



GOLDEN STATE

FIRE APPARATUS

PREPARED ESPECIALLY FOR:

CITY OF ALAMEDA

**One (1) Pierce Manufacturing, Inc.
Enforcer Heavy Duty Rescue**



TABLE OF CONTENTS

- 1** Product Proposal
- 2** Standard Terms and Conditions (Exhibit A)
- 3** Product Specifications (Exhibit B)
- 4** Product Warranties (Exhibit C)
- 5** Dealer Supplied Products and/or Services (Exhibit D)



GOLDEN STATE
FIRE APPARATUS

goldenstatefire.com

1 PRODUCT PROPOSAL

PRODUCT PROPOSAL FOR:**City of Alameda**1300 Park Street
Alameda, CA 94501**Sales Consultant**Ryan Wright
ryan@goldenstatefire.com
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
08/18/2025	10/17/2025	90818-25A	989	Pierce Manufacturing, Inc.	Sourcewell #113021-OKC-1, ID #271, Member #926

Golden State Fire Apparatus, Inc. ("GSFA") is pleased to provide this proposal for the fire apparatus(es) and equipment identified below (the "**Product**") to CITY OF ALAMEDA ("**Customer**") for consideration. This proposal (this "**Product Proposal**") includes the following exhibits attached hereto: the Standard Terms and Conditions attached as Exhibit A (the "**Terms and Conditions**"); the Product Specifications attached as Exhibit B (the "**Specifications**"); the Product Warranties attached as Exhibit C; and the Dealer Supplied Products and/or Services attached as Exhibit D (the "**Dealer Supplied Products/Services List**") (all of the foregoing, collectively, the "**Agreement**"). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the "**Executed Date**").

ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing, Inc. Enforcer Heavy Duty Rescue	1,996,814.00
B	<i>Discount for 100% Payment at Time of Order (the "Prepayment Discount")</i>	<i>(262,711.00)</i>
C	SUBTOTAL	1,734,103.00
D	10.75% State Sales Tax	186,416.07
E	California Tire Fee	17.50
F	100% Performance Bond	4,579.00
G	GRAND TOTAL PURCHASE PRICE	1,925,115.57

PAYMENT TERMS – Customer shall pay the total purchase price set forth directly above (the "**Grand Total Purchase Price**") to GSFA within thirty (30) calendar days of the Executed Date. If payment of the Grand Total Purchase Price is late, a late fee as specified in section 6 of the Terms and Conditions may be applied, and the Prepayment Discount may be adjusted, and the Grand Total Purchase Price increased in accordance with section 2.c of the Terms and Conditions. Customer shall pay any balance due as a result of Change Orders as described in the Terms and Conditions.

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above ("**Manufacturer**") and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit an order form to the Manufacturer for the Product. GSFA's further performance under the Agreement is contingent upon Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable

amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **45 to 48 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE / EQUIPMENT MOUNTING – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **1.5 to 2 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PROPOSAL EXPIRATION – This Product Proposal supersedes any previous proposal(s) presented to Customer by GSFA and its employees and may be accepted by Customer on or before the Expiration Date identified above. Unless accepted by the Expiration Date, GSFA reserves the right to withdraw this Product Proposal or to alter its terms (including by providing updated Product pricing) prior to an order being accepted.

PURCHASE ORDER – Any PO shall be made out to: *Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.*

ACCEPTANCE – ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN GSFA AND CUSTOMER. “**ACCEPTANCE**” MEANS THAT THE CUSTOMER DELIVERS TO GSFA: (A) A SIGNED COPY OF THIS PRODUCT PROPOSAL, OR (B) A SIGNED COPY OF A PURCHASE ORDER INCORPORATING THE AGREEMENT IN ITS ENTIRETY. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER’S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED AND OF NO EFFECT UNLESS APPROVED IN WRITING SIGNED BY GSFA.

COUNTERPARTS - This Product Proposal may be executed in multiple counterparts, each of which shall be deemed an original (including copies sent to a party by electronic transmission) as against the party signing such counterpart, but which together shall constitute one and the same instrument. A signed copy of this Product Proposal delivered by facsimile, email or other means of electronic transmission will be deemed to have the same legal effect as delivery of an original signed copy of this Product Proposal. If this Product Proposal is returned to GSFA with the signature of Customer’s authorized representative but without an attestation or co-signers signature, then absent Customer’s written notice to the contrary, GSFA shall be entitled to rely on such single signature as sufficient evidence of the signatory’s authority to execute the Agreement and bind Customer thereby.

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 08/18/2025, GSFA Proposal Number 90818-25A to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

Signature of Authorized Customer Representative

Print Name

Title

Date**ACCEPTED AND AGREED TO BY GSFA**

Signature of Authorized GSFA Representative

Print Name

Title

Date

2 STANDARD TERMS AND CONDITIONS

Exhibit "A"

STANDARD TERMS AND CONDITIONS

1. Definitions.

- a. **"Agreement"** has the meaning given in the Product Proposal.
- b. **"Customer"** means the customer identified in the Product Proposal.
- c. **"Dealer Preparation,"** if applicable, means additional product(s) and/or services added or provided by GSFA after Manufacturer's completion of the Product and transportation to GSFA's premises prior to delivery to Customer, in accordance with the Dealer Supplied Products/Services List and/or a valid Change Order(s).
- d. **"Dealer Supplied Products/Services List"** means the Dealer Supplied Products and/or Services List attached to the Product Proposal as Exhibit D, which reflects all Dealer Preparation under the Agreement absent a valid Change Order(s).
- e. **"Grand Total Purchase Price"** means the total purchase price for the Product identified in the Product Proposal (subject to any adjustments required or permitted by these Terms and Conditions, including by the execution of a valid Change Order(s)).
- f. **"GSFA"** means Golden State Fire Apparatus, Inc., a California corporation.
- g. **"Manufacturer"** means the person or persons, company, firm, corporation, partnership, or other organization identified in the Product Proposal as responsible for manufacturing the Product.
- h. **"Party"** or **"Parties"** means GSFA and/or Customer, as applicable.
- i. **"Prepayment Discount"** means a discount to the purchase price for the Product granted to Customer in connection with Customer's advance payment of the Grand Total Purchase Price (or portion thereof, as specified in the Product Proposal), if applicable.
- j. **"Product"** means the fire apparatus(es) and any associated equipment listed in the Product Proposal and further described in the Specifications.
- k. **"Product Proposal"** means the GSFA proposal executed by Customer to which these Terms and Conditions are attached.
- l. **"Product Warranties"** means the Manufacturer warranties for the Product attached to the Product Proposal as Exhibit C.
- m. **"Specifications"** means the specifications for the Product attached to the Product Proposal as Exhibit B.
- n. **"Terms and Conditions"** means these Standard Terms and Conditions, which are attached to the Product Proposal as Exhibit A.

2. Purchase and Payment.

a. Purchase. Customer agrees to purchase the Product at the Grand Total Purchase Price (as such amount may be adjusted in accordance with these Terms and Conditions), pursuant to the payment terms set forth in the Product Proposal. The Grand Total Purchase Price is payable in U.S. dollars.

b. Contingency Reserve Fund. The Grand Total Purchase Price may include an amount to be set aside for the purpose of funding any future costs or financial obligations incurred by Customer under the Product Proposal or any valid Change Order(s) (the **"Contingency Reserve Fund"**). If applicable, the amount of any required Contingency Reserve Fund will be set forth in either the Product Proposal or Exhibit D. The Contingency Reserve Fund may be withdrawn against by Customer or GSFA for the purpose of satisfying Customer's payment obligations under the initial Product Proposal or any valid Change Order(s) (including, without limitation, a Change Order submitted by GSFA pursuant to Section 8.b). If a Contingency Reserve Fund is required under the Agreement, the amount of such fund is not intended as an estimate of the actual additional costs of contingencies, Change Orders, unforeseen items or other required work that may be incurred under the Agreement after submission of the Product Proposal to Customer, which amounts Customer acknowledges may exceed the Contingency Reserve Fund amount. The balance of any Contingency Reserve Fund will be credited against Customer's payment obligations, or otherwise returned to Customer within thirty (30) calendar days of delivery of all Products under the Agreement (provided that Customer has paid all amounts owed under the Agreement as of such date).

c. Prepayment Discount. If GSFA has granted Customer a Prepayment Discount, Customer must provide each associated prepayment (each, a “**Prepayment**”) within the time frame specified in the Product Proposal in order to receive such discount. Customer’s failure to timely make any Prepayment may result in: (i) GSFA’s termination of the Agreement; and/or (ii) Customer’s loss of the Prepayment Discount for the portion of the Grand Total Purchase Price represented by such outstanding Prepayment and the application of a late fee as set forth in Section 6, in each case in GSFA’s sole discretion.

d. State Sales Tax. Customer shall be responsible for the cost of state sales tax associated with, or attributable to, the Product. The taxes stated in the Product Proposal are subject to adjustment for the applicable state sales tax rate in effect at the time of delivery. Therefore, the sales tax set forth on the Product Proposal is only an estimate of such taxes and will be increased or decreased at the time of delivery if a change in the applicable sales tax rate has occurred, in which case Customer shall pay GSFA (or be refunded by GSFA) the difference in the applicable sales tax.

3. Product Completion Date. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the “**Executed Date**”), GSFA shall submit to Customer a tentative Product completion date based on the then-estimated time to complete the manufacturing of the Product(s) and for the Product(s) to be ready for inspection and final approval by Customer at the manufacturing facility (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available.

4. Stock / Demo Units. Notwithstanding any other provision contained in the Agreement (including Section 12 hereof concerning warranties), any Products constituting stock/demo unit(s) are sold to Customer on an as-is, first-come and first-served basis and GSFA makes no further representation or warranty to any customer with respect to such unit(s). Regardless of the terms of the Product Proposal, GSFA shall only be obligated to sell such stock/demo unit(s) to the first customer to enter into a purchase agreement with GSFA identifying such unit(s), and after the execution by GSFA of such agreement any subsequent purchase agreement (including the Agreement, as applicable) shall have no further force or effect with respect to such unit(s).

5. Multiple Unit Purchase. If the Grand Total Purchase Price includes pricing for multiple Products, the Product price stated in the Product Proposal shall only be valid if the quantity of Products being proposed are purchased at the same time, pursuant to the same Agreement. GSFA shall have no obligation to offer the same price for any Product if purchased by Customer pursuant to a later purchase agreement.

6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received; provided that if Customer is a public agency, the foregoing late fees shall not exceed the statutory limit set forth in Section 926.10 of the California Government Code. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or (ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer’s possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. Delivery; Inspection and Acceptance.

a. Delivery. Subject to Section 5 hereof, the Product is scheduled to be delivered to the location and within the time period specified in the Product Proposal. Such delivery date is an estimate, and GSFA is, notwithstanding this Section 7.a, not bound to such date unless it otherwise agrees in a separate writing to complete delivery by a date certain. For the avoidance of doubt, GSFA is not responsible for delivery delays caused by or because of actions, omissions or conduct of Customer, the Manufacturer, or their respective employees, affiliates, suppliers, contractors, and carriers. Risk of loss for the Product shall pass to Customer at the point and time of delivery (which shall include an attempted delivery by GSFA which cannot be completed due to any act or omission of Customer). However, title to the Product shall only pass to Customer upon delivery if Customer has then fully paid GSFA all amounts due hereunder (including additional amounts due under any valid Change Order). Absent GSFA's separate written agreement, which it may or may not provide in its sole and absolute discretion, delivery of the Product will not occur before Customer has fully paid all amounts due under the Agreement and provided proof of insurance reasonably satisfactory to GSFA. If GSFA permits Customer to take possession of the Product prior to such payment, Customer may not mount equipment, conduct training, or place the Product into service until all amounts due under the Agreement have been paid. If Customer has ordered multiple Products, GSFA reserves the right to deliver such Products in installments and to separately invoice Customer for such Products.

b. Inspection and Acceptance. Upon delivery, Customer shall have ten (10) calendar days within which to inspect the Product for substantial conformance to the Specifications, and in the event of substantial non-conformance to the Specifications to furnish GSFA with written notice sufficient to permit GSFA to evaluate such non-conformance ("**Notice of Nonconformance to Specifications**"). Contingent upon part availability and Customer's cooperation, any Product not in substantial conformance to material Specifications shall be remedied by GSFA (by repair or replacement, at GSFA's election) within thirty (30) calendar days from GSFA's receipt of the Notice of Nonconformance to Specifications. In the event GSFA does not receive a Notice of Nonconformance to Specifications within ten (10) calendar days of delivery, the Product will be deemed to be in conformance with Specifications and accepted by Customer.

8. Changes to Agreement Terms.

a. Change Orders. The Customer may request that GSFA incorporate a change to the Product or the Specifications for the Product, or GSFA may submit changes to the Agreement required or permitted to be made by GSFA (pursuant to Section 8.b or otherwise), by delivering a written Change Order to the other party hereto, which shall include a description of the proposed change sufficient to permit the receiving party to evaluate such change (either, a "**Change Order**"). For any Change Order submitted by Customer, GSFA will provide Customer a written response (a "**Response**") stating (i) whether GSFA will accommodate such Change Order (which GSFA may decide in its sole and absolute discretion); and (ii) the terms of the modification to the order, including any increase or decrease in the Grand Total Purchase Price resulting from such Change Order, a date on which any increase in the Grand Total Purchase Price must be paid, and an estimate of any effect on production scheduling or delivery resulting from such Change Order. Customer shall have seven (7) calendar days after receipt of the Response to notify GSFA as to whether Customer desires to make the changes GSFA has approved in the Response. In the event Customer countersigns GSFA's Response, Customer shall pay the increase (or be refunded the decrease) in the Grand Total Purchase Price by the date specified in the Response. GSFA may also send Customer a Change Order to account for any changes to the Agreement required or permitted to be made by GSFA (including those changes required pursuant to Section 8.b hereof), and such Change Order shall be effective upon delivery to Customer unless Customer elects to terminate the applicable Product order under the Agreement in accordance with Section 9.

b. Additional Changes.

i. Component Price Volatility; Increases Imposed by Manufacturer. GSFA shall not be responsible for (i) any unforeseen price increase or surcharge enacted by suppliers of major components of the Product (including but not limited to commercial chassis, engine, transmission, and fire pump); or (ii) price increases imposed on GSFA by Manufacturer pursuant to Manufacturer's terms and conditions for sale of the Product (a "**Manufacturer**

Price Increase”), after Customer becomes bound by the Agreement. Customer shall be responsible for all amounts arising from any price increases for major components of the Product (including all associated taxes and fees thereon) or any Manufacturer Price Increases occurring after the execution of the Agreement which increase the cost of the Product to GSFA, and such amounts will be documented on a Change Order adjusting the Grand Total Purchase Price accordingly. Customer shall pay any such price increase prior to Product delivery. A Manufacturer Price Increase may include, but shall not be limited to, an increase in Product price resulting from an increase in the Producer Price Index of Components for Manufacturing (see www.bls.gov Series ID: WPUID6112) in excess of a compounded annual growth rate of five percent (5%), as measured between the month Manufacturer accepts the applicable Product order and the month that is fourteen (14) months prior to the then-current estimated Product completion date (the foregoing, a **“PPI-Based Price Increase”**). If, upon Customer’s receipt of a Change Order reflecting a PPI-Based Price Increase, Customer elects to terminate the applicable Product order in accordance with Section 8.b.iii rather than pay such increase, then in lieu of the cancellation fees described in Section 9.a hereof GSFA shall be entitled to recover and Customer shall pay GSFA’s actual non-reimbursable costs incurred in connection with the Product order through the date of Customer’s termination of such Product order.

ii. New Legal Standards. In the event the Product design, materials or specifications require an alteration arising from new regulations issued by any governmental entity or trade association, including, but not limited to, the NFPA, DOT, and EPA, and such alteration increases the cost of the Product to GSFA, Customer shall be responsible for changes to the Grand Total Purchase Price arising from such alteration. GSFA shall promptly notify Customer when it becomes aware of any potential or required change in regulations occurring prior to delivery that would impact the Product purchased.

iii. Change Orders. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by Sections 8.b.i and 8.b.ii above (which shall, to the extent practicable, itemize any increases in the Grant Total Purchase Price and specify a commercially reasonable date by which Customer must pay such increase), unless Customer instead elects to terminate the applicable Product order under the Agreement within fifteen (15) calendar days of Customer’s receipt of such Change Order and in accordance with Section 9. Absent such a termination, failure or refusal to execute a Change Order does not alter Customer’s obligations under this Section 8.b.

c. Changes in Commercial Specifications. Specifications for all components of the Product manufactured by companies other than the Manufacturer are subject to change without notice. Specifications for such components will be as available at the time of manufacture of the Product. GSFA shall not be liable for any deviations in such specifications arising from a substitution of components or changes in the design of any component by their original manufacturer.

9. Termination.

a. By Customer. Customer may terminate a Product order identified in the Product Proposal or a Change Order by providing written notice to GSFA in accordance with Section 16 hereof. If Customer elects to terminate a Product order, Customer shall pay GSFA a cancellation fee as follows: (a) after the Product order is accepted and entered by GSFA, 10% of the portion of the Grand Total Purchase Price applicable to such Product (including all associated taxes, fees and costs) (such amount, the **“Product Purchase Price”**); (b) after completion of the pre-construction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer’s termination of the Product order (**“Manufacturer Termination Fees”**), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation,

as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

Customer may terminate the Agreement for an Event of Default by GSFA after providing GSFA with written notice in accordance with Section 16 (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

b. By GSFA. GSFA may terminate the Agreement for an Event of Default by Customer after providing Customer with written notice in accordance with Section 16 (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following Customer's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as Customer has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable. Notwithstanding the foregoing, GSFA may terminate the Agreement effective immediately upon written notice to Customer for Customer's failure to pay any amount owed under the Agreement when due.

Notwithstanding any other provision of this Agreement, if Customer terminates a Product order in accordance with Section 9.a above, GSFA may elect to instead terminate the Agreement upon notice to Customer in accordance with Section 16 hereof. If GSFA terminates the Agreement in accordance with this Section 9.b, Customer shall pay the applicable tier of cancellation fee for all Products pursuant to Section 9.a above as if Customer had elected to terminate each applicable Product order.

c. Based on Discontinuation or Cancellation by Manufacturer. In the event that Manufacturer cancels a Product order (provided that such cancellation is not the result of an act by Customer in violation of the Agreement) or discontinues the manufacture of a Product prior to its completion and delivery: (i) if such Product is the only Product contemplated under the Agreement, then the Agreement shall terminate; or (ii) if additional Products are contemplated under the Agreement, then only the Product order for the applicable cancelled or discontinued Product shall be terminated. Such Agreement termination or Product termination, as applicable, shall be effective upon GSFA's written notice to Customer of such cancellation or discontinuance in accordance with Section 16 hereof. GSFA's only obligation to Customer in such event shall be the return of any Prepayment paid by Customer for the cancelled or discontinued Product. For the avoidance of doubt, the cancellation fees contemplated in Section 9.a hereof shall not apply in the event of a termination pursuant to this Section 9.c.

10. Customer's Obligations. Customer shall provide its timely and best efforts to cooperate with GSFA and Manufacturer during the Product manufacturing and Dealer Preparation process. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to any requests from Manufacturer or GSFA and the participation of Customer's authorized representatives in traveling to Manufacturer's facility for inspections and approval of the Product, including a final approval before the Product leaves Manufacturer's facility.

11. Representations and Warranties. Customer hereby represents and warrants to GSFA as of the Executed Date that the execution of the Agreement and the purchase of the Product(s) and performance of the other obligations of Customer under the Agreement have been approved by Customer in accordance with applicable general laws and, as applicable, Customer's charter, ordinances, purchasing policies, and other governing documents, and executed by the appropriate Customer employees, officials, and/or representatives, and funding for Customer's performance of its obligations under the Agreement has been duly budgeted and appropriated by Customer.

12. Standard Warranty. All applicable Manufacturer warranties are contained in the Product Warranties. Any additional warranties must be expressly approved in a writing signed by GSFA, and Customer acknowledges and agrees that Manufacturer will not be liable for any such additional warranties.

a. Disclaimer. OTHER THAN AS EXPRESSLY SET FORTH IN THE AGREEMENT, GSFA, ITS AFFILIATES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES, DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT (WHETHER RELATING TO THE CONDITION OR QUALITY OF THE PRODUCT, OR OTHERWISE) PROVIDED HEREUNDER OR OTHERWISE REGARDING THE AGREEMENT (INCLUDING, WITHOUT LIMITATION, WITH RESPECT TO ANY APPLICABLE DEALER PREPARATION), WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, THE IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE ARE EXPRESSLY EXCLUDED AND DISCLAIMED BY GSFA. STATEMENTS MADE BY SALES CONSULTANTS OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

b. Exclusions of Incidental and Consequential Damages. In no event shall GSFA be liable for special, consequential, incidental, indirect or punitive damages incurred by Customer in connection with any matter arising out of or relating to the Agreement, or the breach thereof, even if GSFA has been advised of the possibility of such damages, and regardless of whether such damages arise out of breach of warranty, the Agreement, indemnity, whether resulting from non-delivery or from GSFA's own negligence, or otherwise, except and solely to the extent such damages arise from the gross negligence or willful misconduct of GSFA.

13. Default. The occurrence of one or more of the following events (each, an "**Event of Default**") shall constitute a default under the Agreement: (a) Customer's failure to pay any amounts due or to perform any of its obligations under the Agreement; (b) GSFA's failure to perform any of its obligations under the Agreement; (c) either Party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either Party under the Agreement which is false in any material respect; (e) any action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity during the term of the Agreement; (f) any other material breach of the terms of the Agreement by a Party; or (g) a default or breach by Customer under any other agreement with GSFA or its affiliates.

14. Indemnification of GSFA. Customer shall indemnify, defend, and hold harmless GSFA, its agents, servants, successors and assigns from and against all losses, damages, injuries, claims, demands and expenses, including attorneys' fees and other legal expenses, of whatever nature ("**Damages**"), to the extent such Damages arise out of or in connection with: (i) Customer's breach of the Agreement, or (ii) Customer's use, storage, or operation of the Product following delivery, regardless of where, how, and by whom operated (excluding any negligent operation by GSFA). The indemnification and assumptions of liability and obligation herein provided shall continue in full force and effect notwithstanding the termination of the Agreement, whether by expiration of time, by operation of law or otherwise. This provision is not intended to and shall not constitute the exclusive remedy of the Parties under the Agreement; the Parties may seek indemnity from one another under other legal principles, whether based in equity or law, so long as they do not nullify or cancel the effects of this paragraph.

15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.

16. Notice. Any notices, requests, consents, claims, demands, waivers and other communications required or permitted to be given hereunder must be given in writing at the address of each Party set forth below, or to such other address as either Party may substitute by written notice to the other in accordance with this Section 16, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

GSFA:

Golden State Fire Apparatus Inc.
7400 Reese Road
Sacramento, CA 95828

CUSTOMER:

To the address listed in the Product Proposal

17. Contradictions. In the event of a conflict between the Agreement and any Change Order, or between Change Orders, the terms of the latest executed Change Order shall control.

18. Manufacturer's Statement of Origin. It is agreed that the manufacturer's statement of origin ("**MSO**") for the Product covered by the Agreement, if applicable, shall be retained and remain in the possession of GSFA per California Department of Vehicles (DMV) directives. Notwithstanding the foregoing, GSFA shall provide Customer with the original MSO if the Customer is self-registering, and Customer shall comply with all good-faith Process of Duty and other DMV requirements applicable to the Product and retain its own MSO.

19. Assignment. The relationship of the Parties established under the Agreement is that of independent contractors and neither Party is a partner, employee, agent, or joint venturer of or with the other. Neither Party may assign its rights and obligations under the Agreement unless it has obtained the prior written approval of the other Party.

20. Governing Law; Jurisdiction; Disputes. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with an agreed upon mediator. If the Parties cannot agree upon a mediator within thirty (30) calendar days of the submission of written notice of a dispute in accordance with Section 16 hereof, if any disputed matter remain unresolved within thirty (30) calendar days of the commencement of discussions, or if any party refuses to meet, then either party may submit any remaining disputes concerning and/or claim regarding the Agreement and/or the terms and conditions herein to the Superior Court, County of Sacramento (and the parties expressly consent to exclusive personal jurisdiction and venue before such court).

21. Entire Agreement; Amendments. The Agreement, including the Product Proposal, its exhibits and all valid Change Orders, is the exclusive agreement between the Parties regarding the subject matter contained herein and therein. No change in, modification of, or revision of the Agreement shall be valid unless in writing and signed by duly authorized representatives of both Parties with authority to sign such amendments to the Agreement.

END OF STANDARD TERMS AND CONDITIONS



GOLDEN STATE
FIRE APPARATUS

goldenstatefire.com

3 PRODUCT SPECIFICATIONS

Exhibit "B"



Proposal Details Report

7/15/2025

Customer: ALAMEDA CITY FIRE
DEPARTMENT

Bid Number: 989

Representative Klockzien, Dave

Job Number:

Requirements Manager:

Organization: Golden State Fire Apparatus, Inc

Description: Alameda City Enforcer 23.5' Res

Chassis: Enforcer Chassis, HDR, Tandem Axle

Body: HDR, Non-Walk-In, Aluminum

OptionCode	Type	Option
0766614		Boiler Plates, Heavy Duty Rescue

ProposalText

Golden State Fire Apparatus, Inc. is pleased to submit a proposal to Alameda City Fire Department 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 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 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 applicable NFPA 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 ensure 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 ensure 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. A link to the video is also available on the Pierce Training website. 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 the current edition of applicable NFPA standards 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 seventy five (75) 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 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 EVTs, and offers hands-on repair and maintenance training classes multiple times a year.

LIABILITY

The successful bidder will defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.

INSURANCE PROVIDED BY BIDDER

Commercial General Liability Insurance

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence:

\$1,000,000

Products/Completed Operations Aggregate:

\$1,000,000

Personal and Advertising Injury:

\$1,000,000

General Aggregate:

\$2,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form and will include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy will include Owner as an additional insured when required by written contract.

Commercial Automobile Liability Insurance

The successful bidder will, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage will be written on a Commercial Automobile liability form:

Each Accident Combined Single Limit:

\$1,000,000

Umbrella/Excess Liability Insurance

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate:

\$3,000,000

Each Occurrence:

\$3,000,000

The umbrella policy will be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as certificate holder.

INSURANCE PROVIDED BY MANUFACTURER

Product Liability Insurance

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:

Each Occurrence:

\$1,000,000

Products/Completed Operations Aggregate:

\$1,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form. The manufacturer's policy will include the owner as additional insured when

		<p>required by written contract between the Owner and a Pierce authorized dealer.</p> <p>Umbrella/Excess Liability Insurance</p> <p>The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:</p> <p>Each Occurrence: \$25,000,000</p> <p>Aggregate: \$25,000,000</p> <p>The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.</p> <p>The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.</p> <p>Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.</p> <p>All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.</p> <p>Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as the certificate holder.</p>
0661794	Single Source Compliance	<p>SINGLE SOURCE MANUFACTURER</p> <p>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.</p>
0584456	Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452	RFP Location: Appleton, Wisconsin	
0588609	Vehicle Destination, US	
0670275	Unit to be Similar in some Aspects, Excluding Pump Panel	<p>SPECIAL INSTRUCTIONS</p> <p>The apparatus being proposed will be designed and built to match the Tiller body/aerial to match 26352 as close as possible. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.</p>
0816491	Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	<p>NFPA 2024 STANDARDS</p> <p>This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.</p> <p>Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.</p> <p>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.</p> <p>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.</p> <p>The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.</p> <p>An official of the company will designate, in writing, who is qualified to witness and certify test results.</p>
0533352	Special Services (Rescue) Fire Apparatus	
0588614	Vehicle Certification, Rescue	

0681285	Agency, Apparatus Certification, Rescue, U.L.	<p>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".</p> <p>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.</p> <p>BREATHING AIR TEST If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, <i>Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection</i>.</p>
0816495	Certification, Vehicle Inspection Program, NFPA 1900	<p>VEHICLE INSPECTION PROGRAM CERTIFICATION To assure the vehicle is built to current NFPA1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: 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.</p>
0620362	Consortium, HGAC	
0535579	Not Required, Unit of Measure, (no pump, no tank)	
0030006	Bid Bond Not Requested	<p>BID BOND NOT REQUESTED A bid bond will not be included. If requested, the following will apply: All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract. Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.</p>
0816571	Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond, PPI Terms	<p>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. Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible. If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0% or more between the month Pierce accepts the order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0% for each year or fractional year between the Order Month and the Evaluation Month. The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.</p>

0000007	Approval Drawing	<p>APPROVAL DRAWING</p> <p>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.</p> <p>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.</p>
0672031	Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only	<p>DRAWING, CAB TOP VIEW</p> <p>On the sales drawing a top view of the cab seating and EMS cabinets will be provided. The top view will be a reference only of the seating and EMS cabinets in the order.</p>
0781461	Electrical Diagrams, Hard, CD or USB Flash Features	<p>ELECTRICAL WIRING DIAGRAMS</p> <p>There will be electrical wiring diagrams, provided for the model of chassis and body in the following configurations:</p> <ul style="list-style-type: none"> no hard copies of the electrical diagrams one (1) USB flash drive with the electrical diagrams provided no CDs of the electrical diagrams provided
0787669	Enforcer Chassis, HDR, Tandem Axle	<p>ENFORCER CHASSIS</p> <p>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.</p>
0021007	Maximum Overall Height	<p>MAXIMUM OVERALL HEIGHT</p> <p>The maximum overall height of the apparatus will be 139.50" (11'-7").</p>
0523786	Angle of Approach	<p>ANGLE OF APPROACH</p> <p>The angle of approach will be 13 degrees. This will be effective with the truck in a loaded state.</p>
0523787	Angle of Departure	<p>ANGLE OF DEPARTURE</p> <p>The angle of departure will be 11.0 degrees. This will be effective with the truck in a loaded state.</p>
0000110	Wheelbase	<p>WHEELBASE</p> <p>The wheelbase of the vehicle will be 239.50.</p>
0000070	GVW Rating	<p>GVW RATING</p> <p>The gross vehicle weight rating will be 68,800 lbs.</p>
0729280	Frame Rails, 13.38 x 3.50 x .375, Enforcer	<p>FRAME</p> <p>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.</p>
0889469	Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	<p>FRAME REINFORCEMENT</p> <p>In addition, a mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb.</p> <p>The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.</p>

0629940	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Enforcer	<p>FRONT NON DRIVE AXLE</p> <p>The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 lb.</p> <p>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.</p> <p>The center cross members and side plates will be constructed out of 80,000-psi yield strength steel.</p> <p>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.</p> <p>There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension.</p> <p>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.</p> <p>Camber at load will be zero degrees for optimum tire life.</p> <p>The ball joint bearing will be of low friction design and be maintenance free.</p> <p>Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided.</p> <p>The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle.</p> <p>The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase.</p> <p>The axle will have a turning angle of up to 45 degrees.</p>
0010427	Suspension, Front TAK-4, 22,800 lb, Qtm/AXT/Imp/Vel/Enf/SFR	<p>FRONT SUSPENSION</p> <p>Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.</p>
0087572	Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/Enf	<p>FRONT SHOCK ABSORBERS</p> <p>KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.</p>
0000322	Oil Seals, Front Axle	<p>FRONT OIL SEALS</p> <p>Oil seals with viewing window will be provided on the front axle.</p>
0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply	<p>FRONT TIRES</p> <p>Front tires will be Goodyear 425/65R22.50 radials, 20 ply Armor Max MSA, rated for 22,800 lb maximum axle load and 68 mph maximum speed.</p>
0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	<p>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.</p>
0660007	Axle, Rear, Meritor RT46-160, 46,000 lb, HDR/Tiller Tractor	<p>REAR AXLE</p> <p>The rear axle will be a Meritor™, Model RT-46-160, tandem axle assembly with a capacity of 46,000 pounds.</p> <p>An inter-axle differential, which divides torque evenly between axles, will be provided on the rear axle with an indicator light mounted on the cab instrument panel.</p>

0818721	Top Speed of Vehicle, 68 MPH/109 KPH, Non-NFPA/ULC 2024	TOP SPEED OF VEHICLE NFPA 1900 and ULC 515, 2024 edition requires limits on the top speed of vehicles. NFPA 7.16.1 requires that the maximum top speed of fire apparatus with a GVWR over 33,000 lb will not exceed either 68 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. NFPA 7.16.2 requires that if the combined water tank and foam agent tank on the fire apparatus exceed 1250 gallons or the GVWR of the vehicle is over 50,000 lb, the maximum top speed of the apparatus will not exceed either 60 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. It is the intention of the standard to improve safety by limiting the speed of all apparatus to 68 mph, and tankers or heavy apparatus to 60 mph. By requesting an exception to this requirement, the purchasing authority is consciously choosing to operate their apparatus at speeds above the limits designated as safe speeds by the NFPA Technical Committee on Fire Department Apparatus. The top speed of the apparatus as manufactured exceeds the NFPA requirements. Per fire department specification of a top speed that exceeds NFPA requirements, the apparatus will be non-compliant to NFPA 1900 and ULC 515 standards at time of contract execution. The rear tires being specified have a top speed limit of 68 mph / 109 kph from the tire manufacturer.
0581285	Suspen, Rear, Hendrickson FMX 482 EX, Air Ride, 48,000 lb, HDR	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
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0619118	Switch, Locking Rocker, Differential Lock, IPOS, MUX	DIFFERENTIAL LOCK CONTROL A locking rocker style switch will be used to engage or disengage the differential lock.
0000483	Driver Controlled Differential Lock, Rear Axle, Tandem	DRIVER CONTROL DIFFERENTIAL LOCK (DCDL) The rear axle of the rear tandem axle will be equipped with a driver controlled differential lock (DCDL). The control will be located within easy reach of the driver.
0629346	Valves, Dump, Air Ride, Rear Axle, Prk Brk Interlock	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.
0782551	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Tandem	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.
0019639	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Tandem	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.
0568081	Tire Balancing, Counteract Beads	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.
0620569	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle	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.

0801932	Lug Nut, Covers, Stainless Steel	LUG NUT COVERS Stainless steel lug nut covers will be installed on all lug nuts.
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.
0013241	Axle Hub Covers, Rear, S/S High Hat (Tandem)	REAR HUB COVERS Stainless steel, high hat, hub covers will be provided on the rear axle hubs.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0544802	Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	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.
0544806	Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	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 one (1) forward and one (1) rearward of the left side rear tire.
0593759	ESC/ABS/ATC Wabco Brake System, Tandem Rear Axle	ELECTRONIC STABILITY CONTROL A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco. The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event. The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction. ANTI-LOCK BRAKE SYSTEM The vehicle will be equipped with a Wabco 6S6M, anti-lock braking system. The ABS will provide a six (6) 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 wheel begins to lockup, a signal will be sent to the control unit. This control unit will then 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. AUTOMATIC TRACTION CONTROL An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.
0030185	Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	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.
0509207	Brakes, Meritor, EX225, Disc Plus, Rear, Tandem Axle	The rear brakes will be Meritor™, Disc Plus, EX225 disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.
0020784	Air Compressor, Brake, Cummins/Wabco 18.7 CFM	BRAKE SYSTEM AIR COMPRESSOR The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

0637583	Brake Reservoirs, 6,408 Cubic Inch Minimum Capacity, Saber FR/Enforcer	BRAKE SYSTEM The brake system will include: Brake treadle valve Heated automatic moisture ejector on air dryer Total air system capacity of 6,408 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 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. The air tanks will be painted same as frame color. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0630489	Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber FR/Enforcer	BRAKE SYSTEM AIR DRYER The air dryer will be a Bendix AD-9 air dryer, with spin-on coalescing filter cartridge and 100 watt heater.
0000790	Brake Lines, Nylon	BRAKE LINES Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.
0000854	Air Inlet, w/Disconnect Coupling	AIR INLET One (1) air inlet with 3D series male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located forward in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female fitting will also be provided with the loose equipment.
0586772	Box, Recessed, Alum Treadplate, for Air Fitting	RECESSED BOX FOR AIR FITTING One (1) air inlet will have an aluminum treadplate recessed box provided Driver step well matching job 38912. The box(es) will allow the air fitting to be recessed inside the stepwell to prevent damage.
0654158	Cover, Rubber Boot, Air Inlet Connection	COVER OVER AIR INLET A yellow, rubber boot will be provided to cover the air inlet connection. The tip will be removable yet still be attached at all times.
0656908	All Wheel Lock-up, Single Prk Brk Control	ALL WHEEL LOCK-UP An all wheel lock-up system will be installed which applies air to the front brakes and uses the spring brake at the rear. Front brakes will apply with the standard parking brake control.
0612549	Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle	COMPRESSION FITTINGS Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable.

0808503	Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027, Enforcer	<p>ENGINE</p> <p>The chassis will be powered by an electronically controlled engine as described below:</p> <p>Make: Cummins®</p> <p>Model: X15</p> <p>Power: 605 hp at 1800 rpm</p> <p>Torque: 1850 lb-ft at 1000 rpm</p> <p>Governed Speed: 2100 rpm</p> <p>Emissions Level: EPA 2027</p> <p>Fuel: Diesel</p> <p>Cylinders: Six (6)</p> <p>Displacement: 912 cubic inches (14.9L)</p> <p>Starter: Delco 39MT™</p> <p>Fuel Filters: Spin-on style filter from Cummins®.</p> <p>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.</p> <p>The engine will be filled with FA-4 10W30 oil as required by Cummins.</p>
0811409	Not Required, Engine Contingency Adjustment	
0730808	Filters, Remote Mounted, Oil, Fuel, X15, VEL/AXT/Enf	<p>REMOTE MOUNTED ENGINE FILTERS</p> <p>The engine fuel and oil filters will be remote mounted for ease of maintenance.</p>
0001244	High Idle w/Electronic Engine, Custom	<p>HIGH IDLE</p> <p>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.</p> <p>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."</p>
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	<p>ENGINE BRAKE</p> <p>A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake will activate when the system is on and the throttle is released.</p> <p>The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.</p> <p>The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system will automatically disengage the auxiliary braking device, when required.</p>
0644227	Clutch, Fan, Air Actuated, Saber FR/Enforcer	<p>CLUTCH FAN</p> <p>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.</p>
0644573	Air Intake, Water & Ember Screen, Saber FR/Enforcer	<p>ENGINE AIR INTAKE</p> <p>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.</p> <p>The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.</p> <p>The ember separator will be easily accessible by tilting the cab.</p>

0814375	Exhaust System, Horizontal, Right Side	<p>EXHAUST SYSTEM</p> <p>The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab.</p> <p>The exhaust will terminate horizontally ahead of the right side rear wheels and will be flush with the body rub rail. The exhaust pipes will be aluminized steel.</p> <p>There will be an aluminized steel exhaust diffuser reduced to 5.00" in the center to accommodate the fire department's air recovery system with a standard straight tip on the end 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.</p>
0816182	SP Exhaust, Modified 20 Degree - Approval Req'd	<p>EXHAUST MODIFICATION</p> <p>The exhaust pipe will be brought out from under the body at a 20 degree angle to the rear.</p>
0829493	Radiator, Enforcer X15	<p>RADIATOR</p> <p>The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards.</p> <p>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.</p> <p>The radiator core will have a minimum front area of 1060 square inches.</p> <p>The radiator will be compatible with commercial antifreeze solutions.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.</p>
0001090	Cooling Hoses, Rubber	<p>COOLANT LINES</p> <p>Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing.</p> <p>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.</p>
0803687	Fuel Tank, 65 Gallon, Left Side Fill, Rear Air Suspension	<p>FUEL TANK</p> <p>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 reduce the effects of corrosion, the fuel tank will be mounted with stainless steel straps.</p> <p>A 0.75" drain plug will be provided in a low point of the tank for drainage.</p> <p>A fill inlet will be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only".</p> <p>A 0.50" diameter vent will be provided running from top of tank to just below fuel fill inlet.</p> <p>The tank will meet all FHWA 393.67 requirements, including a fill capacity of 95 percent of tank volume.</p>
0001129	Lines, Fuel	<p>All fuel lines will be provided as recommended by the engine manufacturer.</p>
0618791	DEF Tank, 4.5 Gallon, LS Fill, Forward of Axle, Common Air Bottle Door	<p>DIESEL EXHAUST FLUID TANK</p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the left side body forward of the rear axle.</p> <p>A 0.50" drain plug will be provided in a low point of the tank for drainage.</p> <p>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 left side of the vehicle.</p> <p>The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing.</p> <p>The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p>
0723716	Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	<p>FUEL PRIMING PUMP</p> <p>A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.</p>
0684984	Shutoff Valves, Fuel Line @ Primary Filter, Fuel Tank, Cummins	<p>FUEL SHUTOFF</p> <p>A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter and one (1) at the fuel tank.</p>

0553019	Cooler, Engine Fuel, Imp/Vel, SFR/Enf	FUEL COOLER An air to fuel cooler will be installed in the engine fuel return line.
0578959	Fuel/Water Separator, Racor Inline	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.
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	TRANSMISSION An Allison 6th 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 an amber light and buzzer will be installed on the cab instrument panel.
0625331	Transmission, Shifter, 6-Spd, Push Button, 4000 EVS	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 3.51 to 1.00 2nd 1.91 to 1.00 3rd 1.43 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 6th 0.64 to 1.00 R 4.80 to 1.00
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0522824	Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 6 speed	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.
0801876	Fluid, 4000 Series Trans, Allison Approved TES-668 Synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid.
0001375	Driveline, Spicer 1810	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.
0669988	Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	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.
0605356	Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

0690274		Logo/Emblem, on Dash	<p>LOGO AND CUSTOMER DESIGNATION ON DASH</p> <p>The dash panel 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.</p> <p>The first row of text will be: ALAMEDA</p> <p>The second row of text will be: FIRE</p> <p>The third row of text will be: DEPARTMENT</p>
0612391		Oil, Steering Gear, 15W40, CK-4	<p>STEERING GEAR OIL</p> <p>15W 40, CK-4 oil will be provided for the steering gear.</p>
0820941	SP	Bumper, Non-Extended, Polished S/S, Saber FR/Enforcer	<p>BUMPER</p> <p>A one (1) piece bumper manufactured from 8 gauge formed stainless steel with a 3/8" bend radius. The bumper will be a minimum of 10.00" high with a 1.50" top and bottom flange. The bumper will have 45 degree corners. The bumper will be metal finished and bright polished finish. A 9.00" formed steel channel will be mounted directly behind bumper for additional strength.</p> <p>Gravel Pan</p> <p>A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face.</p>
0822502		Lift & Tow Package, Non-Extended Bumper, SFR/Enforcer	<p>LIFT AND TOW MOUNTS</p> <p>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.</p> <p>The lift and tow mounts with eyes will be painted the same color as the frame.</p>
0522573		Tow Hooks Not Required, Due to Lift and Tow Package	<p>TOW HOOKS</p> <p>No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes.</p>
0822662	SP	Receiver, Portable Winch, (3), Front Bumper Extension, 10K, Front/Ends	<p>PORTABLE WINCH RECEIVERS</p> <p>Three (3) portable winch receivers will be installed under the front bumper extension of the apparatus. One (1) will be facing forward and one (1) will be facing each side of the bumper. On the forward facing receiver there will be 2.00" of clearance by the Q2B to allow the winch to attach.</p> <p>The winch receiver will be constructed of heavy steel tubing, reinforced to the bumper extension framework for the receiving portion. The winch receivers will each be rated for 10,000 lb.</p> <p>A single electrical plug will be provided under the center of the bumper extension, able to supply power to any receiver.</p>

0814723	SP Cab, Enforcer, 7010, w/Integrated Mast Light Enclosure	<p>CAB</p> <p>The 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.</p> <p>For reasons of structural integrity and enhanced occupant protection, the cab will be a heavy duty design, constructed to the following minimal standards.</p> <p>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.</p> <p>The front of the cab will be constructed of a 0.13" firewall plate, covered with a minimum 0.090" front skin thickness, 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.</p> <p>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.</p> <p>The cab will be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability.</p> <p>The centerline of front axle to the rear of the cab will be 70.00" long.</p> <p>The forward cab section will have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section will have a 10.00" raised roof, with an integrated enclosure. The overall cab height will be approximately 119.00". 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.</p> <p>An enclosure will be integrated into the raised roof of the crew cab to accommodate the mounting of a mast light. The purpose of the enclosure is to conceal the mast light and not disturb cab aesthetics. The cab will appear to have a 20.00" raised roof with the added enclosure.</p> <p>The floor to ceiling height inside the crew cab will be 64.50" 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.</p> <p>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.</p> <p>The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.</p> <p>The cab will be a full tilt cab style.</p> <p>A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.</p> <p>CAB ROOF DRIP RAIL</p> <p>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.</p> <p>FENDER LINERS</p> <p>Full circular inner fender liners in the wheel wells will be provided.</p> <p>PANORAMIC WINDSHIELD</p> <p>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.</p> <p>WINDSHIELD WIPERS</p> <p>Three (3) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.</p> <p>The washer reservoir will be able to be filled without raising the cab.</p>
0727969	Engine Tunnel, X15, Foil Insulation w/Mech Fasteners, Enforcer	<p>ENGINE TUNNEL</p> <p>Engine tunnel 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.</p> <p>The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.</p> <p>The engine tunnel will be no higher than 18.00" off the crew cab floor.</p>
0887601	Cab Insulation, Enforcer/Saber FR	<p>INTERIOR CAB INSULATION</p> <p>The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, a minimum of 1.00" insulation in the crew cab floor, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.</p>

0610508		Rear Wall, Interior, Adjustable Seating, Not Available	
0632103		Rear Wall, Exterior, Cab, Saber FR/Enforcer	CAB REAR WALL EXTERIOR COVERING The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate that covers the entire rear wall.
0763609	SP	Cab Lift, Elec/Hyd, Remote, Manual Override, Recess LS Step, Access Dr, SFR/Enf	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 recessed in the left side front step well. A 0.188" bright aluminum treadplate door will be provided over the controls. The door will be vertically hinged, opening forward, with a small D-ring latch. In addition to the panel controls, a 15' remote control will be provided for raising and lowering the cab. The remote control will be stored in the cab. The receptacle for the remote control will be located on the master controls in the left side step well. 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.
0695930		Grille, Bright Finished, Front of Cab, Enforcer	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.
0794201		Scuffplate, Aluminum Treadplate, Outboard Vertical Floor Risers,Crew Cab,SFR/Enf	STEP RISER SCUFFPLATE Aluminum treadplate scuffplates will be provided on the vertical surface between the crew cab steps and floor in the crew cab.
0002224		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.
0758591	SP	Caulk, Cab/Crew Cab Stepwell Edge, Aluminum Treadplate	CAB AND CREW CAB STEPWELL CAULK The cab and crew cab stepwell aluminum treadplate shall have edges sealed with caulk. The cab stepwell area shall be caulked at the rearward edge along the fender curve at the treadplate transition. The crew cab stepwell area shall be caulked at the forward edge along the fender curve at the treadplate transition.
0647932		Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	
0015440		No Chrome Molding, On side of cab	
0521669		Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	MIRRORS A Retractable, 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.

0648170	Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Raised Roof	<p>DOORS</p> <p>To enhance entry and egress to the cab, the forward cab door openings will be a minimum of 37.50" wide x 63.37" 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 73.25" high.</p> <p>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 finish of the door handle will be chrome/black. 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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>A chrome grab handle will be provided on the inside of each cab door for ease of entry. A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.</p> <p>The bottom cab step at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.</p>
0655537	Door Panel, Polished Stainless Steel, Saber/Enforcer 4-Door Cab	<p>Door Panels</p> <p>The inner cab door panels will be constructed out of polished stainless steel.</p>
0528958	Not Required, Controls, Electric Window, AXT, Saber, Enforcer	<p>MANUAL CAB DOOR WINDOWS</p> <p>All cab entry doors will contain a conventional roll down window.</p>
0528251	Electric Door Locks, Cab Doors, QXS, AXT, Sab, Enf	<p>ELECTRIC CAB DOOR LOCKS</p> <p>The front driver and officer doors will have a door lock master switch that will control all front and rear crew cab door locks. Each rear crew cab door will have its own lock control. There will be one (1) concealed switch located in an easily accessible chassis specific location that will unlock all the doors.</p>
0709646	Steps, 4-Door Cab, Grip Strut Inserts, Reduced Bottom Step, SFR/Enf	<p>CAB STEPS</p> <p>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 grip strut inserts 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. The vertical surfaces of the step well will be aluminum treadplate.</p>
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab	<p>CAB EXTERIOR HANDRAILS</p> <p>A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with white LED lights. The lights will be activated by the same means as the cab perimeter scene lights. The LED lights may be load managed.</p>
0892638	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	<p>STEP LIGHTS</p> <p>There will be six (6) white LED step lights with chrome housing installed for cab and crew cab access steps.</p> <p>One (1) light for the left side cab access steps.</p> <p>Two (2) lights for the left side crew cab access steps.</p> <p>Two (2) lights for the right side crew cab access steps.</p> <p>One (1) light for the right side cab access step.</p> <p>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 lights will be activated when the battery switch is on and the adjacent door is opened.</p>
0002141	Fenders, s/s on cab - Saber/Enforcer	<p>FENDER CROWNS</p> <p>Stainless steel fender crowns will be installed at the cab wheel openings.</p>
0586967	Grab Handle, Chrome, Specify Location, Qty	<p>GRAB HANDLE(S)</p> <p>There will be four (4) chrome grab handle(s) mounted in the interior of the cab vertical on door interior panel painted surface forward of window (Match location on 36968 driver door). The grab handle(s) will be securely mounted.</p>

0660261		Grab Hole Red Webbed, Added to Front Cab Door Webstrap	WEBBED GRAB HANDLE ON INTERIOR CAB DOORS Installed on the interior of the driver and officer cab door stop strap will be a red webbed grab handle. The grab handles will be securely mounted.
0637984		Window, Side of C/C, Fixed, Saber FR/Enforcer	CREW CAB WINDOWS One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 18.70" wide x 23.75" high.
0012090		Not Required, Windows, Front/Side of raised roof	
0779033		Not Required, Windows Rear of Crew Cab, Saber FR/Enforcer	
0786278		Window Tint, Crew Cab Door, Right Side, Medium Gray	RIGHT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the right side crew cab door will be tinted medium gray.
0786283		Window Tint, Behind Cab Door, Right Side, Medium Gray	BEHIND RIGHT SIDE CAB DOOR WINDOW TINT The window behind the right side front cab door will be tinted medium gray.
0786289		Window Tint, Crew Cab Door, Left Side, Medium Gray	LEFT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the left side crew cab door will be tinted medium gray.
0786295		Window Tint, Behind Cab Door, Left Side, Medium Gray	BEHIND LEFT SIDE CAB DOOR WINDOW TINT The window behind the left side front cab door will be tinted medium gray.
0898687		Compt, Saddle, Transverse C/C, Dbl Pan, Rec Tube, 70" SFR/Enf	STORAGE COMPARTMENT Provided under the forward facing crew cab seats will be a transverse compartment. The compartment will be open top to bottom with no dividers. The upper section will be 16.25" wide x 9.00" high x full width (transverse) of the crew cab. The lower section will be 16.50" wide x 25.50" high x 15.00" deep on both sides. The compartment will extend from the bottom of the cab to top of the seat riser. A 8.00" diameter tube will be provided in the compartment located on the right side of the cab. Part of the tube will be recessed below the compartment floor. The overall height of the tube will be 5.50" high at the back and 4.00" high at the front of the compartment for ease of removing the extinguisher. There will be two (2) reverse hinged double pan doors painted to match the cab exterior with a locking D-Ring latch with #751 key, one (1) on each side of the cab with a web strap for each exterior door provided as a door stop. The clear door opening of each compartment door will be 10.25" wide x 32.00" high. The exterior access will be provided with no scuffplate on the lower door frame. There will be no access with no louvers on the forward face of the seat riser. The exterior of the compartment will be painted to match the cab interior color. The interior of the compartment will be painted to match the cab interior. Compartment Light There will be two (2) white LED strip lights, one (1) each hinged side of exterior compartment door openings. The lights will be controlled by an automatic door switch.
0897792	SP	Trough, Long Tool Storage, Transverse Compartment, 2-Dr Enf	LONG TOOL STORAGE There will be three (3) trough(s) provided for the storage of long tools. The trough(s) will be located in the transverse compartment, mounted horizontal with all 3 stacked on top of each other. There will be no restraint provided to hold the long tools in place. The size and brand of the long tools stored will be 6' D handle roof hooks centered so they can be pulled from either side. The finish of each trough will be painted to match the cab interior.
0642028		Locks, Keyed Alike, Cab Compt Doors & Body Compartments	CAB COMPARTMENT DOOR LOCKS All auxiliary cab compartment doors will be keyed alike. The compartment doors will also be keyed the same as the body roll-up door compartments.
0745808		Scuffplate, Inner Door Pan, Aux Cab Compts, Pair	SCUFFPLATE A full height polished stainless steel scuffplate will be installed on the inside of each of the auxiliary cab compartment door pans.

0794837		Scuffplates, S/S, Door Frame, Three Sides, Exterior Cab Compts	SCUFFPLATE Both crew cab exterior compartments will be furnished with a scuffplate on three (3) sides of each door frame. Each scuffplate will be polished stainless steel with a 0.38" lip down.
0009019		Roof, Aluminum Treadplate, Raised Cab Roof Only	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.
0602317		Storage Pockets, Elastic Cover, Recessed, Switch Panel, Saber FR/Enf	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 approximately 6.00" wide x 2.12" high and will be constructed of aluminum. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. There will be one (1) pockets installed panel position 4. Pockets will only be installed in locations where there is available depth behind the panel.
0539585		Cover, Aluminum, Painted to Match Cab Interior	COVER There will be one (1) painted aluminum cover(s) located over MedVault inside forward facing cabinet. .
0797070		Recess Windshield Washer Fill, SFR/Enf	WINDSHIELD WASHER FILL NECK LOCATION The windshield washer fill neck will be located behind the officer side modesty panel. A drop down hinged door with a quarter turn latch will be provided to conceal the fill neck. This area will be blocked off from the power distribution area next to it to prevent fluid from damaging the electrical components.
0833249	SP	Drug Locker, Knox, MedVault Mini, 5240, Recess Mounted	KNOX MEDVAULT There will be a Knox MedVault® Mini, Model 5240, recess mounted recessed into driver side of crew cab forward facing cabinet as low as possible (ideally accessible from ground) (Battery direct wiring from Blue sea panel behind driver seat). A standard door and mechanical override will be provided. The antenna will be internal to protect it from damage.
0894089		Dash, Heavy Duty Metal, Enforcer	CAB DASH The driver side dash, switch panel located to the right of the driver, and center console will be constructed of metal and painted fire smoke gray. The officer side dash will be a flat top design with an upper beveled edge to provide easy maintenance and will be constructed out of aluminum and painted to match the cab interior. The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.
0664452		Bracket, Air Bottle, Zico, ULLH, Load & Lock	AIR BOTTLE HOLDER(S) There will be one (1) Ziamatic, Model ULLH, SCBA holder(s) with a LLS, collision restraint holding strap, provided in the crew cab. The bracket will be a one (1) size fits all style and will accommodate SCBA cylinders from the high pressure 30-minute to the high pressure 60-minute. The bracket(s) will be located on rear cab wall just above transverse compartment floor on left side, spaced off side wall to allow pack to fit.
0606278		Tray, Equipment Mounting, Aluminum, Lip, Size	EQUIPMENT MOUNTING TRAY(S) There will be one (1) tray(s) for mounting of equipment located forward of the cup holders on engine tunnel plate, exact location at final inspection.. Each tray will have a 1.00" lip on four (4) sides. The size of the tray(s) will be 16" wide x 12" long with 1" lip (match width of cup holders). Each tray will be fabricated from aluminum and will be painted to match the cab interior. Tray not intended for storage of loose equipment. Items stored on tray will be permanently attached to meet current edition of applicable NFPA standards.
0634206		Mounting Provisions, 1/4" Alum, Full Engine Tunnel, Saber FR/Enforcer	MOUNTING PLATE ON ENGINE TUNNEL Equipment installation provisions will be installed on the engine tunnel. A 0.25" smooth aluminum plate will be bolted to the top surface of the engine tunnel. The plate will follow the contour of the engine tunnel and will run the entire length of the engine tunnel. The plate will be spaced off the engine tunnel 1.00" to allow for wire routing below the plate. The mounting surface will be painted to match the cab interior.

0725269	SP Tray, Equipment Mounting, Aluminum, Lip, Size	<p>EQUIPMENT MOUNTING TRAY(S)</p> <p>There will be one (1) tray(s) for mounting of equipment located on engine tunnel mounting plate rear of cup holders with exact location at final inspection.</p> <p>Each tray will have a 4.00" lip on three (3) sides. The size of the tray(s) shall be 16" wide by 10" long with 4" tall sides. (Match width of cup holder).</p> <p>Each tray will be fabricated from aluminum and will be painted to match the cab interior.</p> <p>Tray not intended for storage of loose equipment. Items stored on tray will be permanently attached to meet current edition of applicable NFPA standards.</p>
0750824	Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	<p>CAB INTERIOR</p> <p>The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.</p> <p>The engine tunnel will be padded and covered, on the top and sides, with dark silver gray 36 ounce leather grain vinyl resistant to oil, grease, and mildew.</p> <p>For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum.</p> <p>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 an aluminum sheet and securely fastened to interior cab ceiling.</p> <p>The forward portion of the cab headliner will permit easy access for service of electrical wiring or other maintenance needs.</p> <p>All wiring will be placed in metal raceways.</p> <p>CAB INTERIOR UPHOLSTERY</p> <p>The cab interior upholstery will be 36 oz dark silver gray vinyl.</p>
0753903	Cab Interior, Paint Color, Saber FR/Enforcer	<p>CAB INTERIOR PAINT</p> <p>The cab interior metal surfaces, excluding the rear heater panels, will be painted fire smoke gray, vinyl texture paint.</p> <p>The rear heater panels will be painted black, vinyl textured paint.</p>
0052100	Floor, Rubber Padded, Cab & Crew Cab, Saber/Enforcer	<p>CAB FLOOR</p> <p>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.</p> <p>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.</p>

0722038	HVAC, Heavy-Duty, Enforcer, w/X15, CARE	<p>DEFROST/AIR CONDITIONING SYSTEM</p> <p>A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.</p> <p>Cab Defroster</p> <p>A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:</p> <p>One (1) adjustable outlet directed towards the left side cab window.</p> <p>One (1) adjustable outlet directed towards the right side cab window.</p> <p>Six (6) fixed outlets directed at the windshield.</p> <p>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.</p> <p>Cab/Crew Auxiliary Heater</p> <p>There will be no auxiliary heater provided in the rear facing seat risers.</p> <p>Air Conditioning</p> <p>A 19.10 cubic inch compressor will be installed on the engine.</p> <p>A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.</p> <p>The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit 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.</p> <p>The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab. The rear plenum will be covered with a metal cover painted to match the cab interior. The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.</p> <p>Adjustable air outlets will be strategically located on the forward plenum cover per the following:</p> <p>Four (4) outlets directed towards the seating position on the left side of the cab.</p> <p>Four (4) outlets directed towards the seating position on the right side of the cab.</p> <p>Adjustable air outlets will be strategically located on the evaporator cover per the following:</p> <p>Minimum of five (5) outlets directed towards crew cab area.</p> <p>A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be hinged with two (2) thumb latches.</p> <p>The air conditioner refrigerant will be R-134A and will be installed by a certified technician.</p> <p>Climate Control</p> <p>An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.</p> <p>The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.</p> <p>The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.</p> <p>The system controller will be located within panel position #12.</p> <p>Gravity Drain Tubes</p> <p>Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.</p>
0639675	Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	<p>SUN VISORS</p> <p>Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There will be a black plastic thumb latch provided to help secure each sun visor in the stowed position.</p>
0622887	Grab Handles, Driver Door Post, Officer Door Post Low, Saber FR/Enforcer	<p>GRAB HANDLE</p> <p>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 officer's side grab handle will be mounted on the lower portion of the door post. The grab handle will be securely mounted to the post area between the door and windshield.</p>
0583938	Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3" LED, Trim	<p>ENGINE COMPARTMENT LIGHTS</p> <p>There will be one (1) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) will be activated automatically when the cab is raised.</p>

0631830	Fluid Check Access, Saber FR/Enforcer, Arrow XT	<p>ACCESS TO ENGINE DIPSTICKS</p> <p>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.</p> <p>The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling.</p> <p>The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.</p>
0817150	SP Console, 2 Cup Holders, 4" Diameter x 4 H x 1" Slit, Matting, Center Tray, Size	<p>CUP HOLDER/STORAGE CONSOLE</p> <p>There will be two (2) console(s) located (1) between driver and officer matching 38912 and (1) between rear facing seats. exact location at final inspection. On each side of the console(s) will be a 4.00" diameter x 4.00" high cup holder with a 1.00" wide x 3.50" high slot on the side to hold beverages with handles. Between the cup holders will be a per option wide x 4.00" high storage area.</p> <p>Black rubber matting will be provided on the bottom of each cup holder.</p> <p>The console(s) will be painted to match the cab interior.</p>
0599959	Straps, Velcro, Map Box, Custom Chassis	<p>VELCRO STRAP(S) FOR MAP BOX</p> <p>There will be one (1) Velcro® strap(s) installed at final inspection.</p>
0002501	Map box, 4 bin/30 Deg Slant, Custom Chassis	<p>MAP BOX</p> <p>A map box with four (4) bins, open from top, will be installed centered side to side on engine tunnel slant from crew cab to cab, openings forward. Rear of map box will rest on mounting plate. . The map box will be divided into four (4) bins, each being 12.50" wide x 2.25" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box will be constructed of .125" aluminum and will be painted to match the cab interior.</p>
0583042	Side Roll and Frontal Impact Protection	<p>CAB SAFETY SYSTEM</p> <p>The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following:</p> <p>A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.</p> <p>A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.</p> <p>A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.</p> <p>A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.</p> <p>A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.</p> <p>Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.</p> <p>Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.</p> <p>Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.</p> <p>Frontal Impact Protection</p> <p>The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.</p> <p>The SRS system will deploy the following components in the event of a frontal or oblique impact event:</p> <p>Driver side front air bag</p> <p>Passenger side knee bolster air bag</p> <p>Air curtains mounted in the outboard bolster of outboard seat backs</p> <p>Suspension seats will be retracted to the lowest travel position</p> <p>Seat belts will be pre-tensioned to firmly hold the occupant in place</p> <p>Side Roll Protection</p> <p>The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.</p> <p>The SRS system will deploy the following components in the event of a side roll:</p> <p>Air curtains mounted in the outboard bolster of outboard seat backs</p> <p>Suspension seats will be retracted to the lowest travel position</p> <p>Seat belts will be pre-tensioned to firmly hold the occupant in place</p>

0622618	Seating Capacity, 5 Belted Seats	SEATING CAPACITY The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5).
0636955	Seat, Driver, Pierce PSV, Air Ride, High Back, Safety, PRIMARY, SFR/Enf	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 include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position. The seat will be furnished with a 3-point, shoulder type seat belt.
0632926	Seat, Officer, Pierce PSV, Air Ride, SCBA, Safety, PRIMARY, SFR/Enf	OFFICER SEAT A seat will be provided in the cab for the passenger. The seat will be a cam action type, with air 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 include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A suspension seat safety system will be included. When activated, this system will pretension the seat belt and then retract the seat to its lowest travel position. The seat will be furnished with a 3-point, shoulder type seat belt.
0792468	Radio Compartment, Behind Officer Seat, Saber FR/Enforcer	RADIO COMPARTMENT A compartment for the radio amplifier will be located on the floor of the cab behind the officer seat. A lift-up 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.
0630152	Seat, Rr Fcng C/C, LS Otbrd, Pierce PSV, SCBA, 17" Btm, Safety, PRIMARY, SFR/Enf	REAR FACING DRIVER SIDE OUTBOARD SEAT There will be one (1) rear facing seat provided at the driver side outboard position in the crew cab. 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 include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A seat safety system will be included. When activated, this system will pretension the seat belt. The seat will be furnished with a 3-point, shoulder type seat belt.
0102783	Not Required, Seat, Rr Facing C/C, Center	
0630150	Seat, Rr Fcng C/C, RS Otbrd, Pierce PSV, SCBA, 17" Btm, Safety, PRIMARY, SFR/Enf	REAR FACING PASSENGER SIDE OUTBOARD SEAT There will be one (1) rear facing seat provided at the passenger side outboard position in the crew cab. 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 include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A seat safety system will be included. When activated, this system will pretension the seat belt. The seat will be furnished with a 3-point, shoulder type seat belt.
0108189	Not Required, Seat, Forward Facing C/C, LS Outboard	

0826455	Cabinet, Fwd Fcng, Ctr, 38.50 W x 50 H x 18 D, Web, SFR/Enf	<p>FORWARD FACING CENTER CABINET</p> <p>A forward facing cabinet will be provided in the crew cab at the center position. The cabinet will be 38.50" wide x 50.00" high x 18.00" deep. The interior door will be web netting. The netting will be made with 1.00" wide nylon material with 2.00" openings permanently fastened on the bottom with spring clip and hook fasteners on the top to secure it . The clear door opening will be 36.00" wide x 47.00" high.</p> <p>The cabinet will include two (2) infinitely adjustable shelves with a 1.25" up-turned lippainted to match the cab interior.</p> <p>The cabinet will include no louvers.</p> <p>The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) white Amdor LED strip light installed on the left side of the interior cabinet door opening and one (1) white Amdor LED strip light installed on the right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.</p>
0632582	Seat, Fwd Fcng C/C, RS Otbrd, Pierce PSV, Hi-Back, Foldup, Safety, SECONDARY,Enf	<p>FORWARD FACING PASSENGER SIDE OUTBOARD SEAT</p> <p>There will be one (1) forward facing foldup seat provided at the passenger side outboard position in the crew cab. The seat back will be a high back style with 9 degree fixed recline angle. 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).</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt.</p>
0835057	SP Matting, .13" Rubber, Cab, Tray	<p>MATTING IN CAB CABINET</p> <p>Black rubber matting will be provided in two (2) tray(s) located trays forward and rear of cup holders on engine mounting plate in cab..</p> <p>The matting will be 0.13" thick with corrugated top ribs.</p>
0689246	Panel, Dress, Below EMS Compt., Each	<p>DRESS PANEL</p> <p>There will be a dress panel fabricated and supplied beneath one (1) forward facing crew cab cabinet(s) within the crew cab. Each panel will be fabricated and painted to match the cabinet texture and color. Each panel will be fastened to dress, or complete, the area under the cabinet, allowing it to appear as though it is part of that cabinet. The panel will be added to area beneath center forward facing cabinet in crew cab cabinet(s).</p>
0820412	Fasteners, Mechanical, Strip Lighting, Cab Compartments	<p>BRACKETS/CLAMPS FOR COMPARTMENT LIGHTS</p> <p>Metal clamps will be used to retain the strip lighting in all cab compartments.</p>
0766467	Upholstery, Seats In Cab, All Vinyl, Seats Inc, CARE	<p>SEAT UPHOLSTERY</p> <p>All seat upholstery will be leather grain 36 oz black vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have five (5) seating positions.</p>
0543991	Bracket, Air Bottle, Hands-Free II, Cab Seats	<p>AIR BOTTLE HOLDERS</p> <p>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.</p> <p>There will be a quantity of three (3) SCBA brackets.</p>
0734952	Door, Access, Front, (2) Rear Facing Seat Risers, No Heater	<p>ACCESS DOOR</p> <p>An access door will be provided in the front edge of each rear facing seat riser with a drop down door. The drop down door will be provided with a flush lift and turn latch and painted to match the cab interior. There will be louvers provided on the door of the cabinet for ventilation.</p>
0603866	Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	<p>SEAT BELTS</p> <p>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 applicable NFPA and CAN/ULC - S515 standards.</p> <p>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 will provide ease of operation in the normal seating position.</p> <p>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.</p> <p>Any flip up seats will include a 3-point shoulder type belts only.</p> <p>To ensure safe operation, the seats 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.</p>

0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, 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.
0647632		Lights, Dome, WIn 60C*EGCS Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) Whelen, Model 60C*EGCS, 6.00" round dual LED dome lights 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 door switches and the lens switch. The color LED's will be controlled by the lens switch.
0813183		Not Required, Enhanced Software for Cab and Crew Cab Dome Lts	
0746938	SP	Handlts, (4) BAYCO Nightstick XPR-5582RX 12v	HAND HELD SPOTLIGHT There will be four (4) Nightstick Model XPR-5582-*X, flashlights with white LED lights and rechargeable battery packs, 12 volt DC chargers and yellow bodies provided and installed determined at pre-construction.
0643574	SP	Handlight, Pelican, 3765PL, Rechargeable Flashlight, 6061F 12V Charger	HAND HELD SPOTLIGHT There will be four (4) Pelican Products Model 3765PL, rechargeable light(s) with Model 6061F, 12 volt DC direct wire charger(s) installed in cab with locations provided at pre-construction.
0603606		Cab Instruments, Ivory Gauges, Chrome Bezels, Enf MUX	CAB INSTRUMENTATION The cab instrument panel will 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) ivory faced gauges with chrome 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): Low fuel (1/8 full) Amber caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly 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): 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): 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): 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): 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): 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): 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 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)
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 air conditioning control panel.

Windshield wiper control will include low, high and intermittent modes.

Turn signal arm: A self-canceling turn signal with high beam headlight will be provided.

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.

0509511 Air Restriction Indicator, Imp/Vel,
AXT, Enf MUX

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.

0543751 Light, Do Not Move Apparatus

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, 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.

0835004	SP Messages, Open Dr/DNMT, Color Dsply, Alameda, HDR	<p>DO NOT MOVE TRUCK MESSAGES</p> <p>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).</p> <p>The following messages will be displayed (where applicable):</p> <p>Do Not Move Truck</p> <p>LS Cab Door Open (Left Side Cab Door Open)</p> <p>RS Cab Door Open (Right Side Cab Door Open)</p> <p>LS Crew Cab Door Open (Left Side Crew Cab Door Open)</p> <p>RS Crew Cab Door Open (Right Side Crew Cab Door Open)</p> <p>LS Body Door Open (Left Side Body Door Open)</p> <p>RS Body Door Open (Right Side Body Door Open)</p> <p>Rear Body Door Open</p> <p>LS Ladder Rack Down (Left Side Ladder Rack Down)</p> <p>RS Ladder Rack Down (Right Side Ladder Rack Down)</p> <p>Deck Gun Not Stowed</p> <p>Lt Tower Not Stowed (Light Tower Not Stowed)</p> <p>Fold Tank Not Stowed (Fold-A-Tank Not Stowed)</p> <p>Aerial Not Stowed (Aerial Device Not Stowed)</p> <p>Stabilizer Not Stowed</p> <p>Steps Not Stowed</p> <p>Handrail Not Stowed</p> <p>Left Hatch Open (Left Hatch Compartment Door Open)</p> <p>Right Hatch Open (Right Hatch Compartment Door Open)</p> <p>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.</p>
0611683	Switching, Cab Instrument Lower Console & Overhead, Membrane, Enforcer WiFi MUX	<p>SWITCH PANELS</p> <p>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 appliques. The built-in switch panels will be located in the lower console or overhead console of the cab.</p> <p>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.</p> <p>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.</p>
0802940	Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	<p>WIPER CONTROL</p> <p>Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls. The control will be located above the ignition switch.</p>
0826636	Wiring, Spare, (1) 15A 12V DC, Multi Loc, Cab, B+, 1st, NFPA1900/ULC	<p>SPARE CIRCUITS</p> <p>There will be one (1) shared 15 amp circuit, including a positive and a negative wire, dropped out in multiple locations on the apparatus. All dropout locations will be wired in a parallel configuration.</p> <p>The wires will have the following features:</p> <p>The positive wire will be connected directly to the battery power</p> <p>The negative wire will be connected to ground</p> <p>Wires will be capable of carrying 10 amps</p> <p>The spare wiring circuit will be located and terminated as follows:</p> <p>Spare circuit drop #1 will be located in the cab dash on the right side and termination with 15 amp, power point plug with rubber cover</p> <p>Spare circuit drop #2 will be located behind switch panel #14 and termination with 15 amp, power point plug with rubber cover</p> <p>Spare circuit drop #3 will be located behind switch panel #14 and termination with 15 amp, power point plug with rubber cover</p> <p>Spare circuit drop #4 will recessed into side of center forward facing cabinet so power point accessible from left RF seat. and termination with 15 amp, power point plug with rubber cover</p> <p>Spare circuit drop #5 will recessed into side of center forward facing cabinet so power point accessible from right seats. and termination with 15 amp, power point plug with rubber cover</p> <p>Spare circuit drop #6 will not be required and termination is not required with no location</p> <p>Wires will be protected to meet the NFPA Automotive Fire Apparatus standard.</p> <p>Battery Direct loads cannot be Load Managed.</p>

0821263	Wiring, Spare, 20 A 12V DC, 12 Ckt FB, Blue Sea 5026 Batt Dir 1st NFPA1900/ULC	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The 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 capable of carrying 20 amps. Power and ground will terminate mounted to engine tunnel behind driver seat. (Used for (5) portable radio chargers and (4) Pelican lights on mounting plate.). Termination will be to a Blue Sea System, Model 5026, 12 circuit with negative bus bar, straight blade fuse block. The terminal block will include a cover with circuit labels. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed
0819994	Radio, Jensen, AM/FM/WB, Bluetooth	STEREO RADIO There will be one heavy duty AM/FM / Weatherband / Bluetooth stereo radio. The radio will be installed per instrument panel layout. There will be 5.25" speakers installed one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab. The antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof. The following Jensen features will be included: 180 watts max power (45W x 4); 100 watts RMS (25W x 4) Bluetooth® streaming audio (A2DP/AVRCP) Weatherband AM/FM tuner with 30 presets Audio settings (volume/bass/treble/balance/fade) Toggle switch between day and night display Daylight-readable, segmented LCD Two-wire power with non-volatile memory and clock support Low battery alert
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714	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 158 degrees Fahrenheit LCD optically bonded to hardened AR glass 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 the water level system includes compatible communications to the information center) Foam Level (if the foam level system includes compatible communications to the information center) 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

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

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.

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 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.

0816633	Collision Mitigation, HAAS Alert (R2V), HA7	<p>COLLISION MITIGATION</p> <p>There will be a HAAS Alert®, Model HA 7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius.</p> <p>The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.</p> <p>While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.</p> <p>While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.</p> <p>The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.</p> <p>Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.</p>
0606248	Vehicle Data Recorder w/CZ Display Seat Belt Monitor, Unique Alarm	<p>VEHICLE DATA RECORDER</p> <p>There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.</p> <p>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.</p> <p>The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> 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 Internal clock syncs the time and date when a laptop is connected <p>Seat Belt Monitoring System</p> <p>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:</p> <ul style="list-style-type: none"> 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 FAULT = Blue LED indicator illuminated <p>The seat belt monitoring screen will become active on the Command Zone color display when:</p> <ul style="list-style-type: none"> 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. <p>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. The alarm will have a unique sound that will be different than all other alarm sounds on the vehicle. A "Seat Belt Alarm" label will be provided above this buzzer.</p>
0832307	SP Intercom, David Clark, Up to 4 Wireless, (D,O,RPTT), 4obC, Ext Antenna	<p>INTERCOM SYSTEM</p> <p>A six (6) position David Clark intercom system with wireless single radio interface capability for up to four (4) users will be provided with a roof mounted antenna left side of crew cab roof behind radio antenna mount. The four (4) bay battery charger will be located charger mounted in center FF cabinet on top shelf right side outboard edge. The driver, and officer positions will have wired single radio interface capable stations with remote radio push to talk buttons located per instrument panel layout. Four (4) outboard crew cab positions, located, at two (2) forward facing seats and two (2) rearward facing seats, .The following components will be supplied with this system:</p> <ul style="list-style-type: none"> One (1) U9922-G38 Radio Gateway Module One (1) 40688G-96 Antenna One (1) A99-14CRG 12VDC four (4) Bay Battery Charger One (1) C99-14DC1 12VDC battery charger cord One (1) U3805 Radio Cord Junction Module Two (2) U3815 Radio Interface Modules (Driver, Officer) Two (2) Remote Radio Push To Talk One (1) U3800 Intercom Unit (1 Crew) One (1) C3820 Power Cable Two (2) U3802 Remote Headset Station (2 Crew) One (1) U3801 Remote Headset Station (1Crew) All necessary cables and connectors
0637058	David Clark Universal Radio Interfaces Included with Single/Dual System	<p>RADIO / INTERCOM INTERFACE INCLUDED</p> <p>All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to Motorola radio location .</p>

0597914	Headset, David Clark, H3442 Under Helmet, Flex Mic	UNDER THE HELMET HEADSET There will be five (5) under the helmet, headset(s) provided Driver, officer, (1) FF crew seat and (2) RF crew. Each David Clark, Model H3442, headset will feature: M-7A noise canceling electret microphone Hybrid wire/flex boom assembly, 280° rotating, for perfect microphone placement on left or right side Dynamic earphone elements Advanced Undercut Gel Ear Seals for superior comfort Microphone on/off switch 6 ft. extended coil cord Adjustable overhead support assembly Carbon steel nape-band spring, black finish, rotates for left or right side mic positioning Independently Certified NRR: 23dB
0690646	Headset, David Clark w/ Wireless Radio Belt Station, Under Helmet	WIRELESS UNDER THE HELMET HEADSET There will be one (1) under the helmet, marine grade headset(s) with wireless radio push-to-transmit belt station(s) provided next to charger mounted center FF cabinet on top shelf right side outboard edge. (Receiver on DS crew cab rear wall per SH2). There will be one (1) user replaceable, rechargeable, Li-polymer battery included with each belt station. Each David Clark, Model H9940, headset will feature: 6' Coiled cord with military grade belt station connector M-87 type dynamic noise cancelling microphone Hinged/flex microphone boom rotates 280 degrees for left or right dress Dual volume controls Each, David Clark, Model U9910-BSW, belt station will feature: Marine grade, water-tight, impact resistant enclosure with rubberized skin Hands free, full duplex, voice activation Voice prompts to ensure wireless link status Water-tight battery compartment
0819255	Hangers For Headsets, NFPA/ULC 2024, Each	HEADSET HANGERS There will be four (4) 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 the current edition of applicable NFPA and ULC standards for equipment mounting.
0767363	SP David Clark Headset Case	HEADSET CASE There will be one (1) David Clark, Model 40688G-08 headset case provided with loose equipment.
0690636	Battery for David Clark Wireless Belt Station	SPARE BATTERY(S) There will be one (1) David Clark, battery(s) provided for use with a wireless belt station.
0709553	Install Customer Provided Two-Way Radio(s), Dual Heads	TWO WAY RADIO INSTALLATION There will be one (1) customer supplied two way radio(s) with dual heads sent to the apparatus manufacturers preferred radio installer to be installed Motorola with transceiver in radio compartment behind officer seat. per the shipping document. The remote radio heads will be located (1) in switch panel 3 and (1) switch panel 5. No antenna mount or whip will be included in this option. Specific radio shipping requirements will be followed.
0616382	Install Customer Provided GPS/Multimode Antenna(s)	GPS / MULTIMODE ANTENNA INSTALLATION There will be four (4) 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.
0559503	Install Customer Provided, Portable Radio Charger(s)	PORTABLE RADIO CHARGER INSTALLATION There will be five (5) customer supplied portable two-way radio chargers(s) sent to the apparatus manufacturers preferred radio installer to be installed To be determined at pre-con. Specific shipping requirements will be followed.
0736417	Install Customer Provided Two-Way Radio(s), Single Remote Head	TWO WAY RADIO INSTALLATION There will be one (1) customer supplied two way radio(s) with a single remote head sent to the apparatus manufacturers preferred radio installer to be installed BK transceiver next to Motorola behind officer seat. per the shipping document. The remote radio head will be located BK in overhead officer side per IP layout (location 4). No antenna mount or whip will be included in this option. Specific shipping requirements will be followed.

0660274	SP Antenna Mount, Laird MABVT19530 w/ 30' LMR-195 Cable	RADIO ANTENNA MOUNT There will be two (2) NMO type antenna mounting bases, Model MABVT19530 for up to 1Ghz, located on the cab roof on crew cab roof best location with weatherproof cap provided. The mount(s) will be provided with 30 feet of LMR-195 coax cable routed within the cab to antenna cable routed to Motorola transceiver mounted behind officer seat .
0816158	Camera, Pierce, LS Mux, RS, LS, R, Cameras, AHD	VEHICLE CAMERA SYSTEM There will be a color vehicle camera system provided with the following: One (1) Analog High Definition (AHD) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal. One (1) AHD camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal. One (1) AHD, black camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse. The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control in the blank panel to the left of the steering column. The following components will be included: One (1) 1080P Rear Camera Two (2) 1080P Side Cameras All necessary cables
0814861	Camera, Switcher, Pierce, 4 channel, AHD, CVBS	Camera Switcher There will be one (1), HMU318 HD Image Processor multiplexer, 4 channel camera video switcher with remote control provided to allow single, dual, triplex, quad, trefoil, Y split and PIP view display modes on the vehicle information center display provided. The switcher will have one (1) CVBS, Composite Video Blanking and Sync, standard Definition video output and one (1) AHD, Analog High Definition video output for High Definition cameras.
0653350	Guards, Vehicle Camera(s), Painted Smooth Aluminum	VEHICLE CAMERA GUARDS There will be two (2) smooth, tapered aluminum guard(s) fastened over the cab / body camera(s) located (1) on RS cab, (1) left side cab.. The guards will be painted to match the surface they are attached to.
0683718	Recess, Rear Vision Camera Into Lightstick Housing	RECESS, REAR BODY CAMERA A recessed box will be installed in the light stick housing in the rear body to protect the back up camera from damage.
0890416	Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	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, electronic control modules to include a see through housing, a power indicator, a status indicator and circuit indicators 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 programmable to accommodate changes to the vehicle's operating parameters 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 degrees Celsius to +70 degrees Celsius

Storage temperature from -40 degrees Celsius to +70 degrees Celsius
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 32 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

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

Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU 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 communicate through a white WiFi antenna 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 TCU 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 TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU 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.

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.

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.

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

There will be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

0624253	Electrical System, Enforcer MUX	<p>ELECTRICAL</p> <p>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.</p> <p>Electrical wiring and equipment will be installed utilizing the following guidelines:</p> <p>All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.</p> <p>All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.</p> <p>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.</p> <p>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.</p> <p>The results of the tests will be recorded and provided to the purchaser at time of delivery.</p>
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud	<p>BATTERY SYSTEM</p> <p>There will be six (6) 12 volt Stryten/Exide®, Model 31S950X3W, batteries that include the following features will be provided:</p> <ul style="list-style-type: none"> 950 CCA, cold cranking amps 190 amp reserve capacity High cycle Group 31 Rating of 5700 CCA at 0 degrees Fahrenheit 1140 minutes of reserve capacity Threaded stainless steel studs <p>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.</p> <p>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.</p>
0615563	Battery System, Single Start, Kissling Red Switch, Saber FR/Enforcer	<p>BATTERY SYSTEM</p> <p>There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p>MASTER BATTERY SWITCH</p> <p>There will be a Kissling, red master battery switch provided within the cab within easy reach of the driver to activate the battery system.</p> <p>An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.</p>
0002698	Battery Compartment, Saber/Enforcer	<p>BATTERY COMPARTMENTS</p> <p>Batteries will be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab and bolted directly to the chassis frame. The battery boxes will have reinforced sides. The battery compartments will be constructed of 0.188" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The battery hold-downs will be of a non-corrosive material. All bolts and nuts will be stainless steel. Heavy-duty, 2/0 gauge, color coded battery cables will be provided. Battery terminal connections will be coated with anti-corrosion compound.</p> <p>Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.</p> <p>JUMPER STUDS</p> <p>One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.</p>
0812586	Charger, Sngl Sys, Kussmaul, Chief 091-266-12-60, 60 Amp	<p>BATTERY CHARGER</p> <p>There will be a Kussmaul™, Chief Series Smart Charger 6012, product code 091-266-12-60, 60 amp battery charger with build-in touch screen display provided.</p> <p>The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.</p>

0815826	Location, Crew Cab, Charger, Rear Facing Seat Riser, Left Position, Loc	The battery charger will be located in the left side crew cab rear facing seat riser located on floor so screen can be seen / used from outside cab standing on ground.
0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.
0814939	Location, Cab, Ind/Remote, Driver's Seat Riser	The battery charger indicator will be located on the driver's seat riser.
0811952	Not Required, Indicator/Remote Status	
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	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 and shoreline transfer switch. 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
0026800	Shoreline Location	The shoreline receptacle will be located on the driver side of cab, above wheel.
0783395	Transfer Switch, Generator to Shoreline 30 Amp and Under	GENERATOR TO SHORELINE TRANSFER SWITCH There will be an automatic transfer switch between the onboard generator and the shoreline inlet. The loads connected to the transfer switch will be power from the onboard generator when the generator is running.
0009429	Electric Power Only, Portable Winch	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 each side between tandems, Under LS1, Under RS1, Under B1, Left side front bumper, Right side front bumper, (1) center front bumper. A total quantity of eight (8) receptacles will be provided.
0647728	Alternator, 430 amp, Delco Remy 55SI	ALTERNATOR A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.
0829011	SP Programming, Cab Side Scene and Alley Lights	POGRAMMING CAB SIDE SCENE AND ALLEY LIGHTS Programming will be provided to control the cab side scene lights when the alley lights are on per the following: The left side cab scene light will be activated when the left side alley light switch is on. The right side cab scene light will be activated when the right side alley light switch is on.

0092582	Load Manager/Sequencer, MUX	<p>ELECTRONIC LOAD MANAGER</p> <p>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.</p> <p>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.</p> <p>The system will include the following features:</p> <p>System voltage monitoring.</p> <p>A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.</p> <p>Sixteen available electronic load shedding levels.</p> <p>Priority levels can be set for individual outputs.</p> <p>High Idle to activate before any electric loads are shed and deactivate with the service brake.</p> <p>If enabled:</p> <p>"Load Man Hi-Idle On" will display on the information center.</p> <p>Hi-Idle will not activate until 30 seconds after engine start up.</p> <p>Individual switch "on" indicator to flash when the particular load has been shed.</p> <p>The information center indicates system voltage.</p> <p>The information center, where applicable, includes a "Load Manager" screen indicating the following:</p> <p>Load managed items list, with priority levels and item condition.</p> <p>Individual load managed item condition:</p> <p>ON = not shed</p> <p>SHED = shed</p> <p>SEQUENCER</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.</p> <p>Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:</p> <p>Cab Heater and Air Conditioning</p> <p>Crew Cab Heater (if applicable)</p> <p>Crew Cab Air Conditioning (if applicable)</p> <p>Exhaust Fans (if applicable)</p> <p>Third Evaporator (if applicable)</p>
0724853	Headlights, Rect LED, HiViz FT-4X6-4KIT, AXT/Enf/Imp/Sab/Vel, Trim	<p>HEADLIGHTS</p> <p>There will be a HiViz part number FT-4X6-4KIT, that includes four (4) 4.00" high x 6.00" long rectangular LED lights with parking lamp illumination around the outside of the lamps mounted in the front quad style housings on each side of the cab grille:</p> <p>the outside lamp on each side will contain a part number FT-4X6-HL with low beam LEDs</p> <p>the inside lamp on each side will contain a part number FT-4X6-H with high beam LEDs</p> <p>the lights will be controlled through the headlight switch</p> <p>The headlight housing and trim to be chrome.</p>
0804681	Light, Directional, W/in 604T* Cmn Bzl, Above Headlts,Sab/Enf	<p>DIRECTIONAL LIGHTS</p> <p>There will be two (2) Whelen®, Model 604T*, amber LED populated directional lights provided on the front of the cab, above the headlights.</p> <p>Each light will be housed in the same quad common bezel as the front warning light.</p> <p>The lens color(s) to be clear.</p> <p>The flash pattern of the directional lights will be Steady On (Arrow).</p>
0620044	Light, Directional/Marker, Intermediate, Truck-Lite 21290Y LED 2lts	<p>INTERMEDIATE LIGHT</p> <p>There will be two (2) Truck-Lite®, Model 21290Y, amber LED lights furnished, one (1) each side of the rear fender panel. The light will double as a turn signal and marker light.</p>
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor Lt	<p>CAB CLEARANCE/MARKER/ID LIGHTS</p> <p>There will be two (2) amber LED lights provided to indicate the presence and overall length of the vehicle in the following locations:</p> <p>Two (2) lights with amber LEDs as front side clearance lights will be installed, one (1) on each side above the cab doors.</p> <p>All other forward facing clearance lights will be included with the visor scene light.</p>

0647899	Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29 LED, Sab/Enf	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.
0511569	Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	REAR CLEARANCE/MARKER/ID LIGHTING There will be three (3) LED identification lights located at the rear installed 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) 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) LED lights installed on the side of the apparatus used 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 The lights will be mounted with an aluminum guard. 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.
0804514	Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	REAR FMVSS LIGHTING The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be clear.
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	LICENSE PLATE BRACKET One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus. One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.
0556842	Bezels, WIn, (2) M6 Chrome Pierce, For mtg (4) WIn M6 lights	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.
0589905	Alarm, Back-up Warning, PRECO 1040	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.
0578264	Flash Pattern, California Title13, LED Warning Lights	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.

0769420		Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	CAB PERIMETER SCENE LIGHTS There will be four (4) Amdor, Model AY-LB12HW020, 350 lumens each, 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.
0616293		Not Required, Lights Perimeter Pump House, No Pump	
0769560		Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step	BODY PERIMETER SCENE LIGHTS There will be two (2) Amdor, Model AY-LB12HW012, 190 lumens each, 12.00" 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, a switch within reach of the passenger is activated and a switch in a recessed cup located on the driver's side at the rear of the body.
0769570		Lights, Perimeter, Amdor AY-LB-12HW020 20", Brkt	ADDITIONAL PERIMETER LIGHTS There will be eight (8) Amdor® Model AY-LB-12HW020, 350 lumens, 20.00" long, with white LED's installed with one (1) light under the rear tailboard, one (1) light under the front bumper, centered, one (1) light under compartment LS1, one (1) light under compartment RS1, one (1) light under compartment LS4, one (1) light under compartment RS4, one (1) light under compartment LS5 and one (1) light under compartment RS5. With the chassis battery switch energized, the lights will be activated by the same means as the body perimeter lights.
0814230		Not Required, Enhanced Software for Perimeter Lts	
0834638	SP	Lights, Step, P25 LED, HDR-NWI, Rear & Rec Walkway, Perm Lts, Rec	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. Each light will be recessed. 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. These step lights will be actuated with the perimeter scene lights. All steps on the apparatus will be illuminated per the current edition of applicable NFPA standards.
0729921	SP	Light, Roof Mt, Wln S72M**, 72" Cnt Feature, Mkr Lts Activated, SUBKT* Mounts	12 VOLT LIGHTING There will be a Whelen® Model S72M**, 72.00" long 32,400 lumens DC powered light provided on the front cab roof as far forward as practical. The painted parts of this light assembly to be black. The light(s) to be installed with flat horizontal mounts. The light will include the following: White scene LEDs Two (2) amber LED modules as clearance lights Three (3) amber LED modules as identification lights Four (4) additional LED modules. The additional modules to be four (4) scene light modules with white LEDs The clearance and identification LEDs will be activated with the headlight switch. The scene LEDs will be activated when the battery switch is on and by a switch at the driver's side switch panel and by a switch at the passenger's side switch panel. There will be a switch in the cab on the switch panel to control the flashing or spot LED modules. Amber flashing LED modules will be deactivated when the parking brake is released. The white scene and flashing LED modules may be load managed when the parking brake is applied.
0768059		Lights, Wln, PCPSM2* Pioneer, 12 VDC, 2nd	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, (1) passenger side high between cab doors. The surface mount housing(s) will be provided with a black cover. The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a switch in a stainless steel cup located on the driver's side at the rear of the apparatus no more than 72.00" from the ground. The light(s) may be load managed when the parking brake is applied.

0768061	Lights, Wln, PCPSM2* Pioneer, 12 VDC, 1st	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, (1) driver side high between cab doors. The surface mount housing(s) will be provided with a black cover. The light(s) will be activated by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a switch in a stainless steel cup located on the driver's side at the rear of the apparatus no more than 72.00" from the ground. The light(s) may be load managed when the parking brake is applied.
0889921	Lights, HiViz FT-MB-2.9-*-* , 11.10" Brkt Fet, 2nd	12 VOLT LIGHTING There will be one (1) HiViz Model FT-MB-2.9-*-* , 9,504 raw lumens 3.46" high x 11.10" long x 3.31" deep 12 volt DC light(s) with white LEDs, a combination of flood and spot optics and adjustable mounting brackets installed on the cab right side cab roof corner next to brow light mounted at 45 degree angle . The light(s) to be installed directly to the roof of the cab. The painted parts of the light housing and brackets to be black. The light(s) will be activated by a switch at the driver's side switch panel and by the same control that has been selected for the cab front scene light(s). The light(s) may be load managed when the parking brake is applied.
0889923	Lights, HiViz FT-MB-2.9-*-* , 11.10" Brkt Fet, 1st	12 VOLT LIGHTING There will be one (1) HiViz Model FT-MB-2.9-*-* , 9,504 raw lumens 3.46" high x 11.10" long x 3.31" deep 12 volt DC light(s) with white LEDs, a combination of flood and spot optics and adjustable mounting brackets installed on the cab left side cab roof corner next to brow light mounted at 45 degree angle . The light(s) to be installed directly to the roof of the cab. The painted parts of the light housing and brackets to be black. The light(s) will be activated by a switch at the driver's side switch panel and by the same control that has been selected for the cab front scene light(s). The light(s) may be load managed when the parking brake is applied.
0763610	Lights, Wln, PCPSM2* , Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be two (2) Whelen® Model PCPSM2* , 16,000 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, (1) forward on left side body and (1) rear on left side body. The light(s) will include housing(s) with a black cover. The light(s) will be controlled by the same control that has been selected for the driver's side scene light(s). The light(s) may be load managed when the parking brake is applied.
0763608	Lights, Wln, PCPSM2* , Pioneer, 12 VDC, 2nd	12 VOLT LIGHTING There will be two (2) Whelen® Model PCPSM2* , 16,000 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, (1) forward on right side body and (1) rear on right side body. The light(s) will include housing(s) with a black cover. The light(s) will be controlled by the same control that has been selected for the passenger's side scene light(s). The light(s) may be load managed when the parking brake is applied.
0728734	SP Lights, Rear Scene, Wln, PCPSM1* Pioneer LED Fld/Spt, Surface Mount	REAR SCENE LIGHTS There will be two (2) Whelen, Model PCPSM1, LED scene lights with black trim bezels installed at the rear of the apparatus. These lights will be installed between 30.00" and 102.00" above the ground. The lights will be controlled by a switch at the driver's side switch panel, by a switch at the passenger's side switch panel and by a cup switch at the driver's side rear bulkhead.
0795742	Not Required, Walking Surface, Alt. Walking Surface Lights, HDR	

0019030		HDR, Non-Walk-In, Aluminum	<p>HEAVY DUTY RESCUE BODY CONSTRUCTION</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>ROOF CONSTRUCTION</p> <p>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.</p> <p>The roof panel will be welded to the roof extrusions and supports. All roof seams will be continuously welded.</p> <p>BODY AND COMPARTMENT SUPPORT</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
0833320	SP	23.5' Body Length, 52.52.Tandem.52, NWI	<p>BODY LENGTH</p> <p>The length of the body will be 282.00".</p>
0656687		96" Body Width, NWI	<p>BODY WIDTH</p> <p>The width of the body will be 96.00".</p> <p>Compartment Depth</p> <p>Standard Depth</p> <p>All standard depth side body compartments will measure 28.00" deep from the outside of the body to the rear compartment wall. The usable depth inside each side body compartment will be 26.00" deep.</p> <p>Transverse</p> <p>All transverse side body compartments will have a usable depth of 26.00" at the floor level. These compartments will extend over the frame rails through to the other side of the body.</p>
0639695	SP	108" Body Height, NWI, Tandem	<p>BODY HEIGHT</p> <p>The height of the body will be 108.00" (2,743 mm) without any roof mounted options.</p>

ROOF CONFIGURATION
The roof of the body will be configured with two (2) front hatch compartments, side hatch compartments, and a recessed walkway. The two (2) front hatch compartments will be located at the front of the body. The side hatch compartments and the recessed walkway will be located rearward of the two (2) front hatch compartments.
The side hatch compartments will run the length of the body on both sides from the rear up to the front hatch compartments. The side hatch compartments will be provided in the following configuration:
There will be two (2) hatch compartments 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 front hatch compartments.

Hatch Compartments
The two (2) front hatch compartment doors will be designed to hinge on the forward most side, opening towards the rear of the body.
All side hatch 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" 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
Together, the two (2) front hatch compartments will span the full width of the body. These two (2) compartments will be 60" 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:

Clear Width of Side Hatch Compartments According to Width of Body

Body Width
Clear Width of Hatch Compartments
96.00"
26.50"
100.00"
28.50"

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:

Inside Depth of All Hatch Compartments According to Body Height

Body Height
Inside Depth of Hatch Compartments
90.00"
16.50"
98.00"
24.50"
100.00"
26.50"
103.25"
29.50"
106.25"
32.50"
Body Height Not Listed Here
Consult factory for depth of hatch compartments

Recessed Walkway
The recessed walkway will not be less than 30.00" 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" thick, 2.00" square aluminum tubing on 12.00" centers.
The treadplate in the walkway will be formed up 90 degrees at least 2.00" on each side to form a double 0.125" vertical wall for a water tight seal.
There will be two (2) 1.00" diameter drain holes provided in the walkway. The drains will be routed to drain below the body.

0816232	SP	Doors, Roll-up/Swing Down Lap, AMDOR, Side Compartments	<p>ROLL-UP/SWING DOWN LAP DOOR, SIDE COMPARTMENTS</p> <p>There will be six (6) compartment doors installed on the side compartment(s) that 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.</p> <p>The combination roll-up/swing down lap door style compartment door(s) will be provided LS1, LS4, LS5, RS1, RS4, RS5. Any compartment door opening that is not specified as having a roll-up/swing down lap door will be provided with a full height roll-up door unless specified otherwise. 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.</p> <p>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.</p> <p>Doors 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 be connected with 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.</p> <p>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 ingress.</p> <p>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 the bottom panel will be manufactured utilizing non-marring materials.</p> <p>Bottom panel flange of the roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.</p> <p>A A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 751 to match all custom cab doors. 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.</p> <p>All injection molded roll-up door wear components will be constructed of Type 6 Nylon.</p> <p>Each 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).</p> <p>The header for the roll-up door assembly will not exceed 4.00" (102 mm).</p> <p>A heavy-duty magnetic switch will be used for control of "open compartment door" warning lights.</p>
0833321	SP	23.5' Body Roll Doors, 52.52.Tandem.52, NWI	<p>EXTERIOR COMPARTMENTS</p> <p>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.</p> <p>WHEEL WELLS</p> <p>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.</p>

0833322	SP	Left Forward Compt, 52" & 52" Roll, 74" H, NWI	<p>LEFT FORWARD COMPARTMENTS</p> <p>First Compartment The first compartment will be located directly behind the cab. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of First Compartment</p> <p>Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.50" wide</p> <p>Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.50" wide. The height of the area over the frame rails will be approximately 18.00" shorter than the Interior Compartment Height listed for this compartment.</p> <p>Second Compartment The second compartment will be located behind the first compartment and directly ahead of the rear wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Second Compartment</p> <p>Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.88" wide</p> <p>Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.88" wide. The height of the area over the frame rails will be approximately 18.00" shorter than the Interior Compartment Height listed for this compartment.</p> <p>Compartment Loading Each compartment will be capable of holding 1,400 lb. The area over the frame rails in each compartment will be capable of holding an additional 1,000 lb.</p>
0766137	SP	Left Over Wheel Compt, 52"-51", Roll, Tandem, NWI (Fwd Transverse), 45.25" H	<p>LEFT OVER WHEEL COMPARTMENTS</p> <p>Forward Compartment A compartment will be provided above the forward tandem wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Forward Compartment</p> <p>Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.88" wide</p> <p>Height Door Frame Opening: 45.25" high; Clear Door Opening: 40.25" high; Interior Compartment Height: 48.13" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.88" wide x 48.13" high.</p> <p>Rear Compartment A compartment will be provided above the rear tandem wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Rear Compartment</p> <p>Width Door Frame Opening: 51.00" wide; Clear Door Opening: 48.50" wide; Interior Compartment Width: 56.50" wide</p> <p>Height Door Frame Opening: 45.25" high; Clear Door Opening: 40.25" high; Interior Compartment Height: 48.13" high</p> <p>Compartment Loading Each compartment will be capable of holding 1,200 lb. The area over the frame rails in the forward compartment will be capable of holding an additional 1,000 lb.</p>
0833325	SP	Left Rear Compt, 52" W x 74" H, Roll, NWI	<p>LEFT REAR SIDE COMPARTMENT The left rear side compartment will be located directly behind the rear wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Left Rear Side Compartment</p> <p>Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.50" wide</p> <p>Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high</p> <p>Compartment Loading The compartment will be capable of holding 1,400 lb.</p>

0833323	SP	Right Forward Compt, 52" & 52", Roll, 74" H, NWI	<p>RIGHT FORWARD COMPARTMENTS</p> <p>First Compartment The first compartment will be located directly behind the cab. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of First Compartment Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.50" wide Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.50" wide. The height of the area over the frame rails will be approximately 18.00" shorter than the Interior Compartment Height listed for this compartment.</p> <p>Second Compartment The second compartment will be located behind the first compartment and directly ahead of the rear wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Second Compartment Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.88" wide Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.88" wide. The height of the area over the frame rails will be approximately 18.00" shorter than the Interior Compartment Height listed for this compartment.</p> <p>Compartment Loading Each compartment will be capable of holding 1,400 lb. The area over the frame rails in each compartment will be capable of holding an additional 1,000 lb.</p>
0766136	SP	Right Over Wheel Compt, 52"-51", Roll, Tandem, NWI (Fwd Transverse), 45.25" H	<p>RIGHT OVER WHEEL COMPARTMENTS</p> <p>Forward Compartment A compartment will be provided above the forward tandem wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Forward Compartment Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.88" wide Height Door Frame Opening: 45.25" high; Clear Door Opening: 40.25" high; Interior Compartment Height: 48.13" high The compartment will be transverse, extending through to the other side of the body. The area over the frame rails will be 54.88" wide x 48.13" high.</p> <p>Rear Compartment A compartment will be provided above the rear tandem wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Rear Compartment Width Door Frame Opening: 51.00" wide; Clear Door Opening: 48.50" wide; Interior Compartment Width: 56.50" wide Height Door Frame Opening: 45.25" high; Clear Door Opening: 40.25" high; Interior Compartment Height: 48.13" high Compartment Loading Each compartment will be capable of holding 1,200 lb. The area over the frame rails in the forward compartment will be capable of holding an additional 1,000 lb.</p>
0833326	SP	Right Rear Compartment, 52" W x 74" H, Roll, NWI	<p>RIGHT REAR SIDE COMPARTMENT</p> <p>The right rear side compartment will be located directly behind the rear wheels. The compartment will be provided with a full-height roll-up door.</p> <p>Dimensions of Right Rear Side Compartment Width Door Frame Opening: 52.00" wide; Clear Door Opening: 49.50" wide; Interior Compartment Width: 54.50" wide Height Door Frame Opening: 74.00" high; Clear Door Opening: 68.00" high; Interior Compartment Height: 76.88" high Compartment Loading The compartment will be capable of holding 1,400 lb.</p>
0833717	SP	Rear Compt, Roll/Swing Down Lap Door, 74" H, AMDOR, Tandem Axle	<p>REAR COMPARTMENT</p> <p>Rear Door A combination roll-up/swing down lap door will be provided. The lower section of the door will be a swing down lap door and the upper section will be a roll-up 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" 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. 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.</p>

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" 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 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 ingress.

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 polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 751 to match all compartment and cab doors. 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" 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".

A heavy-duty magnetic switch will be used for control of "open compartment door" warning lights.

Compartment Door Size

Dimensions of Roll-Up Door (96.00" or 100.00" Wide Body)

Door Frame Opening

Clear Door Opening

With Recessed Walkway on Roof of Body

Width: 40.00"

Height: 74.00"

Width: 37.25"

Height: 67.13"

Without Recessed Walkway on Roof of Body

Width: 40.00"

Height: 89.75"

Width: 37.25"

Height: 83.88"

Interior Dimensions

Interior Width of Rear Compartment

Body Width

Interior Width of Compartment

96.00" or 100.00"

40.00"

The frame rails will extend part of the way into the rear compartment at the floor level creating two (2) different values for the height and depth of the compartment. Both the height and depth of the compartment will be different when measured behind the frame rails as compared to when measured above the frame rails.

Interior Height of Rear Compartment

Full Height (Behind Frame Rails)

Height Above Frame Rails

Any Body with Recessed Walkway on Roof of Body

77.00"

59.37"

90.00" (2,286 mm) High Body without Recessed Walkway

92.75"

75.12"

98.00" (2,489 mm) High Body without Recessed Walkway

100.75"

83.12"

Non-Standard Body Height without Recessed Walkway

Dimension available upon request

Dimension available upon request

Depth of Rear Compartment

The rear compartment will be 26.00" deep at the floor level behind the frame rails.

The depth of the rear compartment above the frame rails can vary according to the configuration of the body. This dimension is dependent upon both the width and depth of the following compartments:

Left Rear Side Compartment

Right Rear Side Compartment

Tandem Left Over the Wheel Compartments

Tandem Right Over the Wheel Compartments

Depth of Rear Compartment Over the Frame

48.00" Rear Side Compts

60.00" Rear Side Compts

Rear Side Compts: Width Not Listed Here

Rear Side Compts: Transverse (Any Width)

Standard Over Wheel Compts

165.25"

177.25"

Width of Side Rear Compts + 117.25"

No compartment

Forward Compt Transverse/Rearward Compt Standard

			110.75" 122.75" Width of Side Rear Compts + 60.50" No compartment Both Over Wheel Compts Transverse 51.88" 63.88" Width of side Rear Compts + 5.88" No compartment Over Wheel Compts: Non-Standard Width and/or Depth Dimension available upon request Dimension available upon request Dimension available upon request No compartment Compartment Loading The compartment will be capable of holding 1,000 lb. The area over the frame rails will be capable of holding an additional 2,000 lb.
0669051	SP	MODIFICATION, Shelf Track, Full Height	All shelf track is to be full height of the area in which it is installed.
0709686	SP	MODIFICATION, Horizontal Roller Guide Bracket, IPOS	HORIZONTAL ROLLER GUIDE BRACKET The reel roller guide brackets for each reel will be mounted horizontal to the ceiling of the compartment just below the reel mounted in the hatch compartment.
0790189	SP	MODIFICATION, Cable in Hatch Compt, IAT Gas Struts	CABLE IN HATCH COMPARTMENT Cable will be provided in the hatch compartment. The cable will be provided in addition to the gas cylinder struts provided to hold open the hatch compartment. The cable will allow the hatch cover to be fully opened. The cable will be provided for twelve (12) hatch compartment(s) located all hatch compartment doors, (1) on each side of each door.
0726234	SP	MODIFICATION, Raised Rear Roll-up Door, Raised 10"	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 increase the clear door opening to allow taller equipment to pass through. The door roll will blister into the side hatch compartments and create a raised step at the rear of the notched walkway.
0503432		Audio/Video Network Not Provided	
0818526		Hitch, Receiver, Rear/Sides, Under Body (HDR ONLY), No Ball or Wiring	HITCH RECEIVERS A total of three (3) hitch receivers will be provided on the apparatus. The hitch receivers will be constructed of heavy steel tubing and reinforced to the apparatus framework. Rear Receiver A class IV hitch receiver will be installed under the body at the rear of the apparatus. The 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, the hitch receiver will be capable of retaining a portable winch with a rating of no more than 10,000 lb. The hitch receiver will also be capable of being used for rope operations when used with properly rated equipment. NFPA 1900, 2024 edition, Section 10.3.3.2 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. This hitch receiver will not be utilized to tow a trailer. Therefore, the additional amps will not be included with the minimum continuous load. A label will be provided near the hitch receiver stating that this receiver will not be used for towing. Side Receivers There will be one (1) hitch receiver installed under the body behind the rear wheels on each side of the body. 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 be capable of retaining 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.

0816664		Hitch, Receiver, Sides, Through Fenders, Between Tandems, Feature Selection	<p>SIDE HITCH RECEIVERS</p> <p>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.</p> <p>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.</p> <p>As a result, each of these hitch receivers will be capable of retaining 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.</p> <p>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 Southco M1 push to close flush mounted stainless steel handle 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.</p> <p>The door will be polished.</p> <p>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.</p>
0524842		Ladder, Access, Alum, RH Rear, PUC Style	<p>ROOF ACCESS LADDER</p> <p>A wide easy climbing access ladder, constructed of aluminum rungs and extruded aluminum rails, will be provided on the right side at the rear of the apparatus. The inside climbing area of the ladder will be 13.75" wide.</p> <p>The lower section of the ladder will be retractable into the upper section to eliminate interference with the rear FMVSS lights. When lowered the bottom rung will be lower than the body to allow a lower first step height.</p> <p>The ladder will be slanted when in use for easy access, and fold against the body for storage to reduce the overall length. Corrosion resistant, stainless steel spring-loaded locks will hold the ladder in place.</p>
0834978	SP	Rack, Ladder Storage, Top Access, Recessed Walkway, Alameda Bid 989	<p>WALKWAY LADDER STORAGE</p> <p>The apparatus will be equipped with a ladder storage rack constructed of one (1) storage trough. Each storage trough will be a U-shaped trough designed to contain the ladder. The make and model of the ladder(s) will be 14' Duo Safety model 875A-DR.</p> <p>The rack will be mounted in the recessed walkway on the roof of the body and will be covered with aluminum treadplate on the three (3) vertical sides, separating the ladder storage from the walkway. The top of the rack will be left open to remove the ladder(s).</p> <p>The rack and troughs within the rack will be no taller than 6.00" to allow the recessed step lights to illuminate the walkway.</p> <p>The walkway storage rack will be provided with a single retaining strap with hook and loop fastener at the rear of the rack to provide an additional means of ladder removal.</p>
0834979	SP	Rack, Ladder Storage, Top Access, Recessed Walkway, Second, Alameda Bid 989	<p>WALKWAY LADDER STORAGE</p> <p>The apparatus will be equipped with a ladder storage rack constructed of one (1) storage trough. Each storage trough will be a U-shaped trough designed to contain the ladder. The make and model of the ladder(s) will be 14' Duo Safety model 875A-DR.</p> <p>The rack will be mounted in the recessed walkway on the roof of the body and will be covered with aluminum treadplate on the three (3) vertical sides, separating the ladder storage from the walkway. The top of the rack will be left open to remove the ladder(s).</p> <p>The rack and troughs within the rack will be no taller than 6.00" to allow the recessed step lights to illuminate the walkway.</p> <p>The walkway storage rack will be provided with a single retaining strap with hook and loop fastener at the rear of the rack to provide an additional means of ladder removal.</p>
0629341		Rope Anchors, Pair, 9,000 lb Rating	<p>ROPE ANCHORS</p> <p>There will be three (3) pairs of chrome plated steel eyebolts installed on the body to serve as rope anchor points. Each anchor will have an inside diameter of 2.00" (51 mm) and will be supported to provide a maximum of 9,000 lb (4,082 kg) no-yield condition with a straight line pull.</p> <p>Each pair of anchors will be installed in the following locations:</p> <p>One (1) on each side of the body facing the rear in the upper corners of the body</p> <p>One (1) on each side of the body in the upper corners at the front of the body</p> <p>One (1) on each side of the body in the upper corners at the rear of the body</p> <p>Stainless steel scuffplates will be provided behind each anchor point.</p>
0078804		Trim, Body Seams, Painted IPO Std.	<p>TRIM BODY SEAMS</p> <p>All body seams will be trimmed with the same material as the body construction and painted to match the body paint.</p>
0075036		Box, Tool, Poly, Custom Size	<p>TOOL BOX</p> <p>Tool box(es) construction of .50" thick plastic with a cut out carrying handle on each end will be provided.</p> <p>The tool box(es) will be held in place to prevent movement while the vehicle is in motion.</p> <p>The exterior box dimensions will be LS1 (Max W x Mex D x Max" H -1" for removal over shelf lip), RS4 (Max D x max W (equal across 5 boxes) x 1" shorter than Max Height).</p> <p>There will be nine (9) provided. The tool box(es) will be located (4) in LS1 on shelving of storage rack option 833729, (5) in RS4 on floor tray.</p>

0532786		Divider, Compt, Hatch Interior, Adjustable	ADJUSTABLE HATCH COMPARTMENT DIVIDER An adjustable hatch divider made of .12" aluminum will be provided. When facing the compartment, the divider will be fastened to aluminum tracks on the front and back of the hatch interior to allow left to right adjustment. A total of ten (10) will be provided (4) left rear hatch, (4) Right rear hatch and (2) in right forward side hatch forward of cord reel..
0550509		Divider, Compt, Hatch Interior, Adjustable, Longitudinal	ADJUSTABLE HATCH COMPARTMENT DIVIDER An adjustable hatch divider made of .12" aluminum will be provided. When facing the compartment, the divider will be fastened to aluminum tracks on the left and right sides of the hatch interior to allow front to back adjustment. A total of two (2) will be provided (1) each in forward hatch compartments running from front body wall to rear wall of compartment.
0568334		Divider, Compt, Vertical Transverse	VERTICAL COMPARTMENT DIVIDER There will be a total of two (2) vertical compartment divider(s) provided. Each divider will be located centered side to side in troughs at top of LS4/RS4 and LS5/RS5. Each divider will be constructed of 0.12" thick aluminum and secured in place with self tapping screws.
0023359		Floor Extension, Compt	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 five (5) will be provided and located LS4, LS5, RS4, RS5, B1.
0541225		Trough, Storage, Alum, Custom Size, (First)	STORAGE TROUGH A trough assembly will be provided for storing equipment. The trough will be fabricated of aluminum. The exterior of the trough will be finished to match the compartment it is mounted in. The interior of the trough will not be finished. The clear dimensions required for the inside of the trough will be: 8" H x 49" wide. There will be a horizonatly hinged, aluminum treadplate lift-up door with gas struts and a D-ring latch on both sides of the trough provided to hold the equipment in place. There will be a total of one (1) of these storage trough(s) provided. The storage trough(s) will be located (1) Transverse along top of LS5/RS5.
0541239		Trough, Storage, Alum, Custom Size, (Second)	STORAGE TROUGH A trough assembly will be provided for storing equipment. The trough will be fabricated of aluminum. The exterior of the trough will be finished to match the compartment it is mounted in. The interior of the trough will not be finished. The clear dimensions required for the inside of the trough will be: LS4 as wide as possible up to the Bauer filter assembly x half depth of body, RS4 full compartment width x half depth of body, (1) RS4 rear of trays as high and deep as possible to take up space opposite Bauer filter assembly. There will be a single aluminum treadplate door with D-ring latch provided to hold the equipment in place. There will be a total of three (3) of these storage trough(s) provided. The storage trough(s) will be located (1) top of LS4 and (1) top of RS4, (1) RS4 rear of trays to take up space up to Bauer filter assembly.
0833729	SP	Rack, Welded Shelf, w/0.63" Lip	WELDED RACK A rack with four (4) shelv(es) will be installed in LS1 rear of bottle storage rack. The shelv(es) will be welded in place with a 0.63" upward flange at the front. The clear dimensions for each shelf will be Maximum size available to store one max size poly box on each shelf with top of entire rack being equal height of bottle storage and fill station.. There will be enough space for one poly box on each shelf with 1" above box to allow room to lift over the front lip between each shelf. The rack will be fabricated of 0.125" aluminum, and will be finished to match the compartment interior.
0533910		Rack, SCBA Bottles, SPECIAL SIZE	STORAGE RACK FOR SPARE SCBA BOTTLES A storage rack will be provided side by side on top of SCBA bottle storage in LS1 to hold one (1) spare SCBA bottles. The rack will be built to hold the bottles 2 wide by 1 tall. The rack will be constructed of .12 inch aluminum. The inside of the rack will be left unpainted and the outside of the rack will be painted the same color as the compartment it is installed in. The storage slots will be flat and not angled to the rear of the rack. A rubber bumper will be provided on the rear wall of each slot to absorb the shock of the bottle being placed into position. A scuff tape material will be applied to the inside of the slots to reduce scratching the bottles. Protection will be provided on the edge of the rack to prevent damage while loading. The inside dimension of each bottle slot will be 2.75" H x 15" width (NOTE - Height can be reduced so top of bottle storage aligns with fill station and control panel).

0004201		Rack, SCBA Bottles, 7.50" x 7.50"	<p>STORAGE RACK FOR SPARE SCBA BOTTLES</p> <p>A storage rack will be provided vertical in LS1 just behind Space Saver fill station in a 2 wide configuration to be as tall as the fill station to hold ten (10) spare SCBA bottles. The rack will be built to hold the bottles 2 wide by 5 high.</p> <p>The rack will be constructed of 0.12" aluminum. The inside of the rack will be left unpainted and the outside of the rack will be painted the same color as the compartment it is installed in. Each storage slot will angle to the rear of the rack in order to minimize the chances of the bottle falling out. A rubber bumper will be provided on the rear wall of each slot to absorb the shock of the bottle being placed into position. Scuff tape material will be applied to the inside of each slot to reduce scratching on the bottle.</p> <p>The inside dimension of each bottle slot will be 7.50" x 7.50".</p>
0833965	SP	Recess For Reel(s), In Hatch Compartment(s) w/Access Panel	<p>RECESS FOR REEL(S)</p> <p>Accommodations will be provided to allow the reel(s) to be recessed into the hatch compartments through the top(s) of the body compartment(s) (reels priced separately). Each reel will be mounted so that it pays out into the compartment directly below the reel.</p> <p>A removable cover will be installed over the reel(s). If multiple reels are located adjacent to each other in one (1) hatch compartment, there will be one (1) cover provided that covers all the reels in that hatch compartment rather than an individual cover for each reel. The cover(s) will be finished to match the interior of the hatch compartment(s). There will be one (1) maintenance access panel provided for each reel. The access panel will be provide with a flush lift and turn latch.</p> <p>A total of three (3) reels will be mounted in this manner in the following location(s): (2) in hatch above LS3 and (1) in hatch above RS3</p>
0045071		Not Required, Bumper, Rear Non-Walk-In	
0793822		Not Required, Water Tank, Rescue	
0023410		Not Required, Overflow	
0028107		Not Required, Foam Cell Modification	
0553729		Not Required, Restraint, Water Tank, Heavy Duty	
0680848		No Hose Bed, HDR	
0013534		Not Required, Running Boards	
0690026		Wall, Rear, Body Material, HDR	<p>REAR WALL, BODY MATERIAL</p> <p>The rear wall will be smooth and the same material as the body.</p>
0003540		Tow Eyes (2) (Tanker/Rescue)	<p>TOW EYES</p> <p>There will be a total of two (2) painted tow eyes provided and mounted directly to the chassis frame rails at the rear of the apparatus. The inner and outer edges of the tow eyes will have a radius.</p>
0552955		Blister, Compts in Front of Rear Axle, To Clear Firemaax Suspension	<p>COMPARTMENT BLISTER</p> <p>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.</p>
0045159		Guard, Drip Pan, S/S, L-Shape, Cover Bottom and Rear of Rollup Door Roll	<p>DOOR GUARD</p> <p>The 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 LS1-LS5, RS1-RS5 and B1.</p>
0003915		Keyed Locks for Latches, Lap Doors (#751 Lock to Match Cab)	<p>KEYED LOCK(S)</p> <p>A keyed lock will be furnished for 15 compartment doors. The compartmentation, to have a keyed lock, will be All swing down steps on side and rear body, all hatch compartments and underbody compartments.</p>

0004010		Scuffplate, Polished S/S Bottom of Door Frame	DOOR FRAME SCUFFPLATE Six (6) scuffplates will be provided for the lower door frame of all lap door side body compartments. Each scuffplate will be polished stainless steel with a .38" lip down.
0636819		Trim, Rollup Door, Painted Job Color, by Amdor	ROLL-UP DOOR TRIM The exterior of the aluminum trim around the door opening will be painted to match job color. There will be eleven (11) compartments with the trim painted.
0659111		Lights, Compt, Amdor AY-9220 LED, Dual Lt Strips, HDR	COMPARTMENT LIGHTING There will be eleven (11) compartments with Amdor, Model AY9220, 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.
0667426		Lights, Compt, Amdor, AY-9220-42, LED, 41.61", Additional	ADDITIONAL COMPARTMENT LIGHTING There will be four (4) Amdor, Model AY9220-42, 41.61" long white 12 volt DC LED light stick(s) provided. The lights will be installed (1) vertical front and rear walls LS5/RS5 centered, (1) LS4/RS4 centered in body under storage troughs from front to back , (1) LS3/RS3 centered front to back over compressor area. 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.
0603182		Lights, Hatch Compt, Amdor AY-9220 LED Strip Lights, HDR	HATCH COMPARTMENT LIGHTING There will be an Amdor LumaBar, Model AY9220-0**, 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.
0760954	SP	Shelf, Fixed, Low/Special Side Height, Standard Depth, HDR	STANDARD DEPTH FIXED SHELF There will be one (1) shelf provided in LS1 tight to top of fill station, control panel, bottle storage and poly tray storage. The shelf construction will consist of 0.188" aluminum with a dual action finish. A capacity rating will not be available on this tray due to a reduced side height being less than 2.00". The shelf will be as deep as possible for a standard depth compartment, and as wide as possible for the specified mounting location. The shelf will be bolted to the walls in the designated mounting location. The side height of the shelf/shelves will be as follows: Front: 1.00" high Rear: 2.00" high Left Side: 2.00" high Right Side: 2.00" high
0834417	SP	Tray, 600 lb Slide-Out, 3" Sides, Adj, 100% Ext, SlideMaster, Std Depth, HDR	STANDARD DEPTH SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be one (1) slide-out tray provided for use in the standard depth side body compartment (s). Each tray will be constructed of 0.19" aluminum that is finished painted spatter gray. Each tray will have 2.00" high sides, will be as deep as possible for a standard depth compartment and will be as wide as possible for the designated mounting location. Each tray will be rated for up to 600 lb in the extended position. Each tray will be mounted on a SlideMaster, Model AM3, two (2) rail, single direction cargo slide with 100% extension. The vertical location of each tray within the compartment will be adjustable. The tray(s) will be located RS1 (for tool boards).
0709589	SP	Tray, 250 lb, Tilt/Slide-out, 30 Deg, Adj, Std Depth Compt, SlideMaster, HDR	STANDARD DEPTH SLIDE-OUT/TILT-DOWN TRAY There will be six (6) slide-out trays provided. Each tray will have 2.00" high sides, will be full depth for a standard depth compartment and will be as wide as possible for the specified mounting location. Each tray will be rated for up to 250 lb in the extended position. Each tray will be mounted on a SlideMaster, Model SMT, slide-out, tilt down slide assembly. The standard SlideMaster lock will be provided for both the in and out tray positions. Releasing the lock will allow the tray to slide out approximately 90% of its length from the stowed position and tip 30 degrees down from horizontal. The vertical position of the tray within the compartment will be adjustable. The tray(s) will be located (1) Upper LS1 above shelf, (2) LS2, (1) RS1 above tool boards, (2) RS2, .

0785751	SP	Tray, 250 lb, Tilt/Slide-out, 30 Deg, Adj, 1/2 Trans, SlideMaster	<p>HALF TRANSVERSE SLIDE-OUT/TILT-DOWN TRAY</p> <p>There will be two (2) slide-out trays provided. Each tray will have 2.00" high sides, will be half the depth of the transverse compartment and will be as wide as possible for the specified mounting location not exceeding 50.00" wide. Each tray will be rated for up to 250 lb in the extended position. Each tray will be mounted on a SlideMaster, Model SMT, slide-out, tilt down slide assembly. The standard SlideMaster lock will be provided for both the in and out tray positions. Releasing the lock will allow the tray to slide out approximately 90% of its length from the stowed position and tip 30 degrees down from horizontal. The vertical position of the tray within the compartment will be adjustable. The tray(s) will be located (1) LS5 above tool boards, (1) RS5 above tool boards.</p>
0833967	SP	Tray, Floor Mounted, 1-Way, 1000 lb, 2" Sides, SlideMaster PC (IMS), Rear Compt, 96"	<p>96.00" DEEP SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be one (1) floor mounted slide-out tray(s) will be provided B1 just above bottom slide out tray between plywood and long tools. Each tray will be constructed of 0.19" aluminum. The tray will have 2.00" high sides, will be approximately 96.00" deep and as wide as possible for the area it is located up to 46.00". Each tray will be mounted on a SlideMaster, Model SM3-SP, three (3) rail, single direction cargo slide with a silver powder coat finish. A spring loaded (IMS) rod release locking mechanism with automatic re-engagement will be provided. The slide will have lock stops in the closed, quarter, half, three quarter, and open position. The slide will allow for 100% extension and will be rated for a maximum distributed load of 1,000 lb.</p>
0834054	SP	Tray, Floor Mtd, 2-Way, SlideMaster AH2-HD, 1600lb (IMS), 2" Sides, HDR	<p>TRANSVERSE TWO (2) WAY SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be five (5) floor mounted slide-out tray(s) with 2.00" sides provided (3) in LS4/RS4 equal width (approx. 15") (for tool boards), (2) in LS5/RS5 equal widths (approx. 25") (for Tool boards). The tray(s) will be constructed of 0.25" aluminum. Each tray will span the full depth of the transverse compartment and will be as wide as possible for the specified mounting location. Each tray will be mounted on a SlideMaster Model AH2-HD, two (2) rail, dual direction cargo slide with 70% extension in each direction. A spring loaded (IMS) rod release locking mechanism with automatic re-engagement will be provided. The slide will have lock stops in the closed, one-third, two-thirds, and open position. The slide will be rated for a maximum distributed load of 1,600 lb. The slide will be made without any feet on the outside of the slide.</p>
0833693	SP	Tray, Floor Mtd, Slide-Out, Std Depth, SlideMaster 100% Ext, 600lb, 2.00" Sides, HDR	<p>STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be one (1) floor mounted SlideMaster, model SM3-MP, slide-out tray(s) with 2.00" sides provided Full width in RS1 for (2) Tool boards. Each tray will be rated for up to 600 lb in the 100% extended position. The tray(s) will be constructed of 0.19" aluminum. The finish will be with a dual action finish. The standard SlideMaster lock 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.</p>
0833870	SP	Tray, Floor Mtd, 1-Way, 2000 lb, w/o Sides, SlideMaster PC (IMS), Rear Compt, 108"	<p>SLIDE-OUT FLOOR MOUNTED TRAY, 108.00" DEEP</p> <p>There will be one (1) floor mounted slide-out tray provided B1 similar position as 32664 as a work surface. The tray will be constructed of 0.19" aluminum. The tray will be approximately 108.00" deep, with no sides and be as wide as possible up to a maximum of 46.00" wide. The tray will be mounted on a SlideMaster, Model SM3-HD, a three (3) rail, single direction cargo slide with a silver powder coat finish. A spring loaded (IMS) rod release locking mechanism with automatic re-engagement will be provided. The slide will have lock stops in the closed, quarter, half, three quarter, and open position. The slide will allow for 100% extension and be rated for a maximum distributed load of 2,000 lbs.</p>
0833872	SP	Tray, Floor Mtd, Slide-Out, Std Depth, SlideMaster 100% Ext, 600lb, Spcl Sides, HDR	<p>STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be four (4) floor mounted SlideMaster, model SM3-MP, slide-out tray(s) provided bottom area of LS4, LS5, RS4, RS5. Each tray will be rated for up to 600 lb in the 100% extended position. The tray(s) will be constructed of 0.19" aluminum. The finish will be with a dual action finish. The height of the tray sides will be as follows: Left side: 12.00" high Right side: 12.00" high Front: 2.00" high Rear: 12.00" high The standard SlideMaster lock 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.</p>

0648481		Toolboard, Alum, Adj, Added to Transverse Slide-Out Tray	<p>TOOLBOARD ADDED TO TRANSVERSE SLIDE-OUT TRAY</p> <p>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 DA finished. 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.</p> <p>The toolboard will span the full depth of the slide-out tray and will be as tall as possible for the specified mounting location.</p> <p>The toolboard will be mounted on aluminum tracks to allow for side to side adjustment within the tray.</p> <p>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).</p> <p>A total of Five (5) toolboard(s) will be provided and mounted in the slide-out tray(s) located (1) on each transverse tray in LS4/RS4 max height up to troughs above (approx. 35") , (1) on each transverse tray in LS5/RS5, 26" high (26" is required) from floor of tray.</p>
0622249		Toolboard, Alum, Adj, Added to Standard Depth Slide-Out Tray	<p>TOOLBOARD ADDED TO STANDARD DEPTH SLIDE-OUT TRAY</p> <p>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 DA finished. 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.</p> <p>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.</p> <p>The toolboard will be mounted on aluminum tracks to allow for side-to-side adjustment within the tray.</p> <p>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).</p> <p>Two (2) toolboard(s) will be provided and mounted in the slide-out tray(s) located on adjustable slide out tray in RS1 40" tall from bottom of tray to top of tool board (For Chain Saws).</p>
0502057	SP	Brushed S/S on Compt Floor	<p>COMPARTMENT FLOOR SCUFFPLATE</p> <p>Brushed stainless steel will be provided on the floor of one (1) compartments. The locations will be lower area of B1 behind fold up door.</p> <p>The edges of the stainless steel will be completely caulked before installation to prevent corrosion.</p>
0693928		Cable Release, Transverse Roll-out Tray, IAT Std Latches	<p>CABLE RELEASE</p> <p>A cable release will be provided to allow one handed operation of the lock for slide out tray(s). A cable will be connect to the lock for operation of the lock release, it will release the lock and release the tray. Cable will be plastic coated.</p> <p>A total of five (5) will be provided all trays in LS4/RS4 and LS5/RS5.</p>
0003934		Dust Filter, Compt Louvers	<p>COMPARTMENT DUST FILTERS</p> <p>A total of ten (10) body compartment louvers will have a removable dust filter installed to restrict road dirt from easily entering the compartment and will be installed all side body compartments .</p>
0006118		Matting, Dri-Deck w/Bevel, Compartment Floor only	<p>MATTING, COMPARTMENT FLOOR</p> <p>Dri-Deck rubber compartment matting will be provided in four (4) compartments on the compartment floor. The locations are, LS2, RS1, RS2, B1.</p> <p>The Dri-Deck will be black and .562" thick with holes in the decking to allow air to flow. The leading edge of the matting will include the beveled edge.</p>
0502687		Matting, Dri-Deck, Compartment Trays and Shelves	<p>MATTING, COMPARTMENT TRAYS AND SHELVES</p> <p>Dri-Deck rubber compartment matting will be provided in the compartments on 25 compartment trays and shelves. The compartment trays and shelves locations will be: (2) LS1, (2) LS2, (4) LS4, (4) LS5, (1) B1, (2) RS1, (2) RS2, (4) RS4, (4) RS5.</p> <p>The Dri-Deck will be black, and .562" thick with holes in the decking to allow air to flow.</p>
0787024	SP	Matting, Dri-Deck, Hatch Compartment Floor, Each	<p>MATTING, HATCH COMPARTMENT</p> <p>Dri-Deck rubber compartment matting will be provided on the floor of the designated hatch compartment(s). The matting will be provided in six (6) hatch compartments located all hatch compartment floors.</p> <p>The Dri-Deck will be black and .562" thick with holes in the decking to allow air to flow.</p>
0775959		Strap, Nylon w/Velcro Hook & Loop, 2" wide	<p>STRAP</p> <p>There will be two (2) black 2.00" wide nylon strap(s) that will provide positive restraint by hooking through a footman loop, similar to what is used with a hose bed flap. The strap(s) will be located (1) loose for install at final inspection to be used across stokes basket trough, (1) loose for install at final with strap looped through upper rack above pike poles with footman loop at tube beneath pike poles. . The strap(s) will have a Velcro® fastener.</p>

0024016	Rub Rail, Aluminum Extruded, Side & Rear of Body	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.
0004027	Fender Crowns, Rear, S/S, 2 Pair	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.
0519849	Not Required, Hose, Hard Suction	HARD SUCTION HOSE Hard suction hose will not be required.
0600656	Handrail, Extra - 21-30" Long, Hansen Tubing, Knurled Alum LED Backlit	ADDITIONAL HANDRAIL Four (4) handrails, will be provided mounted (1) top of body side to side behind RS hatch compt., (1) parallel to walkway at rear of LS and RS hatches, (1) horizontal at top of RS rear body, all to aid entry and exit from walkway. The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a white LED light. The handrails will be activated by the same means as the cab handrail light controls. 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.
0619347	Handrail, Extra - 30-40" Long, Hansen Tubing, Knurled Aluminum LED Backlit	ADDITIONAL HANDRAIL Eleven (11) handrails, will be provided mounted (1) each as follows: behind LS1, Between LS1/LS2, LS3/LS4, LS4/LS5 and forward of LS5, behind RS1, Between RS1/RS2, RS3/RS4, RS4/RS5 and forward of RS5, (1) left side of B1 . The handrails will be knurled aluminum and illuminated. The end stanchions will be provided by Hansen. The handrail will be lit with a white LED light. The hand rail will be activated by the same means as the cab handrail light controls. Stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.
0818136	Compt, Storage, Fender Panel, Above Hitch Receiver, Tandem, HDR	FENDER PANEL STORAGE COMPARTMENT BETWEEN TANDEM 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 black rubber matting will be provided inside each compartment. A horizontally hinged lift up door with stay arm device 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 pair of flush lift & turn latches. 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 on the left side, one single compartment between the tandem rear wheels and on the right side, one single compartment between the tandem rear wheels side fender panel(s).
0795737	Compt, Air Bottle, Corner of Fender Panel, Single, Common DEF Fill Door, HDR	SINGLE AIR BOTTLE STORAGE IN FENDER PANEL WITH COMMON DEF FILL DOOR An air bottle storage compartment will be provided in the body fender panel in the space adjacent to the DEF tank fill in the corner of the fender panel. The compartment will have sufficient capacity for storage of one (1) air bottle. The compartment will have a 7.75" diameter clear opening and will be 26.00" deep. A black rubber matting will be provided inside the compartment. A full width door will be provided to cover the both the storage cylinder and the DEF 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.

0795798	Compt, Air Bottle, Corner of Fender Panel, Double Wide, HDR	<p>DOUBLE WIDE AIR BOTTLE STORAGE IN FENDER PANEL</p> <p>A double wide air bottle storage compartment will be provided in the corner of the body fender panel. The double wide compartment will have two (2) separate areas for air bottle storage, an upper and a lower storage area. Each storage area will have sufficient capacity for storage of one (1) air bottle.</p> <p>The upper storage area will have a 7.75" diameter clear opening and will be 26.00" deep. The lower storage area will have a 7.75" diameter clear opening. The depth of the lower storage area will be 24.00" deep with a 96.00" wide body and increases to 26.00" deep with a 100.00" body.</p> <p>A black rubber matting will be provided inside each compartment.</p> <p>A full width door will be provided to cover the openings of both storage areas. 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.</p> <p>There will be a total of two (2) double wide storage compartment(s) provided. The compartment(s) will be located on the right side forward of the rear wheels and on the right side rearward of the rear wheels.</p>
0795688	Compt, Air Bottle, Corner of Fender Panel, Single, Common Fuel Fill Door, HDR	<p>SINGLE AIR BOTTLE STORAGE IN FENDER PANEL WITH COMMON FUEL FILL DOOR</p> <p>An air bottle storage compartment will be provided in the body fender panel in the space adjacent to the fuel fill in the corner of the fender panel. The compartment will have sufficient capacity for storage of one (1) air bottle.</p> <p>The compartment will have a 7.75" diameter clear opening and will be 26.00" deep.</p> <p>A black rubber matting will be provided inside the compartment.</p> <p>A full width door will be provided to cover the both the storage cylinder 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.</p>
0044229	No Extension Ladder Req'd	
0595251	Ladder, 16' Duo-Safety 875-DR Roof, Hooks Both Ends	<p>ROOF LADDER</p> <p>There will be two (2) 16' aluminum, Duo-Safety, Series 875-DR roof ladder(s) provided. The ladder(s) will have hooks on both ends.</p>
0074248	Not Required, Folding Ladder	

0834980	SP Rack, Equipment Storage, Rear Compt, Alameda Bid 989	<p>LADDER/EQUIPMENT STORAGE</p> <p>The apparatus will be equipped with three (3) separate ladder/long equipment storage racks constructed of twelve (12) total equipment troughs. The troughs will be accessible from the rear compartment of the body. The storage troughs will be arranged allowing equipment to be removed independently without the removal of adjacent equipment.</p> <p>The first rack will be designed to house the following equipment:</p> <ul style="list-style-type: none"> Four (4) pike poles Four (4) rubbish hooks One (1) backboard One (1) stokes basket One (1) Little giant revolution model 22 ladder Four (4) 4"x4" pieces of lumber <p>The second rack will be designed to house the following equipment:</p> <ul style="list-style-type: none"> Nine (9) 4"x4" pieces of lumber Twelve (12) 2"x4" pieces of lumber Ten (10) 2"x6" pieces of lumber <p>The third rack will be designed to house the following equipment:</p> <ul style="list-style-type: none"> Five (5) pieces of plywood <p>The storage troughs will be configured with solid sheet along top of stokes trough to prevent equipment in stokes from snagging, remainder of rack will match AD layout. The storage troughs will be mounted minimizing the forward compartment area required to accommodate the configuration.</p> <p>If necessary, as determined by engineering, covers will be provided over trough(s) to prevent side compartment equipment from interfering with the removal of equipment stored in the trough (s), which extend into the forward side compartments. The covers will be finished to match the body compartment interior. The top of the inside of each trough will be flat.</p> <p>The storage configuration will be provided with a treadplate door and two (2) 2.00" straps as a method of retention to secure and prevent equipment from migrating to the rear of the apparatus while in motion. The treadplate door will be and "L" shape and will be hinged on the left side. A black Southco C2 flush latch will be provided on the area of the door directly above the plywood rack. A pneumatic cylinder will be provided on the left side of the door directly above the troughs containing four (4) 4"x4" pieces of lumber to hold the door open. The treadplate door will cover the following:</p> <ul style="list-style-type: none"> Four (4) 4"x4" pieces of lumber One (1) backboard <p>The ladder called out in the first rack</p> <ul style="list-style-type: none"> Nine (9) 4"x4" pieces of lumber Twelve (12) 2"x4" pieces of lumber Ten (10) 2"x6" pieces of lumber <p>The top portion of the plywood rack starting at the bottom of the trough containing the ladder and as tall as possible up to the top of the compartment</p> <p>One (1) of the two (2) straps will be located over the area containing pike poles and rubbish hooks. The top portion of the strap will be secured through a milled slot in the trough above the area being retained by the strap. The lower portion of the strap will be secured using a footman loop. The second strap will be located over the trough containing the stokes basket. The exact location will be determined final inspection.</p>
0540831	Trough, Ladder, Duo-Safety, Roof, 14' 775A	<p>ROOF LADDER STORAGE TROUGH</p> <p>There will be a total of two (2) roof ladder storage trough(s) provided inside the equipment storage rack. Each trough will be designed to hold one (1) 14' roof ladder manufactured by Duo-Safety Ladder Corporation.</p>
0607939	Straps, Velcro, Ladders In Torque Box/Ladder Storage	<p>VELCRO RETENTION STRAPS</p> <p>There will be a total of two (2) Velcro® retention strap(s) threaded through footman loops and installed (1) over top of each 16' ladder in walkway, strap centered to prevent items from sliding rearward into the door.</p>
0725328	Backboard Storage, Rack, In Compartment	<p>BACKBOARD STORAGE</p> <p>A rack constructed of one (1) storage trough for backboard(s) will be installed in B1. The rack will be installed vertically.</p> <p>The rack 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.</p> <p>Each trough will be sized for backboard(s) 72.00" long x 18.00" wide x 2.00" high.</p> <p>Access to the backboard(s) will be from B1 compartment door when open.</p> <p>The backboards will be secured at the access point(s) with Velcro® straps.</p>
0768976	Bell, 12" Chrome w/Eagle, Mounted on Cab Corner, Large Brkt	<p>BELL</p> <p>A chrome plated, 12.00" bronze cast bell, complete with an eagle, will be mounted on the passenger side radius corner of cab face. The cab will be properly reinforced to support the weight of the bell, the reinforcement bracket allow the bell to mount toward the upper corner of the windshield. A rope pull, for the bell, will be installed inside the cab.</p>
0647522	Label, Special, Bezel Type, Qty.	<p>SPECIAL LABEL</p> <p>There will be six (6) special bezel type label(s) provided and installed inboard of the rope tie down points. The label will be worded as follows, tags to provide tie down capacity in larger font for ease of seeing.</p>

0597601	SP	Label, Siren Brake Switches, Red, IPOS	LABEL, SIREN BRAKE SWITCHES The labels for the siren brake switches on both the driver and officer side will be red in place of the standard labels.
0663639		Not Required, Rear Step	
0518339		Not Required, Pump House, Rescue	
0092531		Not Required, Pump House Structure	
0796159		Not Required, Pump, Rescue	
0012216		No Seal/Packing Required	
0012690		Not Required, Trans, Pump	
0669703		Not Required, Pumping Mode	
0024484		Not Required, Pump Shift	
0046295		Transmission Lock-up, Not Req'd, NO PUMP	
0046296		Not Required, Auxiliary Cooling System, NO PUMP	
0046283		Not Required, Transfer Valve, NO PUMP	
0024513		Not Required, Intake Relief Valve	
0046403		No Relief Valve Req'd, No Pump	
0012336		No Pump Primer Req'd	
0012816		Not Required, Pump Manuals	
0090789		Not Required, Plumbing, No Pump	
0046371		Not Required, No Plumbing or Foam System	
0796254		No Main Inlet Required, Rescue No Pump	
0584002		Not Required, Cap, Main Pump Inlet, No Side Inlet Caps Required, No Pump	
0089389		No Valves, (No Pump)	
0074685		Not Required, Inlet Installation	
0064700		Not Required, Inlet Control	

0055600	Not Required, Auxiliary Inlet, Left Side
0029147	Not Required, Inlet, Right Side
0681723	No Bleeder Valve, No Pump
0681730	Not Required, Tank to Pump, No Pump
0074900	Not Required, Tank Fill
0089394	Not Required, Outlet Control, No Pump
0551181	Not Required, Outlet, Left Side, Rescue
0055095	Not Required, Elbow, Left Side Outlets, 2.50"
0092570	Not Required, Outlets, Left Side Additional
0021143	Not Required, Outlet, Right Side
0021134	Not Required, Elbow, Right Side Outlets, 2.50"
0092571	Not Required, Outlets, Right Side Additional
0089584	Not Required, Elbow, Right Side Outlets, Additional
0545326	Not Required, Outlet, Large Diameter, No Pump
0007308	Not Required, Elbow, Large Diameter Outlet
0092572	Not Required, Outlet, Front
0092574	Not Required, Outlet, Rear, Additional
0728255	Not Required, Caps/Plugs for 1.00" to 3.00" Discharges/Inlets
0089391	Valve, Bleeder - None Req'd, (No Pump)
0029106	Not Required, Deluge Outlet
0029302	No Monitor Requested
0029304	No Nozzle Req'd
0029107	No Deluge Mount
0723726	Speedlay Module Not Required

0722432	Hose Restraint Not Required, No Speedlay Module
0723395	Speedlays, Not Required
0723394	Speedlays, Not Required
0519936	Not Required, 1.50" Crosslays, Rescue
0029260	Not Required, Speedlays
0750536	Hose Restr, Spdly, Not Required, No Spdly
0046372	Not Required, Foam System, Pump, or Plumbing
0012126	Not Required, CAF Compressor
0552517	Not Required, Refill, Foam Tank
0042573	Not Required, Foam System Demonstration
0045465	Not Required, Foam Tanks
0091110	Not Required, Foam Tank Drain
0091079	Not Required, Foam Tank #2
0091112	Not Required, Foam Tank #2 Drain
0738072	Approval Dwg, Pump Panel(s), Not Required
0000261	Not Required, Pump Panel Layout
0030701	Not Required, Material, Pump Panels, No Panel
0046495	Not Required, Pump Access, No Pump
0634458	Not Required, No Chassis Engine Gauges @ Pump Panel
0046400	Throttle, Engine, Not Required, No Pump/Skid Pump
0892618	Not Required, Indicator Light, Pump Panel, No Pump or Skid Pump
0046378	Not Required, Gauges, Vac/Pressure, No Pump
0046375	Not Required, Gauges, No Pump

0006774	Not Required, Foam Level Gauge	
0046280	Not Required, Light Shield, No Pump	
0730329	Air Horns, (2) Buell, In Bumper	AIR HORN SYSTEM Two (2) Buell air horns will be recessed in the front bumper. The horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed in-line to prevent loss of air in the air brake system.
0606831	Location, Air Horns, Bumper, Right Side, Outside Frame, Same Side (Pos #1 & #2)	Air Horn Location The air horns will be located on the right side of the bumper, outside of the frame rail.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0743360	Control, Air Horn, Ft Sw, LS, Location Fet	Left side foot switch will be outboard of mechanical siren footswitch.
0723391	Control, Air Horn, Chrome Push Button Sw, RS	Right side chrome push button switch
0506746	SP Wiring, Air Horn, Special, Through Ignition	AIR HORN CONTROL The air horns will be wired through the ignition circuit.
0550598	Siren, WIn 295HFS2 Remote, Single Amp	ELECTRONIC SIREN A Whelen, Model 295HFS2, electronic remote 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.
0510206	Location, Elect Siren, Recessed Overhead In Console	Electronic siren head will be recessed in the overhead console above the engine tunnel on the officer side.
0076157	Control, Elec Siren, Horn Ring	SIREN CONTROL The electronic siren will be controllable on the siren head and horn ring only. No foot switches will be required. The driver will have the option to control the siren or the chassis horns from the horn button by means of a selector switch located on the instrument panel.
0601306	Speaker, (1) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	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.
0601556	Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame, Inbrd (Pos 6)	The speaker will be recessed in the left side of the front bumper, just outside of the frame rail.
0895310	Siren, Federal Q2B	AUXILIARY MECHANICAL SIREN There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus. The Q2B will be chrome finish. The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on. The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.
0665593	Siren, Mechanical, Recessed In Bumper, Special Recessing Depth, EF Grille	The mechanical siren will be recessed behind the front bumper on the left side. The siren will be supported by the bumper framework. The Federal, Model MSFMT-EF, grille will be used on the front bumper in place of the standard Q2B mechanical siren grille.
0748305	Control, Mech Siren, Multi Select	MECHANICAL SIREN CONTROL The mechanical siren will be activated by the following:

0748282	Control Mech Siren, Ft Sw LS	Left side foot switch.
0731979	Control Mech Siren, Push Button Sw, Chrome, RS	Right side chrome push button switch.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0897454	Sw, Siren Brake, Mom Rocker/Membrane, Red Outline, LS Overhead Sw Pnl, Mux	A momentary switch will be included in the left side overhead switch panel to activate the siren brake. There will be a red outline decal around the switch.
0746353	Not Required, Warning Lights Intensity	
0606775	Lightbar, WIn, Freedom IV-Q, 72", RRWRRR____RRRWRR	FRONT ZONE UPPER WARNING LIGHTS There will be one (1) 72.00" Whelen Freedom IV LED lightbar mounted on the cab roof. The lightbar will include the following: 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) white 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) red flashing LED module in the driver's side third front position. One (1) red flashing LED module in the driver's side fourth front position. Open in the driver's side fifth front position. Open in the driver's side sixth front position. Open in the passenger's side sixth front position. Open in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) red 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) white 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. There will be clear lenses included on the lightbar. There will be a switch in the cab on the switch panel to control this lightbar. The white LEDs will be disabled when the parking brake is applied. The six (6) red flashing LED modules in the front positions may be load managed when the parking brake is applied.
0016380	No Additional Lights Req'd, Side Zone Upper	
0540384	Lights, Front Zone, WIn M6*C LED, Clear Lens, in Common Bzl	LIGHTS, FRONT ZONE LOWER Two (2) Whelen model M6*C LED flashing warning lights will be 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 clear lens. There will be a switch located in the cab on the switch panel to control the lights.
0558676	Daytime Running Lights, Headlights, Qtm, Vel/Imp, Enf/AXT-MUX, (Low Beam)	DAYTIME RUNNING LIGHTS (HEADLIGHTS) The low-beam headlights used as daytime running lights will be activated with the following measures: Ignition switch is turned on Parking brake is released These lights will be deactivated with any one of the following measures: Headlight switch is turned on High-beam flash is turned on Parking brake is set
0795711	Lights, Side Zone Lower, WIn M6*C LED, Clear Lens, 3pr, Ovr 25, Rescue	SIDE ZONE LOWER LIGHTING There will be six (6) Whelen®, Model M6*C, LED flashing warning lights with Model 6EFLANGE, chrome flanges located in the following positions: Two (2) lights, one (1) each side on the bumper extension The side front lights to be red Two (2) lights, one (1) each side above the front wheels The side middle lights to be red Two (2) lights, one (1) each side above rear wheels The side rear lights to be red All six (6) lights will include a clear lens. There will be a switch located in the cab on the switch panel to control the lights.

0895709	Lights, Door Interior Flash, 4 Dr Cab, Wln 0S*00FCR	INTERIOR CAB DOOR WARNING LIGHTS There will be four (4) Whelen® Model 0S*00FCR, 1.0" high x 1.5" long x 0.5" deep flashing LED warning lights with chrome trim. One (1) light(s) to include red flashing LED's on the left side cab door One (1) light(s) to include red flashing LED's on the right side cab door. One (1) light(s) to include red flashing LED's on the right side crew cab door. One (1) light(s) to include red flashing LED's on the left side crew cab door. Each light will be located in the door pan as low and far to the outside as practical. Each light will be activated when the battery switch is on, respective door is opened and no other controls are on.
0815847	Connectors, Door Interior Flash, All Cabs, Weatherproof	ELECTRICAL CONNECTORS FOR WARNING LIGHTS The lights will be installed with a weatherproof insulated crimped connectors in order to provide ease of connection/disconnection of the circuit applied to.
0672937	Lights, Side, Wln WIONSMC* LED, Chrome Flange, Mtd In Rub Rail, 1st	SIDE WARNING LIGHTS There will be two (2) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails (1) centered under LS4 and (1) centered under RS4. The lights will only be mounted with the rubber gasket if clearance allows it. 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.
0564655	Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*C, LED flashing warning lights 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 clear. There will be a switch located in the cab on the switch panel to control the lights.
0541155	Lights, Rear/Side Up Zone, Wln M9*C LED, Clear Lens 4lts	WARNING LIGHTS (Rear and Side upper zones) Four (4) Whelen, model M9*C LED flashing warning lights will be provided at the rear of the apparatus. The side 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 rear upper light(s) on the passenger's side to be red. These lights will include a lens that is clear. There will be a switch located in the cab on the switch panel to control the lights.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0791528	Light, Traffic Directing, Wln TAL65, 36.00" Long, TACTL5	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.
0529858	Location, TDL, Recessed Within Treadplate Step	This traffic directing light will be recessed within a treadplate step at the rear of the apparatus.
0530282	Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.
0006646	Electrical System, 120/240VAC, General Design	ELECTRICAL SYSTEM GENERAL DESIGN for ALTERNATING CURRENT The following guidelines will apply to the 120/240 VAC system installation: General Any fixed line voltage power source producing alternating current (ac) line voltage will produce electric power at 60 cycles plus or minus 3 cycles. Except where superseded by the requirements of the current edition of applicable NFPA standards, all components, equipment and installation procedures will conform to NFPA 70, National Electrical Code (herein referred to as the NEC). Line voltage electrical system equipment and materials included on the apparatus will be listed and installed in accordance with the manufacturer's instructions. All products will be used only in the manner for which they have been listed. Grounding Grounding will be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems will not be used. Only stranded or braided copper conductors will be used for grounding and bonding. An equipment grounding means will be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC. The grounded current carrying conductor (neutral) will be insulated from the equipment grounding

conductors and from the equipment enclosures and other grounded parts. The neutral conductor will be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.

In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure will be bonded to the vehicle frame by a copper conductor. This conductor will have a minimum ampere rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements will be permitted to be used.

All power source system mechanical and electrical components will be sized to support the continuous duty nameplate rating of the power source.

Operation

Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, will be permanently attached to the apparatus at any point where such operations can take place.

Provisions will be made for quickly and easily placing the power source into operation. The control will be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train will be equipped with a means to prevent the unintentional movement of the control device from its set position.

A power source specification label will be permanently attached to the apparatus near the operator's control station. The label will provide the operator with the following information:

Rated voltage(s) and type (ac or dc)

Phase

Rated frequency

Rated amperage

Continuous rated watts

Power source engine speed

Direct drive (PTO) and portable generator installations will comply with Article 445 (Generators) of the NEC.

Overcurrent protection

The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device will not exceed 144.00" (3658 mm) in length. For fixed power supplies, all conductors in the power supply assembly will be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius).

For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device will be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).

Wiring Methods

Fixed wiring systems will be limited to the following:

Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius)

or

Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius)

Electrical cord or conduit will not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring will be run as follows.

Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping

Separated from fuel lines by a minimum of 6.00" (152 mm) distance

Electrical cord or conduit will be supported within 6.00" (152 mm) of any junction box and at a minimum of every 24.00" (610 mm) of continuous run. Supports will be made of nonmetallic materials or corrosion protected metal. All supports will be of a design that does not cut or abrade the conduit or cable and will be mechanically fastened to the vehicle.

Wiring Identification

All line voltage conductors located in the main panel board will be individually and permanently identified. The identification will reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends will be labeled showing function and wire size.

Wet Locations

All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, will be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

All receptacles located in a wet location will be not less than 24.00" (610 mm) from the ground.

Receptacles on off-road vehicles will be a minimum of 30.00" (762 mm) from the ground.

The face of any wet location receptacle will be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle will be installed in a face up position.

Dry Locations

All receptacles located in a dry location will be of the grounding type. Receptacles will be not less than 30.00" (762 mm) above the interior floor height.

All receptacles will be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they will be so marked.

Listing

All receptacles and electrical inlet devices will be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages will be rated for the appropriate service.

Electrical System Testing

The wiring and associated equipment will be tested by the apparatus manufacturer or the installer of the line voltage system.

The wiring and permanently connected devices and equipment will be subjected to a dielectric voltage withstand test of 900-volts for one (1) minute. The test will be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test will be conducted after all body work has been completed.

Electrical polarity verification will be made of all permanently wired equipment and receptacles to determine that connections have been properly made.

Operational Test per Current Edition NFPA Standard

		<p>The apparatus manufacturer will perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order. The test will be witnessed and the results certified by an independent third-party certification organization.</p> <p>The prime mover will be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.</p> <p>The power source will be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current edition of applicable NFPA standards.</p> <p>Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current edition of applicable NFPA standards will be applied to the low voltage electrical system during the operational test.</p>
0888995	Generator, MagnaPlus, 80kW, 3Phase, PTO Shaft Drive (80kW Cont. Rating)	<p>GENERATOR</p> <p>There will be a Marathon Electric, MagnaPlus, Model 362PSL3126, chassis frame mounted generator driven by a power takeoff (PTO) attached to the side of the chassis engine transmission.</p> <p>Generator Specifications:</p> <p>Continuous Duty Rating: 80,000 watts</p> <p>120/240Vac, Four (4) wire (L1,L2,L3,N) plus ground, Delta configured</p> <p>Phase: 120Vac, Single (1) / 240Vac, Three (3)</p> <p>Nominal Cycles: 60 hertz</p> <p>Nominal Amp Rating: 481 at 120 volts, 240 at 240 volts</p> <p>Generator Drive and Control</p> <p>The generator will be operable via a shift control located inside the cab only after the chassis parking brake control is in the park position, the generator PTO transmission has made a complete shift and the truck transmission is in neutral. An indicator light will be provided to note engagement. The output of the generator will be controlled by an electronic engine governor.</p> <p>Engine Speed at Engagement: Idle</p> <p>Engine Speed Engaged: 1132/1374 rpm range</p> <p>Generator Rpm: 1800 rpm</p> <p>Instrumentation</p> <p>Generator / engine gauges and indicators will be flush mounted in an appropriately sized electrical panel near the load center. All instruments used will be accurate within +/- two (2) percent.</p> <p>The following gauges and indicators will be installed in the panel:</p> <p>One (1) Voltmeter</p> <p>Three (3) Ammeters</p> <p>One (1) Frequency Meter</p> <p>One (1) Hour Meter</p> <p>One (1) "Power On" Green Indicator Light</p> <p>One (1) PTO Engagement Indicator Light</p> <p>Two (2) Fuse Holders: With two (2) amp fuses for gauge protection</p> <p>Check engine indicator and alarm</p> <p>Check transmission indicator and alarm</p> <p>Display engine monitor,J1939</p>
0016645	Location, PTO Generator, Between the Frame Rails	<p>GENERATOR LOCATION</p> <p>The generator will be mounted under the body between the frame rails.</p>
0009440	Starting Sw, Truck Engine Powered Gen, Cab and Breaker Box	<p>GENERATOR START</p> <p>A switch will be located on the cab instrument panel and at the breaker panel area to engage the generator.</p>
0016757	Not Required, Remote Start, Generator	
0016740	Not Required, Fuel System	
0016767	Not Required, Oil Drain Extension, Generator	
0612703	Circuit Breaker Panel, Included With PTO Generator, Location	<p>CIRCUIT BREAKER PANEL</p> <p>The circuit breaker panel will be located LS5 left wall above tray with main CB panel horizontal and subfeed panel above.</p>
0076607	Circuit Breaker Box, Subfeed Box	<p>SUB FEED CIRCUIT BREAKER BOX</p> <p>A Cutler Hammer sub feed box will be supplied with current limiting circuit breakers to protect the on board circuits when an auxiliary power source is used. The sub feed box will distribute power to specific circuits in the vehicle.</p> <p>Location will be LS5 by main circuit breaker panel (or RS5 opposite main CB panel if will not fit in LS5).</p>
0016771	Not Required, Routing Exhaust, Generator	

0629852	Light Twr, W-B Pow NS4.5-1380 SPC, 6-K20 120VAC Lts Cld 15'	LIGHT TOWER There will be one (1) Will-Burt, Powerlite Model NS4.5-1380 SPC light tower provided. There will be six (6) Fire Research Spectra K20, 240 watt 120 volt AC LED light heads included on this tower. The painted parts of the light tower and the light heads to be white. The tower will include the AC detector. This tower will be connected to the Do Not Move Truck Indicator in the cab.
0664472	Location, Light Tower, Crew Cab Roof	Light Tower Location The light tower will be installed on the crew cab roof.
0617738	Controller, Lt Twr, W-B, Wired Hndhld, E-STOP Pow, Pow X, Vrt	Light Tower Controller There will be one (1) wired handheld controller included.
0750959	SP Location, Light Tower Controller, Location Feature	Light Tower Controller Location The light tower controller will be installed in the compartment located, in left side crew cab transverse compartment under removeable floor attached to left wall.
0006825	Reel, Elect Cable, Hannay, 1600, (3) Wire	ELECTRIC CORD REEL Furnished with the 120 volt AC electrical system will be a Hannay, Series 1600, cord reel. The reel will be provided with a 12-volt electric rewind switch, that is guarded to prevent accidental operation and labeled for its intended use. The switch will be protected with a fuse and installed at a height not to exceed 72.00" above the operators standing position. The exterior finish of the reel(s) will be painted #269 gray from the reel manufacturer. A captive roller assembly to be provided to aid in the payout and loading of the reel. A ball stop will be provided to prevent the cord from being wound on the reel. A label will be provided in a readily visible location adjacent to the reel. The label will indicate current rating, current type, phase, voltage and total cable length. A total of two (2) cord reels will be provided one (1) over compartment D3 in the hatch compartment and one (1) over compartment P3 in the hatch compartment. The cord reel will be configured with three (3) conductors.
0006828	Cord, Electric, 10/3 Yellow, 3 Wire	CORD Provided for electric distribution will be two (2) lengths, one (1) for each reel, of 200 feet of yellow 10/3 electrical cord, weather resistant 105 degree Celsius to -50 degree Celsius, 600 volt jacketed SOOW cord. A Hubbell L5-20, 20 amp, 120 volt, twist lock connector body will be installed on the end of the cord.
0619463	Box, Junc, Circle-D, 3Wire, 1-20A 120V Dup SB GFCI, 3-15A 120V TL	PORTABLE JUNCTION BOX There will be a total of two (2) electrical junction box(es), listed for use in wet locations and provided with light to indicate power on. Each box will be designed to keep the exterior electrical components above 2.00" of standing water, protected from corrosion, and capable of being carried with a gloved hand. There will be a cable strain relief and a 1.00' pigtail with wire mesh grip, NEMA L5-20, 20 amp, 120 volt twist lock plug provided for each box. Each box will be gray powder coated . Each Circle D, PF51G Series, box will be provided with the following receptacles: One (1) 120 vac, 20 amp duplex straight blade receptacle with ground fault circuit protection Three (3) 120 vac, 15 amp twist lock receptacles, GFCI protected from duplex receptacle
0789788	Holder, Junction Box, Smooth Aluminum, Match Compartment Finish	JUNCTION BOX HOLDER There will be a smooth aluminum junction box holder installed adjacent to the cord reel. The holder finish will match the compartment finish. A total of two (2) will be installed mount at pickup.
0026828	Switch, Remote Control Reel Rewind, Coil Cord	REMOTE ELECTRIC CORD REEL REWIND There will be a 10' coiled cord provided with a remote push button switch to control the electric cord reel rewind. A stainless steel holder will be provided to store the remote. along wall in LS3 and RS3 in compartment beneath each reel. A total of two (2) will be provided.
0781579	Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Cab	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 inside forward facing cabinet with exact location at pre-construction.. The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the onboard generator to shoreline power transfer switch. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency

0779722	Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body	120 VOLT RECEPTACLE There will be one (1), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with an interior stainless steel wall plate, installed by circuit breaker panel. The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the onboard generator to shoreline power transfer switch. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0006790	Receptacle, 20A 120V 3-Pr 3-Wr TL, L5-20R Wtrprf	120 VOLT RECEPTACLE There will be two (2), 20 amp 120 volt AC three (3) wire twist lock receptacle(s) with waterproof flip up cover(s) installed on the left side of the rear body bulkhead and on the right side of the rear body bulkhead. The NEMA configuration for the receptacles will be L5-20R. The receptacle(s) will be powered from the on board generator. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0783678	Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st	120 VOLT RECEPTACLE There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with exterior flip up cover(s), installed (1) each side at rear under taillights, out board of twist lock receptacles.. The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the on board generator. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0016795	Receptacle, 30A 240V 3-Pr 3-Wr TL, L6-30R Wtrprf	240 VOLT RECEPTACLE There will be one (1), 30 amp 240 volt AC three (3) wire twist lock receptacle(s) with waterproof flip up cover(s) installed compartment LS5 on the inside left wall next to the circuit breaker panel OR on the same enclosure that is used for the generator metering panel. The NEMA configuration for the receptacles will be L6-30R. The receptacle(s) will be powered from the on board generator. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency

0510673		Air Control Panel, SpaceSaver Integral, Breathing Air System	<p>BREATHING AIR SYSTEM CONTROL PANEL</p> <p>A control panel will be provided for the breathing air system, attached to the side of a SpaceSaver™ fill enclosure. The control panel will be made of 0.18" thick aluminum and will be provided with a painted, glare-resistant finish. The control panel will measure 9.75" x 42.75", and will be x 20.50" deep. The orientation of the control panel will match the orientation of the SpaceSaver fill enclosure it is attached to. If the control panel is attached to a vertical fill enclosure, the control panel will be orientated vertically. If the control panel is attached to a horizontal fill enclosure, the control panel will be orientated horizontally.</p> <p>A painted aluminum box will house and protect the components behind the control panel. The panel will pivot on its mounting fasteners, to allow for maintenance of components behind the panel.</p> <p>All gauges will be at least 2.50" in diameter, and they will be filled with glycerin. All valves will be a slow-operating screw type that will require minimal force, from three-fingered operation. A rope light will be fastened to the full vertical height of the control panel, to provide uniform illumination to all controls on the panel.</p> <p>All tubing that is behind the panel will be stainless steel, with the exception of the supply hoses from the air storage and the hose that runs to the SCBA fill. These tubes and hoses will have a 4:1 safety factor.</p> <p>A refill fitting will be supplied on the face of the air control panel, to allow the refilling of the system storage cylinders from an external source. With 6000 psi storage cylinders, a male CGA-677 fitting will be provided, and with 4500 and 5000 psi storage cylinders, a male CGA-347 fitting will be provided.</p> <p>A breathing air supplied gauge will be provided on the panel.</p> <p>There will be four (4) storage banks, each consisting of one (1) valve and one (1) gauge, provided on the control panel. If there are more cylinders than banks, two (2) cylinders will be connected to the first storage bank (or banks) as needed.</p> <p>The system will be regulated with one (1) high pressure regulated circuit.</p> <p>Air Control Panel Regulators</p> <p>High Pressure Regulators</p> <p>Each high pressure regulated circuit provided on the panel will include the following components:</p> <ul style="list-style-type: none"> One (1) 0-6000 psi regulator set for 4500 psi working pressure One (1) regulated pressure gauge. <p>Low Pressure Regulators</p> <p>Each low pressure regulated circuit will be a low pressure, high flow rate circuit that consists of the following components:</p> <ul style="list-style-type: none"> One (1) 0-400 psi regulator set for 300 psi working pressure One (1) regulated pressure gauge. <p>A pressure relief valve will be provided. The pressure relief valve will be preset, at no more than ten percent above the working pressure. A warning label that specifies the appropriate pressure regulator settings and the pressure relief setting will be placed adjacent to the regulator.</p> <p>An SCBA fill valve to control the air flowing into the SCBA cylinders will be supplied on the air control panel. An SCBA fill gauge will be supplied on the air control panel, to view the pressure in the SCBA cylinders during filling. This valve and gauge will be used to manually vary the SCBA fill rates in accordance with the SCBA manufacturer's recommendations.</p> <p>The panel will be configured without a booster pump.</p> <p>The panel will be configured with a compressor connection with priority fill which prioritizes filling the SCBA connection before filling the cascade storage cylinders.</p>
0833140	SP	Fill Encl, 2 Bottle,"SpaceSaver"Model 100A w/MSA Adapter,13" Wide, RSP	<p>FILL ENCLOSURE</p> <p>The fill enclosure will be designed for mobile applications to fill SCBA or SCUBA cylinders. The enclosure will totally enclose the cylinder during the fill process. The enclosure will contain the cylinder and all fragments in the event of rupture during the fill process.</p> <p>Construction will be of 0.18" plate steel. The fill enclosure door will be constructed of 0.25" stainless steel. The cylinder holders will be lined with a material to protect each cylinder from abrasion.</p> <p>The fill enclosure will be designed to allow the filling of two (2) SCBA or SCUBA bottles either individually or simultaneously. Access to the enclosure for loading the cylinder will be through a manually operated slide up door and tilt out bottle holder. The door will be provided with a device to assist opening and provide smooth operation.</p> <p>The loading position from the compartment floor to the center of the bottle valve will be 14.60" in the lower holder and 23.50" in the upper holder. This will place the lower loading position at waist height on average height vehicles.</p> <p>The maximum length of either the SCBA or SCUBA bottle with the valve and fill adapter will be 29.00" in the lower holder and 27.00" in the upper holder.</p> <p>Automatic safety interlocks will prevent cylinder filling until the door is completely closed. Two (2) fill hoses with SCBA or SCUBA adapters will be provided within the enclosure. The fill hoses will be provided with MSA adapter fittings in place of the standard fittings.</p> <p>If a cylinder should rupture, rapidly expanding air will be vented through an opening in the bottom of the enclosure and out through the compartment floor. A break away rubber seal will be provided to seal the compartment floor.</p> <p>To ensure the integrity of the fill enclosure, bidders will provide on request, an independent certification that a production unit has successfully withstood an SCBA cylinder explosion as per NFPA.</p> <p>The fill enclosure will be a SpaceSaver model 100A. The dimensions of the fill enclosure will be approximately 42.56" high x 13.12" wide x 23.25" deep with a weight of approximately 400 lb. A total of one (1) will be provided LS1 immediately rear of air control panel.</p>
0833141	SP	Compressor, Breathing Air, Bauer, K18.1-20-E3, Skid w/(4) ASME, Alameda Bid 989	<p>BREATHING AIR COMPRESSOR</p> <p>Air System General Design</p> <p>It is the intent of this specification to describe a modular, mobile breathing air system designed so that major components are built in individual modules. This concept will allow for the greatest flexibility when installing the system in a truck body. All modules will interconnect by means of a factory built wiring harness for ease of electrical installation. All pneumatic interconnections will be clearly marked and coded for high-pressure hose interconnection. The unit will be designed and built specifically for truck installations. The use of a standard stationary unit will not be</p>

acceptable. The main compressor frame will contain the compressor, electric motor, electric controls, gauges and monitors pertaining to the compressor operation, and the four (4) ASME cylinder receivers. This skid must be designed for mounting across the body, with all gauges and shutdown lights facing the right side of the truck. The total dimensions of the skid will not exceed 88.00" long x 51.00" wide x 43.00" high.

Mobile Breathing Air Compressor

The system will consist of a Bauer Model K-18.1-20-E3 air compressor constructed to the K-18.1-H specification (see data sheet).

Compressor Requirements

Model

FAD SCFM

Charging Rate SCFM

HP

RPM

Block

Purification System

Air Processing Capability

K18.1-20-E3

21.0

25.2

20

1300

k18.1II

P43 Securus

150,000

Compressor

The compressor will have a design working pressure of 7,250 lb. The compressor will be an air-cooled, oil lubricated, five (5) stage, four (4) cylinder, single acting, reciprocating compressor. The crankcase will be cast of a high strength, aluminum alloy. The crankshaft will be of a single piece forged steel construction, and supported in the crankcase by three (3) long-life roller bearings. The connecting rods will be of single piece design and constructed of a high strength aluminum alloy. Each connecting rod will incorporate a roller bearing at the crank and pin ends. The pistons will be constructed of an aluminum alloy. Piston rings on the first through third stage are of cast iron; fourth stage rings will be of a high strength polyimide. The final stage will incorporate a polyimide ringed, free-floating, aluminum piston, which will be driven by a guide piston and the previous stage's discharge pressure. The cylinders will be of cast iron construction with deep cooling fins on the external surface for optimum heat dissipation. The cylinders will be arranged in a dynamically balanced, diametrically opposed "X" configuration with each cylinder located directly in the cooling fan's blast. The cylinders will be removable from the crankcase. The fifth stage cylinder will contain special cooling vents for the internal sleeve. The compressor's flywheel will be cast of an aluminum alloy. A multi-wing, high velocity cooling fan will be integral to the flywheel. The fan wings will be replaceable and of such design as to reduce the overall noise of the cooling fan. First stage intake valve and inlet filter must be designed to reduce the suction noise of the first stage and increase the overall efficiency of the compressor.

Intercoolers will be provided after each stage of compression and an aftercooler will be provided after the final stage of compression. The coolers will be individually detachable from the compressor, located directly in the cooling fan's blast and made of stainless steel. The aftercooler will be designed to cool the discharge air to within 18 degrees Fahrenheit of ambient temperature. A cool-down cycle will not be required prior to stopping the compressor. A separator will be supplied after each stage of compression, excluding the first stage and a coalescing separator will be supplied after the final stage of compression. The intermediate separators will contain a patented insert to reduce water carry-over from stage to stage. An automatic condensate drain (ACD) system will be supplied for all of the separators. Adjustable drain timers will be factory preset to drain the separators approximately every 15 minutes for approximately six (6) seconds. The ACD system will unload the compressor on shutdown for unloaded restart. An exhaust muffler and condensate reservoir will be supplied. Manually operated valves will be supplied to override the automatic operation of the ACD system for test and maintenance purposes.

The compressor will be lubricated by a combination splash and low-pressure lubrication system. A pressurized lubrication circuit will lubricate the final stage of compression. The other stages and the driving gear will be splash lubricated. The pressure lubrication circuit will include a positive displacement oil pump, gear driven by the crankshaft, and a non-adjustable oil pressure regulator. A highly visible sight glass will be included to check the oil level. The oil drain for the compressor will be piped to the outside of the frame.

The compressor will be equipped with an inlet filter with replaceable particulate elements. An inlet filter maintenance indicator will be installed on the instrument panel.

There will be no exception to the compressor section.

Compressor Standard Features

Five (5)-micron inlet particulate filter

Air-cooled stainless steel intercoolers between each stage.

Air-cooled aftercooler.

Safety relief valve for each stage of compression

Moisture separators between second and third, third and fourth and the fourth and fifth stage in addition to the final oil and moisture separator

V-belt driven fan wheel for cooling air

Automatic condensate drain (ACD) complete with combination velocity tank and separator muffler, drain solenoid, and timer

The compressor module will have the ability to compress ambient air to a final pressure of 6,000 PSI.

System will be designed, built and tested by a recognized breathing air compressor manufacture. Not a compressor packager or distributor.

Compressor Data

Maximum operating pressure: 6,000 PSIG

Charging rate: 25.2 SCFM

Free Air: 21.0 SCFM

Running speed: 1300 RPM

Number of stages: Five (5)

Number of cylinders: Four (4)

Cylinder Bore

First stage: 130 MM

Second stage: 88/60 MM

Third stage: 32 MM

Fourth stage: 18 MM

Fifth stage: 10 MM

Length of stroke: 50 MM

Crankcase material: Aluminum alloy

Crankcase oil capacity: One (1) Gallon

Lubrication: Pressure/Splash

Ambient operating range: 32 degrees Fahrenheit to 105 degrees Fahrenheit

Prime Mover and Controls

The electric motor will be of open drip-proof design (ODP), 20 Hp, 208/230/480 VAC, three (3) phase, 60 hertz, code G or better. The electric motor will be mounted on a common vibration isolated inner frame. All electric controls and automatic shutdowns will be controlled and monitored by a solid state PLC control unit. Motor starting will be accomplished using a Soft Start Motor Starter allowing for a Soft Start effect on the generator. The entire electrical control panel will be UL approved (no exception). The electric motor will get its power from the trucks on-board generator system. Compressor will be supplied with an automatic condensate drain system, which will automatically drain the inter-stage and final oil/moisture separators at 15 minute intervals. All condensation will be plumbed to a collection system for safe disposal.

Compressor unloading at shutdown will be provided by the automatic drain system. Compressor intercoolers and aftercooler will be of such a size that a cool down cycle will not be necessary.

Standard supply will include:

Open drip proof electric motor

Motor starter in NEMA 122 enclosure

Inlet particulate filter

Hi temp shutdown

Lo oil pressure shutdown

Final pressure switch

Gauge panel

Pressure maintaining valve

Discharge check valve

Final oil/moisture separator

Inlet vacuum switch

The compressor system will be base mounted, frame enclosed, complete with belt guard. The frame will also contain the cylinder storage, electrical control box, purification system, all compressor controls and compressor gauges along with fault lamps.

The compressor skid will contain everything necessary with the exception of the filling station and remote compressor control panel.

Purification

Installed after the compressor and the final oil and water separator will be a Bauer P43 air purification system with the patented Securus electronic purification monitor. The system will be capable of processing 150,000 cubic feet of breathing air between cartridge changes, based on a 70 degree inlet temperature (no exception). The purification system will utilize vacuum packed, aluminum, replaceable filter elements with a minimum three (3) year shelf life (no exception). The high-pressure cartridge chambers will have a working pressure of 6,000 PSIG with a 4:1 safety factor. They will be designed to ASME code, tested and certified. A name tag will be attached to each chamber giving the serial number, year of manufacture, volume of cylinder and test date (no exception). The design of the cartridge pressure chamber will eliminate the possibility of operating the system without purification cartridges installed or with improperly installed cartridges. Thus, there will be no means of filling the SCBA or storage vessels with impure air.

The Securus electronic purification monitor will constantly monitor the quality of the air and visually indicate to the operator the status of the Securus cartridge. The Securus electronic sensor will be inbuilt into the purification cartridge itself (no exception). Securus will warn the operator, in advance of the impending expiration of the Securus purification cartridge. Securus will automatically shut down the compressor if the operator fails to change the cartridge within the warning period. The electronic display monitor will indicate compressor shut down by the Securus. The compressor will not be able to restart until the used cartridge is replaced with a new one. Securus will also discern an electrical contact failure or a printed circuit board failure and advise the operator of the type failure (Cartridge saturation or electrical failure). For absolute safety, no manual override will be provided for the Securus electronic purification monitor.

A check valve will be installed after the oil and moisture separator and before the purification system. A pressure maintaining valve (PMV) and check valve will be installed after the purification system. The pressure-maintaining valve, set to open a 4,000 PSIG, will serve two (2) functions. One (1) function of the PMV, in conjunction with the check valve, will be to maintain a positive pressure in the purification system when the compressor shuts down. This will prevent in leakage of unprocessed air into the purification system, which in turn, will assist in maintaining purification efficiency. The second function of the PMV will be to provide a means to quickly build system pressure. A bleed valve will be provided to facilitate venting the purification system for cartridge maintenance.

The final processed air delivered by the purification system will meet or surpass the standards for grade E as detailed in compressed gas association, Inc. pamphlets G-7-1976 compressed air for human respiration and G-7.1-1989 commodity specification for air.

The purification will be attached to the compressor skid and be able to swing, pull or tilt out of compartment to allow for change out of cartridges when installed with limited overhead space.

Air Storage

The system will be provided with an air storage module consisting of four (4) 6,000 psi, ASME air storage cylinders. All vessels will be plumbed to the automatic cascade/priority control system.

The automatic cascade control system will allow for complete cascading to the filling stations with no action on the operators part. The automatic priority system will supply air to the highest-pressure vessel first when refilling the storage receivers. The vessels will be horizontally and securely mounted at both ends in accordance with DOT regulations and will be an interracial part of the main compressor skid.

Carbon Monoxide Monitor

The compressor will be equipped with an Auto Cal series carbon monoxide monitor with a microprocessor based controller coupled to an electrochemical sensor module.

The monitor will have an operating range of 0 - 2000 ppm CO and will display the results as well as provide a voltage or current output as well as an adjustable alarm contact and audible alarm.
Carbon Monoxide Monitor Specifications:
Range: 0 - 2000 ppm CO in air or inert gas
Operating Life In Air (Cell Only): Two (2) years at 30 degrees Celsius or lower
Response Time: 90% in 30 seconds or less
Linearity: +/- 1% CO over entire range
Operating temperature range, continuous: -5 degrees Celsius to +40 degrees Celsius
Operating temperature range, intermittent: -5 degrees Celsius to +55 degrees Celsius
Operating Humidity: 0-99% relative humidity non-condensing
Operating Pressure: Ambient +/- 10%
Effect of Pressure on Accuracy: -0.05% signal per mm Hg
Position Sensitivity: None
Long Term Accuracy Drift: Less than 2% of full signal/month
Power Consumption: Less than 3 watts
Sample Flow: 100 to 1000 cc/min

Testing and Preparation for Shipment

Prior to shipment, the manufacturer will test the complete system including the filling station as an assembled unit. A copy of the manufacturer's test report will accompany the unit's shipment. An operator's instruction and maintenance manual will be supplied with the unit. The manuals will be as detailed as possible, outlining all operation and maintenance instructions. The manual will include detailed illustrated drawings along with a complete parts listing for all illustrated components. Warning and safety precautions will be included in the manual. A manufacturer's nameplate will be securely affixed to all major modules in a conspicuous location. All equipment will be new and of current tested design and manufacture. Used and/or refurbished equipment is unacceptable. The manufacturer of the high-pressure compressor will also be the manufacturer of the breathing air purification system and the cartridge monitoring system. All standard features will be factory installed and tested as a complete unit, and a copy of the factory test report will accompany the unit at shipment. The compressor, purification system and storage system will be rated for 6,000 PSI service. Air system will be supplied with interconnecting wiring harness, manufactured by Bauer Compressors for ease of operation by the apparatus manufacturer. All interconnecting lines from one (1) module to the other will be clearly marked and tagged for ease of installation by the apparatus manufacturer.

Electric Connection

A 208-volt, 100 amp, three (3)-pole, four (4) wire, pin and sleeve type receptacle rated for up to 30 horsepower will be wired to the power supply and located in an accessible area beside the compressor. A mating horsepower rated plug wired to a four (4) conductor cord will also be supplied and wired to the compressor. When disconnected from the receptacle on the truck, the plug and cord will hang out from the compartment down to within 12.00" of the ground.

Breathing Air Quality

Prior to final inspection at the factory, the manufacturer of the completed apparatus will provide a current air quality test assuring full compliance for breathing air. The test sample must be obtained from the completed apparatus, not from a similar unit.

Compressor Monitoring

The air compressor will be equipped with a shut down interface that requires the compartment doors be open during operation and a compartment ambient temperature switch to be installed by the apparatus manufacturer. A temperature sensing device will actuate an audible and visual alarm at the fill station operator's panel, when ambient temperature at this location exceeds 140 degrees.

The compressor will be installed in the LS3/RS3 compartments.

0620001	SP	MODIFICATION, Pressure Relief Setting , HP Regulator at 6000 PSI	PRESSURE RELIEF SETTING The pressure relief for the high pressure regulator(s) will be set for 6,000 psi working pressure instead of the standard 4,500 psi setting. The pressure relief will be changed for air control panel.
0769044		Cover, Breathing Air Cylinder(s), Treadplate	BREATHING AIR BOTTLE COVER There will be two (2) removable aluminum treadplate cover(s) provided over air bottle(s). The cover(s) will be located each end of ASME bottle storage. The cover(s) will be reinforced properly to allow for storage on top.
0006888		Hose, Refill, 50', 5000 psi w/CGA 347	50 FOOT, 5000 PSI REFILL HOSE A 50 foot 5000 psi refill hose for the cascade system will be provided with a CGA 347 female swivel fitting. Included with this hose will be a shutoff and bleed valve.
0835053	SP	Switch, Remote Control Reel Rewind, Coil Cord, Breathing Air	REMOTE BREATHING AIR REEL REWIND There will be a 10' coiled cord provided with a remote push button switch to control the breathing air reel rewind. A stainless steel holder will be provided to store the remote. along wall in compartment beneath air reel just inside roll up door . A total of one (1) will be provided.

0510803		Outlet, High Pressure, 4500 PSI , Cascade Panel Source	<p>HIGH PRESSURE AIR OUTLET FROM CASCADE SYSTEM</p> <p>There will be a high pressure outlet supplied on air control panel.</p> <p>Air regulation for the outlet will be controlled by a hand adjustable regulator on the face of the air control panel and will be limited to 4500 psi output.. A device to prevent inadvertent or accidental adjustment of the regulator will be provided. A label that warns against setting the regulator to an excessive pressure will be installed next to the regulator.</p> <p>A pressure relief valve preset at not over ten (10) percent above the regulator output setting will be provided. A warning label will be installed next to the regulator to indicated the relief valve setting.</p> <p>A male CGA 347 connector with a dust cap and a soft seat screw valve will be provided to control the supply of air.</p> <p>A total quantity of six (6) will be provided.</p>
0812029	SP	Reel, Breathing Air, High Pressure w/200' Hose, 6000 psi, CGA 677	<p>HIGH PRESSURE AIR REEL</p> <p>A high pressure hose reel, complete with hose and fittings will be provided. The hose reel will be rated for 6000 psi working pressure and will be capable of holding 200' of high pressure, 0.51" outside dimension hose.</p> <p>The hose reel will include the following features:</p> <p>Side discs with rolled edges and concentric reinforcing ribs</p> <p>Roll formed drum with a full length weld</p> <p>A bearing to support the axle at each end of the reel in order to provide smooth rotation and eliminate weight on the swivel joint</p> <p>Full length reel axle</p> <p>Swivel joint inlet that permits the reel to rotate freely while connected.</p> <p>The reel will be equipped with a 12-volt D.C. electric rewind motor operated by a push button switch which is guarded to prevent accidental operation. The switch will be installed at a height not to exceed 72.00" above the operator's standing position. A properly rated circuit breaker will be provided to protect the rewind motor against short circuits and overload. A 12-volt fuse will protect the rewind control circuit.</p> <p>The exterior finish of the reel(s) will be painted #269 gray from the reel manufacturer.</p> <p>A captive roller assembly to be provided to aid in the payout and loading of the reel. A ball stop will be provided to prevent the end of the hose from being wound onto the reel.</p> <p>The reel will be equipped with 200' of Parflex fill hose, with a rated burst pressure of 24,000 lb.</p> <p>The fill hose will be continuous with no unions. The hose end will have a female CGA 677 swivel connector and line valve equipped with a bleed-off. A metering valve will be provided on the supply side of the hose reel which will be preset to prevent excessive flow rates that might cause the fill hose to whip in the event of a failure. A bleed valve will be provided on the supply side next to the reel rewind button to bleed off pressure. To monitor the pressure in the supply line a gauge and valve will be furnished at the air control panel. The reel air will pass through the standard supplied regulator on the air control panel, which will provide 6,000 psi maximum air pressure.</p> <p>A label will be provided in a readily visible location adjacent to the reel. The label will indicate whether the supply is for breathing or utility air, the operating pressure, total hose length and hose size (inside dimension).</p> <p>A total of one (1) reel will be provided in left side second hatch compartment rear of cord reel (to pay out through LS3 .</p>
0519934		Not Required, Brand, Hydraulic Tool System	
0649753		Not Required, PTO Driven Hydraulic Tool System	
0007150		Bag of Nuts and Bolts	<p>LOOSE EQUIPMENT</p> <p>The following equipment will be furnished with the completed unit:</p> <p>One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.</p>
0816517		NFPA Required Loose Equipment, Special Services, NFPA/ULC 2024,Prov by Fire Dept	<p>NFPA LOOSE EQUIPMENT</p> <p>NFPA Required Loose Equipment Provided by Fire Department</p> <p>The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department:</p> <p>One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 107, <i>American National Standard for High-Visibility Safety Apparel and Accessories</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.</p> <p>Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.</p> <p>Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.</p> <p>Four (4) ladder belts meeting the requirements of NFPA 2500.</p> <p>NFPA Loose Equipment That Should be Considered</p> <p>The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered:</p> <p>Two (2) SCBA apparatus</p> <p>Two (2) SCBA spare cylinders</p> <p>One (1) first aid kit</p> <p>One (1) automatic external defibrillator (AED)</p>

0796255	Not Required, Soft Suction, Rescue No Pump	
0816939	Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816937	Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0741569	Paint Process / Environmental Requirements, Appleton	PAINT PROCESS The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows: <u>Manual Surface Preparation</u> - 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. <u>Chemical Cleaning and Pretreatment</u> - 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. <u>Surfacer Primer</u> - 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. <u>Finish Sanding</u> - 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. <u>Sealer Primer</u> - 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. <u>Basecoat Paint</u> - 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. <u>Clear Coat</u> - 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 manufacturer. After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be 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 painted 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. The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request. 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 percent 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 percent. Water wash systems will be 99.97 percent 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 recycled 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.

0709567	Paint, Single Color, Enforcer	CAB PAINT The cab will be painted #90 red.
0709845	Paint, Single Color, Body	BODY PAINT The body will be painted to match the lower section of the cab.
0646901	Paint Chassis Frame Assy, With Liner, E-Coat, Standard	PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with a single system black top coat 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 (unless otherwise stated in a secondary option) 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 Steel 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.
0693797	No Paint Required, Aluminum Front Wheels	
0693792	No Paint Required, Aluminum Rear Wheels	
0733739	Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted to match primary job color.
0007230	Compartment, Painted, Spatter Gray	COMPARTMENT INTERIOR PAINT The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.
0544087	Reflective Band, 6"	REFLECTIVE BAND A 6.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.
0007356	Reflective across Cab Face	The reflective band provided on the cab face will be at the headlight level.
0820124	Stripe, Chevron, Rear, Diamond Grade, NFPA/ULC 2024, Rescue	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 983-72 and Fluorescent Yellow-Green 983-23 diamond grade. Each stripe will be 6.00" in width.
0017359	Stripe, Black Outline, Vinyl on Reflective Band	REFLECTIVE STRIPE OUTLINE A black outline will be applied on the top and the bottom of the reflective band. There will be one (1) set of outline stripes required.
0087355	Stripe, Reflective, 6" Inside Compartment Door	REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR A 6.00" black reflective stripe will be provided inside two (2) compartment doors. small compartments on cab.

0065687		Stripe, Reflective, Cab Doors Interior	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" black 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 current edition of applicable NFPA standards.
0835041	SP	Stripe, Gold Leaf, Box, Upper Body Sides without Scrolls	UPPER BODY STRIPING There will be genuine gold leaf stripes along all edges of the upper body plate. No scrolling.
0027372		Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.
0686428		Lettering, Gold Leaf, 3.00", (41-60)	LETTERING Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.
0685978		Lettering, Reflective, 18.00", Each	LETTERING There will be reflective lettering, 18.00" high, with outline and shade provided. There will be six (6) letters provided.
0685985		Lettering, Reflective, 12.00", Each	LETTERING There will be reflective lettering, 12.00" high, with outline and shade provided. There will be seven (7) letters provided.
0685993		Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with outline and shade provided. There will be six (6) letters provided.
0686013		Lettering, Reflective, 6.00", Each	LETTERING There will be reflective lettering, 6.00" high, with outline and shade provided. There will be three (3) letters provided.
0686084		Lettering, Reflective, 3.00", Each	LETTERING There will be reflective lettering, 3.00" high, with no outline or shade provided. There will be nine (9) letters provided.
0686187		Lettering, Gold Leaf, 16.00", Each	LETTERING There will be genuine gold leaf lettering, 16.00" high, with outline and shade provided. There will be 22 letters provided.
0686202		Lettering, Gold Leaf, 10.00", Each	LETTERING There will be genuine gold leaf lettering, 10.00" high, with outline and shade provided. There will be 22 letters provided.
0686260		Lettering, Gold Leaf, 2.00", (21-40)	LETTERING Twenty-one (21) to forty (40) genuine gold leaf lettering, 2.00" high, with outline and shade will be provided.
0645076		Plate, Painted Alum. for Lettering/Numerals	PAINTED PLATE(S) FOR LETTERING/NUMERALS There will be one (1) painted aluminum plate(s) provided for department lettering. They will be mounted cab roof on diamond plate for roof lettering and will be Size required for roof lettering to fit and it to look appropriate on left forward hatch door. Approx. 40" H x 48" wide in size.
0684139		Emblem, Monogram w/Scrolling, Gold Leaf, 24"-26", Pair	EMBLEM/S There will be one (1) pair of genuine gold leaf emblems, 24.00" to 26.00" wide, supplied and installed cab doors. The emblems will include the fire department's monogram or number inside of a circle with scrolling.
0017273		Emblem, Maltese Cross, Gold Leaf, 12"-14", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of Maltese crosses, comprised of genuine gold leaf material, provided and installed Class 1 rear of crew door.

0022652	Emblem, Maltese Cross, Gold Leaf, 15"-17", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed each side upper body forward.
0755303	Artwork File, Provided on Custom USB Drive	ARTWORK ON CUSTOM USB DRIVE There will be a custom USB drive with department specific artwork files provided to the Fire Department. Stock artwork, or artwork developed exclusively by Pierce Manufacturing, and proprietary fonts will not be included on the USB drive.
0020371	SP Emblem, Alameda, Pair	EMBLEM There will be one (1) pair of emblems, number in a shield border approximately 9.00" high x 9.00" wide, provided and installed (1) each side of crew cab doors to match 38912. The emblems will be fabricated from gold leaf and paint. They will be encapsulated between two layers of clear vinyl. They will match their previous unit.
0604802	SP E-Coat, Battery Box, Pair	E-COATING OF BATTERY COMPARTMENTS The battery compartments will be e-coat protected before paint. The e-coated parts will have a black top coat as well to provide an additional layer of protection and provide a consistent finish.
0772003	Manual, Fire Apparatus Parts, USB Flash Drive, Custom	FIRE APPARATUS PARTS MANUAL There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided. The manual(s) 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 Each 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 these manuals are 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.
0772037	Manual, Chassis Service, USB Flash Drive, Custom	CHASSIS SERVICE MANUALS There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit. The manual 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.
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	CHASSIS OPERATION MANUAL The chassis operation manual will be provided on one (1) USB flash drive.
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	ENGINE WARRANTY A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.
0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.

0595766	Warranty, Frame, 50 Year, Includes Crossmembers, Custom Chassis, WA0038	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.
0733305	Warranty, Tandem Axle, 5 Year, Meritor, General Service, WA0384	TDM REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided.
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	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.
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0595813	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) month warranty will be provided for the camera system.
0708760	Warranty, Not Applicable, LED Strip Lights	COMPARTMENT LIGHT WARRANTY The compartment lights will not offer an extended warranty.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	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.
0685945	Warranty, Transmission Cooler, WA0216	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 included with this proposal.
0033401	Not Required, Tank Warranty	
0596024	Warranty, Structure, 15 Year, HDR, WA0010	FIFTEEN (15) YEAR STRUCTURAL INTEGRITY The Pierce heavy duty rescue apparatus body limited warranty certificate, WA0010, is included with this proposal.
0690936	Warranty, Roll up Doors, Not Required	
0012599	Warranty, Pump, Not Required	
0046370	Not Required, Warranty, No Plumbing	
0641372	Warranty, Foam System, Not Available	

0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0595421	Warranty, Goldstar, 3 Year, Apparatus, WA0018	THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.
0819254	Certification, Vehicle Stability, CD0196	VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.
0808564	Certification, Engine Installation, Enf, Cummins X15, 2027	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.
0686786	Certification, Power Steering, CD0098	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 is included with this proposal.
0892691	Certification, Cab Integrity, Saber FR/Enforcer, CD0189	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: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Side Impact The cab will be subjected to dynamic preload where a 14,320-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 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) 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. Additional Roof Crush The same cab will be subjected to a roof crush force of 110,000 lbs. (Four and a half times the load criteria of ECE 29) The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.
0631973	Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	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.
0631978	Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	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 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i> . The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.
0556828	Certification, Electric Window, Not Available	

0631977	Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	<p>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.</p> <p>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.</p>
0631976	Certification, Cab Heater and Defroster, Saber FR/Enforcer, CD0131	<p>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.<i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p> <p>CAB HEATER CERTIFICATION <i>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.</i></p>
0735949	Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	<p>PERFORMANCE CERTIFICATIONS</p> <p>Cab Air Conditioning 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.</p> <p>Cab Defroster 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.<i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p> <p>Cab Auxiliary Heater <i>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater 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.</i></p>
0545073	Amp Draw Report, NFPA Current Edition	<p>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: Current edition of applicable NFPA standards. The minimum continuous load of each component that is specified per: Current edition of applicable NFPA standards. 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 current edition of applicable NFPA standards.</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000031	HDR BODY	
0000012	PIERCE CHASSIS	
0004713	ENGINE, OTHER	

0046396	EVS 4000 Series TRANSMISSION
0020037	NO PUMP
0020013	NO WATER TANK
0028047	NO FOAM SYSTEM
0046282	Not Required, Control Panel, No Pump
0020007	AKRON VALVES
0020015	ABS SYSTEM
0752883	HDR



Electrical Analysis

7/15/2025

Bid #: 989 **Job #:**

Desc: Alameda City Enforcer 23.5' Rescue **Sales Rep:** Klockzien, Dave

Customer: ALAMEDA CITY FIRE DEPARTMENT **Organization:** Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT **Type:** Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	0.00
0006825	Reel, Elect Cable, Hannay, 1600, (3) Wire		0.00	72.00	0.00
0009429	Electric Power Only, Portable Winch		0.00	8.00	0.00
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud		0.00	3.00	0.00
0543751	Light, Do Not Move Apparatus		0.00	0.80	0.00
0583938	Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3"		0.00	0.30	0.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0593759	ESC/ABS/ATC Wabco Brake System, Tandem Rear Axle		0.00	6.00	0.00
0629852	Light Twr, W-B Pow NS4.5-1380 SPC, 6-K20 120VAC Lts Cld 15'		0.00	5.00	0.00
0643574	Handlight, Pelican, 3765PL, Rechargeable Flashlight, 6061F 12V		0.00	0.00	3.20
0653350	Guards, Vehicle Camera(s), Painted Smooth Aluminum		0.00	0.00	0.00
0667426	Lights, Compt, Amdor, AY-9220-42, LED, 41.61", Additional		0.00	0.00	1.68
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine		0.00	0.42	0.00
0746938	Handlts, (4) BAYCO Nightstick XPR-5582RX 12v		0.00	0.00	0.50
0763609	Cab Lift, Elec/Hyd, Remote, Manual Override, Recess LS Step,		0.00	180.00	0.00
0795742	Not Required, Walking Surface, Alt. Walking Surface Lights, HDR		0.00	0.00	0.00
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0812029	Reel, Breathing Air, High Pressure w/200' Hose, 6000 psi, CGA		0.00	36.00	0.00
0816158	Camera, Pierce, LS Mux, RS, LS, R, Cameras, AHD		0.00	1.20	0.00
0819994	Radio, Jensen, AM/FM/WB, Bluetooth		0.00	0.00	2.00
0821263	Wiring, Spare, 20 A 12V DC, 12 Ckt FB, Blue Sea 5026 Batt Dir		0.00	0.00	20.00
0826636	Wiring, Spare, (1) 15A 12V DC, Multi Loc, Cab, B+, 1st,		0.00	0.00	15.00
0832307	Intercom, David Clark, Up to 4 Wireless, (D,O,RPTT), 4obC, Ext		0.00	0.00	0.50
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0895709	Lights, Door Interior Flash, 4 Dr Cab, WIn 0S*00FCR		0.00	0.24	0.00
0672937	Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mtd In Rub	Load Managed	0.00	0.00	2.00
0722038	HVAC, Heavy-Duty, Enforcer, w/X15, CARE	LM - Last	0.00	0.00	100.00
0763608	Lights, WIn, PCPSM2*, Pioneer, 12 VDC, 2nd	Load Managed	0.00	0.00	24.00
0763610	Lights, WIn, PCPSM2*, Pioneer, 12 VDC, 1st	Load Managed	0.00	0.00	24.00
0768059	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 2nd	Load Managed	0.00	0.00	12.00
0768061	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 1st	Load Managed	0.00	0.00	12.00
0889921	Lights, HiViz FT-MB-2.9-*-* , 11.10" Brkt Fet, 2nd	Load Managed	0.00	0.00	7.03
0889923	Lights, HiViz FT-MB-2.9-*-* , 11.10" Brkt Fet, 1st	Load Managed	0.00	0.00	7.03
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00
0511569	Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	NFPA	0.50	0.00	0.00
0540384	Lights, Front Zone, WIn M6*C LED, Clear Lens, in Common Bzl	NFPA	1.80	2.70	0.00
0541155	Lights, Rear/Side Up Zone, WIn M9*C LED, Clear Lens 4lts	NFPA	4.80	7.20	0.00
0550598	Siren, WIn 295HFS2 Remote, Single Amp	NFPA	1.40	12.60	0.00
0564655	Lights, Rear Zn Lwr, WIn M6*C LED, Clear Lens, For Tail Lt	NFPA	1.80	2.70	0.00
0603182	Lights, Hatch Compt, Amdor AY-9220 LED Strip Lights, HDR	NFPA	1.40	1.40	0.00
0603606	Cab Instruments, Ivory Gauges, Chrome Bezels, Enf MUX	NFPA	1.26	0.00	0.00
0606775	Lightbar, WIn, Freedom IV-Q, 72", RRWRRR_____RRRWRR	NFPA	6.48	2.48	7.44
0618791	DEF Tank, 4.5 Gallon, LS Fill, Forward of Axle, Common Air Bottle	NFPA	0.60	11.40	0.00
0620044	Light, Directional/Marker, Intermediate, Truck-Lite 21290Y LED	NFPA	0.04	0.13	0.04
0630489	Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber	NFPA	7.81	0.00	0.00
0647632	Lights, Dome, WIn 60C*EGCS Dual LED 4 Lts	NFPA	3.00	3.00	0.00

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Electrical Analysis

7/15/2025

Bid #: 989
Desc: Alameda City Enforcer 23.5' Rescue
Customer: ALAMEDA CITY FIRE DEPARTMENT
Option: Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT

Job #:
Sales Rep: Klockzien, Dave
Organization: Golden State Fire Apparatus, Inc
Type: Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0647899	Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29	NFPA	0.80	0.00	0.00
0724853	Headlights, Rect LED, HiViz FT-4X6-4KIT, AXT/Enf/Imp/Sab/Vel,	NFPA	7.66	7.66	0.00
0728734	Lights, Rear Scene, Wln, PCPSM1* Pioneer LED Fld/Spt, Surface	NFPA	12.00	0.00	0.00
0729921	Light, Roof Mt, Wln S72M**, 72" Cnt Feature, Mkr Lts Activated,	NFPA	0.32	0.00	18.68
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor	NFPA	0.49	0.00	0.00
0766136	Right Over Wheel Compt, 52"-51", Roll, Tandem, NWI (Fwd	NFPA	0.90	1.80	0.90
0766137	Left Over Wheel Compt, 52"-51", Roll, Tandem, NWI (Fwd	NFPA	0.90	1.80	0.90
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	NFPA	1.20	0.00	0.00
0769560	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear	NFPA	0.36	0.00	0.00
0769570	Lights, Perimeter, Amdor AY-LB-12HW020 20", Brkt	NFPA	2.40	0.00	0.00
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door	NFPA	0.80	0.00	0.00
0791528	Light, Traffic Directing, Wln TAL65, 36.00" Long, TACTL5	NFPA	0.60	1.20	0.00
0795711	Lights, Side Zone Lower, Wln M6*C LED, Clear Lens, 3pr, Ovr 25,	NFPA	3.60	5.40	0.00
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0804681	Light, Directional, Wln 604T* Cmn Bzl, Above Headlts,Sab/Enf	NFPA	0.02	0.02	0.00
0808503	Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027,	NFPA	10.00	0.00	0.00
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX,	NFPA	1.20	0.00	0.00
0814723	Cab, Enforcer, 7010, w/Integrated Mast Light Enclosure	NFPA	6.80	10.20	0.00
0826455	Cabinet, Fwd Fcng, Ctr, 38.50 W x 50 H x 18 D, Web, SFR/Enf	NFPA	0.50	0.50	0.00
0833249	Drug Locker, Knox, MedVault Mini, 5240, Recess Mounted	NFPA	1.50	1.50	0.00
0833322	Left Forward Compt, 52" & 52" Roll, 74" H, NWI	NFPA	3.60	3.60	0.00
0833323	Right Forward Compt, 52" & 52", Roll, 74" H, NWI	NFPA	3.60	3.60	0.00
0833325	Left Rear Compt, 52" W x 74" H, Roll, NWI	NFPA	0.90	1.80	0.90
0833326	Right Rear Compartment, 52" W x 74" H, Roll, NWI	NFPA	0.90	1.80	0.90
0833689	NWI, Hatch, (2) Spcl Front Hatch & Recessed Walkway	NFPA	3.10	0.00	0.00
0833717	Rear Compt, Roll/Swing Down Lap Door, 74" H, AMDOR, Tandem	NFPA	3.60	7.20	3.60
0834638	Lights, Step, P25 LED, HDR-NWI, Rear & Rec Walkway, Perm	NFPA	0.50	0.00	0.00
0887546	Trans, Allison 6th Gen, 4000 EVS P, w/Prognostics,	NFPA	2.00	2.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0892618	Not Required, Indicator Light, Pump Panel, No Pump or Skid	NFPA	0.10	0.00	0.00
0892638	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	NFPA	1.00	0.00	0.00
0898687	Compt, Saddle, Transverse C/C, Dbl Pan, Rec Tube, 70" SFR/Enf	NFPA	0.65	0.65	0.00
0647728	Alternator, 430 amp, Delco Remy 55SI	S	0.00	0.00	0.00
Load Totals:			109.35	515.25	264.30

Note: Minimum Continuous Load is in "Blocking Right of Way" mode.(Reference current edition of NFPA 1901)

Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901)

Note: Total Connected Load "Demand" represents Total Connected Load minus any Load Managed items

Alternator Output at Idle: 254.00

Minimum Continuous Load	
Supply:	254.00
Demand:	109.35
Variance:	144.65

Alternator Output at Governed Speed: 370.00

Total Connected Load	
Supply:	370.00
Demand:	185.59
Variance:	184.41

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Turning Performance Analysis

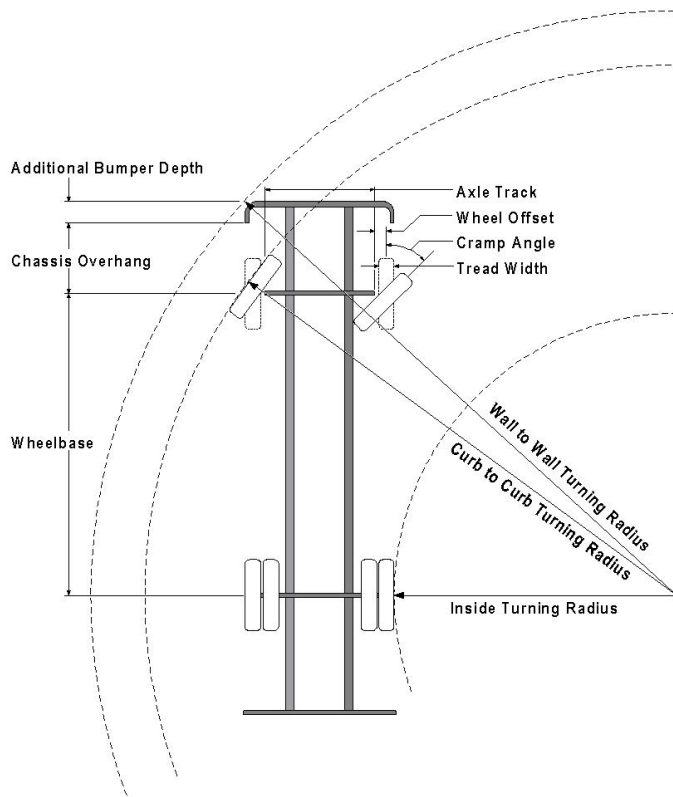
07/15/2025

Bid Number: 989

Department: ALAMEDA CITY FIRE DEPARTMENT

Chassis: Enforcer Chassis, HDR, Tandem Axle

Body: HDR, Non-Walk-In, Aluminum



Parameters:

*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	7 in.
Front Overhang:	72.95 in.
Wheelbase:	239.5 in.

Calculated Turning Radii:

Inside Turn:	18 ft. 11 in.
Curb to curb:	34 ft. 6 in.
Wall to wall:	38 ft. 2 in.

Category	Option	Description
Axle, Front, Custom	0629940	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Enforcer
Bumpers	0820941	Bumper, Non-Extended, Polished S/S, Saber FR/Enforcer
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Tires, Front	0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:	
Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.



GOLDEN STATE
FIRE APPARATUS

goldenstatefire.com

4 PRODUCT WARRANTIES

Exhibit "C"



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: See Also Paragraphs 2 thru 4	No specific exclusions 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.

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.



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.

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 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.

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.



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R. H. SHEPPARD CO., INC.
101 Philadelphia St.
Hanover, PA 17331
Pierce Manufacturing Inc.
2600 American Drive
Appleton, WI 54912

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:

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
Page 2

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.

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
Page 3

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.

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
Page 4

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.

PIERCE MANUFACTURING INC.

Authorized Signature

Authorized Signature

Title

Title



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:

Coverage:	Custom chassis frame rail and cross members manufactured by Pierce 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:	Fifty (50) Years (Expected Life of Apparatus)
Conditions and Exclusions: See Also Paragraphs 2 thru 4	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.



Fire and Rescue Apparatus

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: See Also Paragraphs 2 thru 4	This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

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.



Fire and Rescue Apparatus

SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("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:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor 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.

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.

MERITOR® COMMERCIAL VEHICLE SYSTEMS

WARRANTY/MODEL YEAR 2020 VEHICLES



MERITOR





WARRANTY INFORMATION CONTENTS

Effective Model Year 2020 Vehicles

Linehaul	3-4
General Service	5-6
Heavy Service/Specialty Vehicle	7-8
Fire and Emergency	9
Transit Bus	10
Off-Highway Service.....	11
Terms and Conditions.....	12

How to Read Warranty Coverage

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
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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

■ Bulk Hauler	■ Flatbed	■ Livestock Hauler	■ Refrigerated Freight
■ Chip Hauler (Truck)*	■ General Freight	■ Moving Van	■ Tanker
■ Doubles	■ Grain Hauler	■ Pipe Hauler	■ 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-967	MFS-12-122B-N	MFS-12-132C-N	MFS-13-122B-N	MFS-13B-122C-N
FF-941	FG-941	MFS-12-122C-N	MFS-12E-132B-N	MFS-13-122C-N	MFS-13B-132B-N
FF-942	FG-943	MFS-12E-122A-N	MFS-12E-132C-N	MFS-13-132B-N	MFS-13B-132C-N
FF-943	MFS-10-122A	MFS-12E-122B-N	MFS-12-143A-N	MFS-13-132C-N	MFS-14-122A-N
FF-944	MFS-10-143A-N	MFS-12E-122C-N	MFS-12E-143A-N	MFS-13-143A-N	MFS-14-124A-N
FF-961	MFS-10-144A-N	MFS-12-124A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-14-143A-N
FF-966	MFS-12-122A-N	MFS-12-132B-N	MFS-13-122A-N	MFS-13B-122B-N	MFS-14-144A-N

Rear Drive Single Axles – 5/750/P&L

RS-19-144/145/A	RS-21-145	RS-23-160
MS-19-14X	RS-21-160	RS-23-161
MS-21-144	MS-23-17X	RS-23-186

Rear Drive Tandem/Tridem Axles – 5/750/P&L

RT-34-144/P/A	MA-40-165	MT-40-14XHE
RT-40-145/A	MA-40-175	MT-40-144/P
RT-40-160/P ^{1,2}	MT-34-14X/P	MT-40-943
RT-46-160/P ^{1,2}	MT-40-14T/P	MT-40-943-SP
RT-46-164EH/P ^{1,2}	MT-40-14X/P	RZ-166 ²
RT-50-160/P ^{1,2}	MT-40-14X/P	RZ-188

Drivelines

RPL	5/500/P, 1/Unl/P&L
MXL	3/350/P, 1/Unl/P&L
155N	1/Unl/P
92N	1/Unl/P

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
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™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	5/500/P, 1/Unl/L
EX+ Air Disc Brake Extended Standard Warranty ³	5/500/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.

² Based on stamped wear diameter max.

³ Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXCDXXX

Trailer Axles

Beam and Brackets	5/500/P, 1/100/L
Wheel End Systems ¹	
Standard System ²	1/100/P&L
PreSet by Meritor ³	5/500/P&L
AxlePak ⁵	5P/L
AxlePak ⁷	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/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

TAG/Pusher Axles¹

TQ, TQD, TR, TRD Beam and Brackets	5/750/P&L
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¹ For brake components and ABS Coverage, refer to appropriate product warranties.

Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/500/P, 1/100/L
Curbing Damage Warranty ²	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	5/P, 3/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	5/P, 3/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.



GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

■ Auto Hauler	■ Intercity Coach	■ Pipe Hauler	■ Tanker Trailer
■ Beverage Truck	■ Intermodal Chassis	■ Platform Auto Hauler	■ Tour Bus
■ Chip Hauler	■ Livestock Hauler	■ Rear Engine Integral Coach	■ Wrecker
■ Cross Country Coach	■ Meat Packer	■ Recreational Vehicles	
■ Flatbed	■ Moving Van	■ Refrigerated Freight	
■ Front Engine Commercial Chassis	■ Municipal Truck	■ School Bus	
■ Front Engine Integral Coach	■ Newspaper Delivery	■ Stake Truck	
■ General Freight	■ Pick-Up and Delivery	■ Tanker	

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 Non-Drive Steer Axles – 2/Unl/P&L

FD-965	FL-943	MFS-8-163B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-16-143A-N
FF-941	MFS-6-151A-N	MFS-10-122A	MFS-12-132C-N	MFS-13B-132B-N	MFS-18-133A-N
FF-942	MFS-6-153B-N	MFS-10-143A-N	MFS-12E-132C-N	MFS-13B-132C-N	MFS-18-135A-N
FF-943	MFS-6-162B-N	MFS-10-144A-N	MFS-12-143A-N	MFS-13-143A-N	MFS-18-193A-N
FF-944	MFS-6-153C-N	MFS-12-122A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-20-133A-N
FF-946	MFS-6-162C-N	MFS-12E-122A-N	MFS-12E-143A-N	MFS-14-122A-N	MFS-20-135A-N
FF-961	MFS-7-113C-N	MFS-12-122B-N	MFS-13-122A-N	MFS-14-124A-N	MFS-20-192A-N
FF-966	MFS-7-153C-N	MFS-12E-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N
FF-967	MFS-7-163C-N	MFS-12-122C-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N
FG-941	MFS-8-113B-N	MFS-12E-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N
FH-941	MFS-8-143A-N	MFS-12-124A-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N
FH-946 ¹	MFS-8-153B-N	MFS-12-132B-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N
FL-941					

¹ Can also be used with reduced steer angles in tag position in Coach Applications.

Front Drive/Non-Drive Steer Axles – 1/Unl/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Single Axles – 2/Unl/P&L

MS-17-13X	MS-21-14X	RC-23-160	RS-24-160	MS-30-616-SP
MS-17-14X	MS-21-144	RC-23-161	RC-25-160	RS-35-380
MS-19-13X	MS-23-17X	RC-23-162 ¹	RS-26-185	71162
MS-19-14X	RS-21-145/A	RC-23-165 ¹	MS-26-616	71163
RS-17-144/145/A	RS-21-160	RS-23-160	MS-26-616-SP	79163
RS-19-144/145/A	RC-22-145	RS-23-161	RS-30-185	
MS-21-13X	RC-22-145/A	RS-23-186	MS-30-616	

¹ 3/Unl/P&L if PreSet by Meritor.

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

MT-34-14X/P	MT-40-14XHE	RT-44-145/P	MT-58-616
RT-34-144/P/A	MT-40-144/P	RT-46-169	RT-58-185 ¹
MT-40-14T/P	RT-40-145/A	MT-52-616	MT-70-380
MT-40-14X/P	MT-44-14X/P	RT-52-185 ¹	RZ-188

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.

Rear Drive Tandem/Tridem - 3/Unl/P&L

RT-40-160/P	RT-50-160/P
RT-46-160/P	RZ-166
RT-46-164EH/P	

Rear Drive Axles – 1/Unl/P&L

11170	RND-14H
523	RND-16A

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

Transmission – 1/Unl/P&L

516	FAT 30
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PTO – 1/Unl/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190



GENERAL SERVICE WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	3/Unl/P, 1/Unl/L
Cam P ³	2/200/P
Cam	3/Unl/P
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ ³	2/200/P&L
ASA	3/Unl/P
ASA ³	2/200/P
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™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	2/Unl/P&L

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

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L
AxlePak5 ⁴	5/P&L
AxlePak7 ⁵	7/P&L

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.

⁴ When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Chassis Axles (2000 Series/ChassiPak)

Beam & Brackets	6/Unl/P, 1/Unl/L
Wheel End Systems ¹	
Standard System	1/Unl/P&L
AxlePak7	7/P&L
Beam and Brackets	7/P, 1/L

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
PinLoc Air Controls	1/Unl/P&L
PinLoc Air Actuator	3/Unl/P&L
MPA20 (Single Axle Parallelogram)	
Major Structural Components	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
Bushings	5/P, 3/L
MTA (Trailing Arm)	
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs and Rebound Straps	2/Unl/P, 1/Unl/L
Bushings ³	5/Unl/P, 3/Unl/L

(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 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

TQ, TQD, TR, TRD Beam and Brackets ¹	3/Unl/P, 1/Unl/L
MC14002, MC16003, FH946	2/Unl/P&L

(For brake components and ABS coverage, refer to appropriate product warranties.)

¹ 3/Unl/P&L if sold with PreSet by Meritor.

Meritor® Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicle

- | | | | |
|---------------------------------------|----------------------------------|----------------------------------|-------------------------------|
| ■ Airport Rescue Fire Fighting (ARFF) | ■ Dump | ■ Michigan Special Steel Hauler | ■ Steel Hauling |
| ■ Airport Shuttle* | ■ Equipment Hauling | ■ Michigan Special Waste Vehicle | ■ Tanker |
| ■ Asphalt Truck | ■ Flatbed Trailer Hauler | ■ Municipal Dump | ■ Tank Truck |
| ■ Block Truck | ■ Flatbed Truck | ■ Rear Loader (Refuse) | ■ Tractors with Pole Trailers |
| ■ Bottom Dump Trailer | ■ Fracturing Truck | ■ Recycling Truck | ■ Tractor/Trailer with Jeeps |
| ■ Combination | ■ Front Loader | ■ Residential Pick-Up (Refuse) | ■ Transfer Dump |
| ■ Cementing Vehicle | ■ Geophysical Exploration | ■ Rigging Truck | ■ Transfer Vehicle |
| ■ Commercial Pick-Up | ■ Hopper Trailer Combinations | ■ Roll-Off | ■ Utility Truck |
| ■ Concrete Pumper | ■ Landscaping Truck | ■ Scrap Truck | ■ Winch Truck |
| ■ Construction Material Hauler | ■ Liquid Waste Hauler | ■ Semi-End Dump | |
| ■ Mixer | ■ Log Hauling | ■ Sewer/Septic Vacuum | |
| ■ Demolition | ■ Lowboy | ■ Shuttle Bus* | |
| ■ Drill Rig | ■ Michigan Special Gravel Trains | ■ Side Loader | |
| | ■ Michigan Special Log Hauler | ■ Snowplow/Snowblower | |

*Commercial chassis only

Heavy Service/Specialty Vehicle 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

FD-965	FL-941	MFS-10-143A-N	MFS-12-143A-N	MFS-13-144A-N	MFS-18-193A-N	MX-12-120
FF-941	FL-943	MFS-10-144A-N	MFS-12-144A-N	MFS-13-155	MFS-20-133A-N	MX-12-120 EVO
FF-942	MFS-6-151A-N	MFS-12-122	MFS-12-155	MFS-14-122	MFS-20-135A-N	MX-14-120
FF-943	MFS-6-153B	MFS-12E-122	MFS-13-122	MFS-14-124A-N	MFS-20-192A-N	MX-16-120
FF-944	MFS-6-162B	MFS-12-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N	MX-18-120
FF-946	MFS-6-162C	MFS-12E-122B-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N	MX-17-140
FF-961	MFS-7-113C-N	MFS-12-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N	MX-19-140
FF-966	MFS-7-153C-N	MFS-12E-122C-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N	MX-21-140
FF-967	MFS-7-163C-N	MFS-12-124A-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N	MX-21-160
FG-941	MFS-8-113B-N	MFS-12-132B-N	MFS-13B-132B-N	MFS-16-143A-N	RF-16-145	MX-23-160
FG-943	MFS-8-153B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-18-133A-N	RF-21-160	MX-810
FH-941	MFS-8-163B-N	MFS-12-132C-N	MFS-13B-132C-N	MFS-18-135A-N	MX-10-120	
FH-946	MFS-10-122A	MFS-12E-132C-N	MFS-13-143A-N	MFS-18-192A-N	MX-10-120 EVO	

Front Drive/Non-Drive Steer Axles – 1/Unl/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Single Axles – 2/Unl/P&L

MS-17-14X	RS-21-160	RS-24-160	MS-35-380
RS-17-144/145/A	RC-22-145	RS-25-160	RS-38-380
MS-19-14X	RC-23-160	MS-26-616	RC-25-160
RS-19-144	RH-23-160	MS-26-616-SP	RC-26-633
MS-21-114	RS-23-160	RS-26-185/380	MT-58-616
MS-21-14X	RC-23-161	MS-30-616	MT-58-616-SP
RS-21-145	RS-23-161	MS-30-616-SP	
RS-21-145/A	RS-23-186/380	RS-30-185/380	

Rear Drive Axles – 1/Unl/P&L

11170	RND-14H
523	RND-16A

Drivelines

RPL	3/Unl/P, 1/Unl/P&L
92N	1/Unl/P&L
MXL	1/Unl/P&L

Transmission – 1/Unl/P&L

516
FAT 30

PTO – 1/Unl/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190



HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

MT-34-14X/P	RT-44-145/P	RT-52-185/380 ^{1,2}	MT-70-380
RT-34-144/P/A	RT-46-169	MT-58-616	RZ-188
MT-40-14X/P	RT-58-160	MT-58-616-SP	
RT-40-145/A	MT-52-616	RT-58-185/380 ^{1,2}	
MT-44-14X/P	MT-52-616-SP	RT-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 P ³	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
ASA ²	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/Tridem - 3/Unl/P&L

RT-40-160/P/A ³
RT-46-160/P/A ^{1,3}
RT-46-164EH/P/A ^{2,3}
RT-50-160/P/A ³
RZ-166

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

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MTA (Trailing Arm)	
Major Structural Components ¹	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
Bushings ¹	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.)

Trailer Axles

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L

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.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Gearboxes – 1/Unl/P&L

MGX-240	MGX-376	MGX-448	MGX-506	MGX-528	MGX-546
MGX-279	MGX-377	MGX-456	MGX-514	MGX-533	MGX-550
MGX-279D	MGX-378	MGX-478	MGX-519	MGX-534	
MGX-280	MGX-380	MGX-480	MGX-520	MGX-536	
MGX-285	MGX-384	MGX-487	MGX-522	MGX-537	
MGX-292	MGX-402	MGX-488	MGX-524	MGX-541	
MGX-314	MGX-413	MGX-505	MGX-527	MGX-545	

Transfer Cases – 1/Unl/P

MTC-4213	MTC-3118-CV (358)	MTC-3209-GV (RTC-60/420)
MTC-4210	MTC-3120-FV (TC-143)	MTC-3209-GV (RTC-60/380)
MTC-4208	MTC-3124 (T-2119)	MTC-3209-GV (MTC-60/420)
MTC-4206-FV (TC-38)	MTC-3205-GV (MTC-25/247)	MTC-3209-GV (MTC-60/380)
MTC-3106-FV (TC-137)	MTC-3205-GV (MTC-25/350)	MTC-3212-CV (315 & 548B)
MTC-3111 (T-2111)	MTC-3205-GV (RTC-25/350)	MTC-3312-FV (TC-270)
MTC-3112-CV (529 & 548C)	MTC-3206-FV (TC-237)	MTC-3220-FC (TC-142)
MTC-3116 (T-2111)	MTC-3206-CS (544)	MTC-2212-CV (306)
MTC-3118-FV (TC-180 & TC-180-23)	MTC-3208-GV (RTC-50)	



FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Command Vehicle
- Crash Fire Rescue (CFR)
- Pumper
- Rapid Intervention Vehicle (RIV)
- Tanker

Fire and Emergency Typically Is

- Lower mileage operations (less than 20,000 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, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/Unl/P&L

FL-941	MFS-18-193A-N	MFS-22-135A-N
FL-943	MFS-20-133A-N	MFS-22H-135A-N
MFS-18-133A-N	MFS-20-135A-N	MFS-22-193A-N
MFS-18-135A-N	MFS-20-193A-N	MFS-22H-193A-N

Front Drive Steer Axles – 2/Unl/P&L

MX-19140	MX-21160	MX-23810
MX-21140	MX-23160	

Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-186	RS-26-185	RS-25-160
RS-23-160	RS-24-160	RS-30-185	
RS-23-161	RC-25-160	RS-35-380	

¹ 3/Unl/P&L if PreSet by Meritor.

Rear Drive Tandem/Tridem Axles – 5/Unl/P&L

MT-40-14X/P	RT-44-145/P	MT-52-616
MT-40-144/P	RT-46-160/P	RT-52-185 ¹
RT-40-145/A	RT-46-164EH/P	MT-58-616
RT-40-160/P	RT-46-169	RT-58-185 ¹
MT-44-14X/P	RT-50-160/P	MT-70-380

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.

Brake Components

Cam	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
EX+ Air Disc Brake™	2/Unl/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.

Drivelines

RPL	4/400/P, 1/Unl/L
MXL	3/350/P, 1/Unl/L
155N	1/Unl/P
92N	1/Unl/P

Transfer Cases – 1/Unl/P

MTC-4208	MTC-3111 (T-2111)
MTC-4210	MTC-3116 (T-2111)
MTC-4213	MTC-3124 (T-2119)



TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

- Airport Shuttle
- City Bus
- Commuter Coach
- Shuttle Bus
- Transit Bus
- Trolley

Transit Bus Typically Is

- Moderate mileage operation (less than 50,000 miles per year)
- 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, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 5/300/P&L

FH-946 MFS-12-155
 FH-941¹ MFS-13-155

¹ Commuter coach only – 2/Unl/P&L

Drivelines

RPL 3/Unl/P, 1/Unl/L
 92N 1/Unl/P&L
 MXL 1/Unl/P&L

Rear Drive Single Axles – 5/300/P&L

RS-23-160 79163 RS-21-160
 RC-23-161 RC-23-162¹
 71163 RC-23-165¹

¹ Commuter coach only – 2/Unl/P&L

Tag Axles – 2/Unl/P&L

MC-14002
 MC-16003
 FH-946

Brake Components

Cam Cast Plus™ 2/100/P&L
 Q+ Drum Brake™¹ 2/100/P&L
 ASA¹ 2/100/P
 Hubs/Cast Drums and
 Other Wheel-end
 Components 1/Unl/P
 All Other Brakes 1/Unl/P
 EX+ Air Disc Brake 2/100/P&L

¹ Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

Center Non-drive Axles – 5/300/P&L

MC-26000
 71063
 79063



OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Industrial And Off-Highway Service Vehicles

■ Load-On/Load-Off	■ Yard Jockey	■ Specialized Mining	■ Rail Car Mover
■ Port Tractor	■ All-Terrain Crane	■ Excavator	■ Loader
■ Rail Yard Spotter	■ Rough Terrain Crane	■ Compactor	■ Tow Tractor
■ Roll-On/Roll-Off	■ Forestry	■ Fertilizer Spreader	■ Pushback Tractor
■ Stevedoring Tractor	■ Material Handling	■ Snow Blower	
■ Trailer Spotter	■ Specialized Heavy Haul	■ Mining	

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. Contact Meritor regarding specific application approval questions on any product line.

Drivelines – 1/Unl/P

RPL MXL

Front Non-Drive Steer Axles – 1/Unl/P

FF - 941	MFS-12-144A-N	MFS-18-193A-N
FF - 943	MFS-13-143A-N	MFS-20-133A-N
FF - 961	MFS-13-144A-N	MFS-20-135A-N
FF - 966	MFS-14-143A-N	MFS-20-192A-N
FG - 941	MFS-16-122A-N	MFS-20-193A-N
FG - 943	MFS-16-133A-N	MFS-22-135A-N
FL - 941	MFS-16-135A-N	MFS-22H-135A-N
FL - 943	MFS-16-143A-N	MFS-22-193A-N
FN - 951	MFS-18-133A-N	MFS-22H-193A-N
MFS-12-143A-N	MFS-18-135A-N	MON-ZO FAMILY

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

Planetary Axles – 1/Unl/P

MOB	MOF	MOS	MOZ
MOC	MOG	MOT	
MOD	MOH	MOX	
MOE	MOR	MOY	

Gearboxes – 1/Unl/P&L

MGX-240	MGX-376	MGX-448	MGX-506	MGX-528	MGX-546
MGX-279	MGX-377	MGX-456	MGX-514	MGX-533	MGX-550
MGX-279D	MGX-378	MGX-478	MGX-519	MGX-534	
MGX-280	MGX-380	MGX-480	MGX-520	MGX-536	
MGX-285	MGX-384	MGX-487	MGX-522	MGX-537	
MGX-292	MGX-402	MGX-488	MGX-524	MGX-541	
MGX-314	MGX-413	MGX-505	MGX-527	MGX-545	

Transfer Cases – 1/Unl/P

MTC-4213	MTC-3116 (T-2111)	MTC-3205-GV (RTC-25/350)	MTC-3209-GV (MTC-60/380)
MTC-4210	MTC-3118-FV (TC-180 & TC-180-23)	MTC-3206-FV (TC-237)	MTC-3212-CV (315 & 548B)
MTC-4208	MTC-3118-CV (358)	MTC-3206-CS (544)	MTC-3312-FV (TC-270)
MTC-4206-FV (TC-38)	MTC-3120-FV (TC-143)	MTC-3208-GV (RTC-50)	MTC-3220-FC (TC-142)
MTC-3106-FV (TC-137)	MTC-3124 (T-2119)	MTC-3209-GV (RTC-60/420)	MTC-2212-CV (306)
MTC-3111 (T-2111)	MTC-3205-GV (MTC-25/247)	MTC-3209-GV (RTC-60/380)	
MTC-3112-CV (529 & 548C)	MTC-3205-GV (MTC-25/350)	MTC-3209-GV (MTC-60/420)	



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 Heavy Vehicle Systems, LLC 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 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 branded 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.

Product models, brands, names and trademarks depicted herein are the property of their respective owners and, except where otherwise indicated, are not in any way associated with Meritor Heavy Vehicle Systems, LLC, or any parent or affiliate, thereof.



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Fire and Rescue Apparatus

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:

Coverage:	The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Year
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.

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.

WARRANTY

MODEL YEAR 2021 VEHICLES



Warranty coverage is essential to protecting your investment. But understanding the full details of your coverage can be challenging. This straightforward approach allows you, our valued customer, to better understand how your specific vehicle applications will be covered in your region. Our component warranty coverage is provided according to vocation/usage categories listed below.

- Linehaul covers high mileage operation (over 60,000 miles/year) on well-maintained major highways of concrete or asphalt construction.
- General Service covers moderate mileage operations (less than 60,000 miles/year) on well-maintained public roads (less than 10 percent off-road) typically with less than three (3) stops per mile.
- Heavy Service (Vocational) covers vehicles with more than 10 percent off-road OR moderate to frequent starts/stops typically with more than three (3) stops per mile.
- Off-Highway Service covers lower mileage operations. Vehicles are not typically licensed for highway use.

How to Read Warranty Coverage (Example)

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	P

- The standard aftermarket warranty for WABCO products - including WABCO Original parts, WABCO Reman Solutions, ProVia quality aftermarket parts and WABCO retrofit solutions - is one year, parts only from in-service date when purchased from ZF distributor networks or its affiliates and/or subsidiaries.

WABCO

WARRANTY - MODEL YEAR 2021 VEHICLES

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach
- Doubles
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Triples
- Tour Bus
- Wrecker

LINEHAUL TYPICALLY IS

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction

GENERAL SERVICE TYPICALLY IS

- Moderate mileage operations (less than 60,000 miles/year)
- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Trailer Lift Axle Control Valve	
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow® TrailerSkirt	2/UnU/P
OptiFlow® Trailer Tail and AutoTail	2/UnI/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System) ³	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/P&L
OptiRide® Automated Manual Transmission (AMT)	
OptiRide® Electronically Controlled Air Suspension (ECAS)	3/300/P&L

WABCO Components ¹ (cont.)	
Safety	
OnGuardACTIVE®	3/300/P&L
OnLane®	
OnLaneALERT®	
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit™ Slack Adjuster	6/600/P
MAXXUS™ Truck Air Disc Brake	5/500/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 17 and 19 Air Disc Brake	2/Unl/P and 1/Unl/L
Pan 22 Air Disc Brake	5/500/P and 1/L
TRISTOP™ D Actuator w/ IBV or IRB	6/600/P
TRISTOP™ D Actuator	3/300/P
UNISTOP™ Actuator	2/200/P
Trailer MAXX22T™ Air Disc Brake	5/500/P and 1/L

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

HEAVY SERVICE (VOCATIONAL) 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
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- 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

- On/Off road vocations (10% or more off-road) OR
- Moderate to frequent starts/stops typically more than three (3) stops per mile



WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Air Compressors (ALL)2	
Air Dryers (ALL)	
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	3/300/P&L
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide® Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE®	3/300/P&L
OnLane®	
OnLaneALERT®	
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
Trailer MAXX22T™	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

WARRANTY - MODEL YEAR 2021 VEHICLES

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

- Low mileage operation³
- Vehicles are not typically licensed for highway use

Market	Common Application Types
Agriculture	Fertilizer Spreader, Tractor, Heavy Duty Ag Trailers, Harvester, Sprayer, Skid Loader, Silage Bagger, Slurry Wagons, Grain Cart
Airport Support	Pushback Tractor, Towing Tugs, Aircraft Tow Tractor, Refueling Trucks, Food Service Trucks, Baggage Tractors, De-Icing Equipment, Runway Clearing Equipment
Construction	All-Terrain Crane, Rough Terrain Crane, Excavator, Compactor, Wheel Loader, Road Roller, Motor Grader, Articulated Dump Truck, Rubber Tire Road Roller, Backhoe Loaders, Haul Trucks, Scraper Rough Terrain Forklifts, Trenchers, Drills
Forestry	Logging Forwarder, Kidder, Loaders, Yard Forklifts, Harvesters Fellers
Material Handling	Port Tractor, Rail Yard Spotter, Stevedoring Tractor, Trailer Spotter, Yard Jockey, Scissor Lift, Straddle Carrier, Manlift, Forklift, Boom Lift Telehandlers, Aerial Work Platforms
Mining	Specialized Mining, Excavator, Haul Truck, Underground Loader, Service Trucks, Wheel Loaders, Scrapers, Load Haul Dumps, Personnel Transports, Bolters, Scalpers
Municipal	Street Sweeper, Utility Tractor, Utility Trucks, Tree Trimmers, Dump Trucks, Tow Trucks, Flat Bed Trucks, Winch Applications
Oil & Gas	Fracturing Trailer, Injector Heads, Top Drives, Jack/Lift Boats, Wireline Trucks, Load-On / Load-Off
Rail	Railcar Mover, Track Layers, Grinders, Platform Crane, Locomotive Railcars, Ballast Equipment, Winch Applications



WABCO Components ¹	
Air Management	
Air Brake Valves	2/Unl/P
Air Compressors (ALL)2	
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	2/Unl/P
Master Cylinders	
Remote Actuators	
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	2/Unl/P
Electric Brake Locks	
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	1/100/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Driveline Suspension Control	
Clutch Controls	1/100/P&L
Leveling Valves	
Electrohydraulics & Controls	
Electronic Pedals	2/Unl/P
Electrohydraulic Brake Valves (EBV)	
Pressure Switches	
Hydraulic Braking Solutions	
Accumulator Charging Valves	2/Unl/P
Hydraulic Throttle Controls and Switches	
Modulating Brake Valves	
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
Caliper Disc Brakes	2/Unl/P
MAXXUSTM Air Disc Brake	1/Unl/P&L
Multiple Disc Brakes	2/Unl/P
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
TRISTOPTM D Actuator w/ IBV	3/Unl/P
TRISTOPTM D Actuator	2/200/P
UNISTOPTM Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ Equivalent hours of service limit: 2,000 hours for all components.

TERMS AND CONDITIONS

COVERAGE EXCLUSIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

This Warranty shall not apply to the following, but not limited to: (1) damage to the product or its component parts caused by incorrect use, installation, maintenance or repair, including without limitation (a) improper fit of mating components or brackets, damaged threads, cut, broken, chafed, pinched or otherwise damaged wiring (sensors, harnesses and connectors), (b) sensors damaged during removal when seized in block, or associated with sensor adjustments/ alignments, and (c) damage resulting from the use or installation of non-genuine WABCO components or materials; (2) damage to the product, its component parts, or diminished product or component part performance due to incorrect operation, deviation from approved conditions or misapplication; (3) any unauthorized disassembly of the product or its component parts including without limitation (a) obliterated, defaced or missing WABCO or WABCO name plate, serial numbers or label identifying the device as a ZF product or WABCO component, (b) changes to sealed adjusting screws, and (c) opening or attempted repair of non-serviceable components; (4) malfunction of the component due to internal contamination of the vehicle system including without limitation (a) water and other contamination damage that is due to the use of a non-genuine air dryer cartridge or (b) valve failures due to contamination in air system, (5) complaints associated with noise, (6) damage resulting from corrosion (including oxidation of electrical devices and connections).

AIR DRYERS

Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

AIR SYSTEM COMPONENTS

Normal wear items; Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals.

ABS, ELECTRONIC STABILITY CONTROL (ESC), ROLL STABILITY CONTROL (RSC), OPTIRIDE®, ONGUARD® AND ONLANE®, COLLECTIVELY “ELECTRONICS”

Failure of electronic components due to overvoltage condition, improper grounding, electrostatic discharge (ESD), improper shielding, electromagnetic interference (EMI), or other wiring or installation issues. Malfunctions and failure codes caused by other electronic subsystem failures (data bus, engine, transmission, dashboard, etc.)

HYDRAULIC COMPONENTS

For certain components, brake fluid DOT3 or DOT4 is used as the operating medium. Use of any other fluid will void all warranties associated with that component. For hydraulic braking applications the brake fluid is considered a maintenance item. Maintenance intervals are listed in TB-1367.

COVERAGE LIMITATIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

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, 1/Unl/P.

For vehicles that operate full- or part-time outside of the United States and Canada, a 1-Year/Unlimited Miles parts only (1/Unl/P) will apply.

TOOLBOX PLUS™ DIAGNOSTIC SOFTWARE

Proper diagnostics of WABCO Electronics may require the latest version of TOOLBOX PLUS™. Additional labor due to use of an outdated version of TOOLBOX™ software and/or the time to purchase or install the latest version of TOOLBOX PLUS™ are not covered under product warranty.

WARRANTY - MODEL YEAR 2021 VEHICLES

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

ZF CV Systems North America LLC and its North American subsidiaries and affiliates (ZF) warrant to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment will be free from defects in material and workmanship. This warranty coverage begins from the original in-service date to the limits provided and runs concurrently with any warranties provided by OEMs and/or any distribution agreements and/or any service contracts that cover the components listed in this publication, if any. If the components listed in this publication are covered by an OEM warranty and/or service contract, then the OEM's warranty and/or service contract shall supersede ZF's warranty and Owner shall comply with all OEM's warranty and/or service contract requirements for claims under such OEM's warranty and/or service contract until those agreements expire. Once those agreements expire and provided the ZF warranty has not expired under the terms stated above, the ZF warranty will be in effect until its expiration date.

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 previously in this publication. 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. Additional diagnostic time due to use of an outdated version of TOOLBOX™, time to purchase or install latest version of TOOLBOX™ are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

(2) Designation of Vocational Use Required. To obtain warranty coverage, each Owner must notify ZF through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the WABCO 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 ZF directly. Failure to notify ZF 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 ZF as to the intended vocational use of the vehicle. This notification can be sent directly to ZF 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 ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.

(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? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, 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 ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.

(5) 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 ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.

(6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at ZF's option. ZF reserves the right to require that all applicable covered components are available and/or returned to ZF for review and evaluation. THE MAXIMUM LIABILITY, IF ANY, OF ZF FOR ALL DAMAGES, INCLUDING WITHOUT LIMITATION CONTRACT DAMAGES, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORT, IS LIMITED TO AN AMOUNT NOT TO EXCEED THE PURCHASE PRICE OF THE PRODUCT and where indicated in the product and application warranty information above, the inclusion of labor is limited to the standard repair time. THE PARTIES ACKNOWLEDGE AND AGREE THAT THE LIMITATION OF DAMAGES PROVISION SET FORTH IN THIS PARAGRAPH SURVIVES BETWEEN THE ORIGINAL END USER AND ZF EVEN IF THE EXCLUSIVE REMEDY SET FORTH ABOVE IS DEEMED TO FAIL OF ITS ESSENTIAL PURPOSE. ZF may change the design or make improvements to its Products without incurring any warranty obligation for previously manufactured Product .
- (9) Entire Agreement. This is the entire agreement between ZF and the Owner about warranty and no, ZF employee, or dealer is authorized to make any additional warranty on behalf of ZF unless in writing and signed by an authorized representative of ZF.





**For further product details contact your distributor or the
WABCO Customer Care Center at 855-228-3203.**

About ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 160,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO). For more information, visit: www.wabco-na.com



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:

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: See Also Paragraphs 2 thru 4	<p>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.</p> <p>This warranty does not apply to damage caused by corrosion.</p>

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.



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:

Coverage:	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.
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:	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>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.</p> <p>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.</p>

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.



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:

Coverage:	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.
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:	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>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.</p> <p>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.</p>

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.



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: See Also Paragraphs 2 thru 4	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.

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.



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: See Also Paragraphs 2 thru 4	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.

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.

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

APPLICABLE MODELS	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
	Months	Transmission Miles Or Kilometers	Parts	Labor
MT, MD 3000, 3200, 3500, 3700	0-24	No Limit	No Charge	No Charge
HT with Hydraulic Controls	0-24	No Limit	No Charge	No Charge
AT, 1000 Series™, 2000 Series™, 2400 Series™	0-36	No Limit	No Charge	No Charge
HT with Electronic Controls	0-60	No Limit	No Charge	No Charge
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	0-60	No Limit	No Charge	No Charge

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



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship - Transmission Oil Cooler Three (3) Year Collateral Damage Coverage

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 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: See Also Paragraphs 2 thru 4	<p>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.</p> <p>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.</p> <p>Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.</p> <p>Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization.</p> <p>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.</p>

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.



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:

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:	Fifteen (15) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>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.</p> <p>This warranty does not apply to damage caused by corrosion.</p>

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.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion Custom Body

Limited Warranty

1. 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 body shall be free from blistering, 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
Conditions and Exclusions:	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>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.</p> <p>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.</p>

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.



Fire and Rescue Apparatus

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:

Coverage:	Each Goldstar® gold leaf lamination 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
Conditions and Exclusions: See Also Paragraphs 2 thru 4	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. 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.



GOLDEN STATE
FIRE APPARATUS

goldenstatefire.com

5 DEALER SUPPLIED PRODUCTS AND /OR SERVICES

Exhibit "D"

PROPOSAL INTRODUCTION

With over three decades of industry expertise, Golden State Fire Apparatus, Inc. (GSFA) proudly stands as the premier authorized dealership for top-tier fire apparatus in Central and Northern California. Our steadfast commitment to detail and customer satisfaction has earned us a trusted reputation among first responders.

We sincerely appreciate the opportunity to present this comprehensive proposal for a PIERCE ENFORCER HEAVY DUTY RESCUE. Your consideration of this proposal is greatly valued, and we are eager for the opportunity to support your department with the highest level of excellence and professionalism.

DEALER-SUPPLIED PRODUCTS AND SERVICES

Golden State Fire Apparatus Inc. (GSFA) will furnish the following items and/or services before final delivery so that all necessary components and support are in place, contributing to an efficient final delivery process. Please refer to the detailed list below for a comprehensive overview of the products and/or services included:

AUTHORIZED MANUFACTURER

In accordance with the State of California Vehicle Code, specifically Section 11701, it is mandated that "every manufacturer of a vehicle subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number." The manufacturer, as of the proposal submission, holds a valid license in compliance with this requirement and is prepared to furnish a copy upon request. This adherence to regulatory standards ensures that the manufacturer maintains a current and official status, promoting transparency and compliance with legal requirements throughout the duration of the proposal and subsequent processes.

AUTHORIZED DEALERSHIP

In compliance with the State of California Vehicle Code, specifically Section 11701, it is mandated that "a dealer in vehicles of a type subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number." Golden State Fire Apparatus, Inc. possesses a valid license at the time of the bid, as detailed above, and can promptly provide a copy upon request. This adherence to regulatory standards ensures that the dealership maintains a current and official status, promoting transparency and compliance with legal requirements throughout the duration of the proposal and subsequent processes.

AUTHORIZED SALES REPRESENTATIVE

In accordance with the State of California Vehicle Code, specifically Section 11800, it is expressly prohibited for any individual to function as a vehicle salesperson without obtaining a license issued by the Department of Motor Vehicles (DMV). The representative, at the time of

proposal, holds a valid vehicle salesperson's license and is ready to furnish a copy upon request. This adherence to regulatory standards ensures that the sales representative maintains a current and official status, promoting transparency and compliance with legal requirements throughout the bidding process and subsequent phases.

VEHICLE REGISTRATION

In adherence to the State of California Vehicle Code Section 11739, it is mandated that the "dealer of a new motor vehicle sale is responsible for applying for the title, securing vehicle registration, and obtaining license plates for the Customer" through the Department of Motor Vehicles (DMV). Being a factory-authorized dealer of the vehicle being sold, Golden State Fire Apparatus, Inc. is duly authorized to register the vehicle with the State of California as a new vehicle manufacturer.

GSFA is committed to facilitating an excellent vehicle ownership experience for the customer. As such, we will manage all necessary applications and complete all transfer papers, including the application for California Exempt "E" license plates. This approach ensures compliance with regulatory requirements and a hassle-free registration process for our valued customers.

WEEKLY PROGRESS PHOTOGRAPHS

GSFA is committed to ensuring transparency and comprehensive reporting throughout the construction process of the apparatus. To achieve this, GSFA will provide weekly photographs capturing various stages of the apparatus or major components under construction.

Commencing from the initiation of the manufacturing process, the photographic documentation will extend throughout the entire production phase by the manufacturer. These weekly reports will offer a visual representation of the ongoing progress of the apparatus, highlighting key milestones and showcasing unique features and aspects as construction unfolds.

Our focus is to provide customers with a clear and detailed insight into the evolution of the apparatus, fostering a deeper understanding of the craftsmanship and distinct elements incorporated during the construction process. This commitment to regular, visual updates aims to enhance communication and transparency regarding the progress of the apparatus.

CONTINGENCY RESERVE FUND

A Contingency Reserve Fund amounting to \$140,000 per unit is incorporated into the quotation to address potential change orders, unforeseen items, or necessary work that may arise during the contract. The utilization of this reserve fund is at the sole discretion of the Customer. It is essential to note that this reserve fund is not an estimate for the aforementioned contingencies, and the actual costs associated with change orders, unforeseen items, or required work may surpass the reserved amount depending on their nature.

Any unused portion of the Contingency Reserve Fund will be credited back on the final invoice. Alternatively, if not credited, the remaining funds will be promptly returned to the Customer in the form of a check following the completion of the final invoicing process. This approach guarantees financial transparency and effective management throughout the project.

PRE-CONSTRUCTION, FACTORY VISIT

A pre-construction trip to the manufacturing facility is included for five (5) Customer representatives. The primary objective of review and finalize, in detail, the specifications prior to the start of production. The pre-construction trip is anticipated to span four (4) days and three (3) nights, with scheduling details collaboratively determined between GSFA and the Customer.

GSFA will cover the costs associated with airfare, lodging, meals, and ground transportation during the stay at the manufacturer's location. Air travel will be arranged from one of the following airports: Sacramento, San Francisco, or San Jose.

It is important to note that certain costs, including Customer ground transportation within California, airport parking, luggage fees, and incidental expenses during travel to the factory, fall within the responsibility of the Customer. Furthermore, flight reservations are non-refundable, and in the event of a cancellation post-booking, the Customer will bear all associated costs, encompassing not only the original ticket cost but also any change or cancellation fees levied by the airline and/or travel agency. Additionally, flight reservations are non-transferable. This delineation aims to establish clarity and transparency regarding the allocation of responsibilities and potential costs associated with the pre-construction trip.

FINAL INSPECTION, FACTORY VISIT

A final inspection trip to the manufacturing facility is included for five (5) Customer representatives. The primary objective of this visit is to ensure the adherence of the apparatus to specifications and promptly identify any potential deficiencies. The final inspection trip is anticipated to span four (4) days and three (3) nights, with scheduling details collaboratively determined between GSFA and the Customer.

GSFA will cover the costs associated with airfare, lodging, meals, and ground transportation during the stay at the manufacturer's location. Air travel will be arranged from one of the following airports: Sacramento, San Francisco, or San Jose.

It is important to note that certain costs, including Customer ground transportation within California, airport parking, luggage fees, and incidental expenses during travel to the factory, fall within the responsibility of the Customer. Furthermore, flight reservations are non-refundable, and in the event of a cancellation post-booking, the Customer will bear all associated costs, encompassing not only the original ticket cost but also any change or

cancellation fees levied by the airline and/or travel agency. Additionally, flight reservations are non-transferable. This delineation aims to establish clarity and transparency regarding the allocation of responsibilities and potential costs associated with the final inspection trip.

DELIVERY TO AUTHORIZED SERVICE FACILITY

GSFA will deliver the apparatus to our Northern California facility located in Sacramento for a comprehensive dealer preparation inspection. This service, conducted at the expense of GSFA, aims to have the apparatus in optimal condition at the time of final delivery.

To ensure the proper break-in of all components while still under warranty, the apparatus will be delivered under its own power. The use of rail or truck freight for transportation is deemed unacceptable in order to uphold the highest standards of quality assurance during the delivery process. This approach not only aligns with warranty considerations but also emphasizes the commitment to delivering a fully operational apparatus to our valued customers.

PRE-DELIVERY SERVICE

Before reaching its final destination, the apparatus undergoes a pre-delivery service conducted by Golden State Emergency Vehicle Service, Inc. This service is designed to tap into the expertise of an external source, providing an experienced perspective that enhances the thoroughness of your final inspection. Our pre-delivery service covers the following areas:

1. Engine Compartment and Undercarriage:
 - Inspect for broken mounting brackets.
 - Inspect and identify locations of any fluid leaks.
 - General inspection of hoses, wiring, and linkage, focusing on potential wear points.
 - Verify correct fluid capacities for engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear-end fluid, pump transmission oil, and primer oil if applicable.
 - Re-torque U-bolts to OEM specifications if equipped with leaf spring suspension (Pierce Custom chassis only).
2. Interior:
 - Confirm proper operation of doors, windows, and locks, ensuring accurate adjustment.
 - Confirm proper operation of seatbelt alarms.
 - Confirm proper operation of all compartment door alarms, as well as hose bed cover, ladder rack, light tower, and deck gun alarms.
 - Ensure functionality of auxiliary power points, interior lighting, mirror, and seat controls, and if applicable - headsets and radios.
 - Inspect upholstery for quality and condition.

3. Exterior:
 - Address reasonable paint scratches or chips.
 - Tighten any loose hardware.
 - Inspect tires and wheels, ensure proper pressure.
 - Check compartment doors for proper operation and latch fit.
 - Lubricate compartment door locks if applicable.
4. Road Test:
 - Conduct a road test with a full water tank (if applicable), covering approximately twenty miles on both city and highway roads.
 - Perform a DOT compliant brake test to verify the system is holding air.
 - Inspect brake condition, wheel seals, and ensure drive train components reach optimal operating temperatures.
 - Conduct an Allison Transmission self-diagnostic to verify fluid level, fluid and filter life, and check for fault codes.
5. Electrical:
 - Verify the operation of all lights, sirens, and other electrical accessories.
6. Pump:
 - Operate the Pressure Governor or Relief Valve, transfer valve, and check pump shift.
 - Inspect water tank, pump and plumbing for leaks and calibrate the water level gauge.
 - Ensure smooth operation of all discharge, suction, and drain valves.
7. Pierce Husky™ Foam System:
 - If applicable, draft and inject clean water to ensure proper operation of the foam pump.
8. Fuel and DEF Tanks:
 - Fill the fuel tank and DEF tank prior to final delivery.
9. Wash:
 - Thoroughly wash the apparatus prior to final delivery.

This pre-delivery service assists the apparatus to meet our high standards of quality and operational efficiency before reaching its final destination.

FINAL DELIVERY (CUSTOMER LOCATION)

GSFA will deliver the completed Product, inclusive of any relevant equipment, spare parts, and supplies, to the Customer's specified address at GSFA's expense.

In preparation for the Product's delivery, the Customer is required to furnish GSFA with proof of liability and physical damage insurance. GSFA will withhold the release of the Product until such proof of insurance is provided.

To ensure a timely delivery process, it is incumbent upon the Customer to settle any outstanding balance owed to GSFA before or at the time the Product is completed and ready for delivery. In the event of delayed payment or delivery, GSFA reserves the right to impose a late fee and daily storage charge as outlined in the Standard Terms and Conditions until payment is received.

For compliance with insurance liability considerations, the Product will only be delivered upon full acceptance and full payment, or through a prior written agreement mutually reached between the Customer and GSFA. This ensures a secure and efficient finalization of the delivery process, aligning with both parties' obligations and safeguarding against potential liabilities.

COMPREHENSIVE SALES AND SERVICE SUPPORT

At GSFA, we understand that immediate response is essential - and the service and support of your apparatus should be no different. Since our founding in 1989, our mission has been to provide first responders with the highest quality, most reliable fire and emergency apparatus from top-tier manufacturers. We specialize in guiding our customers through the entire process - from apparatus evaluation and customization to final inspection - and ensuring years of reliable service through our Golden State Emergency Vehicle Service (GSEVS) division.

Golden State Emergency Vehicle Service (GSEVS)

Established in 2014, GSEVS is committed to building long-term, collaborative relationships by providing exceptional warranty and technical support. Our services cover a wide range of needs, including chassis, electrical systems, pump, aerial, routine maintenance, equipment mounting, and pump testing - with priority given to new units sold by GSFA. Our goal is to deliver prompt, professional service and unwavering support for your apparatus.

Sacramento Facility

Our Sacramento location features a 33,814-square-foot facility with 14 working bays and a 4,500-square-foot, two-story parts distribution department. Conveniently located near Highway 99 with easy access to Interstates 80 and 50, we are positioned to serve you efficiently.

Tracy Facility (Opening Fall 2025)

Our second location in Tracy will expand our service capacity with a 49,634-square-foot facility featuring 21 working bays and a parts department equal in size to our Sacramento facility. Strategically located

within the "Tracy Triangle" - bordered by I-580, I-205, and I-5 - this facility will enhance our ability to serve customers in the Bay Area and beyond.

Certified and Experienced Technicians

Our service team includes factory-trained professionals certified by Pierce, ASE, and EVT. They undergo regular training to stay current on chassis, electrical systems, and aerial devices, ensuring expert handling of any challenge. Whether it's routine maintenance or complex diagnostics, you can count on expert care and precision with every visit.

Parts

At Golden State, we're dedicated to keeping your apparatus fully operational and mission-ready. That's why we maintain a robust inventory of both Pierce and non-Pierce parts—ready for immediate deployment when you need them most. If a part isn't in stock, we expedite orders directly from the manufacturer to minimize downtime and get your unit back in service without delay.

To make the process even more efficient, our digital Parts Request Portal offers a streamlined, user-friendly experience. It provides 24/7 access to submit requests, monitor order status, and communicate directly with our team—ensuring transparent updates and quicker turnaround times every step of the way.

Mobile Service

To minimize emergency apparatus downtime, we offer a robust mobile service program for on-site repairs and maintenance.

Pre-Delivery Inspection (PDI) Process

We employ a dedicated team of Pre-Delivery Inspection (PDI) technicians solely focused on ensuring your apparatus arrives in peak condition. Before your new custom unit is delivered, it undergoes a thorough, multi-point inspection to verify quality, performance, and compliance with all specifications. Our team handles every detail of the acceptance and delivery process—so you can take ownership with complete confidence and peace of mind.

Your Single Source for Sales and Service

With Golden State Fire, you have a single point of contact for sales, service, and support - all under one roof, with two strategically located facilities to serve you better. We are confident that our combination of expertise, customer service, and product support is unmatched by any other fire and emergency apparatus dealership in California.

END OF EXHIBIT "D"