best interests of local commerce, the Public Procurement Authority’s compliance with local laws, and the Participating Agencies nationwide.
Proposers shall be able to serve the needs of the NPP membership on a national basis. However, this requirement shall not exclude local Proposers without a national presence that are capable of meeting the requirements of the Public Procurement Authority within the state of Oregon.

1.5 CONTRACT USAGE

The actual utilization of any Master Price Agreement will be at the sole discretion of the Participating Agencies. It is the intent of this Request for Proposal and resulting Master Price Agreement that members of NPP, FireRescue GPO, and Public Safety GPO (Participating Agencies) may buy directly from Successful Proposers without the need for further solicitation. However, Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements as well as the need of further notice prior to utilizing the Master Price Agreement.

1.6 BACKGROUND OF NPP

NPP, owned by two healthcare organizations, provides group purchasing opportunities and purchasing administrative support for governmental entities and nonprofit institutions within its membership. NPP’s membership includes participating public and nonprofit entities across North America.

1.7 EQUAL OPPORTUNITY

The Public Procurement Authority encourages Minority and Women-owned Small Business Proposers to submit proposals.

Oregon Public Agencies are prohibited from use of products and services offered under this contract that are already provided by qualified nonprofit agencies for disabled individuals as listed on the Department of Administrative Service’s Procurement List pursuant to ORS 279.835-.855. Please see www.OregonRehabilitation.org/qrf for more information.

2.0 SCOPE OF WORK:

2.1 REQUIREMENTS OF PROPOSERS SUBMITTING A RESPONSE:

Proposers must present clear and concise evidence indicating Proposer’s ability to comply with the requirements stated herein and to provide and deliver the specified products and services to Participating Agencies.

2.1.1 PROPOSER COMMITMENTS

Each Proposer is required to commit to low pricing, and accurate and timely reporting to NPP pursuant to the reporting requirements identified in the NPP Vendor Administration Agreement. In addition, successful Proposer(s) with a national presence must commit to marketing of the Master Price Agreement nationwide and that the sales force will be trained, engaged and committed to offering NPP pricing to member government agencies nationwide, including the opportunity for NPP to train the Vendor sales staff.

2.1.2 PROPOSERS MUST COMPLETE “ATTACHMENT B” – PROPOSER PROFILE WORKBOOK”.

2.2 PRODUCTS AND SERVICES:

2.2.1 Provide a description of the FIRE APPARATUS offered as set forth in ATTACHMENT C. The primary objective is for the Proposer(s) to provide the Proposer(s)’s entire product line that are responsive to this RFP so that participating agencies may order a broad range of products and services as appropriate for their needs.
2.2.2 All products offered must be new, unused and most current product lines, unless otherwise clearly identified as remanufactured goods.

2.2.3 Describe any special programs that Proposer offers that shall improve the ability of the Participating Agencies access to the products, such as retail store availability, expedited delivery intervals, item sourcing, or other unique plans and services.

2.2.4 Explain any additional pricing incentives that may be available such as large volume purchases, cash terms, or rebates to Participating Agencies.

2.3 PRICING:

2.3.1 Pricing for the products and services may be based on “ATTACHMENT D” - PRICING SCHEDULE as follows:

A. A fixed percentage (%) off marked price based on the Proposer’s catalog for each CATEGORY specified in ATTACHMENT D – PRICING SCHEDULE. Proposer shall identify the catalog used.

Option (A) is preferred. If option (A) is not feasible proposer may use option (B) provided proposer includes a justification.

B. Alternatively, contract pricing may be based upon fixed prices (contingencies for economic price adjustments must be identified in the proposal), or a combination fixed percentage off and firm fixed prices. Proposer may offer additional discounts to purchasers based on volume.

2.3.2 If proposer responds with pricing option “B” the following applies. Prices for items listed in the PRICING SCHEDULE (“ATTACHMENT D”) shall remain firm for a period of six (6) months. Thereafter, Proposers may request price increases based on manufacturer costs, cost of labor and/or materials which must be supported by appropriate documentation. Proposers may also add or delete products and options identified on the Pricing Schedule, provided that any additions reasonably fall within the intent of the original Pricing Schedule category. If PPA agrees to the price increase or product or option modification, PPA may approve in writing, including electronic mail, without the need for a written amendment to the Master Price Agreement.

2.3.3 All pricing proposals shall clearly explain how freight and/or delivery costs are determined as described in ATTACHMENT D PRICING SCHEDULE herein.

2.4 TAX:

Proposers shall strictly adhere to all federal, state and local tax requirements applicable to their operation, or to any contract or activity resulting from this solicitation.

3.0 SPECIAL TERMS & CONDITIONS:

3.1 MASTER PRICE AGREEMENT TERM:

As a result of this Solicitation the successful Proposer(s) shall be awarded a Master Price Agreement for a two (2) year period. Subject to a written agreement signed by the Public Procurement Authority and Successful Proposer, the Master Price Agreement may be extended up to a maximum of three (3), one (1) year periods. At least thirty (30) calendar days prior to the expiration of the current term the Proposer(s) shall be notified in writing by the Public Procurement Authority of the intention to extend the Master Price Agreement.
3.2 MASTER PRICE AGREEMENT ACCESS PROVISIONS

Utilization of the Master Price Agreement will be at the discretion of the Public Procurement Authority and Participating Agencies. The Public Procurement Authority shall be under no obligation to purchase off of the Master Price Agreement. Assuming all local competitive solicitation requirements have been met, Participating Agencies may purchase directly from the successful Proposer(s) without the need for further solicitation.

3.3 INDEMNIFICATIONS AND INSURANCE:

3.3.1 Indemnification

The successful Proposer shall indemnify the PPA and NPP as specified in the Master Agreement.

3.3.2 Insurance Requirements.

Proposer(s), at Proposer(s)’s own expense, shall purchase and maintain the herein stipulated minimum insurance from a reputable company or companies duly licensed by the State of Oregon. In lieu of State of Oregon licensing, the stipulated insurance may be purchased from a company or companies, which are authorized to do business in the State of Oregon, provided that said insurance companies, meet the approval of the Public Procurement Authority. The form of any insurance policies and forms must be acceptable to the Public Procurement Authority.

Proposer(s)’s insurance shall be primary insurance with respect to the Public Procurement Authority, and any insurance or self-insurance maintained by the Public Procurement Authority shall not contribute to it.

Award of this Solicitation is contingent upon the required insurance policies and/or endorsements identified herein. The Public Procurement Authority shall not be obligated, however, to review such policies and/or endorsements or to advise Proposer(s) of any deficiencies in such policies and endorsements, and such receipt shall not relieve Proposer(s) from, or be deemed a waiver of the Public Procurement Authority’s right to insist on strict fulfillment of Proposer(s)’s obligations under this RFP.

The insurance policies required by this RFP, except Workers’ Compensation, shall name the Public Procurement Authority, its agents, representatives, officers, directors, officials and employees as an Additional Insured.

The policies required hereunder, except Workers’ Compensation, shall contain a waiver of transfer of rights of recovery (subrogation) against the Public Procurement Authority, its agents, representatives, officers, directors, officials and employees for any claims arising out of Proposer(s)’s work or service.

3.3.3 Commercial, automobile and workers’ compensation insurance.

3.3.3.1 Commercial General Liability. Proposer(s) shall maintain Commercial General Liability Insurance (CGL) and, if necessary, Commercial Umbrella Insurance. The policy shall include coverage for bodily injury, broad form property damage, personal injury, products and completed operations and blanket contractual coverage including, but not limited to, the liability assumed under the indemnification provisions of the Master Price Agreement.

3.3.3.2 Automobile Liability. Proposer(s) shall maintain Automobile Liability Insurance and, if necessary, Commercial Umbrella Insurance. If hazardous substances, materials, or wastes are to be transported, MCS 90 endorsement shall be included.

3.3.3.3 Workers’ Compensation. Proposer(s) shall carry Workers’ Compensation insurance to
cover obligations imposed by federal and state statutes having jurisdiction over
Proposer(s)’s employees engaged in the performance of the work or services, as well as
Employer’s Liability insurance.

In case any work is subcontracted, Proposer(s) will require the SubProposer(s) to
provide Workers’ Compensation and Employer’s Liability insurance to at least the same
extent as required of Proposer(s).

4.0 SCHEDULE, RESPONSE PREPARATION AND SUBMISSION

4.1 SCHEDULE OF EVENTS

4.1.1 Publication of request for proposal

Publication of this Solicitation conforms with ORS 279, to include Public Notice by publication
in a newspaper of general circulation in the area where the Public Procurement Authority is
located no less than 30 days prior to the proposal due date, as well as posting of the Public
Notice on the web site that typically posts Public Notices concerning the Public Procurement
Authority.


4.1.2 Question and answer period

The PPA will post questions and answers concerning this Solicitation for a period of twenty three
(23) days after initial publication of the Notice of Solicitation or November 13, 2014, whichever
occurs later. All questions shall be submitted in writing via email to
questions@ProcurementAuthority.org. The Public Procurement Authority reserves the right to
accept and answer questions after the twenty three (23) day question and answer period has
expired.

All questions must be submitted via email as directed above. If necessary, questions can be
submitted in writing to Public Procurement Authority, c/o Heidi Chames, 25030 SW Parkway
Avenue, Suite 330, Wilsonville, OR 97070 or questions@ProcurementAuthority.org. All
questions and answers will be posted with the original solicitation on the Public Procurement
Authority website at www.ProcurementAuthority.org

There will be no mandatory pre-proposal meeting. In lieu of a pre-proposal meeting, an
informational webinar shall be held on Thursday, November 13, 2014 at 11:30 A.M. PST. To
join the online webinar:

- Go to
  RT=Mm0
- Follow the onscreen instructions for completing the login process
- Call in information is: (800-504-8071), passcode: (5887665)
- Meeting number is: 713895916
- You may want to check the link and your computer for compatibility in advance of the
  scheduled webinar.
4.1.3 Submission of proposals
Deadline for submission of proposals is 5:00 PM PST, on February 12, 2015. Heidi Chames must receive all proposals before 5:00 PM PST on the above date in the office of the Public Procurement Authority, c/o Heidi Chames, 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070.

Approximate opening date: 9:00 AM PST on February 13, 2015 at the office of the Public Procurement Authority, c/o Heidi Chames, 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070. Proposal selection and negotiation: Approximately February 13, 2015 to March 15, 2015.

Approximate award date: April 1, 2015.

All responses to this proposal become the property of the Public Procurement Authority and (other than pricing) will be held confidential, to the extent permissible by law. The Public Procurement Authority will not be held accountable if parties other than the Public Procurement Authority obtain material from proposal responses without the written consent of the Proposer(s).

4.2 REVIEW, INQUIRIES AND NOTICES:

4.2.1 The solicitation documents may be reviewed in person at the following address:

Public Procurement Authority
 c/o Heidi Chames
 25030 SW Parkway Ave.
  Suite 330
 Wilsonville, OR 97070

All inquiries concerning information herein shall be addressed to:

Public Procurement Authority
 c/o Heidi Chames
 25030 SW Parkway Ave.
  Suite 330
 Wilsonville, OR 97070

Administrative telephone inquiries shall be addressed to:

Heidi Chames, 855-524-4572
 Email inquiries shall be addressed to:

questions@ProcurementAuthority.org

Inquiries may be submitted by telephone but must be followed up in writing. No oral communication is binding on the Public Procurement Authority.

4.2.2 Proposal Interpretation of the RFP Documents and Issuance of Addenda

If any Proposer(s) finds discrepancy in, or omissions from, or is in doubt to the true meaning of any part of the RFP document, he/she shall submit to:

Public Procurement Authority
 c/o Heidi Chames
 25030 SW Parkway Ave.
  Suite 330
 Wilsonville, OR 97070
A written request for a clarification or interpretation thereof at least ten (10) calendar days prior to the RFP closing date.

The Public Procurement Authority is not responsible for any explanation, clarification, interpretation, or approval made or given in any manner, except by addenda. Addenda, if necessary, will be issued not later than five (5) days prior to the RFP closing date by publication on the Public Procurement Authority’s web site and NPP website.

4.3 INSTRUCTIONS FOR PREPARING AND SUBMITTING PROPOSALS:

Proposers are to provide two (2) hard copies and two (2) electronic copies of the complete proposal. Electronic copies are to be submitted on a USB flash drive with the core response in a file less than 10 MB, when possible. Electronic files may be used by the evaluation committee so they should be organized and named in an easy to understand manner. Proposers are to address proposals identified with return address, solicitation number and title in the following manner:

RFP 1420: FIRE APPARATUS
Public Procurement Authority
c/o Heidi Chames
25030 SW Parkway Ave.
Suite 330
Wilsonville, OR 97070

All prices shall be held firm for a period of sixty (60) days after the Solicitation closing date. Any Proposer may withdraw its proposal if a Master Price Agreement has not been executed within sixty (60) days from the RFP closing date.

4.4 EXCEPTIONS AND DEVIATIONS TO THE RFP

The Proposer shall identify and list all exceptions taken to all sections of this RFP and list these exceptions, referencing the section (paragraph) where the exception exists and stating the proposed revision. The Proposer shall list these exceptions under the heading, “Exception to the Solicitation, RFP Number 1420.” Exceptions not listed under the heading, “Exception to the Solicitation, RFP Number 1420.” shall be considered invalid. The Public Procurement Authority reserves the right to reject, render the proposal non-responsive, enter into negotiation on any of the Proposer exceptions, or accept them outright. The Proposer shall detail any and all deviations from specifications, if any, as requested. The Public Procurement Authority may accept or reject deviations, and all Public Procurement Authority decisions shall be final.

4.5 RESPONSE FORMAT AND CONTENT:

To aid in the evaluation, it is desired that all proposals follow the same general format. The proposals are to be submitted in binders and have sections tabbed as follows:

4.5.1 Letter of Transmittal

4.5.2 Table of Contents

4.5.3 Short introduction and executive summary. This section shall contain an outline of the general approach utilized in the proposal.

4.5.4 The proposal should contain a statement of all of the programs and services proposed, including conclusions and generalized recommendations. Proposals should be all-inclusive, detailing the proposer’s best offer. Additional related services should be incorporated into the proposal, if applicable.
Format Proposal to specifically address each individual sub-section and sub-set of the SCOPE OF WORK (Section 2.0).

4.5.5 Qualifications – This section shall describe the Proposer’s ability and experience related to the programs and services proposed.

4.5.6 Exceptions to the Proposal Solicitation, RFP Solicitation Number 1420

4.5.7 PRICING SCHEDULE (“ATTACHMENT D”)

4.5.8 PROPOSER PROFILE WORKBOOK (“ATTACHMENT B”)

4.5.9 Complete, Current Catalog Pricing shall be submitted on a USB flash drive.

5.0 EVALUATION AND POST SUBMISSION

5.1 EVALUATION OF PROPOSAL – SELECTION FACTORS:

A Proposal Analysis Committee will be appointed by the Public Procurement Authority on behalf of its membership to evaluate each Proposal and prepare a scoring of each Proposal. Each Proposal received and reviewed shall be awarded points under each criterion solely on the judgment and determination of the Analysis Committee and the PPA. There is a maximum score of 500 points and proposer’s average total score must be at least 200 points for consideration of an award. Proposals will be evaluated on the following criteria and further defined in the Proposal Evaluation Form (ATTACHMENT E) utilizing the point system indicated on the form:


At the Public Procurement Authority’s option, Proposers may be invited to make presentations to the Evaluation Committee. Public Procurement Authority reserves the right to make multiple awards to meet the national membership needs of this Solicitation.

5.1.1 Additional criteria/preferences that are not necessarily awarded points.

5.1.1.1 Pursuant to ORS 279, Lead Contracting Agency shall give preference to the procurement of goods manufactured from recycled materials.

5.1.1.2 Pursuant to ORS 279, Lead Contracting Agency shall give preference to goods and services that have been manufactured or produced within the State of Oregon if price, fitness, availability and quality are otherwise equal; and the Lead Contracting Agency shall add a percent increase to the proposal of a nonresident Proposer equal to the percent, if any, of the preference given to the Proposer in the state in which the Proposer resides. All proposers shall identify the state to which it is a resident bidder.

5.1.1.3 Proposer shall comply with all federal, state and local laws applicable to the work under the Master Price Agreement awarded as a result of this Solicitation, including, without limitation, the provisions of ORS, as set forth on “ATTACHMENT F”, attached hereto and incorporated herein by this reference.

5.1.1.4 Pursuant to Section 1.5, the Lead Contracting Agency encourages Minority and Women-owned Small Business Proposers to submit proposals.

5.2 RIGHT OF PUBLIC PROCUREMENT AUTHORITY TO AWARD OR REJECT PROPOSALS
5.2.1 The Request for Proposal does not commit the Public Procurement Authority to award a Master Price Agreement for the products or services specified within the Request for Proposal document. The Public Procurement Authority may cancel the procurement or reject any or all proposals in accordance with ORS 279. Under no circumstance will the Public Procurement Authority pay the costs incurred in the preparation of a response to this request.

5.2.2 The Public Procurement Authority reserves the right to:

5.2.2.1 Accept or reject any or all proposals received as a result of the Request for Proposals;
5.2.2.2 Negotiate with any qualified Proposer(s);
5.2.2.3 Accept a proposal and subsequent offers for a Master Price Agreement from other than the lowest cost proposer;
5.2.2.4 Waive or modify any irregularities in proposals received, after prior notifications to the Proposer(s).

5.2.3 Oral interpretations or statements cannot modify the provisions of this Request for Proposal. If inquiries or comments by Proposers raise issues that require clarification by the Public Procurement Authority, or the Public Procurement Authority decides to revise any part of this Request for Proposal, addenda will be provided to all persons who receive the Request for Proposal. Receipt of an addendum must be acknowledged by signing and returning it with the proposal.

5.2.4 The award, if there is one, will be made to that Proposer(s) who is determined to be the most qualified, responsible and responsive within a competitive price range based upon the evaluation of the information furnished under this RFP.

5.3 WITHDRAWAL OF PROPOSAL

At any time prior to the hour and date set for the receipt of proposals, the Proposer(s) may withdraw its proposal. Withdrawal will not preclude the submission of another proposal prior to the deadline.

5.4 PROTEST PROCESS

A prospective Proposer may protest the procurement process of the Solicitation Document for an Agreement solicited under ORS 279. Before seeking judicial review, a prospective Proposer must file a written protest with the Public Procurement Authority and exhaust all administrative remedies. Written protests must be delivered to the Public Procurement Authority at 25030 SW Parkway Avenue, Suite 330, Wilsonville, OR 97070 not less than ten (10) days prior to the date upon which all proposals are due. The written protest shall contain a statement of the desired changes to the procurement process or solicitation document that the protester believes will remedy the conditions upon which the protest is based. The Public Procurement Authority shall consider the protest if it is timely filed and meets the conditions set forth in ORS 279. The Public Procurement Authority shall respond pursuant to ORS 279. If the Public Procurement Authority upholds the protest, in whole or in part, the Public Procurement Authority may in its sole discretion either issue an Addendum reflecting its disposition or cancel the procurement or solicitation. The Public Procurement Authority may extend the due date of proposals if it determines an extension is necessary to consider and respond to the protest.

A Proposer may protest the Award of the Contract, or the intent to Award the Contract, if the conditions set forth in ORS 279 are satisfied. Judicial review of the protest and the Public Procurement Authority’s decision shall be governed by ORS 279.

5.5 NON-ASSIGNMENT

If a Master Price Agreement is awarded, it shall not be assigned in part or in total.
5.6 POST AWARD MEETING:

The successful Proposer(s) may be required to attend a post-award meeting with the PPA to discuss the terms and conditions of the Master Price Agreement.

5.7 PROPOSAL FINAL CERTIFICATION

The Proposer must certify the following:

a) I hereby certify, that the Proposal contained herein, fully and exactly complies with the instruction for proposers and specifications as they appear in this Notice of Solicitation.

b) I hereby further certify that I am authorized by the Board of Directors or Corporate Officers of the Corporation to sign the Requests for Proposals and proposals in the name of the corporation listed below:

Proposer Name: ________________________________

Signature: ________________________________

Name Typed: ____________________ Title: ____________________

Proposer is a resident bidder of the state of ___________________

Date: ____________________
ATTACHMENT A

INTERGOVERNMENTAL COOPERATIVE PURCHASING AGREEMENT

This Intergovernmental Agreement (Agreement) is by and between the “Lead Contracting Agency” and participating government entities (“Participating Agencies”), that are members of National Purchasing Partners (“NPP”), including members of FireRescue GPO and Public Safety GPO, that agree to the terms and conditions of this Agreement. The Lead Contracting Agency and all Participating Agencies shall be considered as “parties” to this agreement.

WHEREAS, upon completion of a formal competitive solicitation and selection process, the Lead Contracting Agency has entered into Master Price Agreements with one or more Vendors to provide goods and services, often based on national sales volume projections;

WHEREAS, NPP provides group purchasing, marketing and administrative support for governmental entities. NPP’s marketing and administrative services are free to its membership, which includes participating public entities and nonprofit institutions throughout North America.

WHEREAS, NPP has instituted a cooperative purchasing program under which member Participating Agencies may reciprocally utilize competitively solicited Master Price Agreements awarded by the Lead Contracting Agency;

WHEREAS, the Master Price Agreements provide that all qualified government members of NPP may purchase goods and services on the same terms, conditions and pricing as the Lead Contracting Agency, subject to applicable local and state laws of the Participating Agencies;

WHEREAS, the parties agree to comply with the requirements of the Intergovernmental Cooperation Act as may be applicable to the local and state laws of the Participating Agencies;

WHEREAS, the parties desire to conserve and leverage resources, and to improve the efficiency and economy of the procurement process while reducing solicitation and procurement costs;

WHEREAS, the parties are authorized and eligible to contract with governmental bodies and Vendors to perform governmental functions and services, including the purchase of goods and services; and

WHEREAS, the parties desire to contract with Vendors under the terms of the Master Price Agreements;

NOW, THEREFORE, the parties agree as follows:
ARTICLE 1: LEGAL AUTHORITY

Each party represents and warrants that it is eligible to participate in this Agreement because it is a local government created and operated to provide one or more governmental functions and possesses adequate legal authority to enter into this Agreement.

ARTICLE 2: APPLICABLE LAWS

The procurement of goods and services subject to this Agreement shall be conducted in accordance with and subject to the relevant statutes, ordinances, rules, and regulations that govern each party’s procurement policies. Competitive Solicitations are intended to meet the public contracting requirements of the Lead Contracting Agency and may not be appropriate under, or satisfy Participating Agencies’ procurement laws. It is the responsibility of each party to ensure it has met all applicable solicitation and procurement requirements. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

ARTICLE 3: USE OF BID, PROPOSAL OR PRICE AGREEMENT

a. A “procuring party” is defined as the Lead Contracting Agency or any Participating Agency that desires to purchase from the Master Price Agreements awarded by the Lead Contracting Agency.

b. Each procuring party shall be solely responsible for their own purchase of goods and services under this Agreement. A non-procuring party shall not be liable in any fashion for any violation of law or contract by a procuring party, and the procuring party shall hold non-procuring parties and all unrelated procuring parties harmless from any liability that may arise from action or inaction of the procuring party.

c. The procuring party shall not use this agreement as a method for obtaining additional concessions or reduced prices for similar goods and services outside the scope of the Master Price Agreement.

d. The exercise of any rights or remedies by the procuring party shall be the exclusive obligation of such procuring party.

e. The cooperative use of bids, proposals or price agreements obtained by a party to this Agreement shall be in accordance with the terms and conditions of the bid, proposal or price agreement, except as modified where otherwise allowed or required by applicable law, and does not relieve the party of its other solicitation requirements under state law or local policies.
ARTICLE 4: PAYMENT OBLIGATIONS

The procuring party will make timely payments to Vendors for goods and services received in accordance with the terms and conditions of the procurement. Payment for goods and services, inspections and acceptance of goods and services ordered by the procuring party shall be the exclusive obligation of such procuring party. Disputes between procuring party and Vendor shall be resolved in accordance with the law and venue rules of the state of the procuring party.

ARTICLE 5: COMMENCEMENT DATE

This Agreement shall take effect after execution of the “Lead Contracting Agency Endorsement and Authorization” or “Participating Agency Endorsement and Authorization,” as applicable.

ARTICLE 6: TERMINATION OF AGREEMENT

This Agreement shall remain in effect until terminated by a party giving 30 days written notice to “Lead Contracting Agency”

ARTICLE 7: ENTIRE AGREEMENT

This Agreement and any attachments, as provided herein, constitute the complete Agreement between the parties hereto, and supersede any and all oral and written agreements between the parties relating to matters herein.

ARTICLE 8: CHANGES AND AMENDMENTS

This Agreement may be amended only by a written amendment executed by all parties, except that any alterations, additions, or deletions of this Agreement which are required by changes in Federal and State law or regulations are automatically incorporated into this Agreement without written amendment hereto and shall become effective on the date designated by such law or regulation.

ARTICLE 9: SEVERABILITY

All parties agree that should any provision of this Agreement be determined to be invalid or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.

THIS INSTRUMENT HAS BEEN EXECUTED IN TWO OR MORE ORIGINALS BY EXECUTION AND ATTACHMENT OF “THE LEAD CONTRACTING AGENCY ENDORSEMENT AND AUTHORIZATION” OR “PARTICIPATING AGENCY ENDORSEMENT AND AUTHORIZATION,” AS APPLICABLE. ONCE EXECUTED, IT IS THE RESPONSIBILITY OF EACH PARTY TO FILE THIS AGREEMENT WITH THE PROPER AGENCY IF REQUIRED BY LOCAL OR STATE LAW.
SAMPLE

PUBLIC PROCUREMENT AUTHORITY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of the Public Procurement Authority (“Lead Contracting Agency”) that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Public Procurement Authority to Participating Agencies locally, regionally, and nationally through NPP. Copies of Master Price Agreements and any amendments thereto made available by the Public Procurement Authority will be provided to Participating Agencies and NPP to facilitate use by Participating Agencies.

The undersigned understands that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agencies.

The undersigned affirms that he/she is an agent of the Public Procurement Authority and is duly authorized to sign this Public Procurement Authority Endorsement and Authorization.

SAMPLE

________________________________________  Date:______________
BY:  ITS:

Public Procurement Authority Contact Information:

Contact Person: ________________________
Address: ______________________________
Telephone No.: _________________________
Email: ________________________________
PARTICIPATING AGENCY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of ______________ ("Participating Agency") that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Lead Contracting Agency to Participating Agencies locally, regionally, and nationally through NPP.

The undersigned further acknowledges that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agency and that neither the Lead Contracting Agency nor NPP shall be held liable for any costs or damages incurred by or as a result of the actions of the Vendor or any other Participating Agency. Upon award of contract, the Vendor shall deal directly with the Participating Agency concerning the placement of orders, disputes, invoicing and payment.

The undersigned affirms that he/she is an agent of ______________ and is duly authorized to sign this Participating Agency Endorsement and Authorization.

PARTICIPATING AGENCY CONTACT INFORMATION:

CONTACT PERSON: ______________________
ADDRESS: ______________________________
______________________________________
______________________________________

TELEPHONE NO.: _______________________
EMAIL: ________________________________
ATTACHMENT B

Proposer Profile Workbook to be completed by all responders as directed herein

1.0 General questions (Section 1.1 only to be completed by vendors with a national presence; i.e. vendors with a sales territory in 25 states or more).

1.1 The “Yes” or “No” questions below are to help evaluators familiarize themselves with national vendors. Circle “Yes” or “No” as it applies to your company.

✓ Do you have a national sales force adequate in size to meet the demands of multiple agencies and their unique needs for the products and services listed herein?
  Yes  or  No

✓ Do you have a national distribution network?
  Yes  or  No

✓ Can you provide product availability to meet the requirements for materials and services listed herein for government and nonprofit agencies nationwide in a timely manner?
  Yes  or  No

✓ Does your company have the ability to provide toll-free telephone/fax access, and an online presence?
  Yes  or  No

✓ Can you provide a single point of contact (National Account Manager) to interact with the lead agency and NPP staff?
  Yes  or  No

✓ Are you a strong competitor in the industry with a minimum of three consecutive years of demonstrated success in all business practices and pursuits?
  Yes  or  No

1.2 Additional Information:

1.2.1 Provide at least three references of government agencies within the United States that have purchased products/services from Proposer similar to those specified in this solicitation within the last year. Include:
  1.2.3.1.1 Agency name and address
  1.2.3.1.2 Contact name, phone and/or email
  1.2.3.1.3 Description of products/services sold and date.
  1.2.3.1.4 PPA may use other information, however learned, in evaluation of the response.

1.2.2 OPTIONAL: If a Dun and Bradstreet Comprehensive Report (or similar) for your company is available, please submit it with your response.

1.2.3 OPTIONAL: Attach any case studies, white papers and/or testimonials supporting your company and products/services.

2.0 ABOUT PROPOSER:

2.1 Complete Exhibit 1

2.2 Complete the following table

| 2.2.1 State of incorporation:          |
| 2.2.2 Federal Tax Identification Number: |
| 2.2.3 If applicable to the product(s) and/or service(s), describe the Proposer's ability to conduct |
2.4 Describe Proposer’s system for processing orders from point of customer contact through delivery and billing. [Insert response in box below]

2.5 Describe Proposer’s ability to provide detailed electronic reporting of quarterly sales correlated with NPP member ID numbers of Participating Agency purchases as set forth in Addendum A to Vendor Administration Agreement (VAA), a copy of which is available upon request from the PPA. [Insert response in box below]

2.6 Describe the capacity of Proposer to meet Minority and Women Business Enterprises (MWBE) preferences, which may vary among Participating Agencies. [Insert response in box below]

### 3.0 DISTRIBUTION SYSTEM:

3.1 Describe distribution of products and services through Proposer’s distribution system (including Alaska and Hawaii if applicable). [Insert response in box below]

3.2 Provide Proposer’s shipping and delivery policy, including standard delivery time and any options and costs for expedited delivery and return policies. [Insert response in box below]

3.3 If applicable, detail the sub-contracting process (ordering, shipment, invoicing) for those products not carried in Proposer’s distribution center. The process shall be transparent to the Participating Agencies. [Insert response in box below]

3.4 What is Proposer’s backorder policy? Is your policy to classify as “immediate or cancel” (requiring the Participating Agency to reorder if item is backordered) or “good until cancelled”? [Insert response in box below]

### 4.0 MARKETING:

4.1 Outline Proposer’s plan for marketing the Products and Services to the Participating Agencies on a local and national basis. Include any marketing incentives such as committed dollars for advertising, conferences/travel and custom marketing materials. [may attach marketing plan or insert response in box below]
4.2 Explain how Proposer will educate its local and national sales force about the use of the Master Price Agreement. [Insert response in box below]

5.0 Proposer point of contact (POC) who will administer, coordinate, and manage this program with NPP and the Public Procurement Authority.

<table>
<thead>
<tr>
<th>Contact Person:</th>
<th>Title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailing Address:</td>
<td></td>
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<tr>
<td>City:</td>
<td>State &amp; Zip:</td>
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<tr>
<td>Email Address:</td>
<td></td>
</tr>
<tr>
<td>Phone #:</td>
<td>Fax #:</td>
</tr>
</tbody>
</table>

* Attach current resume of National Account Manager that will be the POC managing this contract.

6.0 CUSTOMER SUPPORT SERVICES:

Explain Proposer’s policy regarding each of the following if applicable to product(s) and/or service(s):

6.1 Auditing for order completeness. [Insert response in box below]

6.2 Replacement policy (i.e., damaged or defective goods). [Insert response in box below]

6.3 Minimum order requirement (e.g., Individual item vs. case lot). [Insert response in box below]

6.4 Customer service hours/days of operation [Insert response in boxes below]

<table>
<thead>
<tr>
<th>Monday:</th>
<th>Tuesday:</th>
<th>Wednesday:</th>
<th>Thursday:</th>
<th>Friday:</th>
<th>Saturday:</th>
<th>Sunday:</th>
</tr>
</thead>
</table>

6.5 Special Orders. [Insert response in box below]

6.6 Post sale services issues. [Insert response in box below]

6.7 Repair services, including repair warranty programs, if any. Proposer shall identify, where applicable, authorized factory repair facilities that will honor the warranty of items on contract. [Insert response in box below]

6.8 Technical support services Proposer provides. [Insert response in box below]

6.9 Product substitution policy. [Insert response in box below]

6.10 Identify trade-in program criteria (if applicable). [Insert response in box below]

6.11 After hours service (including weekends and holidays) [Insert response in boxes below]

<table>
<thead>
<tr>
<th>Monday:</th>
<th>Tuesday:</th>
<th>Wednesday:</th>
<th>Thursday:</th>
<th>Friday:</th>
<th>Saturday:</th>
<th>Sunday:</th>
</tr>
</thead>
</table>

6.12 Shipment tracking. [Insert response in box below]

6.13 Back order tracking process. [Insert response in box below]
6.14 Return Item process, including any/all associated fees (e.g., restocking, shipping, turnaround time on returns). [Insert response in box below]

6.15 Electronic billing. [Insert response in box below]

6.16 Explain how Proposer will resolve complaints, issues, or challenges. [Insert response in box below]

6.17 Other services not already covered. [Insert response in box below]

### 7.0 DELIVERY AND FREIGHT CHARGES:

7.1 Identify delivery and/or shipping costs or provide a shipping rate schedule based on weight, item, and/or destination for all items ordered within the continental U.S. (and Hawaii/Alaska) The Proposer shall identify all exceptions to this shipping rate schedule. [Insert response in box below]

7.2 Identify policy for transfer of product ownership (delivery) and damage/issue resolution. [Insert response in box below]
### Exhibit 1

**Product/Service Coverage**

**FIRE APPARATUS**

**RETAIL, DISTRIBUTION AND SERVICE/SUPPORT LOCATIONS**

<table>
<thead>
<tr>
<th>State</th>
<th>Number of retail stores in each state? (leave blank for none)</th>
<th>Number of distribution centers in each state? (leave blank for none)</th>
<th>Number of support locations in each state? (leave blank for none)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALABAMA</td>
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<tr>
<td>WYOMING</td>
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</tbody>
</table>
Exhibit 2

Declaration of Non Collusion

The undersigned does hereby declare that there has been no collusion between the undersigned, the Public Procurement Authority, and National Purchasing Partners, and in further support of said Declaration, states as follows:

The person, firm, association, co-partnership or corporation herein named has not, either directly or indirectly, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding or solicitation in the preparation and submission of a proposal to the Public Procurement Authority for consideration in the award of a contract or Master Price Agreement negotiated as a result of this Request for Proposal.

DATED this _____ day of ______________, ______.

(Name of Firm)

By: __________________________
    (Authorized Signature)

Title: ________________________

Page 754 of 814
ATTACHMENT C
SPECIFICATIONS

FIRE APPARATUS

Proposers should respond with pricing for all equipment and options they wish to be considered in the evaluation for a possible award and master price agreement.

Response should include any and all fire apparatus proposer wishes to be considered for contract including but not limited to:

- Pumper Fire Apparatus
- Initial Attack Fire Apparatus
- Mobile Water Supply Fire Apparatus
- Aerial Fire Apparatus
- Quint Fire Apparatus
- Special Service Fire Apparatus
- Mobile Foam Fire Apparatus

Apparatus must meet the general guidelines and specifications required in the latest edition of the National Fire Protection Association (NFPA) Standard for Automotive Fire Apparatus (NFPA 1901) and any standards referenced therein. All proposed apparatus must also comply with all applicable federal licensing, rules and regulations including but not limited to:

- American National Standards Institute (ANSI)
- American Society of Mechanical Engineers (ASME)
- American Society for Nondestructive Testing (ASNT)
- American Society for Testing Materials (ASTM)
- American Welding Society (AWS)
- Department of Transportation (DOT)
- Environmental Protection Agency (EPA)
- Federal Motor Vehicle Safety Standards (FMVSS)
- Institute of Electrical and Electronics Engineers (IEEE)
- National Institute for Occupational Safety and Health (NIOSH)
- Occupational Safety and Health Administration (OSHA)
- Society of Automotive Engineers (SAE)
- Underwriters Laboratory (UL)

Additionally, all proposed apparatus must meet applicable state DOT, licensing, rules and regulations in states covered by the response.

Because the specifications of this RFP are general in nature in order to meet the needs of the PPA and all members of the Government Division of National Purchasing Partners, it is incumbent upon the proposer to provide specifications and details for all apparatus and options in their response.

All responses must outline all related aspects of the vehicle sale including but not limited to sales (through authorized dealers), pre-delivery costs (including up to 3 factory visits), delivery, training, manuals, warranty, and service.
ATTACHMENT D
FIRE APPARATUS PRICING SCHEDULE

The intent is for each Proposer to submit their complete product line so that Participating Agencies may order a wide array of products and services as appropriate for their needs. Proposer is encouraged but is not required to respond to all possible categories. Proposer may subcontract items Proposer does not supply. The Proposer should not necessarily limit the proposal to the performance of the services in accordance with this document but should outline any additional services and their costs if the Proposer deems them necessary to accomplish the needs of the cooperative purchasing program.

Pricing and resulting relative discount to PPA and NPP membership shall be clearly delineated on each proposal. Contract pricing shall be based upon:

1) Fixed discount(s) off published price list(s) or catalog(s)
2) Firm fixed price with economic adjustment (contingencies for economic price adjustments must be identified in the proposal)
3) A combination of the above.

Vehicle Models
Proposers shall provide pricing on all apparatus vehicle models they wish to be considered including, but not limited to, the following categories where applicable:

- Chassis/cab builder
- Cab designs (2/4 door, tilt cab, etc.)
- Cab/body sheet metals (e.g., Stainless steel, aluminum, galvanized)
- Rear axle configuration (single/tandem/tandem front steering/triple rear)
- Fire pump capacities & mounting locations (e.g., 1250/1500/2500 GPM Pump, rear/mid-mounted)
- Body configurations (e.g., Walk-In/Non-Walk-In body)
- Aerial categories (e.g., Construction/turntable positions/aerial device functions)

Options
Proposers shall provide pricing on all options, modifications, and accessories in a format that best represents their product line and pricing structure. This may include specific pricing for some options and may also include general pricing/discounts for categories of options. Proposer may also indicate availability and pricing of all other non-specified options. The intent is to provide proposers the opportunity to present as much product as possible in the format that fits within their individual formatting needs so that the resulting award allows PPA and NPP members the greatest number of procurement options. Options which replace standard equipment on a proposed vehicle model should be priced net of any credit due for the replaced item.
The following is *one example* of how pricing could be represented in proposer’s response:

<table>
<thead>
<tr>
<th>FIRE APPARATUS PRICING SCHEDULE</th>
<th>Percentage (%) off List Price* (OR fixed price if % off pricing is not available)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTE:</strong> Be sure to provide ALL models for each particular type of apparatus vehicle to be considered. Add/Insert additional lines as necessary. The following categories are just suggested; it is anticipated the name, number, and name of actual categories provided by proposer will vary significantly.</td>
<td><strong>Example:</strong> 15% off List OR $550,000</td>
</tr>
</tbody>
</table>

**PUMPER**

**Example:** Ford F-550 2-Door, Pumper, Stainless Steel Body, Single Axle, 1250 GPM Pump, Mid-Mounted

Options for each vehicle model or type may be listed here or as a separate options table

**INITIAL ATTACK**

Options for each vehicle model or type may be listed here or as a separate options table

**MOBILE WATER SUPPLY**

Options for each vehicle model or type may be listed here or as a separate options table
<table>
<thead>
<tr>
<th>AERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options for each vehicle model or type may be listed here or as a separate options table</td>
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<tr>
<td></td>
</tr>
<tr>
<td>QUINT</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Options for each vehicle model or type may be listed here or as a separate options table</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SPECIAL SERVICE</td>
</tr>
<tr>
<td>----------------</td>
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<tr>
<td>Options for each vehicle model or type may be listed here or as a separate options table</td>
</tr>
<tr>
<td></td>
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<tr>
<td>MOBILE FOAM</td>
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<tr>
<td>Options for each vehicle model or type may be listed here or as a separate options table</td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

* Identify source of list price and publication date or expiration date.
Example FIRE APPARATUS OPTIONS TABLE

<table>
<thead>
<tr>
<th>OPTION DESCRIPTION</th>
<th>PRICING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Entire catalog of options</td>
<td>Example: 10% Off List</td>
</tr>
<tr>
<td>Example: Chrome wheel upgrade, single axle</td>
<td>Example: $8,000</td>
</tr>
<tr>
<td>The next section could be used to represent other options not specifically listed above, including manufacturer and dealer installed options. These options may be included as a general category or as option categories.</td>
<td>Example: “All other non-specified options available from the manufacturer”</td>
</tr>
<tr>
<td>Example: “All other non-specified options available from the dealer”</td>
<td>Example: List Price</td>
</tr>
<tr>
<td>Example: “All other non-specified emergency lighting options”</td>
<td>Example: At least 10% Off List</td>
</tr>
</tbody>
</table>

* Identify source of list price and publication date or expiration date.
ATTACHMENT E
PROPOSAL EVALUATION FORM

Proposals will be evaluated using a two-step process.

The first step evaluates the responsiveness of the proposer and determines 1) if the proposer is deemed fully responsive enabling the proposal to move to the second step and 2) if the proposal will be evaluated as a local response (within the State of Oregon) or a national response (covering the entire U.S. or a large region of the U.S.).

The second step of the evaluation process will only occur with proposals deemed fully responsive from the first step. The second step fully evaluates the proposer’s response based on the criteria found in the proposal evaluation form.

STEP 1
Proposal Responsiveness

<table>
<thead>
<tr>
<th>Component</th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td>Submitted on time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal signed</td>
<td></td>
<td></td>
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<tr>
<td>Completed Proposer Workbook</td>
<td></td>
<td></td>
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<tr>
<td>Included pricing structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included references</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Deemed Fully Responsive YES NO

Categorized as Local or National Local National
## STEP 2
### Full Evaluation of Proposal

**Point Value Definitions**
- 5- Excellent – Substantially exceeds requirements
- 4-Very Good- Meet all requirements
- 3- Good – Meets most requirements
- 2- Satisfactory – Minimally meets requirements
- 1- Unsatisfactory – Requirements essentially not met
- 0- No Response provided

<table>
<thead>
<tr>
<th>Component Evaluated</th>
<th>Weight</th>
<th>Possible Points (0-5)</th>
<th>Total Points (Weight x PP)</th>
<th>Evaluator's Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing: Product price analysis and discounts proposed including favorable pricing for cooperative purchasing.</td>
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<td></td>
<td>Comments:</td>
<td></td>
</tr>
<tr>
<td>Product Line: Product line offered in indicated coverage area, considering geographic distribution limitations, warranties, any sub-proposers and coordination of manufacturer and distribution in response.</td>
<td>25</td>
<td></td>
<td>Comments:</td>
<td></td>
</tr>
<tr>
<td>Conformance: Completeness of proposal and the degree to which the Proposer responds to the terms and all requirements of the RFP requirements and specifications.</td>
<td>10</td>
<td></td>
<td>Comments:</td>
<td></td>
</tr>
<tr>
<td>Marketing: The Proposer’s marketing plan to promote the resulting contractual agreement and ability to incorporate use of agreement in their sales system throughout indicated coverage region.</td>
<td>20</td>
<td>Comments:</td>
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</tr>
<tr>
<td>Customer Service: Support dedicated to Lead Contracting and Participating Agencies. Ability to conduct e-commerce and meet promised delivery timelines.</td>
<td>5</td>
<td>Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage: Ability to provide products and services for indicated coverage region including distribution, retail &amp; service facilities and staff availability. *Note Exhibit 1 from PPW</td>
<td>10</td>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proven Experience &amp; References: Proposer’s success in providing products and services in a timely manner including Past Performance Information (PPI) review.</td>
<td>10</td>
<td>Comments:</td>
<td></td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
<td>General Comments:</td>
<td></td>
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</tr>
</tbody>
</table>

Name of Evaluator _________________________   Date ___________________________
Signature _________________________________
ORS CHAPTERS 279 (AS MAY BE AMENDED) REQUIREMENTS

Successful Proposer (Contractor) shall comply with the requirements of this ATTACHMENT F to the extent required by any applicable federal or state law.

(1) Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor.

(2) Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract.

(3) Contractor shall not permit any lien or claim to be filed or prosecuted against the District on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted.

(4) Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.617.

(5) If Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the District may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the District is unable to determine the validity of any claim for labor or material furnished, the District may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

(6) Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

(7) Contractor shall pay employees for overtime work performed under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq.)

(8) The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and the days per week that the employees may be required to work.

(9) All subject employers working under the contractor either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126.

(10) All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid.

(11) The contract may be canceled at the election of District for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.

(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors.
ATTACHMENT G
WIPHE RESPONSE FORM

THIS FORM MUST BE RETURNED WITH SOLICITATION RESPONSE

Vendor servicing Washington State AGREES to sell items included in this solicitation to WIPHE institutions at prices offered, unless otherwise noted below:

_______ DOES NOT agree to sell to WIPHE Institutions.
_______ AGREES to sell to WIPHE Institutions at same prices and discounts, with the following exceptions: (attach additional pages as necessary)

Vendor must state geographic areas or specific institution(s) listed below within the State of Washington that are EXCLUDED from the contract(s) resulting from this solicitation:


If Vendor agrees to sell to the WIPHE Institutions, a WIPHE Contract number will be assigned and the information will be reported to the Council of Presidents. The Council of Presidents notifies all the other schools when a WIPHE contract has been awarded and a master list will be maintained and the WIPHE website updated. WIPHE shall determine, at its absolute discretion, whether it shall accept and/or utilize the contract resulting from the Request for Proposal
## Washington Institutions of Public Higher Education (WIPHE)

### FOUR-YEAR UNIVERSITIES

<table>
<thead>
<tr>
<th>Institution Name</th>
<th>Institution Name</th>
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</thead>
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<td>EASTERN WASHINGTON UNIVERSITY</td>
<td>GREEN RIVER Community College</td>
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<tr>
<td>THE EVERGREEN STATE COLLEGE</td>
<td>HIGHLINE Community College</td>
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<tr>
<td>UNIVERSITY OF WASHINGTON</td>
<td>LAKE WASHINGTON Technical College</td>
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<td>WASHINGTON STATE UNIVERSITY</td>
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<td>COMMUNITY AND TECHNICAL COLLEGES:</td>
<td>PENINSULA College</td>
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<td>Challis</td>
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<td>Marsing</td>
<td>Rexburg</td>
<td>Weippe</td>
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<td>Hailey</td>
<td>McCall</td>
<td>Richfield</td>
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<td>Coeur d’Alene</td>
<td>Harrison</td>
<td>McCammon</td>
<td>Rigby</td>
<td>Wendell</td>
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<td>Hauser</td>
<td>Melba</td>
<td>Riggins</td>
<td>Whitebird</td>
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<td>Council</td>
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<td>Meridian</td>
<td>Rupert</td>
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<td>Dalton Gardens</td>
<td>Heyburn</td>
<td>Middleton</td>
<td>Salmon</td>
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<tr>
<td>Dietrich</td>
<td>Hidden Springs</td>
<td>Montpelier</td>
<td>Sandpoint</td>
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</tbody>
</table>

This is not a complete list of all Idaho cities, but all other Idaho cities shall be incorporated by this reference.

### Idaho’s Counties

<table>
<thead>
<tr>
<th>County1</th>
<th>County2</th>
<th>County3</th>
<th>County4</th>
<th>County5</th>
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<tbody>
<tr>
<td>Ada</td>
<td>Bonneville</td>
<td>Custer</td>
<td>Kootenai</td>
<td>Owyhee</td>
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<td>Adams</td>
<td>Boundary</td>
<td>Elmore</td>
<td>Latah</td>
<td>Payette</td>
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<td>Butte</td>
<td>Franklin</td>
<td>Lemhi</td>
<td>Power</td>
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<td>Camas</td>
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<td>Lewis</td>
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<td>Lincoln</td>
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<td>Gooding</td>
<td>Madison</td>
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<td>Blaine</td>
<td>Cassia</td>
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<td>Clark</td>
<td>Jefferson</td>
<td>Nez Perce</td>
<td>Washington</td>
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<td>Bonner</td>
<td>Clearwater</td>
<td>Jerome</td>
<td>Oneida</td>
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</table>

All other Idaho local government units shall be incorporated by this reference.
Intergovernmental Cooperative Purchasing Agreement

This Intergovernmental Agreement (Agreement) is by and between the “Lead Contracting Agency” and participating government entities (“Participating Agencies”), that are members of National Purchasing Partners (“NPP”), including members of FireRescue GPO and Public Safety GPO, that agree to the terms and conditions of this Agreement. The Lead Contracting Agency and all Participating Agencies shall be considered as “parties” to this agreement.

WHEREAS, upon completion of a formal competitive solicitation and selection process, the Lead Contracting Agency has entered into Master Price Agreements with one or more Vendors to provide goods and services, often based on national sales volume projections;

WHEREAS, NPP provides group purchasing, marketing and administrative support for governmental entities. NPP’s marketing and administrative services are free to its membership, which includes participating public entities and nonprofit institutions throughout North America.

WHEREAS, NPP has instituted a cooperative purchasing program under which member Participating Agencies may reciprocally utilize competitively solicited Master Price Agreements awarded by the Lead Contracting Agency;

WHEREAS, the Master Price Agreements provide that all qualified government members of NPP may purchase goods and services on the same terms, conditions and pricing as the Lead Contracting Agency, subject to applicable local and state laws of the Participating Agencies;

WHEREAS, the parties agree to comply with the requirements of the Intergovernmental Cooperation Act as may be applicable to the local and state laws of the Participating Agencies;

WHEREAS, the parties desire to conserve and leverage resources, and to improve the efficiency and economy of the procurement process while reducing solicitation and procurement costs;

WHEREAS, the parties are authorized and eligible to contract with governmental bodies and Vendors to perform governmental functions and services, including the purchase of goods and services; and

WHEREAS, the parties desire to contract with Vendors under the terms of the Master Price Agreements;

NOW, THEREFORE, the parties agree as follows:
ARTICLE 1: LEGAL AUTHORITY

Each party represents and warrants that it is eligible to participate in this Agreement because it is a local government created and operated to provide one or more governmental functions and possesses adequate legal authority to enter into this Agreement.

ARTICLE 2: APPLICABLE LAWS

The procurement of goods and services subject to this Agreement shall be conducted in accordance with and subject to the relevant statutes, ordinances, rules, and regulations that govern each party’s procurement policies. Competitive Solicitations are intended to meet the public contracting requirements of the Lead Contracting Agency and may not be appropriate under, or satisfy Participating Agencies’ procurement laws. It is the responsibility of each party to ensure it has met all applicable solicitation and procurement requirements. Participating Agencies are urged to seek independent review by their legal counsel to ensure compliance with all local and state solicitation requirements.

ARTICLE 3: USE OF BID, PROPOSAL, OR PRICE AGREEMENT

a. A “procuring party” is defined as the Lead Contracting Agency or any Participating Agency that desires to purchase from the Master Price Agreements awarded by the Lead Contracting Agency.

b. Each procuring party shall be solely responsible for their own purchase of goods and services under this Agreement. A non-procuring party shall not be liable in any fashion for any violation of law or contract by a procuring party, and the procuring party shall hold non-procuring parties and all unrelated procuring parties harmless from any liability that may arise from action or inaction of the procuring party.

c. The procuring party shall not use this agreement as a method for obtaining additional concessions or reduced prices for similar goods and services outside the scope of the Master Price Agreement.

d. The exercise of any rights or remedies by the procuring party shall be the exclusive obligation of such procuring party.

e. The cooperative use of bids, proposals or price agreements obtained by a party to this Agreement shall be in accordance with the terms and conditions of the bid, proposal or price agreement, except as modified where otherwise allowed or required by applicable law, and does not relieve the party of its other solicitation requirements under state law or local policies.
ARTICLE 4: PAYMENT OBLIGATIONS

The procuring party will make timely payments to Vendors for goods and services received in accordance with the terms and conditions of the procurement. Payment for goods and services, inspections and acceptance of goods and services ordered by the procuring party shall be the exclusive obligation of such procuring party. Disputes between procuring party and Vendor shall be resolved in accordance with the law and venue rules of the state of the procuring party.

ARTICLE 5: COMMENCEMENT DATE

This Agreement shall take effect after execution of the “Lead Contracting Agency Endorsement and Authorization” or “Participating Agency Endorsement and Authorization,” as applicable.

ARTICLE 6: TERMINATION OF AGREEMENT

This Agreement shall remain in effect until terminated by a party giving 30 days written notice to “Lead Contracting Agency”

ARTICLE 7: ENTIRE AGREEMENT

This Agreement and any attachments, as provided herein, constitute the complete Agreement between the parties hereto, and supersede any and all oral and written agreements between the parties relating to matters herein.

ARTICLE 8: CHANGES AND AMENDMENTS

This Agreement may be amended only by a written amendment executed by all parties, except that any alterations, additions, or deletions of this Agreement which are required by changes in Federal and State law or regulations are automatically incorporated into this Agreement without written amendment hereto and shall become effective on the date designated by such law or regulation.

ARTICLE 9: SEVERABILITY

All parties agree that should any provision of this Agreement be determined to be invalid or unenforceable, such determination shall not affect any other term of this Agreement, which shall continue in full force and effect.

THIS INSTRUMENT HAS BEEN EXECUTED IN TWO OR MORE ORIGINALS BY EXECUTION AND ATTACHMENT OF “THE LEAD CONTRACTING AGENCY ENDORSEMENT AND AUTHORIZATION” OR “PARTICIPATING AGENCY ENDORSEMENT AND AUTHORIZATION,” AS APPLICABLE. ONCE EXECUTED, IT IS THE RESPONSIBILITY OF EACH PARTY TO FILE THIS AGREEMENT WITH THE PROPER AGENCY IF REQUIRED BY LOCAL OR STATE LAW.
PUBLIC PROCUREMENT AUTHORITY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of the Public Procurement Authority ("Lead Contracting Agency") that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Public Procurement Authority to Participating Agencies locally, regionally, and nationally through NPP. Copies of Master Price Agreements and any amendments thereto made available by the Public Procurement Authority will be provided to Participating Agencies and NPP to facilitate use by Participating Agencies.

The undersigned understands that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agencies.

The undersigned affirms that he/she is an agent of the Public Procurement Authority and is duly authorized to sign this Public Procurement Authority Endorsement and Authorization.

[Signature]

BY: Jeffrey D. Johnson
ITS: Administrator/Board Member

Date: 2-13-2014

Public Procurement Authority Contact Information:

Contact Person: Heidi Chames
Address: 25030 SW Parkway Ave., Suite 330
Wilsonville, OR 97070
Telephone No.: 855-524-4572
Email: questions@procurementauthority.org
PARTICIPATING AGENCY
ENDORSEMENT AND AUTHORIZATION

The undersigned acknowledges, on behalf of _______________ ("Participating Agency") that he/she has read and agrees to the general terms and conditions set forth in the enclosed Intergovernmental Cooperative Purchasing Agreement regulating use of the Master Price Agreements and purchase of goods and services that from time to time are made available by the Lead Contracting Agency to Participating Agencies locally, regionally, and nationally through NPP.

The undersigned further acknowledges that the purchase of goods and services under the provisions of the Intergovernmental Cooperative Purchasing Agreement is at the absolute discretion of the Participating Agency and that neither the Lead Contracting Agency nor NPP shall be held liable for any costs or damages incurred by or as a result of the actions of the Vendor or any other Participating Agency. Upon award of contract, the Vendor shall deal directly with the Participating Agency concerning the placement of orders, disputes, invoicing and payment.

The undersigned affirms that he/she is an agent of _______________ and is duly authorized to sign this Participating Agency Endorsement and Authorization.

__________________________                      Date: __________
BY: _______________________
ITS: _______________________

Participating Agency Contact Information:

Contact Person: _______________________
Address: ____________________________
__________________________
Telephone No.:_______________________
Email: _____________________________
**PROPOSAL PREPARED FOR:**
City of Sacramento  
5770 Freeport Blvd, Suite 2  
Sacramento, CA 95822

<table>
<thead>
<tr>
<th>Submitted Date:</th>
<th>January 12, 2018</th>
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</thead>
<tbody>
<tr>
<td>Proposal Number:</td>
<td>90112-18</td>
</tr>
<tr>
<td>Expiration Date:</td>
<td>February 28, 2018</td>
</tr>
<tr>
<td>Sales Consultant:</td>
<td>Ryan Wright</td>
</tr>
</tbody>
</table>

We hereby propose and agree to furnish, after your acceptance of this proposal and the proper execution by the CITY OF SACRAMENTO, hereinafter called “Customer” and an officer of Golden State Fire Apparatus, Inc., hereinafter called “GSFA”, the following fire apparatus and equipment, hereinafter called “Product”:

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>One (1) E.J. Metals, Inc. Ford F550 Breathing Air Unit</td>
<td>1</td>
<td>289,311.45</td>
</tr>
<tr>
<td>Discount for NPP Gov FireRescue GPO model code ERUTL60</td>
<td>1</td>
<td>(7,115.00)</td>
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<tr>
<td>Discount For 100% Pre-Payment at Time of Order</td>
<td>1</td>
<td>(6,196.45)</td>
</tr>
</tbody>
</table>

**SUBTOTAL** 276,000.00

State Sales Tax @ 8.25% 22,770.00

California Tire Fee 10.50

**GRAND TOTAL** 298,780.50

**PROPOSAL SUMMARY**
This proposal includes the following items in accordance with the specifications hereto attached:

- Fire apparatus and equipment
- 100% performance bond
- Factory final inspection trip
- Pre-delivery inspection/services by GSFA

- Delivery to GSFA service center in Sacramento
- Final delivery from service center to Customer
- Demonstration and familiarization of the Product
- California Tire Fee

**PRODUCT COMPLETION**

Product shall be built in accordance with the specifications hereto attached, delays due to acts of God, strikes, war, or intentional conflict, failures to obtain chassis, materials, unusual weather conditions or other causes beyond GSFA’s control not preventing, within approximately **175 CALENDAR DAYS AFTER RECEIPT OF CHASSIS AT THE E.J. METALS FACILITY** and the acceptance thereof at our Sacramento, California office. Within thirty (30) calendar days after receipt of this order and acceptance thereof, GSFA shall submit to Customer a production schedule including tentative pre-construction conference, final inspection and final delivery dates.

**DELIVERY LOCATION**
Product shall be shipped in accordance with the specifications hereto attached and be delivered to you at **SACRAMENTO, CALIFORNIA**. Proof of insurance must be demonstrated by the Customer to GSFA prior to transferring of the Product(s).
TERMS AND CONDITIONS

1. Payment Terms, 100% Pre-Payment at Time of Order – Customer shall pay the Grand Total within fifteen (15) calendar days of date on invoice to GSFA. Proposed delivery timeframe for the Product shall not begin until full payment is received. If payment is late, a daily finance charge of $250.00 may be added to the final invoice until such payment is received. If payment is not made, $6,196.45 plus state sales tax shall be added to the final invoice and due GSFA at time of delivery. Due to insurance liability, the Product(s) will not be left at the Customer’s location without full acceptance and payment or prior written agreement between the Customer and GSFA.

2. Multiple Unit Purchase – If applicable, for any multiple unit purchase the Grand Total pricing is only valid if the quantity of Products being proposed are purchased at the same time, on the same Purchase Order (PO) or signed contract.

3. State Sales Tax – A sale occurs when the Customer takes title to or possession of an item (not when payment is received by GSFA). Consequently, this proposal is subject to the applicable state sales tax rate in effect when the Product is delivered to the Customer per the delivery terms. Customer is responsible for payment of any additional taxes required, likewise Customer is entitled to a refund if the tax rate is lowered!

4. Purchase Orders – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.

5. Proposal Expiration – Unless accepted by the expiration date above, GSFA reserves the right to withdraw this proposal.

6. Cancellation/Termination – In the event this proposal is accepted and a signed Purchase Order (PO) or signed contract is issued and then cancelled or terminated by Customer before completion, GSFA may charge a cancellation fee. The following charge schedule based on costs incurred may be applied: (a) 10% of the Purchase Price after order is accepted and entered by GSFA; (b) 20% of the Purchase Price after completion of approval drawings, and; (c) 50% of the Purchase Price upon any material requisition. The cancellation fee shall increase accordingly as costs are incurred as the order progresses through engineering and into manufacturing. GSFA endeavors to mitigate any such costs through the sale of such Product to another purchaser; however, the Customer shall remain liable for the difference between the Purchase Price and, if applicable, the sale price obtained by GSFA upon sale of the Product to another purchaser, plus any costs incurred by GSFA to conduct any such sale.

7. Stock / Demo Units – If applicable, all stock/demo units are available for sale on an as is, first come and first served basis. The first Customer to issue a signed Purchase Order (PO) or signed contract shall obtain the Product!

8. Proposal Acceptance Statement – To ensure the above stated terms and conditions of this proposal and the specifications hereto attached are understood and adhered to, GSFA requires an authorized individual from the Customer to sign and date this proposal and include it with any Purchase Order (PO). Upon signing of this proposal, the stated terms and conditions of this proposal and the specifications hereto attached shall be considered binding and accepted by the Customer. No additional terms or conditions shall be binding upon GSFA unless agreed to in writing and signed by a duly authorized officer of GSFA. The terms and acceptance of this proposal shall be governed by the laws of the State of California.

Thank you for allowing Golden State Fire Apparatus, Inc. the opportunity to provide this proposal. If you have any questions regarding the options presented or need additional options please contact me.

Sincerely,

Ryan Wright
Golden State Fire Apparatus, Inc.

I, ________________________________________, the authorized representative of CITY OF SACRAMENTO, agree to purchase the proposed Product(s) and agree to the terms and conditions of this proposal and the specifications hereto attached.

SIGNATURE: ________________________________________ DATE: _____________________
E.J. Metals Inc. was founded in 1998 by Kevin Quinn, a 21 year veteran of the fire and emergency vehicle manufacturing industry. E.J. Metals began as a custom fabricator of specialty components, and soon outgrew the original facility and moved into a 15,000 square foot facility. It was at this time that the New Maddic Dump System for Fire Apparatus was conceived. Today, E.J. sells the New Maddic Dump System to over 40 apparatus manufacturers all over the world. In 2002 E.J. Metals introduced the “Assault Force” high pressure fire fighting system. The “Assault Force” is a patented system of water, foam, high pressure and a special patented nozzle for fire fighting. These systems have been shipped all over the world. In addition, over the last few years, E.J. Metals has developed many more systems such as the Magnum 440 & 480 RIV rapid response vehicles, the “Assault Force 70 and 704” hydraulic driven high pressure system and EMT systems on a base Kubota RTV chassis, the “Red Box” container system for rapid disaster situations, etc. In addition, E.J. Metals manufactures other products such as mini pumper, rescues, command vehicles, brush trucks, off road fire fighting systems and skid mounted platforms, refurbishment of apparatus and a wide array of systems to fit the fire fighting needs and demands.

In 2010, E.J. Metals outgrew their current facility and moved to New London, Wisconsin, into a brand new state of the art manufacturing facility custom built for the needs of the business. This building includes a customer showroom, front office, meeting space, manufacturing space with product flow characteristics, a pump test facility, and off road testing grade to suit any situation that arises.

Our Mission:
To meet or exceed customer expectations, in a timely manner with competitive pricing. It is our goal to have highly trained and knowledgeable employees applying their skills to produce high quality products on time every time.

Firefighter safety is Priority #1
High Quality Apparatus at Competitive prices
“True” Custom Builder...Built to order!
Over 100 years of combined manufacturing experience
Utilize only Premium Materials and Components
Precise Manufacturing Techniques and Processes
Progressive and Innovative Engineering
State-of-the-Art Equipment and Machinery
“Old-School” Philosophy and Attitude
100% Corporate Commitment to Customers Needs
We take every order Personal
THANK YOU

Thank you for the opportunity to present these specifications. Our company looks forward to working with you to provide the best product possible, with the best service possible, as detailed within these specifications.

INTENT OF SPECIFICATIONS

It shall be the intent of these specifications to cover the furnishing and delivery of a completed apparatus equipped as hereinafter specified. These specifications cover only the general requirements as to the type of construction and test to which the apparatus shall conform, together with certain details as to finish, equipment and appliances with which the successful bidder shall conform. Minor details of construction and materials, which are not otherwise specified, are left to the discretion of the contractor, who shall be solely responsible for the design and construction of all features. Loose equipment shall be provided only as stated in the following pages.

Bids shall only be considered from companies that have an established reputation in the field of fire apparatus sales and service and have been in business for a minimum of 16 years. Further, bidder shall maintain dedicated service facilities for the repair and service of products. Evidence of such a facility shall be included in bidder proposal with color photos of the interior and exterior of the facility.

Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified and shall state the location of the factory where the apparatus is to be built. The bidder shall also show that the company is in position to render prompt service and to furnish replacement parts for said apparatus.
Each bid shall be accompanied by a set of "Contractor's Specifications" consisting of a detailed description of the apparatus and equipment proposed and to which the apparatus furnished under contract shall conform. These specifications shall indicate size, type, model and make of all component parts and equipment.

The "Contractors Specifications" shall be signed by the customer / dealer representative and returned to the manufacturer. The customer / dealer representative signed specifications shall become an integral part of the contract and provide the "As Built" information to the manufacturer in the apparatus construction process. The customer / dealer signed "Contractors Specifications" shall supersede any / all other documents in the building of the apparatus.

**WARRANTY**

The following warranty shall be supplied with each bidder’s proposal and be printed on company letterhead.

The manufacturer shall warranty each piece of new fire or rescue apparatus to be free from defects in materials or workmanship under normal use and service. The manufacturer's obligation under this warranty is limited to repairing or replacing, as the company may elect, any parts thereof which are returned to them, with transportation costs prepaid and as to which examination is disclose to the company's satisfaction to have been defective. The part, or parts, shall be returned to the manufacturer not later than One (1), year from delivery of the apparatus. Such defective part, or parts, shall be repaired or replaced free of charge and without charge for installation to the original purchaser.

This warranty shall not apply:

1) To normal maintenance and adjustments.

2) To any vehicle which has been repaired or altered outside of the factory in any way so that, in the manufacturer's judgment, it would affect the stability. Also it shall not apply to any vehicle, which has been subject to misuse, neglect, or accident, or to any vehicle, which shall operate at any speed, exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

3) To commercial chassis and associated equipment furnished with the chassis, signaling devices, generators, batteries, or other trade accessories in which they are usually warranted separately by their respective manufacturers.

This warranty is in lieu of all other warranties, expressed or implied, all others representations to the original purchaser and all other obligations or liabilities, including liability for incidental or consequential damages on the part of the company. The manufacturer neither assumes nor authorizes any other person to give or assume any other warranty or liability on the company's behalf, unless made or assumed in writing by the company.

**NFPA COMPLIANCE**

The apparatus detailed herein shall meet applicable NFPA recommendations current at the time of the proposal.

**APPROVAL DRAWINGS**

Prior to the construction of the apparatus, a detailed CAD-generated drawing shall be supplied to the Fire Department for approval. The drawing shall be signed by authorized personnel and returned to the factory within 30 days of receipt. Construction of the apparatus shall not commence until the approved drawing is returned to the factory.
The signed drawing shall become an integral part of the final contract and shall be kept on file at the factory for future reference.

**PERFORMANCE BOND**

The successful bidder shall provide, within thirty (30) days after award of contract, and along with a signed copy of the contract, a performance bond, which guarantees performance of all terms and conditions of the contract and warranty agreement. The performance bond will specifically cover the performance of the contract according to its terms and conditions, as well as payment of all related bills and encumbrances. This performance bond shall be issued by a surety company who is listed by the U.S. Treasury Department's list of approved sureties, as published in Circular 570, as of the bid date. The performance bond shall be issued in an amount equal to 100% of the contract amount and shall be dated concurrent to, or subsequent to, the date of the contract.

**PERFORMANCE TEST AND REQUIREMENTS**

A road test shall be conducted with the apparatus fully loaded while being driven on a continuous fifty mile trip minimum. The unit shall be tested under all driving conditions during which time no loss of power or overheating may take place. The transmission drive shaft(s) and rear axle(s) shall run quietly and free from abnormal vibration or noise throughout the operating range of the apparatus. The vehicle shall adhere to the following guidelines:

1) The unit must be capable of accelerating to 35 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.

2) The service brakes shall be capable of stopping the fully loaded vehicle in 35 feet at 20 mph on a level concrete highway.

3) The apparatus, when fully loaded, shall be capable of obtaining a speed of 50 mph on a level concrete highway with engine not exceeding its governed rpm.

**FAILURE TO MEET REQUIRED TEST**

In the event the apparatus fails to meet the test requirements of these specifications on the first trial, a second trial may be made at the option of the quoter within thirty (30), days of the date of the first trial.

The results of such trials shall be made final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes as the purchaser may consider necessary to conform to any clause of the specifications within thirty (30), days after the notice is given to the quoter of such changes shall be cause for rejection of the apparatus.

Permission to keep or house the apparatus in any building owned or occupied by the purchaser or its use by the purchaser during the above specified period with the permission of the quoter shall not constitute acceptance.

**APPARATUS COMPLETION**

Construction of the apparatus shall be completed within 150 days after the receipt of the chassis at the manufacturer's facility.
**CHASSIS SPECIFICATIONS**

Model: 201X Ford F-550 Super Duty XL DRW, 4x2  
Cab Type: 2-Door Regular  
Wheelbase: 169"  
Cab to Axle: 84"  
GVWR: 19,500 lbs. (Pay-Load Plus Package)  
Engine: 6.7 Liter Power Stroke Diesel  
   - 300 Horse Power @ 2800 RPM  
   - 660 Lb.-Ft. Torque @ 1600 RPM  
   - 32 Valves  
   - 16.20 to 1 Compression Ratio  
   - 50 State Emissions System  
Transmission: Six speed automatic with overdrive w/PTO provisions  
   - 1st Gear Ratio: 3.974  
   - 2nd Gear Ratio: 2.318  
   - 3rd Gear Ratio: 1.516  
   - 4th Gear Ratio: 1.149  
   - 5th Gear Ratio: 0.858  
   - 6th Gear Ratio: 0.674  
   - Reverse Gear: 3.128  
Transfer Case: ESOF - (electronic shift on the fly), manual front hubs  
Fuel Capacity: 40 gallons  
Batteries: Two (2), heavy-duty 750 CCA  
Alternators: Dual HD (357 Amp Combined)  
Brakes: 4-wheel ABS disc  
Axle / Front:  
   - Front Rating: 7000 lb.  
   - Front GAWR: 7000 lb.  
   - Front Spring Rating: 7000 lb.  
   - Front Capacity: 7000 lb.  
   - Front Tire/Wheel Capacity: 7500 lb.  
Axle / Rear:  
   - Rear Rating: 15000 lb.  
   - Rear GAWR: 14706 lb.  
   - Rear Spring Rating: 15000 lb.  
   - Rear Capacity: 14706 lb.  
   - Rear Tire/Wheel Capacity: 15000 lb.  
   - Limited Slip / 4.88 Axle Ratio  
Curb Weight:  
   - Front: lb.  
   - Rear: lb.  
   - lb. (Total Curb Weight)  
Pay Load Capacity: lb.  
Towing Capacity: 16000 lb.
Steering: Power steering with tilt wheel

Wheels/Tires: Six (6), 225/70R19.5G steel belted radials, BSW MAX Traction 19.5" Argent painted steel

Interior:
Front Leg Room: 41.1"
Front Head Room: 40.7"
Front Hip Room: 67.6"
Front Shoulder: 68.0"
Pass Area Vol: 65.9 cu.ft.

Instrument Panel: - LCD odometer
- Oil pressure warning light
- Transmission temperature gauge
- Temperature gauge
- Fuel level gauge w/ indicator lights

Radio: AM/FM stereo and digital clock

Driver's Seat: 40/20/40 - Vinyl

Exterior:
Length: 250.5"
Body Width: 93.9"
Body Height: 80.8"
Axle to Frame End: 47.6"
Front Tread: 74.8"
Rear Tread: 74.0"
Turning Radius: 25.2'

Other options: - XL trim package
- Black front bumper with tow hooks
- Aero-composite head lamps
- Cab clearance lights
- Under hood light
- Black grille
- Rear stabilizer bar
- Dual electric horns
- Driver and passenger side air bags
- Power windows w/ tinted safety glass
- Telescoping mirrors, day/night mirrors, turn indicators
- Power door locks
- Engine block heater
- Black vinyl floor mat
- License plate bracket
- Molded black cab steps
- Hi Cap trailer tow package
- Trailer brake controller
- Snow plow prep package
- AC / Tilt / Cruise
- Race red paint
- Operator command regeneration

EMBER SEPARATOR

The commercial chassis engine air in-let shall be equipped with a means of separating water and burning embers from the air intake system such that particulate matter larger than 0.039 in. (1.0 mm) in diameter cannot reach the air filter element.

The ember separator shall be constructed from stainless steel screen.

POWER TAKE-OFF

A Chelsea 248FMLX-B461 PTO shall be installed on the driver’s side of the chassis transmission to provide power for the generator.

RUNNING BOARDS

Running boards shall be installed below the cab on both sides of the apparatus. The running boards shall be constructed of steel support channels covered by embossed bright aluminum treadplate. The distance from the ground to the running board shall not exceed 24". If the vertical distance between the running board and the cab floor exceeds 18", an intermediate step shall be provided.

CHASSIS EXHAUST HEAT SHIELD

The chassis exhaust system shall have heat shielding installed between the exhaust pipe and the bottom of the body.

EXHAUST EXTENSION, FORD "F" SERIES

The exhaust tail pipe shall be extended to the edge of the body.

CAB CONSOLE

An EJM aluminum console shall be provided between the driver and officer seats in the chassis cab for the mounting of equipment and equipment controllers outlined later in these specifications.

The console shall be constructed from formed and welded .125" aluminum plate and powder coated with a buck-stop black textured finish for protection and a pleasing appearance.

The top cover of the console shall be removable in two (2), sections. The forward section shall provide for access to the apparatus wiring and the rear section for the control modules.
**12-VOLT POWER POINT - (USB DUAL PORT)**

One (1), USB dual port 12-Volt, 4.2 Amp, power point shall be provided. The power point shall be a dual port USB type. The power point shall be wired to battery direct and 5 Amp fused.

The power points shall be located: On the cab console.

**FUEL / UREA FILL - (DUAL DOORS)**

Two (2), Cast Products model FG2103 fill cover shall be installed on the apparatus. The covers shall be constructed of bead-blasted aluminum and shall be vertically hinged on the forward side. The fill cover flanges shall be constructed of polished aluminum.

The fuel fill cover and flange shall be located on the rear section of the driver’s side rear fender panel.

The urea fill cover and flange shall be located on the forward section of the driver’s side rear fender panel.

**MASTER BATTERY SWITCH - (ELECTRONIC)**

An electronic master battery switch shall be provided in the center console switch panel within easy reach of the driver. The master battery switch shall provide power to all body components.

OEM chassis wiring is not affected by this switch.

All battery terminals shall be coated with battery terminal protection spray.

**KUSSMAUL AUTO CHARGE 1000 SUPER KIT**

A Kussmaul Auto Charge 1000 18 amp, 12 volt automatic battery charging system shall be provided to maintain charge in the apparatus battery system. The charger shall be powered by the 120v shoreline.

The Auto Charge 1000 is a high output automatic battery charger. Unique electronic sensing circuits sense the true battery voltage while eliminating the need for external sense wires. Charging is completely automatic. The maximum output of the charger is 15 amperes. When the battery is fully charged, all charging will stop. There is no overcharging and no water boil off.

A common problem with electrical systems is the loading on the battery caused by rechargeable hand lights, portable radios and other loads. The Auto Charge 1000 handles these loads with a built in “BATTERY SAVER”. Auxiliary electrical loads are connected to the Battery Saver output. During normal vehicle operation these auxiliary loads are connected to the battery. When the vehicle is plugged in to A.C. power, the auxiliary loads are automatically removed from the battery and powered from the "BATTERY SAVER" circuit. A maximum of 3 amperes is available from the "BATTERY SAVER". An automatic overload protector limits the 3 ampere output. A yellow overload indicator is illuminated whenever the "BATTERY SAVER" output limit is exceeded.

The Auto Charge 1000 indicator may be mounted remotely from the charger assembly. Connected by 3 wires to the charger, the indicator contains a bar graph display. The display indicates the “state of charge” and the general condition of the battery. An old or defective battery is displayed as a low reading which remains low
after an extended charging period. A discharged battery also is indicated by a low reading. Precise indications of battery condition appear, independent of the distance between the charger and the display.

The battery condition indicator shall be mounted on the drivers side rear fender panel, above the auto eject receptacle.

Kit shall include shoreline connector.

**AUTO EJECT FOR SHORELINE - BACKWIRE**

One (1), shoreline receptacle shall be provided to operate the 120-volt circuits on the vehicle without the use of a generator.

The shoreline receptacle shall be provided with a NEMA 5-20, 120 volt, 20 amp, straight blade Kussmaul Super Auto Eject plug with a weatherproof cover. The cover shall be spring loaded to close, preventing water from entering when the shoreline is not connected.

The unit shall be completely sealed to prevent road dirt contamination.

A solenoid wired to the vehicle's starter shall be energized when the engine is started. This shall instantaneously drive the plug from the receptacle.

An internal switch shall be provided to disconnect the load prior to ejection to eliminate arcing of the connector contacts.

The shoreline shall be connected to the battery charger.

The color of the shoreline cover shall be yellow.

The shoreline shall be located on the forward section of the driver's side rear wheelwell.

**REAR TOW EYES**

Two (2), tow eyes shall be installed at the rear of the apparatus. The tow eyes shall be constructed from .75" Stainless Steel plate and shall be bolted directly to the chassis frame rails with grade 8 bolts. The tow eyes shall have a 3" inside diameter eye.

The tow eyes shall be integrated with the rear bumper mounting brackets.

**REAR RECEIVER HITCH**

A Class IV receiver hitch shall be installed at the rear of the apparatus. The hitch assembly shall have a glossy black, pebble textured finish for protection and a pleasing appearance.

**TRAILER RECEPTACLE**

One (1) 7-prong trailer wiring receptacle with a weatherproof cover shall be installed at the rear of the apparatus near the receiver hitch.
**REAR MUD FLAPS**

Two (2), black hard rubber mud flaps shall be installed behind the rear wheels, one each side.

The EJ Metals logo shall be on each mud flap.

**BACK-UP ALARM**

An automatic 97 db electronic back-up alarm shall be provided at the rear of the apparatus. The alarm shall sound when the transmission is placed in reverse.

**PLATES AND LABELS**

The following plates and/or labels shall be provided:

A permanent plate specifying the quantity and type of fluids used in the apparatus for normal maintenance shall be affixed in the front left side driver's compartment. Where a fluid is not applicable to the unit, the plate shall be marked N/A to inform the service technician who may not be familiar with the apparatus:

<table>
<thead>
<tr>
<th>APPARATUS FLUIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Oil</td>
</tr>
<tr>
<td>Engine Coolant</td>
</tr>
<tr>
<td>Transmission Fluid</td>
</tr>
<tr>
<td>Drive Axle Lubrication Fluid</td>
</tr>
<tr>
<td>Transfer Case Fluid</td>
</tr>
<tr>
<td>Power Steering Fluid</td>
</tr>
<tr>
<td>Air Conditioning Refrigerant</td>
</tr>
<tr>
<td>Air Conditioning Lubrication Oil</td>
</tr>
<tr>
<td>Cab Tilt Mechanism Fluid</td>
</tr>
</tbody>
</table>

A plate indicating the overall height of the apparatus shall be installed in a location visible to the driver.

A plate indicating the maximum occupancy of the apparatus shall be installed in an easily visible location.

A plate instructing occupants to fasten safety belts shall be installed in an easily visible location.

A label shall be installed near the fuel fill to designate the chassis fuel type.

A label shall be installed at all stepping surfaces stating "Warning: Death or serious injury may result from riding on any stepping surface while the vehicle is in motion"

**SUB-FRAME**

An extruded aluminum sub-frame shall be installed to support the body of the apparatus. All structural members shall be constructed of 6061-T6 extruded aluminum tube for maximum strength.

Sub-frame crossmembers shall be constructed of 2" x 2" x 1/4" 6061-T6 extruded aluminum square tubing.
Two (2), longitudinal stringers shall be installed between the crossmembers and chassis frame. The stringers shall be constructed of .375" x 3" extruded aluminum flat bar and welded to each crossmember. Rubber strips shall be installed between the stringers and the chassis frame.

The front of the sub-frame shall be mounted to the chassis frame using U-bolts, which allows for flexing in the chassis frame. The rear of the sub-frame shall be bolted through the upper chassis frame rail flange behind the rear axle. This mounting method provides the greatest combination of strength and flexibility, allowing for maximum body life.

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84" Cab to Axle Rescue Body - 24" Header - Roll Up Doors

**COMPARTMENT**  |  **FRONT SIDE, X-VERSE**

Door Frame to Door Frame | 53.0"W x 66.0"H
Clear Door Opening | 50.75"W x 59.75"H
Usable Behind Roll | 56.0"W x 26.0"H x 69.75"D
Usable Transverse Section | 56.0"W x 49.5"H x 92.75"D
Usable Lower Section | 56.0"W x 13.75"H x 22.5"D
Door Type | Roll Up

**COMPARTMENT**  |  **OVER WHEEL, X-VERSE**

Door Frame to Door Frame | 46.0"W x 43.0"H
Clear Door Opening | 43.75"W x 36.75"H
Usable Behind Roll | 51.5"W x 14.0"H x 69.75"D
Usable Under Roll | 51.5"W x 28.0"H x 92.75"D
Door Type | Roll Up

**COMPARTMENT**  |  **REAR SIDE**

Door Frame to Door Frame | 33.0"W x 66.0"H
Clear Door Opening | 30.75"W x 59.25"H
Usable Behind Roll | 33.0"W x 26.0"H x 10.75"D
Usable Under Roll | 33.0"W x 62.5"H x 22.5"D
Door Type | Roll Up

**COMPARTMENT**  |  **REAR**

Door Frame to Door Frame | 48.0"W x 52.5"H
Clear Door Opening | 45.75"W x 46.0"H
Usable Behind Roll | 48.0"W x 26.0"H x 24.25"D
Usable Under Roll | 48.0"W x 49.5"H x 36.0"D
Door Type | Roll Up

**REAR STEP**
A 10" step shall be installed at the rear of the apparatus. The step shall extend the entire width of the apparatus. The height of the upper surface of the step shall not exceed 24" from the ground.

The step structure shall be 3" steel channel bolted to the chassis frame. The structure shall be powder coated with a glossy black, pebble textured finish to prevent corrosion.

The step shall be covered with embossed aluminum diamond plate.

**REAR KICK PLATE**

A kick plate shall be installed on the rear of the apparatus above the rear bumper. The kick plate shall be constructed of .125" aluminum diamond plate. The kick plate shall cover the entire width of the body.

**REAR VERTICAL HANDRAILS**

Two (2), vertically mounted handrails shall be installed at the rear of the apparatus. The handrails shall be constructed of NFPA compliant 1.25" diameter extruded aluminum with a knurled finish. The handrails shall be attached to the body with chrome stanchions.

One (1) handrail shall be installed on each side of the body.

One (1) handrail shall be installed on each side of the body.

**COMPARTMENT DRAINS**

Two (2) .25" drain holes shall be installed in the floor of each compartment. Each drain hole shall be covered to prevent road debris from entering while still allowing fluid to drain out of the compartment.

**ADJUSTABLE SHELVING**

Adjustable shelving shall be installed in two (2) compartment(s). Each shelf shall be constructed of .125" 5052 aluminum with 2.0" sides and bed liner coated black for protection. Shelf tracks shall be installed on the forward and rear vertical surfaces of the compartment containing the shelving. Shelf position shall be easily adjusted using common hand tools.

Each shelf shall be rated for a 250 lb. load.

Shelving shall be installed in the following locations: One (1) in the LR compartment and one (1) in the RR compartment.

**ADJUSTABLE SHELVING**

Adjustable shelving shall be installed in one (1) location. Each shelf shall be constructed of .188" 5052 aluminum and bed liner coated black for protection. Shelf tracks shall be installed on the forward and rear vertical surfaces of the compartment containing the shelving. Shelf position shall be easily adjusted using common hand tools.

Each shelf shall be rated for a 350 lb. load.
Shelving shall be installed in the following locations: In the forward transverse body compartment, above the air bottle storage racks.

**AIR BOTTLE STORAGE RACK**

There shall be two (2) 10 bottle and two (2) 3 bottle aluminum Rack-it Resolve Specialty Products storage racks installed in the body compartments. The 10 bottle racks shall be installed in the D1 and P1 forward transverse compartment. The 3 bottle racks shall be installed in the D3 and P3 rear compartments. The storage units shall have the following features;

- Pitched angle rack design keeps cylinders in place while stored and allows moisture to exit to the rear of the Rack-It and down the back channel
- High strength no weld rivet assembly
- Durable rubber linings provide protection for SCBA and SCUBA cylinders against exterior damage during storage.
- Channels for moisture to travel out of the Rack-It preventing mold and mildew from forming inside the cylinder holders.
- Easy removal for cleaning and maintenance.
- Rear bumper prevents damage to cylinders during loading and storage.
- Rear ventilation holes help prevent suction or compression when loading and unloading cylinders.

**STAINLESS STEEL FASTENERS**

All fasteners used in the construction of the body or mounting of equipment shall be stainless steel.

**ROLL-UP DOORS**

Amdor brand roll-up doors shall be provided for all body compartments unless otherwise specified.

Amdor roll-up doors have the thickest doors slats available on the market. The slats shall be double-wall box frame extrusions. Door slats shall be anodized to prevent corrosion. The exterior of the slats shall be flat. The interior surface of the door shall be smooth to eliminate equipment hang-ups.

Door tracks shall be one-piece construction with an attaching flange and a finishing flange incorporated into the design. The flange design eliminates any requirement for additional trim or caulk. Each track shall have a replaceable rubber seal to prevent water and rust from entering the compartment.

The doors shall be equipped with a stainless steel, full-width lift bar latching system. A 4” counterbalance spring in the roller assembly shall assist in lifting and prevent the door from accidentally closing. The doors shall be capable of one-handed operation.

An anodized aluminum drip rail with a replaceable wiper seal shall be installed above each door.

Amdor roll-up doors can be cleaned with a pressure washer and are guaranteed to not leak.

Each door shall be provided with a proximity switch that shall indicate if the door is not closed. The proximity switch shall activate the "Do Not Move Truck" light located in the cab.

Replacement parts shall be available within 2-3 working days.
BODY ROOF SURFACE

The body roof, including the tops of all compartments, shall be covered with .125” embossed aluminum diamond plate. The roof surface shall be bent downward over the sides of the body.

ROOF HATCH

A roof hatch cover shall be installed in the apparatus body. The hatch cover shall be constructed of .125” embossed aluminum diamond plate with an inner pan constructed of .090” smooth aluminum. The hatch shall be hinged on the passenger's side of the body with a stainless steel hinge.

Gas cylinders shall be installed on the hatch for ease of opening and to secure the hatch in the open position. The hatch cover shall be secured in the closed position by one (1), centered, cam-lock "D" ring latch.

CASCADE BOTTLE ROOF RECESS

A recessed area shall be provided in the roof of the body under the roof hatch for the mounting of air storage bottles.

The recess shall be constructed of aluminum tread plate and shall be sized to fit the storage bottles. The recessed area shall be provided with drain holes on opposing corners to prevent build up of water. The drains shall be plumbed to drain below the body.

FENDERETTES

Bright anodized aluminum fenderettes shall be installed in the wheelwells of the apparatus body.

FENDER LINERS

Black plastic (HDPE), fender liners shall be installed in the body wheelwells and attached with stainless steel fasteners. The liners shall be removable for body access during maintenance.

RUB-RAILS

Extruded aluminum rub-rails shall be installed on the body to minimize damage to the body and doors in the event of a collision. The rub-rails shall be mounted horizontally below the compartment doors. The rub-rails shall be spaced 3/8” from the body with nylon spacers.

STONE GUARDS

Two (2) stone guards shall be installed on the front corners of the body. The guards shall be constructed of .100” aluminum diamond plate.

ROLL-OUT AWNING

The upper rear body shall be equipped with a Carefree Ltd. Freedom wall mount awning. The box the awning is stored in is approximately 8’ wide x 5 3/8” deep and white in color. The awning shall be 8’ wide with an
extension length of 6 1/2’. The awning support arms are hidden inside the lead rail. The awning shall activate the door ajar warning system in the cab when not in the stowed position. There are no latches or knobs to unlock. Awning will be deployed and stowed via a manual hand crank. Awning fabric color to be red in color and fire resistant. The awning shall be mounted on the rear of the body.

**3-BANK BREATHING AIR CASCADE SYSTEM**

A three (3) bank, 6000 PSI breathing air cascade system shall be installed on the apparatus.

**AIR CHARGING STATION**

The apparatus shall be equipped with a Scott Safety Revolveair charging station. The revolutionary RevolveAir fill station provides maximum safety and performance, simultaneously charging (2) BAC’s within the protective chamber while two BAC’s are exchanged on the outside of the chamber. The unit comes complete with rigid charge adapters, safety interlocks, safety gauges, charge and bleed valves and a pressure regulator for automatic BAC charging. Charging station to be installed in the rear body compartment.

Total containment for two cylinders
Designed with safety in mind
Tested to NFPA 1901
Meets NFPA standards
Safety pressure gauges
Auxiliary outlet unregulated back, regulated front
Automatic storage refill valve

**BREATHING AIR COMPRESSOR**

The unit shall be equipped with a Scott Safety Liberty II Series compressor. The compressor shall be a 15 HP slip in, 230V 3 phase. The Compressor shall include an air purification system. Capacity of the compressor will be 14 CFM @ 6000 PSI. The compressor shall be installed in the transverse style over the wheel compartment. Controls for the compressor to be integrated on the Revolveair charge station.

**CASCADE SYSTEM FILL HOSE**

A twenty foot system refill hose with proper connections shall be provided to fill the cascade system from an outside source. The control panel shall have appropriate connections for the rated pressures of the storage system.

**BULK AIR STORAGE BOTTLES**

A DOT/UN/ISO 6000 PSI bottle with 702 adapter nut and nipple shall be provided for each bank in the cascade system.

Each storage cylinder provided shall be rated for 6000 PSI each. The air volume at 6000 PSI shall be 509 standard cubic feet per bottle.
A total of one (1) bulk breathing air storage bottles shall be provided to supply the cascade system.

**BULK AIR STORAGE BOTTLE MOUNTING BRACKET**

A stainless steel mounting brackets shall be provided for each bulk storage bottle.

**BREATHING AIR REEL**

A Hannay electric rewind breathing air reel rated for 6,000 PSI shall be provided. The reel shall be supplied with breathing air through the controls on the cascade air control panel.

The reel rewind shall be controlled by a push-button switch installed in an easily accessible location and protected from accidental activation.

The reel shall be installed LOCATION.

**BREATHING AIR HOSE**

A 100' section of hose rated for 6,000 PSI shall be supplied on the air reel. The end of the hose shall have a coupler for connection to a CGA fitting.

**AIR REGULATOR**

An air control valve, regulator and gauge shall be provided on the air control panel to adjust the air pressure to the reel.

**12 VOLT SYSTEM SPECIFICATIONS**

The following specifications describe the 12 volt electrical system on the specified fire apparatus. The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses, and other electrical components.

The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest federal DOT standards, and the requirements of NFPA 1901 or 1906 (as applicable).

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. Wiring, wiring harnesses, and insulation shall be in conformance to applicable SAE and NFPA standards. Wiring harnesses shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

Wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall utilize large rubber / plastic grommets where wiring passes through metal panels.
All connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

All electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. The main body junction panel shall house automatic-reset breakers and relays (as required).

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in an electrical junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified every 4 inches by either color coding or permanent marking with a circuit function code identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA 1901 or 1906 standards (as applicable).

Electrical circuits shall be provided with low voltage over-current protective devices. These devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. Over-current protection shall be suitable for electrical equipment, automatic reset type, and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of the maximum current for which the circuit is protected.

The electrical system shall have the following features:

- The electrical wiring shall be harnessed or be placed in protective loom.
- Heat shrink material and sealed connectors shall be used to protect exposed connections.
- Holes made in the roof of the apparatus shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in the component.
- A sufficient length of wiring shall be provided behind any electrical appliance to allow the device to be pulled away from the panel for inspection and/or service work.

All electrical equipment switches shall be mounted on a switch panel in the cab convenient to the operator. Warning light switches shall be of the rocker or paddle type. For easy night-time operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function by backlighting or panel light.

**WIRING DIAGRAMS**

Electrical wiring diagrams of the specific apparatus shall be furnished with the completed apparatus.

**ALTERNATOR NFPA TESTING**

The apparatus low voltage electrical system shall be tested and certified by the apparatus manufacture. The certification shall be provided with the apparatus. The following three (3) tests shall be performed in order. Before each test, the batteries shall be fully charged.
TEST #1 - (RESERVE CAPACITY TEST)

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure.

TEST #2 - (ALTERNATOR PERFORMANCE TEST AT IDLE)

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

TEST #3 - (ALTERNATOR PERFORMANCE TEST AT FULL LOAD)

The total continuous electrical load shall be activated with the engine running up to the engine manufacturers governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded due to excessive battery discharge, as detected by the system, or a system voltage of less than 11.7 volts DC for a 12 volt system, for more than 120 seconds, shall be considered a test failure.

LOW VOLTAGE ALARM TEST

Following completion of the preceding tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm is activated. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts shall be considered a test failure. The battery system shall then be able to restart the engine.

At time of delivery, documentation shall be provided with the following information:
- Documentation of the electrical system performance test
- A written load analysis of the following;
  - Nameplate rating of the alternator
  - Alternator rating at idle while meeting the minimum continuous electrical load
  - Each component load comprising the minimum continuous electrical load.
  - Additional loads that, when added to the minimum continuous load, determine the total connected load.
  - Each individual intermittent load.

MULTIPLEX SYSTEM

An Intellitech Programmable Multiplex Control II (PMC II) system shall be installed on the apparatus for complete control of the electrical system devices.

Configuration of the PMC II system shall be accomplished with the use of a personal computer running the Microsoft Windows operating system and PMC software.

SWITCH PANEL
A switch panel shall be installed in the chassis cab to control the emergency lighting package. All switches shall be rocker type with integral indicator lights to show when the light being controlled is energized. All switches shall be appropriately identified by a back-lit indicator.

**LOAD MANAGER**

A voltage input module shall be included with the multiplex system. The module shall be attached directly to the apparatus battery system. The module shall be potted and equipped with water-tight connectors, allowing it to be installed as close to the battery as possible for minimal voltage loss.

The module shall provide input to the multiplex system for four (4) voltage levels, which shall be used to control the electrical loads specified by the customer.

- 13.3 volts: 13.3 VOLT LOAD(S)
- 12.8 volts: 12.8 VOLT LOAD(S)
- 12.3 volts: 12.3 VOLT LOAD(S)
- 11.8 volts: 11.8 VOLT LOAD(S)

**TIRE PRESSURE MANAGEMENT**

There shall be a TIRE WATCH LED tire pressure management alert system provided that shall monitor each tire's pressure. A chrome plated brass sensor shall be provided on the valve stem of each tire for a total of six (6).

The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops eight (8), psi. Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start blinking.

**DOT/FMVSS LIGHTING**

Two (2), Whelen model M6 red Super LED stop/tail lights shall be provided.

Two (2), Whelen Model M6 Super LED amber arrow turn lights shall be provided.

Two (2), Whelen Model M6 Super LED white reverse lights shall be provided.

**CLEARANCE LIGHTS**

Four (4), RED LED clearance lights shall be installed at the upper rear corners of the apparatus body. One (1), pair of lights shall be facing the rear of the apparatus one each side. One (1), pair of lights shall be facing the side of the apparatus one each side.
Four (4), AMBER LED clearance lights shall be installed at the upper front corners of the apparatus body. One (1), pair of lights shall be facing the front of the apparatus one each side. One (1) pair of lights shall be facing the side of the apparatus one each side.

**IDENTIFICATION LIGHTS**

Three (3), RED LED identification lights shall be installed at the rear of the apparatus, as close to the vertical center line as possible. The center spacing shall be no less than six (6) inches, and no more than twelve (12) inches.

**LICENSE PLATE BRACKET**

A cast aluminum license plate bracket shall be installed at the rear of the apparatus. An LED light shall be provided above the bracket.

**NFPA LIGHTING PACKAGE**

The following warning light package includes all of the minimum warning light and actuation requirements for the current version of the NFPA 1901 Fire Apparatus Standard. The following lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" as noted.

The warning light system shall be certified by the light system manufacturer, to meet all of the requirements in the current version of the NFPA 1901 Fire Apparatus Standard. The NFPA required "Certificate of Compliance" shall be provided with the completed apparatus.

**LIGHT BAR**

One (1) Whelen JE2NFPA, 56”, ten (10) LED Justice light bar shall be provided. The light bar shall consist of the following light modules:

- Four (4) forward facing RED CON3 LED's
- Two (2) forward facing WHITE CON3 LED's
- Two (2) 45° forward facing RED LINZ6 LED's
- Two (2) 45° rearward facing RED LINZ6 LED's
- Two (2) LR11 Halogen alley lights

**LOCATION - (LIGHT-BAR)**

The light-bar shall be installed on the roof of the cab.

**FRONT LOWER WARNING LIGHTS**

Two (2), Whelen M4 series Super LED warning lights shall be installed on the front grille of the chassis. The dimensions of the lights shall be 5.50’’ x 3.375”. Each light shall be mounted in a chrome bezel. The lights shall be controlled by a switch in the cab instrument panel.

The lens color shall be clear with red LED's.
FRONT LOWER WARNING LIGHTS

Two (2) Whelen M4 Super LED warning lights shall be installed. The dimensions of the lights shall be 5.50" x 3.375". Each light shall be mounted in a chrome bezel. The lights shall be controlled by a switch in the cab instrument panel.

The lens color shall be clear with red LED's.

The lights shall be installed on the front fenders of the chassis, one each side.

SIDE UPPER WARNING LIGHTS

Four (4), Whelen Model M9 Super LED red warning lights shall be installed. Each light shall be mounted in a chrome bezel.

Two (2), of the lights shall be installed on the upper portion of the side of the body, toward the rear of the apparatus, one each side.

Two (2), of the lights shall be installed on the upper portion of the side of the body, toward the front of the apparatus, one each side.

The lights shall have clear lenses and red LED's.

SIDE LOWER WARNING LIGHTS

Two (2), Whelen M4 Super LED red warning lights shall be installed. Each light shall be mounted in a chrome bezel. The lights shall be installed near the rear wheelwells.

The lens color shall be clear with red LED's.

REAR UPPER ZONE WARNING

Two (2), Whelen M9 series Super LED lights shall be installed on the upper rear corners of the body. Each light shall be mounted in a chrome flange.

The lens color shall be clear with red LED's.

REAR LOWER ZONE WARNING

Two (2), Whelen M6 series Super LED lights shall be installed on the lower rear of the body. Each light shall be mounted in a chrome flange.

The lens color shall be clear with red LED's.

TRAFFIC ADVISOR

A Whelen model TAL85 traffic advisor shall be installed at the rear of the apparatus. The traffic advisor shall contain eight (8), lamps and shall be 46.82" in length.
The control head for the traffic advisor shall contain an LED display which duplicates the visual pattern of advisor. The controller for the traffic advisor shall be located in the cab console.

The traffic advisor shall be mounted at the rear of the apparatus, recessed in the upper center of the body.

**SIREN**

A Whelen model 295SLSA1 200-watt output electronic siren shall be installed in the cab. The siren shall be controlled by the "Horn Button" and have "Hands Free" (NFPA) operation as well as manual.

The siren shall have the following features:

- Radio rebroadcast
- Public address
- Manual
- Wail
- Yelp
- Air-horn sound
- Piercer
- Hard-wired microphone

**HEADLIGHT FLASHER**

The high beam headlights shall flash alternately between the left and right side, with a control switch located on the cab instrument panel. The alternating function shall be controlled by the apparatus multiplex system.

The high beam headlight flash shall deactivate automatically whenever the headlight, low or high beam switch is activated or when the apparatus is placed in “Park”. As per Whelen wiring specifications.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light shall be provided in the chassis cab. The light shall be automatically illuminated per NFPA requirements. The light shall be automatically illuminated whenever the apparatus parking brake is not fully engaged or the automatic transmission is NOT in “PARK” and any of the following conditions exist:

- Any body or equipment compartment door is open.

The light shall be labeled "Do Not Move Apparatus When Light Is On".

**SCENE LIGHTS**

Two (2) Whelen M9 Series, M9LZC, Super-LED gradient scene shall be provided. The scene lights shall be mounted in a chrome bezel.
The lights shall be located: On the rear of the apparatus body.

**SIDE SCENE LIGHTING**

**PIONEER FLOOD/SPOT SURFACE MOUNT LIGHTHEAD**

Two (2) Whelen Pioneer Plus™ Model # PCPSM2AC shall be provided. The 195 watt +115v AC duel Pioneer lighthead shall incorporate Super-LED® combination flood/spot light installed in ABS Cycolac™ resin surface mount housing. The surface mount housing will be chrome plated. The PCPSM2AC configuration shall consist of 24 white Super-LEDs for the spot light with a specialized spot reflector on the bottom, 48 white Super-LEDs in the flood light with a clear optic collimator/metalized reflector assembly on the top, and a clear non-optic polycarbonate lens. The Pioneer flood/spot light shall have 18,000 usable lumens. The PCPSM2AC new combination optic design projects light directly down at 5° and producing illumination to the side of the vehicle arching upward to a 90° pattern of light.

The lens assembly shall utilize a liquid injected molded silicone gasket to be resistant to water, moisture, dust, and other environmental conditions. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The PCPSM2AC shall be shall be vibration resistant. The Pioneer™ PC boards shall be conformal coated for additional protection. One breathable membrane patch shall be installed on the rear of the housing to maintain a consistent internal pressure. The PCPSM2AC shall have extended LED operation with low current consumption and low operating temperature.

The PCPSM2AC shall be furnished with a 2 2/C 18GA unterminated Heyco® cable. The Pioneer shall have the ability to flash as a secondary warning light in the “Clearing Right of Way” mode when installed with an external flasher, model number PFLASH, purchased separately. The Pioneer shall be SAE 1113-42 compliant and Class 5 testing for EMI. The PCPSM2AC is covered by a five year factory warranty. The PCPSM2AC shall have built-in nylon screw grommets eliminating galvanic corrosion. The surface mount Pioneer requires no body cut-out. The PCPSM2AC shall have a uniquely designed molded two part silicone grommet to seal the 1” wire entry into the body.

**COMPARTMENT LIGHTING**

Amdor Luma-Bar LED lighting shall be provided in each compartment. This lighting system shall consist of flush-mount LED lights mounted in a clear PVC tube, offering 120-degree illumination. There shall be two (2) LED light strips per compartment, mounted vertically on either side of the door opening.

The lighting shall be activated by a door switch in the roll-up door.

**STEP LIGHTS**

Two (2), Technique LED step lights shall be provided at the rear of the apparatus body. The lights shall be located LOCATION.

The step lights shall be activated when the chassis transmission is placed in the "PARK" position.

**PERIMETER LIGHTING**

Six (6), 4” round LED perimeter lights shall be provided below the body and chassis. Each light shall have a clear lens and shall be mounted on a bracket, angled downward, beneath the apparatus to provide lighting under and around the apparatus. The lights shall be mounted as follows:
• Two (2), lights under the chassis steps.
• Two (2), lights under the front side portion of the body, one each side.
• Two (2), lights under the rear step of the body, one each side.

The perimeter lights shall be activated when the chassis transmission is placed in “PARK” position.

**GENERATOR, ONAN PROTEC**

An Onan Protec 20,000 watt, 3-phase, PTO driven generator shall be installed on the vehicle.

The generator shall be mounted on the chassis between the frame rails. The generator shall be mechanically connected to the vehicles transmission PTO housing with a balanced drive shaft.

The generator shall include the following features.

• Precision balanced rotating field generator set epoxy impregnated windings with overcoat
• Brush less exciter
• Double sealed pre-lubricated bearings
• Air cooled with shaft mounted integral fan
• Bi-directional rotation
• Skewed rotor for low harmonic distortion
• Class H insulation, 180 degree C temperature rating

The generator output shall produce a minimum of 20,000 watts @ 60 Hz, 120 / 208 volts.

The generator system shall be electronically engaged/disengaged through a primary switch inside the vehicle cab.

The engine RPM shall be controlled by an engine governor / throttle system that is connected directly to the Electronic Control Module (ECM) mounted on the engine. The governor shall maintain engine RPM to a constant set amount to drive the PTO and generator.

A generator meter panel complete with all of the required performance gauges and hour meter shall be provided at or near the power distribution center.

An aluminum splash pan will be installed under the generator to minimize the amount of road spray to the generator.

**GENERATOR DISPLAY**

A Fire Research FROG-D generator display kit shall be installed to monitor a single phase 60 Hz generator. The kit shall include a display module, voltage transformer, two (2) current transformers, and connecting cables. The display module shall consolidate five (5) generator monitoring instruments into one device. The display case shall be waterproof and have dimensions not to exceed 4.25” high by 4.25” wide by 3.25” deep.

The following continuous displays shall be provided with super bright LED digits more than .50” high.

• Generator frequency in hertz
• Line 1 current in amperes
• Line 2 current in amperes
• Generator voltage in volts.

The program shall support the accumulation of elapsed generator hours and the monitoring of hydraulic oil
temperature. Generator hours and oil temperature shall be displayed at the push of a button. Audible warning
alarm outputs are provided for generator overload, over/under voltage fluctuations, and high oil temperature.

**BREAKER BOX**

A twelve (12) position breaker box shall be installed on the apparatus to protect the 120/240 volt circuits. Each
load shall have a dedicated circuit breaker appropriately sized for the load.

A directory for each breaker shall be provided adjacent to the circuit breaker panel.

The breaker box shall be installed in the LS over the wheel compartment and easily accessible.

**20 AMP CIRCUIT BREAKER**

Twelve (12) 20-amp circuit breaker(s) shall be installed in the breaker box.

**120 VOLT RECEPTACLE**

Four (4) 20 amp, 120 volt twist-lock receptacle(s) shall be installed on the apparatus. For each receptacle
mounted in an external location, a weatherproof cover shall be provided. The receptacle(s) shall be powered by both the generator and the shoreline via a transfer relay.

The transfer relay shall isolate the shoreline from the designated generator breaker.

The receptacle(s) shall be installed in the following location(s): **To be determined.**

**DUPLEX RECEPTACLE**

Two (2) duplex receptacle(s) shall be installed on the apparatus. Each receptacle shall be rated for 20 amps at
120 volts AC. For each receptacle mounted in an external location, a weatherproof cover shall be installed. The
receptacle(s) shall be powered by both the generator and the shoreline via a transfer relay.

The transfer relay shall isolate the shoreline from the designated generator breaker.

The receptacle(s) shall be installed in the following location(s): **To be determined.**

**CORDREEL**

One (1) Hannay electric rewind cordreel(s) shall be provided with capacity for 100 ft. of 12/3 cable. The reel(s)
shall be powered by the apparatus 120 volt system.

Reel rewind shall be controlled by a push-button switch installed in an easily accessible location and protected
from accidental activation.

The reel(s) shall be installed: **To be determined.**
**ELECTRIC CABLE**

One (1) length(s) of 100 feet of 12/3 electric cable shall be installed on the cordreel(s). The color of the cable shall be yellow.

A ball stop shall be installed on the cable to prevent the end from passing through the hosereel roller assembly.

**PAINT**

The body of the apparatus shall be painted Pierce Red #356.

Product, Seven (7), year system:

- Pigmented wash primer
- Urethane Primer
- Polyurethane Basecoat
- Urethane Clear

Polyurethane 3.5 VOC Basecoat designed to produce ultimate durability with the wet look appearance. 3.5 VOC Urethane Clear coat is a premium-quality urethane. The clear coat offers gloss and durability features that meet the demands if the Fire and Emergency markets.

The body shall be wet sanded, buffed and polished.

A container of touch-up paint shall be provided for each color used.

**PAINT CHASSIS TO MATCH BODY**

The entire chassis cab shall be painted to match the apparatus body. The paint color shall be Pierce Red #356.

**AKZONOBEL FLEET & COMMERCIAL VEHICLE REFINISH LIMITED WARRANTY**

This Limited Warranty is dated ___/___/___ and is between AkzoNobel and AkzoNobel Fleet and Commercial Vehicle Refinish Customers.

The customer is purchasing a Coating System from AkzoNobel for refinish application on the commercial vehicles. This Limited Warranty is dependent on the Coating System being applied in accordance with the current published Technical Data Sheets for the specific products that make up the Coating System.

AkzoNobel and the customer therefore agree as follows:

1. **Limited Warranty.** AkzoNobel hereby warrants to the Customer that from the Commencement Date ("Warranty Period"), there will be no degradation below the "Performance Standards". The “Commencement Date” is defined as the date that the Coating System application is completed. After the Warranty Period, AkzoNobel no longer warrants the Coating System and the customer agrees that it can obtain no compensation for defect or deterioration after the expiration of the Warranty Period.

*Clearcoat* systems will have a limited warranty period of 7 years.
Performance Standards
- Loss of gloss below the following specification;
- For the first 5 years the gloss will not fall below sixty gloss units.
- For the remaining 2 years the gloss will not fall below 40 gloss units.
- Gloss measurements will be taken at twenty (20) degree geometry.

- Loss of color greater than the following specification;
- For the first 5 years color shift will be no greater then a Delta E of 3.
- For the remaining 2 years the color shift will be no greater then a Delta E of 6.

- Cracking of the paint system as set defined by ASTM D661-86, rating of six (6) or lower.

- Loss of adhesion of the applied coating system to existing substrate resulting in appearance below the standards defined by ASTM D1654-79A, table two (2), rating 6 or lower.

*Topcoat* (no Clearcoat) systems will have a limited warranty period of **5 years**.

Performance Standards
- Loss of gloss below the following specification;
- For the first 3 years the gloss will not fall below sixty gloss units.
- For the remaining 2 years the gloss will not fall below 40 gloss units.
- Gloss measurements will be taken at twenty (20) degree geometry.

- Loss of color greater than the following specification;
- For the first 3 years color shift will be no greater then a Delta E of 3.
- For the remaining 2 years the color shift will be no greater then a Delta E of 6.

- Cracking of the paint system as set defined by ASTM D661-86, rating of six (6) or lower.

- Loss of adhesion of the applied coating system to existing substrate resulting in appearance below the standards defined by ASTM D1654-79A, table two (2), rating 6 or lower.

2. Application Not Warranted. For this Limited Warranty to remain valid, all surface preparation and coating applications of the Coating System must be performed strictly in accordance with current published Technical Data Sheets and ant additional specification AkzoNobel supplies to the Customer before of during the application. AkzoNobel does not warrant the workmanship or conduct of any third-party contractor or applicator, and AkzoNobel shall not be responsible for damages, failure or deteriorations in the Coating System resulting, directly or indirectly, from faulty workmanship in any inspection, application (during surface preparation), installation or maintenance of the Coating System by any third-party contractor or applicator, or any other person or entity.

3. Exclusive Remedies. THE CUSTOMERS SOLE CAUSE OF ACTION AGAINST AKZONOBEL ARISING OUT OF THE USE OF THE COATING SYSTEM SHALL BE A CLAIM FOR BREACH OF THIS LIMITED WARRANTY AND THE CUSTOMERS SOLE REMEDY SHALL BE DESCRIBED IN THIS SECTION. The customer waives all other causes of action for breach of this warranty, including product liability or other common law claims and any claims under state law. Akzo Nobels sole liability and the Customers sole remedy for breach of this Limited Warranty, or any defect, deterioration or failure of the Coating System, shall be as follows:
a. **TO REPLACE THE COATING SYSTEM:** AkzoNobel shall provide the Customer, free of charge, a sufficient quantity of Coating System(s) materials necessary to recoat the areas where any such defect, deterioration or failure of the Coating System occurred (the “Defective Areas”). The Warranty Period defined above shall not be extended by the provision of replacement Coating Systems.

b. **TO COMPENSATE FOR APPLICATION COSTS:** AkzoNobel shall reimburse the Customer for the 100% of cost for applying the replacement Coating System which shall be calculated by multiplying an hourly labor cost by the number of hours required to repair the Defective Areas and shall not include supervisory labor or overhead costs.

c. **MAXIMUM TOTAL LIABILITY:** AkzoNobel total liability to the Customer under this Limited Warranty and, in particular, section 4(a) and 4(b) (whether from a single claim or a series of claims) shall not exceed the total price the Customer paid for the applied coatings and the labor cost charged to the vehicle owner.

d. In no event shall AkzoNobel be liable to the Customer for any indirect, consequential, special, incidental, punitive or contingent damages, or costs of litigation or loss relating to the Customers purchase or use of the Coating System.

4. **FURTHER EXCLUSIONS.** This Limited Warranty specifically excludes all Coating System failures that result from:

a. Causes beyond the control of AkzoNobel, including welding, or other heating, mechanical, electrical or electrolytic damage or malfunction, settling, warping or other failure of the surface to which the Coating System is applied, or any other condition that develops between the coating and the substrate;

b. Improper cleaning or maintenance or use of other cleaning or other solvents, chemicals or fluids not approved by AkzoNobel in writing;

c. Abrasion, collision or similar impact with the Coating System or other vehicles

d. Environmental pollution, vandalism or other malicious damage, Acts of God or adverse weather;

e. Severe microclimates

f. Any deterioration in or of the Vehicles caused by electro-chemical action or reaction arising from the presence of metals in the Coating System or elsewhere which are cathodic to the metal(s) compromising the Vehicles;

g. The use of any paint or coating not manufactured by AkzoNoble; or

h. The failure to comply with any provision of this Limited Warranty or its Appendices.

5. Any repair or attempted repair by the Customer or its agents or representatives of any Coating System shall render this Limited Warranty void, unless such repair is carried out in accordance with AkzoNobels written instructions. All repairs or replacement hereunder must be carried out as soon as practicable; AkzoNobel does not assume any liability for delay incurred in connection with such repair or replacement.

6. This Limited Warranty may not be amended without the written consent of both parties.
7. All supplies of the Coating System or any component thereof shall be subject to AkzoNobel's standard terms and conditions of sale. In the event of any inconsistency or conflict between this Limited Warranty and AkzoNobel's standard terms and conditions of sale, this Limited Warranty shall govern and take precedence. Any money that AkzoNobel owes to the Customer pursuant to this Limited Warranty will be decreased by the outstanding balance the Customer owes to AkzoNobel for products purchased.

8. THE CUSTOMER ACKNOWLEDGES THAT THIS LIMITED WARRANTY HAS BEEN READ AND FULLY UNDERSTANDS ITS TERMS AND CONDITIONS.

APPENDIX 1
AkzoNobel Commercial Vehicle Limited Warranty
Notice Provision, Claims and Dispute Resolution Procedure

1. Notice Provision
a. All notices, requests, demands or other communications to or upon the respective parties shall be made in writing to the following address;
   (i) To AkzoNobel: 3587 Parkway Lane,
   (ii) To the Customer: [INSERT ADDRESS]

2. Claim Procedure
a. Any claim by the Customer under this Limited Warranty must be submitted in writing within the Warranty Period and within (i) thirty days of the detection by the Customer or (ii) thirty days following the date the Customer reasonably should have first noticed, whichever is sooner, any failure warranted herein (the “Notice Period”) to AkzoNobel at the address listed above.

   (i) In the written claim, the Customer shall set forth in reasonable detail the nature of the failure and the circumstances under which it was discovered, including the date of detection.

   (ii) If the written claim is received after the expiration of the Notice Period or the Warranty Period, which ever is sooner, the Limited Warranty will be void with respect to the alleged failure.

b. Upon request of AkzoNobel, the customer shall make the Vehicles available for inspection by AkzoNobel and its respective agents and representatives, within 7 days following the request.

c. The Customer shall make available to AkzoNobel records showing the environment to which all areas of the Vehicles have been exposed since the initial coating application, including without limitation surface treating, washing and cleaning procedures, heating cycles and other data that AkzoNobel may request to ascertain whether proper maintenance and servicing of the Vehicle occurred.

d. The acceptance of any claims by AkzoNobel shall be effective only if AkzoNobel communicates such acceptance to the Customer in writing.

e. AkzoNoble agrees to provide written acceptance or rejection of a claim within a reasonable time period following receipt of the written claim described in Section 2(a) above. Costs associated with repairing or recoating the Vehicles will not be reimbursed if the Customer repairs or recoats the Vehicles prior to receiving written acceptance of the claim.

3. Dispute Resolution Procedure
If a dispute arises from or relates to this Limited Warranty and if the dispute cannot be settled through negotiation, the parties agree that any controversy or claim arising out of or relating to this Limited Warranty
shall be settled by arbitration administered by the American Arbitration Association ("AAA") in accordance with its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction. The place of the arbitration shall be

Each party is signing this Limited Warranty on the date stated below that party’s signature.

AKZONOBEL          Distributor          Customer

By: __________  By: __________  By: __________
Print: __________ Print: __________ Print: __________
Title: __________ Title: __________ Date: __________
Date: __________ Date: __________

COMPARTMENT INTERIOR FINISH, SPATTER PAINT

The interior of all compartments shall be spatter painted a gray color.

BODY UNDERCOATING

The underside of the apparatus body shall be sprayed with a black finish undercoating before being mounted on the chassis.

CHEVRON STRIPING

Chevron 3M Diamond Grade reflective striping shall be applied to the rear surface of the apparatus. The striping shall be 983-72 Red and 983-23 Yellow Green in color.

REFLECTIVE STRIPE

A 1" - 4" - 1" Scotchlite reflective stripe shall be applied to the exterior of the apparatus in accordance with NFPA 1901 requirements. The stripe will not be applied to the wheel wells, pump panel, or rear of the body over the diamond plate.

The stripe shall have a "Z" pattern at the forward section of the body.

The color of the reflective stripes shall be:

1.00" Upper - White
4.00" Center - White
1.00" Lower - White

REFLECTIVE STRIPE - (CHASSIS DOORS)

A Red / Yellow-Green EJM reflective stripe shall be applied to the lower interior surface of each chassis door to provide visibility when the door is in the open position.

REFLECTIVE LETTERING - (ARCHED)
3” OAH reflective lettering shall be provided on the cab doors per the department design. Material shall be reflective with black outline and shading.

The color of the lettering shall be: White

The lettering shall read: To be determined.

**REFLECTIVE LETTERING**

8” OAH reflective lettering shall be provided per the department design. Material shall be reflective with black outline and shading.

The color of the lettering shall be: White

The lettering shall be applied to: To be determined.

**REFLECTIVE LETTERING / NUMBERS - (ROOF)**

10” OAH reflective lettering / numbers shall be provided per the department design. Material shall be cut reflective, no outline or shading shall be provided.

The roof lettering / numbers shall read: To be determined

The color of the lettering / numbers shall be: Ruby Red with black outline and shade.

The lettering / numbers shall be applied to the chassis roof.

**LOOSE EQUIPMENT**

The following loose equipment shall be included with the apparatus:

One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts, and washers, as used in the construction of the unit.

One (1), 3.50 oz. tube of ECK (Electrolysis Corrosion Kontrol), grease.

One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts, and washers, as used in the construction of the unit.

One (1), 3.50 oz. tube of ECK (Electrolysis Corrosion Kontrol), grease.

One (1) DOT approved first aid kit

One (1), pair of Zico SAC-44-E folding wheel chocks with mounting brackets. The wheel chocks shall be shipped loose or mounted at final inspection as directed by the customer.

One (1) road safety kit consisting of three (3) DOT approved reflective triangles

One (1) 2.5 lb ABC DOT approved fire extinguisher
**TRAINING**

Training of the vehicle will be performed at the factory at the time of final acceptance and pick-up.

**WARRANTY**

EJ Metals, Inc. shall warranty the complete apparatus against defects in material and workmanship for a period of One (1), year after the delivery date.

For the purposes of this warranty, the delivery date is defined as the date when the apparatus leaves the EJ Metals, Inc. facility; 1201 Maple Creek Lane, New London, Wisconsin 54961.

**WARRANTY**

E.J. Metals Inc. shall warranty the complete apparatus against defects in material and workmanship for a period of one (1) year after the delivery date.

**20-YEAR BODY WARRANTY**

The body and sub-frame assembly shall be warranted against defects in material and workmanship for a period of Twenty (20), years from the date of delivery.

**DELIVERY**

Product shall be shipped in accordance with the specifications hereto attached and be delivered to you at SACRAMENTO, CALIFORNIA.

Proof of insurance must be demonstrated by the Customer to GSFA prior to transferring of the Product(s).

**FINAL INSPECTION, FACTORY TRIP**

A final inspection trip to the manufacturing facility shall be provided for FOUR (4) Customer representative(s). The intent of this trip is to ensure that the apparatus is built to specification and to detect any deficiencies that require correction. The final inspection trip shall have a duration of 3 DAYS, 2 NIGHTS and be scheduled at times mutually agreed upon between GSFA and the Customer. Costs for airfare, lodging, meals and ground transportation while at the manufacturer's location shall be the responsibility of GSFA. Air travel shall be from SACRAMENTO. Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory shall be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

**TERMS**

Customer shall pay the Grand Total within fifteen (15) calendar days of date on invoice to GSFA. Proposed delivery timeframe for the Product shall not begin until full payment is received. If payment is late, a daily finance charge of $250.00 may be added to the final invoice until such payment is received. If payment is not made, $6,196.45 plus state sales tax shall be added to the final invoice and due GSFA at time of delivery. Due to insurance liability, the Product(s) will not be left at the Customer’s location without full acceptance and payment or prior written agreement between the Customer and GSFA.
Specifications Authorization

Dealer: Golden State Fire Apparatus          Customer: Sacramento Fire Department, CA

Prior to construction of the apparatus, this (Specifications Authorization) form shall be signed by authorized personnel, and returned to the factory (E.J. Metals, Inc.) via the fax number above.

Construction of the apparatus shall NOT commence until the approved and signed Specifications Authorization form is returned to the factory, (E.J. Metals, Inc.).

The apparatus will be constructed to the specifications outlined in the preceding pages that were approved and signed. E.J. Metals, Inc. reserves the right to substitute components/parts as needed, due to availability, excessive lead time, quality issues, or incompatibility.

Any changes to the specifications AFTER they have been approved and signed shall be subject to additional Material, Labor and/or Administrative charges.

The signed Specifications Authorization form shall become an integral part of the final contract, and shall be kept on file at the factory, (E.J. Metals, Inc.) for future reference.

TERMS: The final payment transaction for the apparatus / equipment must be made prior to the unit leaving EJ Metals, Inc.

Authorizing Signature(s):

Dealer Representative: __________________________ (print)

Dealer Representative: __________________________ (signature) Date: __________

Optional Signature(s):

Department Representative: ______________________ (print)

Department Representative: ______________________ (signature) Date: __________

E.J. Metals, Inc. Representative: __________________ Date RCVD: __________
LOOSE EQUIPMENT
The following loose equipment list is PER UNIT and will be provided by the sales organization and prior to final delivery:

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>MAKE/MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flashlight: SL20X-LED HALOGEN/LED FLSHT W/ DC CHRG CORD</td>
<td>20202 STRMLIT</td>
</tr>
<tr>
<td>1</td>
<td>Radio 800 MHZ</td>
<td>Motorola APX6500</td>
</tr>
<tr>
<td>1</td>
<td>Radio VHF</td>
<td>Kenwood TK-790</td>
</tr>
</tbody>
</table>

TWO WAY RADIO INSTALLATION
There will be two (2) two-way radio(s) sent to the apparatus manufacturers preferred radio installer to be installed as directed prior to final delivery.

END OF PROPOSAL
RESOLUTION NO. 2018-

Adopted by the Sacramento City Council

February 20, 2018

COOPERATIVE PURCHASE AGREEMENT: REPLACEMENT FIRE APPARATUS AND EQUIPMENT

BACKGROUND

A. The Department of Public Works, Fleet Management Division, has a customer requirement to purchase replacement apparatus and equipment for the Fire Department.

B. The recommended purchases in an amount of $5,518,954 will be made from the Department of Public Works operating budget (Fleet Fund, Fund 6501) and charged to the Fire Apparatus Equipment Project (F12000300). An increase to the Department of Public Works operating revenue and expenditure budgets in the amount of $47,830 (Fleet Fund, Fund 6501) is necessary as the original amount budgeted for the heavy-duty rescue truck was based on prior purchases and did not account for manufacturer price increases. Upon completion of the recommended budget adjustment, sufficient funds will be available in the Department of Public Works operating budget to make the purchases. Sufficient funding already exists in the Fire Apparatus Equipment Project (F12000300) to support the recommended purchase.

C. In accordance with City Code Section 3.56.240, the City Manager, where advantageous to the City, may, by cooperative purchase agreements approved by the City Council, purchase supplies or nonprofessional services through legal contracts of other governmental jurisdictions or public agencies without separate competitive bidding by the City.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. The City Manager or the City Manager’s designee is authorized to increase the revenue and expenditure budgets in the Department of Public Works operating budget in the amount of $47,830 (Fleet Fund, Fund 6501).

Section 2. The use of the cooperative purchase agreement between Houston-Galveston Area Council (HGAC) and Pierce Manufacturing, Inc. (Contract No. FS12-17) for the purchase of four pumper trucks, one ladder truck and a heavy-duty rescue truck in an amount not to exceed $5,107,181 is approved.

Section 3. The use of the cooperative purchase agreement between the Public Procurement Authority/National Purchasing Partners Fire Rescue GPO (NPPGov/FRGPO) and LN Curtis and Sons (Contract No. 00000171) for the purchase of two stationary air compressor systems in an amount not to exceed $112,992 is approved.
Section 4. The use of the cooperative purchase agreement between the Public Procurement Authority/National Purchasing Partners Fire Rescue GPO (NPPGov/FRGPO) and E.J. Metals, Inc. (Contract No. VH11550) for the purchase of one mobile air compressor unit in an amount not to exceed $298,781 is approved.

Section 5. The City Manager or the City Manager’s designee is authorized to execute the purchases specified above.