



# **GOLDEN STATE**

**FIRE APPARATUS**

PREPARED ESPECIALLY FOR:

## **CITY OF ALAMEDA**

**Two (2) Pierce Manufacturing, Inc.  
Enforcer 1500 GPM Pumpers**



# 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)



# **1** PRODUCT PROPOSAL

# OPTION A

## 100% PRE-PAYMENT

This will be the price of the Product(s) contingent upon the Customer paying the Grand Total Purchase Price to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms

IF YOU ELECT THIS OPTION,  
IT RESULTS IN A SAVINGS OF  
**(\$400,938.39) OFF**  
OF THE GRAND TOTAL OF OPTION B

*Please note this discount is also available contingent upon a Third Party (Leasing Company) paying 100% of the Grand Total Purchase Price on behalf of the Customer to GSFA within thirty (30) calendar days of the Executed Date pursuant to the Payment Terms*

## PRODUCT PROPOSAL FOR:

### City of Alameda

1300 Park Street  
Alameda, CA 94501

### Sales Consultant

Ryan Wright  
[ryan@goldenstatefire.com](mailto:ryan@goldenstatefire.com)  
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
11/01/2023	12/01/2023	91101-23A	943	Pierce Manufacturing, Inc.	Sourcewell #113021-OKC-1, ID #259, 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
<b>A</b>	Two (2) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumps	2,570,795.00
<b>B</b>	<i>Discount for 100% Payment at Time of Order (the "Prepayment Discount")</i>	<i>(361,213.00)</i>
<b>C</b>	SUBTOTAL	2,209,582.00
<b>D</b>	10.75% State Sales Tax	237,530.07
<b>E</b>	California Tire Fee	21.00
<b>F</b>	100% Performance Bond	5,388.25
<b>G</b>	<b>GRAND TOTAL PURCHASE PRICE</b>	<b>2,452,521.32</b>

**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** – 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 **0.5 to 1 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 11/01/2023, GSFA Proposal Number 91101-23A to be executed by their duly authorized representatives effective as of the Executed Date.

**ACCEPTED AND AGREED TO BY CUSTOMER**

**ACCEPTED AND AGREED TO BY GSFA**

\_\_\_\_\_  
Signature of Authorized Customer Representative

\_\_\_\_\_  
Signature of Authorized GSFA Representative

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

# **OPTION B**

## **PAYMENT AT TIME OF DELIVERY OR PICKUP**

This will be the price of the Product(s) contingent upon the Customer paying the Grand Total Purchase Price to GSFA at time of delivery or pickup pursuant to the Payment Terms

## PRODUCT PROPOSAL FOR:

### City of Alameda

1300 Park Street  
Alameda, CA 94501

### Sales Consultant

Ryan Wright  
[ryan@goldenstatefire.com](mailto:ryan@goldenstatefire.com)  
Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
11/01/2023	12/01/2023	91101-23B	943	Pierce Manufacturing, Inc.	Sourcewell #113021-OKC-1, ID #259, 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
<b>A</b>	Two (2) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumps	2,570,795.00
<b>B</b>	10.75% State Sales Tax	276,360.46
<b>C</b>	California Tire Fee	21.00
<b>D</b>	100% Performance Bond	6,283.25
<b>E</b>	<b>GRAND TOTAL PURCHASE PRICE</b>	<b>2,853,459.71</b>

**PAYMENT TERMS** – Customer shall pay the total purchase price set forth directly above (the "Grand Total Purchase Price") to GSFA no later than the time of GSFA's delivery of the applicable Product to Customer's address listed above (or Customer's pick up of such Product at GSFA's facilities, if approved by GSFA). GSFA shall have no obligation to deliver, or permit pick up of the Product if the Customer does not have full payment ready when the Product is complete and ready to deliver or pick up, as applicable. 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** – 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 **0.5 to 1 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 11/01/2023, GSFA Proposal Number 91101-23B to be executed by their duly authorized representatives effective as of the Executed Date.

**ACCEPTED AND AGREED TO BY CUSTOMER**

**ACCEPTED AND AGREED TO BY GSFA**

\_\_\_\_\_  
Signature of Authorized Customer Representative

\_\_\_\_\_  
Signature of Authorized GSFA Representative

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
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 by GSFA after Manufacturer’s completion of the Product and prior to delivery, in accordance with the Dealer Supplied Products/Services List.
- 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).
- j. **“Product”** means the fire apparatus(es) and any associated equipment listed in the Product Proposal and further described in the Specifications.
- k. **“Product Completion”** means the fire apparatus(es) in the Product Proposal and further described in the Specifications being ready for final inspection by Customer at the manufacturing facility.
- l. **“Product Proposal”** means the GSFA proposal executed by Customer to which these Terms and Conditions are attached.
- m. **“Product Warranties”** means the Manufacturer warranties for the Product attached to the Product Proposal as Exhibit C.
- n. **“Specifications”** means the specifications for the Product attached to the Product Proposal as Exhibit B.
- o. **“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 such 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 (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. 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 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, 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) for the Product or any Manufacturer Price Increases occurring after the execution of the Agreement which increases 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](http://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 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 reasonable 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 reasonable 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 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. 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 consequential, incidental, 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 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 (3<sup>rd</sup>) 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.

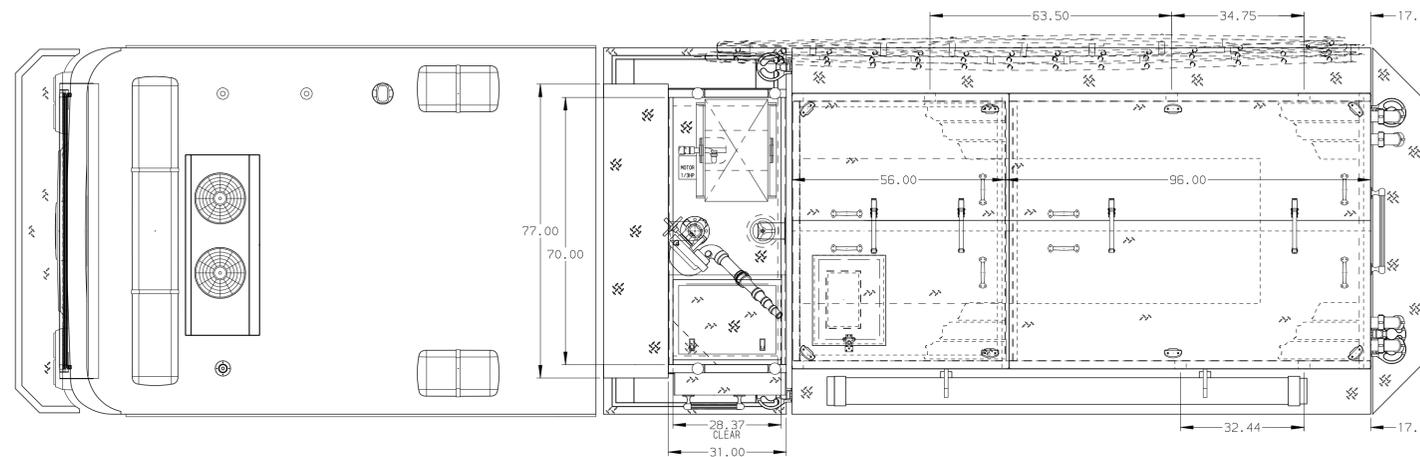
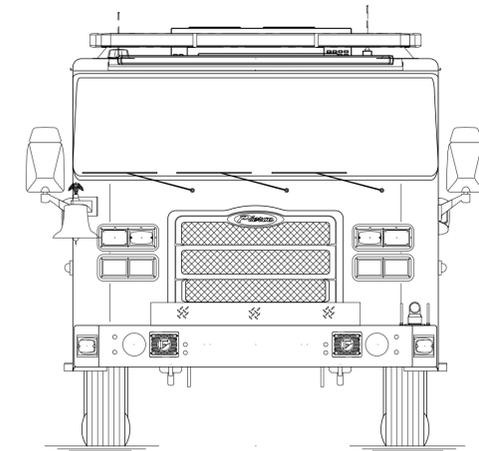
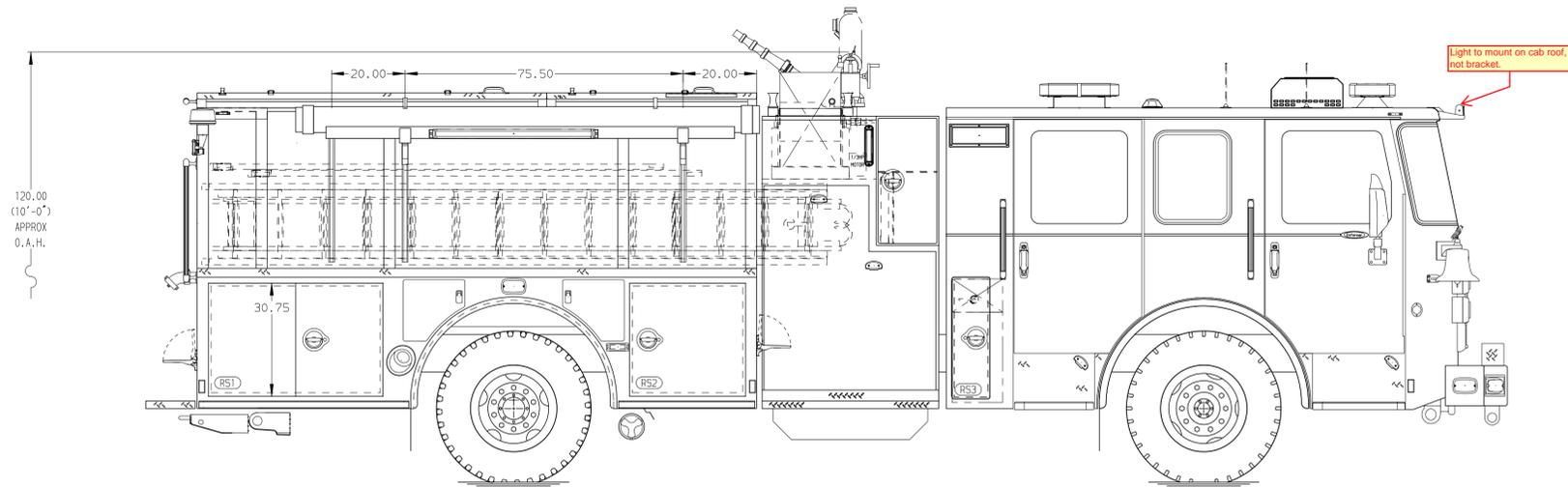
20. Governing Law; Jurisdiction; Disputes. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with 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.

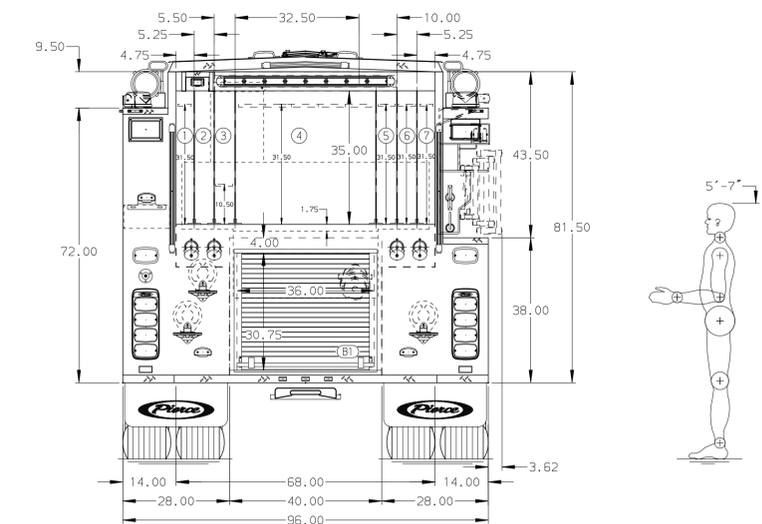
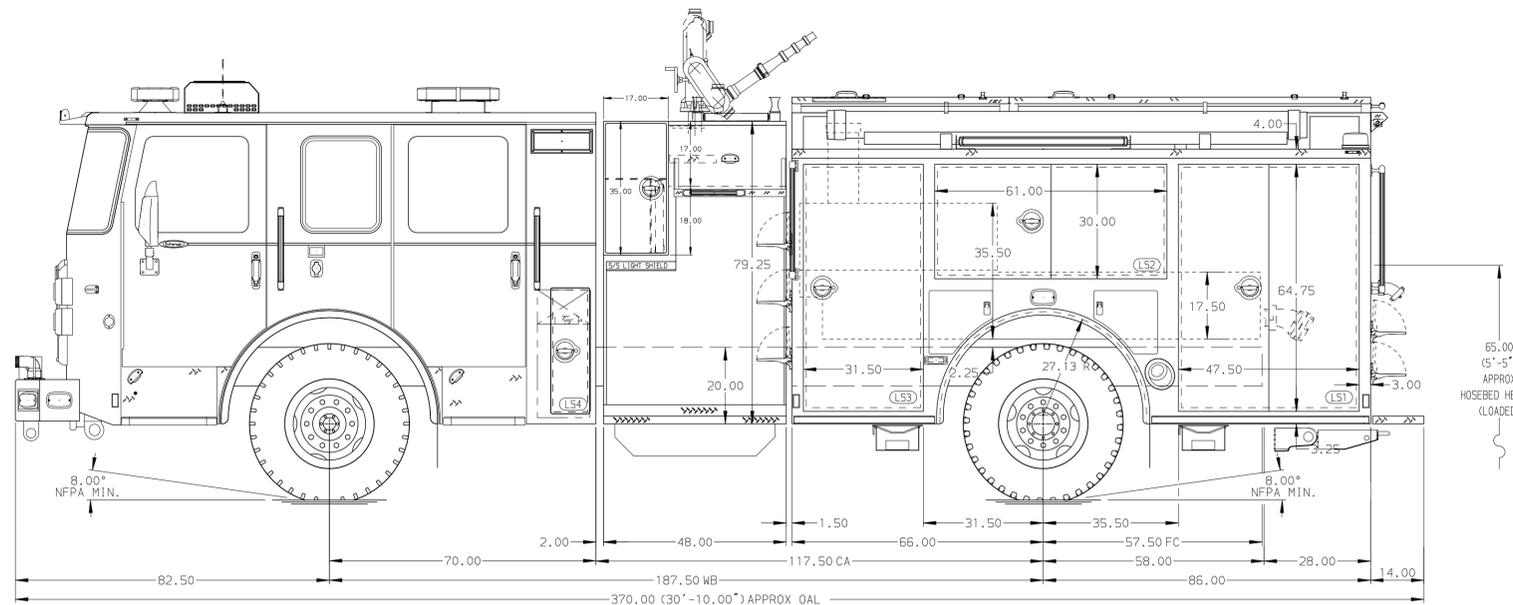
**END OF STANDARD TERMS AND CONDITIONS**

# **3** **PRODUCT SPECIFICATIONS**

**Exhibit "B"**



- HOSEBED CAPACITIES**
- ① - 300' OF 1.75" MATEX COBRA COMBAT HOSE (SINGLE STACK)
  - ② - 2.50" HOSE BUNDLES
  - ③ - 100' OF 1.75" HOSE BUNDLE (SINGLE STACK)
  - ④ - 1000' OF 4.00" KEY HY-FLOW DP40-600 HOSE
  - ⑤ - 300' OF 2.50" KEY DP25-800 HOSE (SINGLE STACK)
  - ⑥ - 300' OF 2.50" KEY DP25-800 HOSE (SINGLE STACK)
  - ⑦ - 300' OF 1.75" KEY DP25-800 HOSE (SINGLE STACK)



ALUMINUM BODY      MAXIMUM O.A.L. 395.00"      MAXIMUM O.A.H. 129.00"      SIDE ROLL AND FRONTAL IMPACT PROTECTION

**NOTE**  
DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS AS MAY OCCUR OR BE NECESSARY IN CONSTRUCTION. MINOR DETAILS NOT SHOWN.

CUSTOMER APPROVAL			
APPROVED BY: _____			
DATE: _____			
REV	DATE	BY	CH
1	15SEP23	JJB	-
2	14SEP23	JJB	CZA

Pierce MANUFACTURING INC.		JOB NO.	PRELIM
TITLE		SCALE	DATE
1500-D-500P, 500 GAL WATER TANK, 152" FDLER PUMPER		1:24	
RS LADDER BRACKETS, 48" SIDE CONTROL, DELUGE		DRAWN BY	29AUG23
ALAMEDA CITY FIRE DEPARTMENT		CHECKED BY	29AUG23
GOLDEN STATE FIRE APPARATUS, INC		SHEET SIZE	SHEET NO.
DAVE KLOCKZIEN		D	1 OF 1

71014



# Proposal Details Report

9/18/2023

**Customer:** ALAMEDA CITY FIRE DEPARTMENT

**Bid Number:** 943

**Representative:** Klockzien, Dave

**Job Number:**

**Requirements Manager:**

**Organization:** Golden State Fire Apparatus, Inc

**Description:** Enforcer Pumper (32136 Duplic

**Chassis:** Enforcer Chassis

**Body:** Pumper, Medium, Aluminum, 2nd Gen

OptionCode	Type	Option
0766611		Boiler Plates, Pumper

## ProposalText

Golden State Fire Apparatus is pleased to submit a proposal to Alameda City FD for a **Pierce® triple combination pumper** 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 insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least twenty (20) fire departments/municipalities that have purchased vehicles for a second time is provided.

### DELIVERY

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

### MANUAL AND SERVICE INFORMATION

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

### SAFETY VIDEO

At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.

### PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet 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 Services 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 one hundred (100) miles of the fire department.

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

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

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

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

#### **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 required by written contract between the Owner and a Pierce authorized dealer.

##### **UMBRELLA/EXCESS 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 umbrella liability insurance:

Each Occurrence: \$25,000,000

Aggregate: \$25,000,000

The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products 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.

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.

0661794	Single Source Compliance	<b>SINGLE SOURCE MANUFACTURER</b> 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.
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	<b>SPECIAL INSTRUCTIONS</b> The apparatus being proposed will be designed and built to match the body matching 32136, Cab interior similar to 38912. 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.
0610784	Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	<b>NFPA 2016 STANDARDS</b> This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions. Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus. All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack. A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating. The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications. An official of the company will designate, in writing, who is qualified to witness and certify test results.
0533347	Pumper/Pumper with Aerial Device Fire Apparatus	
0588611	Vehicle Certification, Pumper	

0661778	Agency, Apparatus Certification, Pumper/Tanker, U.L.	<p><b>NFPA COMPLIANCY</b> 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><b>PUMP TEST</b> Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.</p> <p><b>GENERATOR TEST</b> If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. The test results will be provided to the Fire Department at the time of delivery.</p> <p><b>BREATHING AIR TEST</b> If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and have the sample certified 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>
0891947	Certification, Vehicle Inspection Program, NFPA 1901	<p><b>VEHICLE INSPECTION PROGRAM CERTIFICATION</b> To assure the vehicle is built to current NFPA 1901 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>
0766110	Consortium, Sourcewell	
0537375	Unit of Measure, US Gallons	
0030006	Bid Bond Not Requested	<p><b>BID BOND NOT REQUESTED</b> 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% 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><b>PERFORMANCE BOND, 1 YEAR</b> 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><b>APPROVAL DRAWING</b>  A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.  A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.</p>
0082910	Drawing, Compartment Layout, Standard Pumper Body	<p><b>DRAWING, COMPARTMENT LAYOUT</b>  A basic drawing will be provided for the interior body compartments. This drawing will be provided for graphic representation only and will include such things as shelves, trays, reels, dividers, air control panels, air bottle storage bins, poly boxes &amp; etc.</p>
0672031	Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only	<p><b>DRAWING, CAB TOP VIEW</b>  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>
0683883	Electrical Diagrams, 12V As-Built on CD, Custom Chassis Pumper	<p><b>ELECTRICAL WIRING DIAGRAMS</b>  Three (3) compact discs containing "As-Built" electrical wiring diagrams specifically prepared for the chassis and body will be provided. The diagrams will consist of information pertaining to the 12 VDC systems only. Two (2) CDs will be shipped with the loose equipment with each truck. One (1) CD will be included with the job folder at apparatus builders facility for future reference.  Each CD will include the following capabilities:  The capability of viewing each separate diagram.  The capability of zooming in on any section of each separate diagram.  The capability of printing each separate diagram.  The capability of printing each zoomed in area of each separate diagram.  Each CD will include the following items:  Title page, identifying the job number and chassis model.  Table of contents.  Truck specific electrical compartment and instrument layouts for the chassis.  Truck specific electrical compartment layouts for the body.  Applicable drawings from the appropriate standard wiring diagrams.  All truck specific wiring diagrams (special drawings).  Harness drawings for all wiring harnesses used on the chassis.  Harness drawings for all wiring harnesses used on the body.  All truck input and output programming sheets (multiplexed trucks only).  There will be no hard copies of these diagrams required for this unit.</p>
0649754	Enforcer Chassis	<p><b>ENFORCER CHASSIS</b>  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><b>MAXIMUM OVERALL HEIGHT</b>  The maximum overall height of the apparatus will be 10' 9".</p>
0021010	Maximum Overall Length	<p><b>MAXIMUM OVERALL LENGTH</b>  The maximum overall length of the apparatus will be 32' 11".</p>
0000110	Wheelbase	<p><b>WHEELBASE</b>  The wheelbase of the vehicle will be 187.5.</p>
0000070	GVW Rating	<p><b>GVW RATING</b>  The gross vehicle weight rating will be 48,500 lbs.</p>
0729280	Frame Rails, 13.38 x 3.50 x .375, Enforcer	<p><b>FRAME</b>  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><b>FRAME REINFORCEMENT</b></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>
0728338	Axle, Front, Meritor FL-943, 21,500 lb, Enforcer	<p><b>FRONT AXLE</b></p> <p>The front axle will be a reverse "I" beam type with inclined king pins. It will be a Meritor™ axle, Model FL-943, with a rated capacity of 21,500 lb.</p>
0199681	Suspension, Front, Standens, Taper Leaf, 21,500 lb, Imp/Vel/Enf	<p><b>FRONT SUSPENSION</b></p> <p>The front springs will be a Standens, three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 21,500 lb.</p> <p>The two (2) top leaves will wrap the forward spring hanger pin. The top leaf will also wrap the rear spring hanger pin. Both the front and rear eyes will be Berlin style wraps that will place the eyes in the horizontal plane within the main leaf. This will reduce bending stress from acceleration and braking.</p> <p>A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.</p>
0000321	Shock Absorbers on Front Axle, Monroe Magnum 65, Saber/Enforcer	<p><b>SHOCK ABSORBERS</b></p> <p>To provide a smoother ride, the front axle will be furnished with heavy-duty telescoping shock absorbers.</p>
0000322	Oil Seals, Front Axle	<p><b>FRONT OIL SEALS</b></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><b>FRONT TIRES</b></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>
0530460	Axle, Rear, Meritor RS26-185, 27,000 lb, Saber/Enforcer	<p><b>REAR AXLE</b></p> <p>The rear axle will be a Meritor™, Model RS-26-185, with a capacity of 27,000 lb.</p>
0544253	Top Speed of Vehicle, 68 MPH /109 KPH	<p><b>TOP SPEED OF VEHICLE</b></p> <p>A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.</p>
0565380	Suspen, Rear, Single Slipper Spring, 27,000 lb, Saber/Enforcer	<p><b>REAR SUSPENSION</b></p> <p>The rear suspension will be Standens, semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers will be castings.</p> <p>The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye will be a berlin eye that will place the front spring pin in the horizontal plane within the main leaf.</p> <p>A steel encased rubber bushing will be used in the spring eye. The steel encased rubber bushing will be maintenance free and require no lubrication.</p>
0000485	Oil Seals, Rear Axle	<p><b>REAR OIL SEALS</b></p> <p>Oil seals will be provided on the rear axle(s).</p>
0782552	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	<p><b>REAR TIRES</b></p> <p>Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.</p>
0019625	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	<p>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.</p>
0589368	Tire Balancing, All, Single Axle	<p><b>TIRE BALANCE</b></p> <p>All tires will be dynamically balanced with wheel weights.</p>

0606653	Tire PSI and Temp Monitoring System, Bendix Smartire, CZIII	<p><b>TIRE PRESSURE MANAGEMENT</b></p> <p>There will be a tire pressure management system provided that will monitor each tires pressure and temperature. A 7.00" resistive Command Zone™ touch screen located in the cab instrument panel will indicate each tires position, pressure and temperature. A wireless sensor will be mounted to each wheel for a total of six (6) sensors.</p> <p>The system will have three (3) alert levels:  Critical Low Pressure Alert  Pressure Deviation Alert  High Temperature Alert</p> <p>Each alert will trigger an audible alarm and an indicator light within the gauge to signal the driver of the problem</p> <p>The system will be covered by a <b>five (5) year</b> parts and labor warranty. Please see warranty document for details.</p>
0801932	Lug Nut, Covers, Stainless Steel	<p><b>LUG NUT COVERS</b></p> <p>Stainless steel lug nut covers will be installed on all lug nuts.</p>
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	<p><b>FRONT HUB COVERS</b></p> <p>Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.</p>
0001960	Axle Hub Covers, Rear, S/S, High Hat (Pair)	<p><b>REAR HUB COVERS</b></p> <p>A pair of stainless steel high hat hub covers will be provided on rear axle hubs.</p>
0002045	Mud Flap, Front and Rear, Pierce Logo	<p><b>MUD FLAPS</b></p> <p>Mud flaps with a Pierce logo will be installed behind the front and rear wheels.</p>
0544802	Chocks, Wheel, SAC-44-E, Folding	<p><b>WHEEL CHOCKS</b></p> <p>There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.</p>
0544806	Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	<p><b>Wheel Chock Brackets</b></p> <p>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.</p>
0010670	ABS Wabco Brake System, Single rear axle	<p><b>ANTI-LOCK BRAKE SYSTEM</b></p> <p>The vehicle will be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS will provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.</p>
0508676	Brakes, Meritor, EX225, 17", Disc Plus, Front	<p><b>BRAKES</b></p> <p>The service brake system will be full air type by Meritor™.</p> <p>Front brakes will be Model EX225 Disc Plus, disc type with automatic pad wear adjustment and 17.00" ventilated rotors for improved stopping distance.</p>
0509206	Brakes, Meritor, EX225, Disc Plus, Rear, Single Axle	<p>The rear brakes will be Meritor™, Disc Plus, Model EX225, disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.</p>
0020784	Air Compressor, Brake, Cummins/Wabco 18.7 CFM	<p><b>BRAKE SYSTEM AIR COMPRESSOR</b></p> <p>The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.</p>

0637584	Brake Reservoirs, 5,376 Cubic Inch Minimum Capacity, Saber FR/Enforcer	<p><b>BRAKE SYSTEM</b>  The brake system will include:  Brake treadle valve  Heated automatic moisture ejector on air dryer  Total air system minimum capacity of 5,376 cubic inches  Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi  Spring set parking brake system  Parking brake operated by a push-pull style control valve  A parking "brake on" indicator light on instrument panel  Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi  A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa)  1/4 turn drain valves on each air tank  The air tank will be primed and painted to meet a minimum 750 hour salt spray test.  To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.</p>
0587034	Air Dryer, Bendix, AD-IP w/Heat, 2010	<p><b>BRAKE SYSTEM AIR DRYER</b>  The air dryer will be a Bendix AD-IP, with coalescing filter and heater.</p>
0000790	Brake Lines, Nylon	<p><b>BRAKE LINES</b>  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.</p>
0000854	Air Inlet, w/Disconnect Coupling	<p><b>AIR INLET</b>  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.</p>
0643363	Outlet, Air, with Shut Off Valve, Location	<p><b>AIR OUTLET</b>  One (1) air outlet will be installed with a female coupling located RS pump panel. This system will tie into the "wet" tank of the brake system, include an 85 psi pressure protection valve in the outlet line to prevent the brake system from losing all air, and include a quarter turn shut off valve mounted at the tank. The valve and hoses will be mounted to the tank as high as possible to ensure maximum clearance and protect the lines from being damaged by brush and rocks during off-road operations.</p>
0000840	Air Tank, Additional for Air Tools w/Outlet	<p><b>AIR TANK FOR TOOLS</b>  An additional air tank with 1454 cubic inch displacement will be provided for the use of powering air tools. An air tool outlet with a metering valve, located at the driver's side pump panel, will be provided.  The air tank will be primed and painted to meet a minimum 750 hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.  The output flow of the engine air compressor varies with engine RPM. Full compressor output is only achieved at governed engine speed. Engine speed may be limited by generators, pumps and other PTO driven options.</p>
0589828	SP Air Tanks, Mount High, Maximize Ground Clearance	<p><b>AIR TANK MOUNTING</b>  Air tanks will be installed to maximize ground clearance. Smaller tanks may be required to allow for them to be mounted higher for increased ground clearance.</p>
0000810	All Wheel Lock-up	<p><b>ALL WHEEL LOCK-UP</b>  An all wheel lock-up system will be installed which will apply air to the front brakes and use the spring brake at the rear. A control switch will be provided for the driver on the instrument panel.</p>

0808497	Engine, Cummins X15, 565 hp, 1850 lb-ft, W/OBD, EPA 2027, Enforcer	<p><b>ENGINE</b>  The chassis will be powered by an electronically controlled engine as described below:  Make:  Cummins®  Model:  X15  Power:  565 hp at 1700 rpm  Torque:  1850 lb-ft at 1150 rpm  Governed Speed:  2100 rpm  Emissions Level:  EPA 2027  Fuel:  Diesel  Cylinders:  Six (6)  Displacement:  912 cubic inches (14.9L)  Starter:  Delco 39MT+™  Fuel Filters:  Frame mounted spin-on style primary filter with water separator and water-in-fuel sensor. Engine mounted secondary spin-on style filter.  The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.  The engine will be filled with FA-4 10W30 oil as required by Cummins.</p>
0000000	STF Engine Contingency Adjustment	
0730801	Remote Mounted Filters Not Required, X15	
0001244	High Idle w/Electronic Engine, Custom	<p><b>HIGH IDLE</b>  A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.  The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."</p>
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	<p><b>ENGINE BRAKE</b>  A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.  The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.  The engine brake will activate when the system is on and the throttle is released.  The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.  The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.  The ABS system will automatically disengage the auxiliary braking device, when required.</p>
0552334	Clutch, Fan, Air Actuated, Horton Drive Master	<p><b>CLUTCH FAN</b>  A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.</p>
0644573	Air Intake, Water & Ember Screen, Saber FR/Enforcer	<p><b>ENGINE AIR INTAKE</b>  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.  The ember separator is designed to prevent road dirt and recirculating hot air from entering the engine.  The ember separator will be easily accessible by tilting the cab.</p>

0814375	Exhaust System, Horizontal, Right Side	<p><b>EXHAUST SYSTEM</b></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 stainless steel.</p> <p>There will be a stainless 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>
0788765	Radiator, Saber FR/Enforcer	<p><b>RADIATOR</b></p> <p>The radiator and the complete cooling system will meet or exceed 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>Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.</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><b>COOLANT LINES</b></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>
0001125	Fuel Tank, 65 Gallon, Left Side Fill	<p><b>FUEL TANK</b></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 eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps.</p> <p>A 0.75" drain plug will be located 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 is 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 installed from tank top to just below fuel fill inlet.</p> <p>The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.</p>
0001129	Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.
0662965	DEF Tank, 4.5 Gallon, DS Fill, Rear of Axle, Common Air Bottle Door	<p><b>DIESEL EXHAUST FLUID TANK</b></p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward 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 adjacent to the air bottle storage behind a common door on the driver 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><b>FUEL PRIMING PUMP</b></p> <p>A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.</p>
0582243	Shutoff Valves, Fuel Line @ Primary Filter, Cummins	<p><b>FUEL SHUTOFF</b></p> <p>A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.</p>
0553019	Cooler, Engine Fuel, Imp/Vel, AXT/Qtm/Sab/DCF/SFR/Enf	<p><b>FUEL COOLER</b></p> <p>An air to fuel cooler will be installed in the engine fuel return line.</p>

0578959	Fuel/Water Separator, Racor Inline	<b>FUEL SEPARATOR</b> The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	<b>TRANSMISSION</b> An Allison 6th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with amber light and buzzer will be installed on the cab instrument panel.
0512762	Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf	<b>TRANSMISSION SHIFTER</b> A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.
0684459	Transmission Oil Cooler, Modine, External	<b>TRANSMISSION COOLER</b> 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	<b>DOWNSHIFT MODE (w/engine brake)</b> 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	<b>TRANSMISSION FLUID</b> The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid.
0001375	Driveline, Spicer 1810	<b>DRIVELINE</b> 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.
0637248	Steering, Dual Gear, TRW TAS-65, w/tilt, Pump w/ Cooler, Saber FR/Enforcer	<b>STEERING</b> Dual steering gear, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Vickers® V20NF hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
0605356	Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	<b>STEERING WHEEL</b> The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0690274	Logo/Emblem, on Dash	<b>LOGO AND CUSTOMER DESIGNATION ON DASH</b> 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. The first row of text will be: ALAMEDA The second row of text will be: FIRE The third row of text will be: DEPARTMENT

0816701	SP	Bumper, 13" Extended, Polished S/S, ENF	<p><b>BUMPER</b> The bumper will be manufactured from 8 gauge formed stainless steel with a .38" bend radius. The bumper will be 10.00" high with a 1.50" top and bottom flange. The bumper will have 45 degree corners and side plates. The bumper will be bright polished finish. The bumper will be extended 13.00" from front face of cab. To provide adequate support strength, the bumper will be mounted directly to the front of the C channel frame. The frame will be a bolted modular extension frame constructed of 50,000 psi tensile steel.</p> <p><b>GRAVEL PAN</b> A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.</p>
0778092		Lift & Tow Package, Enforcer	<p><b>LIFT AND TOW MOUNTS</b> Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.</p>
0072272		Tow Eyes, Chrome, Below Deck	<p><b>TOW EYES</b> Two (2) chromed steel tow eyes will be installed under the bumper and attached to the front frame members. The inner and outer edges of the tow eyes will have a .25" radius. The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.</p>
0692444		Recess, Front/Side Warning Light, In Angled Corner of Extended Bumper	<p><b>SIDE ZONE LIGHT MOUNTING</b> The front warning lights on each side will be recessed into the angled portion of the bumper extension to protect the light from damage. The recessed bracket will be made of polished stainless steel.</p>
0030434		Travel Stops, Front Inlet/Outlet Swivel, Qty & Location	<p><b>SWIVEL STOPS</b> Installed on the front bumper extension will be two (2) sets of stainless steel rods to limit the travel of a front outlet or inlet swivel. Two (2) stainless steel rods, for each application, will be threaded into the bumper deck and mounted each side of the 2.5" discharge.</p>
0770911	SP	Hose Restraint, Seat Belt Style, Push Button Style, Hose Pack, (4), Black	<p><b>HOSE RESTRAINT STRAPS</b> Four (4) black seat belt style hose restraints with center push button release will be provided at the front bumper. The restraints will be used to secure a hose pack on top of the bumper extension. There will be a 90 degree piece of smooth aluminum treadplate approximately 2.0" x 2.0" bolted to the top of the bumper to provide a back stop for the hose. Restraints will be secured to the bumper extension with stainless steel nuts, bolts and washers to prevent pulling through the restraint strap material.</p>
0816883	SP	Tray, Bumper, Top surface Mntd, 55" W x 6" F to B x 6" H, 1.75" Hose	<p><b>HOSE TRAY</b> One (1) top mounted hose tray will be provided centered on top of the bumper extension. The tray will hold as much 1.75" hose as possible. It will be approximately 55.00" Wide, 6.00" tall and 6.00" front to back. The tray will be constructed from aluminum treadplate. Aluminum round stock will be welded to the top edge of the tray, preventing the hose from being damaged or cut by the upper edge. The driver side of the tray, near the rear corner, will be notched for the pre-connected hose.</p>
0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	<p><b>FRONT BUMPER UL-LX COATING</b> Protective black UL-LX® coating will be provided on the outside exterior of the top front bumper flange. It will not be sprayed on the underside of the flange. The lining will be properly installed by an authorized UL-LX dealer.</p>

**CAB**

The Enforcer cab will be designed specifically for the fire service and manufactured by the chassis builder.

The cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be a heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar will be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar will be constructed from 0.13" wall extrusions. The rear wall will be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support will run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.

The cab floors will be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area will also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing will run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.

The cab will be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability.

The overall height (from the cab roof to the ground) of approximately 99.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed. The floor to ceiling height inside the crew cab will be 54.50" in the center and outboard positions. The crew cab floor will measure 46.00" from the rear wall to the back side of the rear facing seat risers.

The medium block engine tunnel, at the rearward highest point (knee level), will measure 61.50" to the rear wall. The big block engine tunnel will measure 51.50" to the rear wall.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The cab will be a full tilt cab style.

A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

**CAB ROOF DRIP RAIL**

For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be painted to match the cab roof, and bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

**INTERIOR CAB INSULATION**

The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.

**FENDER LINERS**

Full circular inner fender liners in the wheel wells will be provided.

**PANORAMIC WINDSHIELD**

A one (1)-piece safety glass windshield will be provided with over 2,775 square inches of clear viewing area. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

**WINDSHIELD WIPERS**

Three (3) electric windshield wipers with washer will be provided that meet FMVSS and SAE requirements.

The washer reservoir will be able to be filled without raising the cab.

0727969

Engine Tunnel, X15, Mech Fasteners, Enforcer

**ENGINE TUNNEL**

Engine hood side walls will be constructed of 0.375" aluminum. The top will be constructed of 0.125" aluminum and will be tapered at the top to allow for more driver and passenger elbow room.

The engine 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 NFPA 1901 standards.

The engine tunnel will be no higher than 18.00" off the crew cab floor.

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 except for areas that are not typically visible when the cab is lowered.

0639727	Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer	<p><b>CAB LIFT</b>  A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.  Hydraulic pump will have a manual override for backup in the event of electrical failure.  Lift controls will be located on the right side pump panel or front area of the body in a convenient location.  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.</p> <p><b>Cab Lift Interlock</b>  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.</p>
0695930	Grille, Bright Finished, Front of Cab, Enforcer	<p><b>GRILLE</b>  A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab.</p>
0722550	Scuffplates, S/S At Cab Door Jambs, 4-Door Cab, Full Coverage, Full Height	<p><b>DOOR JAM SCUFFPLATES</b>  All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jam. The crew cab door scuffplates will be full-height, bottom of cab to drip-rail, and have a 1.00" reveal on the outside. The scuffplate will be a two piece design and will extend from the outside of the cab to the inner door seal.</p>
0647932	Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	
0087357	Molding, Chrome on Side of Cab	<p><b>SIDE OF CAB MOLDING</b>  Chrome molding will be provided on both sides of cab.</p>
0032189	Mirrors, Ramco, 8000PCHR, Heated/Remote, w/Heated/Remote Convex, Door Mount	<p><b>MIRRORS</b>  One (1) Ramco, Model 8000-PCHR, polished aluminum mirror will be mounted on each of the cab doors. The mirrors will be 9.25" wide x 13.50" high with a convex section. <b>The mirror head will have a highly polished aluminum finish.</b>  <b>The flat glass in each mirror will be heated and adjustable, with remote controls that are convenient to the driver.</b>  <b>The convex section in each mirror will be heated and adjustable, with remote controls that are convenient to the driver.</b></p>
0648171	Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Level Roof	<p><b>DOORS</b>  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 63.37" high.  The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins will be constructed from 0.090" aluminum. A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The 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.  Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.  The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.  A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.  A chrome 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.  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>

0655543	Door Panel, Brushed Stainless Steel, Saber/Enforcer 4-Door Cab	<b>Door Panels</b> The inner cab door panels will be constructed out of brushed stainless steel.
0630636	Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber FR/Enforcer	<b>ELECTRIC OPERATED CAB DOOR WINDOWS</b> All four (4) cab doors will be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door will have four (4) switches, one (1) to control each door window. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second.
0528251	Electric Door Locks, Cab Doors, QXS, AXT, Sab, Enf, Dash CF	<b>ELECTRIC CAB DOOR LOCKS</b> 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.
0709646	Steps, 4-Door Cab, Grip Strut Inserts, Reduced Bottom Step, SFR/Enf	<b>CAB STEPS</b> 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.
0770194	Handrail, Exterior, Knurled, Alum, 4-Door Cab	<b>CAB EXTERIOR HANDRAILS</b> A 1.25" diameter slip-resistant, knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress.
0892638	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	<b>STEP LIGHTS</b> There will be six (6) white LED step lights with chrome housing installed for cab and crew cab access steps. One (1) light for the left access steps. Two (2) lights for the left side crew cab access steps. Two (2) lights for the right side crew cab access steps. One (1) light for the right side access step. 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.
0002141	Fenders, s/s on cab - Saber/Enforcer	<b>FENDER CROWNS</b> Stainless steel fender crowns will be installed at the cab wheel openings.
0637984	Window, Side of C/C, Fixed, Saber FR/Enforcer	<b>CREW CAB WINDOWS</b> 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.
0816695	SP Compt, Transverse Crew Cab, Dbl Pan, 8" Rec Tube, 70" SFR/Enf	<b>STORAGE COMPARTMENT</b> Provided under the forward facing crew cab seats will be a transverse compartment. The compartment will be divided into upper and lower sections by a removable divider located at the cab floor. 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 15.00" wide x 24.50" 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 4.00" long x 8.00" diameter tube will be recessed below each side of the cab compartment floor. The tube will be angled approximately 10 degrees for ease of removing an extinguisher from the compartment. 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 compartment interior will be painted spatter gray. <b>Compartment Light</b> There will be eight (8) white LED strip lights, one (1) each side of lower and upper exterior compartment door opening. The lights will be controlled by an automatic door switch.

0750772	SP	Trough for D-handle, Pike Pole Storage, Transverse Compartment	<p><b>PIKE POLE STORAGE</b></p> <p>A rack will be provided for storage of one (1)D-handle pike pole(s). The rack will be located in the transverse section of the crew cab compartment, below the seat box. The pole will be stored on the ceiling of the transverse compartment.</p> <p>The size and brand of the pike poles stored will be (1) Nupla 6' Steel handle Rubbish hook in crew cab transverse compartment to exit on driver side of cab.</p>
0794837		Scuffplates, S/S, Door Frame, Three Sides, Exterior Cab Compts	<p><b>SCUFFPLATE</b></p> <p>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.</p>
0816708	SP	Tubes, Alum, Pike Pole Storage	<p><b>PIKE POLE STORAGE</b></p> <p>Aluminum tubing will be used for the storage of one (1) pike pole(s) with 1.38" notch, to accommodate a New York style pike pole. The tubing will be located inside crew cab transverse compartment accessible from right side. The tubing will be accessed from the (1) tube for 6' NY hook with steel handle and pry end in best possible location.</p> <p>The size and brand of the pike poles stored will be Firehooks Unlimited 6' steel NY Hook w/ pry end .</p>
0539585		Cover, Aluminum, Painted to Match Cab Interior	<p><b>COVER</b></p> <p>There will be one (1) painted aluminum cover(s) located over MedVault in forward facing cabinet to protect the wiring and antenna.</p>
0816728	SP	Drug Locker, Knox, MedVault Mini, 5230S3*, Surface Mounted	<p><b>KNOX MEDVAULT</b></p> <p>There will be a Knox MedVault® Mini, Model 5230S3*, surface mounted in forward facing crew cab compartment on floor nearest driver side with door just behind webbing so it can be accessed easily at edge of cabinet.. A standard door and mechanical override will be provided. The antenna will be located on the back.</p>
0894089		Dash, Heavy Duty Metal, Enforcer	<p><b>CAB DASH</b></p> <p>The driver side dash, switch panel located to the right of the driver, and center console will be constructed of aluminum and painted fire smoke gray.</p> <p>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.</p> <p>The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.</p>
0894499	SP	Work Surface, 1/4" Alum, Eng Tnl, Back 5", To RF Cabinet, Flange,Lip x 2,SFR/Enf	<p><b>WORK SURFACE ON ENGINE TUNNEL</b></p> <p>There will be a work surface provided on the engine tunnel. The work surface will start 5.00" behind the center instrument panel, terminating at the rear facing cabinet, and follow the width of the engine tunnel. It will be constructed of 0.25" aluminum.</p> <p>The beginning of the work surface will be spaced 1.50" off the top surface of the engine tunnel.</p> <p>The work surface will be flat from the front of the engine tunnel up to the rear facing cabinet. The sides of the work surface will flange down to enclose the area underneath. There will be a 1.00" lip around the entire edge of the work surface. An additional lip will be located 6" back from the front edge, shall run side to side of engine tunnel from Driver to officer side creating a trough at front of mounting plate.</p> <p>The mounting surface will be painted to match the cab interior.</p>
0750824		Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	<p><b>CAB INTERIOR</b></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><b>CAB INTERIOR UPHOLSTERY</b></p> <p>The cab interior upholstery will be 36 oz dark silver gray vinyl.</p>
0753903		Cab Interior, Paint Color, Saber FR/Enforcer	<p><b>CAB INTERIOR PAINT</b></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><b>CAB FLOOR</b> The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler. The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p>
0722038	HVAC, Enforcer, w/X15, CARE	<p><b>DEFROST/AIR CONDITIONING SYSTEM</b> A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.</p> <p><b>Cab Defroster</b> 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: One (1) adjustable will be directed towards the left side cab window One (1) adjustable will be directed towards the right side cab window Six (6) fixed outlets will be directed at the windshield 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><b>Cab/Crew Auxiliary Heater</b> There will be no auxiliary heater provided in the rear facing seat risers.</p> <p><b>Air Conditioning</b> A 19.10 cubic inch compressor will be installed on the engine. 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 #10 white. 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. 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. Adjustable air outlets will be strategically located on the forward plenum cover per the following: Four (4) will be directed towards the seating position on the left side of the cab Four (4) will be directed towards the seating position on the right side of the cab Adjustable air outlets will be strategically located on the evaporator cover per the following: Minimum of five (5) will be directed towards crew cab area 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. The air conditioner refrigerant will be R-134A and will be installed by a certified technician.</p> <p><b>Climate Control</b> 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. 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. 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. The system controller will be located within panel position #13.</p> <p><b>Gravity Drain Tubes</b> 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, Saber FR/Enforcer	<p><b>SUN VISORS</b> 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. There will be no retention bracket 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><b>GRAB HANDLE</b> 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 Compmt, Custom, Auto Sw, W/in 3SC0CDCR, 3" LED, Trim	<p><b>ENGINE COMPARTMENT LIGHTS</b> 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. These light(s) will be activated automatically when the cab is raised.</p>

0631830	Fluid Check Access, Saber FR/Enforcer, Arrow XT	<p><b>ACCESS TO ENGINE DIPSTICKS</b> For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. The door will have a rubber seal for thermal and acoustic insulation. One (1) flush 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><b>CUP HOLDER/STORAGE CONSOLE</b> There will be four (4) console(s) located (1) inboard of driver, (1) inboard of officer seat, (1) inboard of each crew seat. Exact location provided 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 7" wide x 4.00" high storage area. Black rubber matting will be provided on the bottom of each cup holder. The console(s) will be painted to match the cab interior.</p>
0599959	Straps, Velcro, Map Box, Custom Chassis	<p><b>VELCRO STRAP(S) FOR MAP BOX</b> There will be two (2) Velcro® strap(s) installed at final inspection.</p>
0002503	Map box, 4 bin, Custom Chassis	<p><b>MAP BOX</b> A map box with four (4) bins, open at top, will be installed cab engine tunnel determined at final inspection. The map box will be divided into two (2) bins wide x two (2) bins high. Each bin will be 9.25" wide x 4.00" deep x 12.00" high. The map box will be constructed of .125" aluminum and will be painted to match the cab interior.</p>
0002501	Map box, 4 bin/30 Deg Slant, Custom Chassis	<p><b>MAP BOX</b> A map box with four (4) bins, open from top, will be installed mount at final. 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>

**CAB SAFETY SYSTEM**

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:

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.

A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.

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.

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.

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.

Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.

Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.

Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.

**Frontal Impact Protection**

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.

The SRS system will deploy the following components in the event of a frontal or oblique impact event:

Driver side front air bag

Passenger side knee bolster air bag

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

**Side Roll Protection**

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.

The SRS system will deploy the following components in the event of a side roll:

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

Seat belts will be pre-tensioned to firmly hold the occupant in place

0622617

Seating Capacity, 6 Seats

**SEATING CAPACITY**

The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be six (6).

0766159

Seat, Driver, USSC, Valor, P1A, Air Ride, I-Back, Safety, Saber FR/Enforcer

**DRIVER SEAT**

A USSC Valor air suspension I-back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 15 degrees forward.

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.

Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.

The seat will be furnished with a 3-point, shoulder type seat belt.

0887436

Seat, Officer, USSC, Valor, P1A, Air Ride, SCBA, Safety, Enforcer X15

**OFFICER SEAT**

A USSC, P1A, SCBA air suspension seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion. For increased convenience, the seat will include a manual control to adjust the height (3.00" travel).

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 0.75" 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.

Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.

0792468	Radio Compartment, Behind Officer Seat, Saber FR/Enforcer	<b>RADIO COMPARTMENT</b>	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.
0795014	Seat, Rear Facing C/C, DS Outboard, USSC, Valor, SCBA, Safety, Saber FR/Enforcer	<b>REAR FACING DRIVER SIDE OUTBOARD SEAT</b>	<p>There will be one (1) rear facing seat, USSC Valor SCBA seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be provided with a 15.00" deep cushion.</p> <p>The seat back will be an SCBA back style with 95 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 0.75" 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.</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. The seat will be furnished with a 3-point, shoulder type seat belt.</p> <p>Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.</p>
0102783	Not Required, Seat, Rr Facing C/C, Center		
0795010	Seat, Rear Facing C/C, PS Outboard, USSC, Valor, SCBA, Safety, Saber FR/Enforcer	<b>REAR FACING PASSENGER SIDE OUTBOARD SEAT</b>	<p>There will be one (1) rear facing, USSC Valor SCBA seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with a 15.00" deep cushion.</p> <p>The seat back will be an SCBA back style with 95 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 0.75" 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.</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. The seat will be furnished with a 3-point, shoulder type seat belt.</p> <p>Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.</p>
0757156	Seat, Forward Facing C/C, DS Outboard, USSC, Valor, I-Back, Foldup, Safety, SFR/Enf	<b>FORWARD FACING LEFT SIDE OUTBOARD SEAT</b>	<p>There will be one (1) forward facing, USSC Valor foldup seat provided at the driver side outboard position in the crew cab. For optimal comfort, and to maximize accessibility to the crew cab, the seat will be provided with 17.00" deep cushion. The seat back will be an I-back style with an adjustable recline angle. To ensure safe operation, the seat will be equipped with a sensor in the seat cushion and belt receptacle that will activate an alarm indicating the seat is occupied but not buckled.</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. The seat will be furnished with a 3-point, shoulder type seat belt.</p> <p>Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.</p>
0816689	SP Cabinet, Forward Facing, Center, 38.50 W x 40 H x 16.25 D, Web, SFR/Enf	<b>FORWARD FACING CENTER CABINET</b>	<p>A forward facing cabinet will be provided in the crew cab at the center position.</p> <p>The cabinet will be 38.50" wide x 40.00" high x 16.25" deep. The interior door will be web netting. The netting will be made with 1.00" wide nylon material with 2.00" openings. The nylon webbing will be permanently fastened at the bottom side of the cabinet and have spring clip and hook fasteners on the opposite side to secure it. The clear door opening will be 36.00" wide x 37.00" high.</p> <p>The cabinet will include two (2) infinitely adjustable shelves with a 1.25" up-turned lipped 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><b>Cabinet Light</b></p> <p>There will be one (1) white Amdor LED strip light installed on the right side of the interior cabinet door opening and one (1) white Amdor LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.</p>

0757157	Seat, Forward Facing C/C, PS Outboard, USSC, Valor, I-Back, Foldup, Safety, SFR/Enf	<p><b>FORWARD FACING PASSENGER SIDE OUTBOARD SEAT</b></p> <p>There will be one (1) forward facing, USSC Valor foldup seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with a 17.00" deep cushion. The seat back will be an I-back style with an adjustable recline angle. 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 around the occupant to firmly hold them in place in the event of a side roll. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers. The seat will be furnished with a 3-point, shoulder type seat belt.</p>
0782746	Upholstery, Seats In Cab, All Vinyl, USSC	<p><b>SEAT UPHOLSTERY</b></p> <p>All seat upholstery will be leather grain black vinyl resistant to oil, grease and mildew. The cab will have six (6) seating positions.</p>
0543991	Bracket, Air Bottle, Hands-Free II, Cab Seats	<p><b>AIR BOTTLE HOLDERS</b></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. There will be a quantity of three (3) SCBA brackets.</p>
0613020	Inserts, Back Rest For USSC SCBA Seats	<p><b>BACK REST INSERTS</b></p> <p>Provided with the USSC SCBA seats will be back rest inserts which covers the SCBA cavity. The insert covers will be padded and covered with same material as the seat. A total of three (3) inserts covers will be provided.</p>
0734952	Door, Access, Front, (2) Rear Facing Seat Risers, No Heater	<p><b>ACCESS DOOR</b></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 small D-handle latch and painted to match the cab interior. There will be no louvers.</p>
0730233	SP Seat Mounting, Forward Facing. Moved 2" Rearward, USSC Recline	<p><b>SPECIAL SEAT MOUNTING</b></p> <p>The reclining forward facing seat will be mounted 2.00" rearward of the standard location. Moving the seat closer to the rear wall will limit the recline angle of the seat.</p>
0603866	Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	<p><b>SEAT BELTS</b></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 NFPA 1901 and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The 3-point shoulder type belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only. 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>
0602464	Helmet Storage, Provided by Fire Department, NFPA 2016	<p><b>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT</b></p> <p>NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.</p>
0647632	Lights, Dome, W/in 60C*EGCS Dual LED 4 Lts	<p><b>CAB DOME LIGHTS</b></p> <p>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.</p>
0813183	Not Required, Enhanced Software for Cab and Crew Cab Dome Lts	

0649587	Light, Map, Federal Littlite, LED, Gooseneck	<p><b>MAP LIGHT</b> There will be one (1) Federal Littlite® LED map light(s) provided in the cab and located to the left of the officer, in the front corner area of the map box and dash (SEE PHOTO 134). Each map light will have a on/off switch with a 18.00" long flexible neck that exits the side of the chassis mount. The map light(s) wiring will exit from the bottom of the chassis mount. Each light will be provided with red and white LEDs. The light switch(es) will be connected directly to the battery switched power.</p>
0549393	Handlts, (4) Streamlight, Survivor C4 LED, 12v, Orange, 90509 Fast Charge	<p><b>HAND HELD SPOTLIGHT</b> There will be four (4) Streamlight, Model Survivor 90509, LED flashlights with 12 volt DC chargers provided and installed (1) lights on top of the map box at the rear edge each side to slide out to the rear of the unit, (1) LS1. Exact locations provided at Construction review. Ship one loose.</p>
0774457	Handlight, Streamlight, Vulcan 180, 44315, 12v, Orange	<p><b>ADDITIONAL HAND HELD LIGHT</b> There will be four (4) lights additional 12v Streamlight, Model #44315, Vulcan 180 LED light(s) will be provided and mounted (1) each side of engine tunnel inboard of crew rear facing seats , one (1) near officer on engine tunnel mounting plate (1) in LS3 on top shelf. Exact locations will be provided at pre-construction visit. Each light will be provided with a 12 volt direct wire vehicle mounting rack and quick release shoulder strap. Each light housing will be orange in color.</p>
0603606	Cab Instruments, Ivory Gauges, Chrome Bezels, Enf MUX	<p><b>CAB INSTRUMENTATION</b> 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.</p> <p><b>Gauges</b> 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.</p> <p><b>Indicator Lamps</b> 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:</p>

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, Dash CF, Enf MUX	<b>AIR RESTRICTION INDICATOR</b> 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	<b>"DO NOT MOVE APPARATUS" INDICATOR</b> 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.
0509042	Messages, Open Dr/DNMT, Color Dsply,	<b>DO NOT MOVE TRUCK MESSAGES</b> Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged). The following messages will be displayed (where applicable): Do Not Move Truck DS Cab Door Open (Driver Side Cab Door Open) PS Cab Door Open (Passenger's Side Cab Door Open) DS Crew Cab Door Open (Driver Side Crew Cab Door Open) PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open) DS Body Door Open (Driver Side Body Door Open) PS Body Door Open (Passenger's Side Body Door Open) Rear Body Door Open DS Ladder Rack Down (Driver Side Ladder Rack Down) PS Ladder Rack Down (Passenger Side Ladder Rack Down) Deck Gun Not Stowed Lt Tower Not Stowed (Light Tower Not Stowed) Fold Tank Not Stowed (Fold-A-Tank Not Stowed) Aerial Not Stowed (Aerial Device Not Stowed) Stabilizer Not Stowed Steps Not Stowed Handrail Not Stowed Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.

0622798	Switching, Cab Instrument Lower Console & Overhead, Rocker MUX, Enforcer	<p><b>SWITCH PANELS</b></p> <p>The built-in switch panels will be located in the lower console or overhead console of the cab. The switches will be rocker-type and include an integral indicator light. For quick, visual indication the switch will be illuminated whenever the switch is active. A 2-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed below the switches. The label will allow light to pass through the letters for improved visibility in low light conditions. Switches and light source are integral to the switch panel assembly.</p>
0802940	Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	<p><b>WIPER CONTROL</b></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>
0547318	Wiring, Spare, 10 A 12V DC, Switch Feature 1st	<p><b>SPARE CIRCUIT</b></p> <p>There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features:  The positive wire will be connected directly to the battery power.  The negative wire will be connected to ground.  Wires will be protected to 10 amps at 12 volts DC.  Power and ground will terminate CIRCUIT #1: in the rear facing center cabinet (option #597870), strip to be mounted on rear wall up high and centered (SEE PHOTO 141). Switch on the instrument panel to be labeled "CARGO BOX" and removable cover.  Termination will be with a 10-place bus bar with screws and removable cover.  The circuits selected above will be controlled by a switch in the following locations:  a switch in the driver's side switch panel  no additional switch location  Wires will be sized to 125% of the protection.  This circuit(s) may be load managed when the parking brake is set.</p>
0548001	Wiring, Spare, 10 A 12V DC 2nd	<p><b>SPARE CIRCUIT</b></p> <p>There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features:  The positive wire will be connected directly to the battery power.  The negative wire will be connected to ground.  Wires will be protected to 10 amps at 12 volts DC.  Power and ground will terminate behind the officer's seat (label this as "TIC").  Termination will be with heat shrinkable butt splicing.  Wires will be sized to 125% of the protection.  This circuit(s) may be load managed when the parking brake is set.</p>
0548004	Wiring, Spare, 15 A 12V DC 1st	<p><b>SPARE CIRCUIT</b></p> <p>There will be five (5) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features:  The positive wire will be connected directly to the battery power  The negative wire will be connected to ground  Wires will be protected to 15 amps at 12 volts DC  Power and ground will terminate two (2) in switch panel #9 and two (2) on the dash in front of the officer in the slanted portion, left of the knee (SEE PHOTO 134 &amp; INSTRUMENT PANEL DRAWING), one (1) in the center crew cab storage compartment on top  Termination will be with 15 amp, power point plug with rubber cover  Wires will be sized to 125 percent of the protection  The circuit(s) may be load managed when the parking brake is set.</p>
0803875	Radio, AM/FM/WB, Jensen, Frt,Rear Aux In/Frt,Rear USB/Bluetooth	<p><b>STEREO RADIO</b></p> <p>A Jensen, heavy duty AM/FM / Bluetooth / Weatherband stereo radio, with front and rear auxiliary input will be installed per switch 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 on the left side of the cab.  The following features will be included:  - 180 watts max power output (45W x 4)  - Bluetooth® streaming audio and controls (A2DP/AVRCP) with hands-free calling (HFP)  - Electronic AM/FM tuner (US/Euro)  - iPod®/iPhone® ready via USB  - SiriusXM-Ready®  - Seven-channel NOAA weatherband with S.A.M.E. technology  - USB 2.0 for playback of MP3 &amp; WMA audio files  - RBDS with PTY search  - Front and rear USB input  - Front and rear AUX input</p>
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714	<p><b>INFORMATION CENTER</b></p> <p>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</p>

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

#### **COLLISION MITIGATION**

There will be a HAAS Alert®, Model HA7 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 degree C to 85 degree C.

The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.

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.

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.

The HA7 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.

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.

0606247	Vehicle Data Recorder w/CZ Display Seat Belt Monitor	<p><b>VEHICLE DATA RECORDER</b> There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided. The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line. The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs: Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Engine Speed - RPM Engine Throttle Position - % of Full Throttle ABS Event - On/Off Seat Occupied Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Time - 24 Hour Time Date - Year/Month/Day</p>
		<p><b>Seat Belt Monitoring System</b> A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following: Seat Occupied &amp; Buckled = Green LED indicator illuminated Seat Occupied &amp; Unbuckled = Red LED indicator with audible alarm No Occupant &amp; Buckled = Red LED indicator with audible alarm No Occupant &amp; Unbuckled = No indicator and no alarm The seat belt monitoring screen will become active on the Command Zone color display when: The home screen is active: and there is any occupant seated but not buckled or any belt buckled with an occupant. and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated. The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p>
0811745	SP Intercom, David Clark, 7-Pos, 3- Radio, (D, O, RPTT, P), 4obC, 3805	<p><b>INTERCOM SYSTEM</b> A seven (7) position intercom system with single radio interface at the driver, officer, and pump operator positions will be provided. The driver and officer will have remote radio push-to-talk buttons located per intercom layout . Four (4) outboard crew seats will have radio listen / intercom only. The following David Clark, Model U3800, components will be supplied with this system: One (1) U3805 Radio cord junction module Two (2) U3815 Radio interface station (Driver, Officer) Two (2) Remote Push-To-Talk kits Two (2) U3802 Intercom only stations (2 Crew) One (1) U3801 Intercom only stations (1 Crew) One (1) U3800 Intercom unit (1 Crew) One (1) C3820 Power cable One (1) U3815A Radio interface station (Pump panel) All interconnect cables</p>
0637058	David Clark Universal Radio Interfaces Included with Single/Dual System	<p><b>RADIO / INTERCOM INTERFACE INCLUDED</b> All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to the radios in positions 5 and 6 overhead (per intercom layout in stage 3 folder) .</p>
0597914	Headset, David Clark, H3442 Under Helmet, Flex Mic	<p><b>UNDER THE HELMET HEADSET</b> There will be four (4) under the helmet, headset(s) provided driver, officer and 2 crew. See #!11 S:\FAE-SHARE\DEPT\Job E-Folders\32000-32999\32136\Stage 6 - Manufacturing. 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</p>
0681408	Hangers For Headsets, NFPA, Each	<p><b>HEADSET HANGERS</b> 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 NFPA 1901, Section 14.1.11, requirement for equipment mounting.</p>

0597940	Install Customer Provided Two-Way Radio Speaker(s)	<p><b>TWO WAY RADIO SPEAKER INSTALLATION</b></p> <p>There will be two (2) customer supplied two way radio speakers sent to the apparatus manufacturers preferred third party installer to be installed in the cab overhead, center per job 26350 (1st speaker is to be wired to primary radio, 2nd speaker to be wired to secondary radio) - SEE PHOTO 52 See #11 S:\FAE-SHARE\DEPT\Job E-Folders\32000-32999\32136\Stage 6 - Manufacturing.</p> <p>Specific shipping requirements will be followed.</p>
0559503	Install Customer Provided, Portable Radio Charger(s)	<p><b>PORTABLE RADIO CHARGER INSTALLATION</b></p> <p>There will be four (4) customer supplied portable two-way radio chargers(s) sent to the apparatus manufacturers preferred radio installer to be installed (2) on top of map box (SEE PHOTO 149), (1) in gap between center rear facing cabinet and DS EMS cabinet (SEE PHOTO 151) and (1) in gap between center rear facing cabinet and PS EMS cabinet (SEE PHOTO 150). Chargers to be powered "battery direct". Specific shipping requirements will be followed.</p>
0559156	Install Customer Provided Two-Way Radio(s)	<p><b>TWO WAY RADIO INSTALLATION</b></p> <p>There will be two (2) customer supplied two way radio(s) sent to the apparatus manufacturers preferred radio installer to be installed in the DS rear facing EMS cabinet. BOTH radios are to be powered "battery switched" per the shipping document.</p> <p>No antenna mount or whip will be included in this option.</p> <p>Specific radio shipping requirements will be followed.</p>
0003757	Antenna, Std and Add'l Mts Only, 2-way Radio,Cust,Spl Cable Routing	<p><b>RADIO ANTENNA MOUNT</b></p> <p>There will be two (2) standard antenna-mounting base(s), Model MATM, with 17 feet of coax cable and weatherproof cap provided for a two (2)-way radio installation. The standard mount will be located on the cab roof, just to the rear of the officer seat and the additional mount(s) will be located per job 26350 (SEE PHOTO 114). The cable(s) will be routed behind the office seat .</p>
0816158	Camera, Pierce, LS Mux, RS, LS, R, Cameras, AHD	<p><b>VEHICLE CAMERA SYSTEM</b></p> <p>There will be a color vehicle camera system provided with the following:</p> <ul style="list-style-type: none"> <li>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.</li> <li>One (1) AHD camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal.</li> <li>One (1) AHD, white camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse.</li> </ul> <p>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 right of the steering column.</p> <p>The following components will be included:</p> <ul style="list-style-type: none"> <li>One (1) 1080P Rear Camera</li> <li>Two (2) 1080P Side Cameras</li> <li>All necessary cables</li> </ul>
0814861	Camera, Switcher, Pierce, 4 channel, AHD, CVBS	<p><b>CAMERA SWITCHER</b></p> <p>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.</p>
0769446	SP Bracket, Camera, Hose Bed Cover Cross Bar	<p><b>CAMERA MOUNTING</b></p> <p>There will be one (1) bracket welded to the aluminum hose bed cross bar at the rear of the truck to provide a mounting surface for the vehicle camera(s) located above the hose bed on the cross bar left side of traffic directing light.</p>
0674566	Location, Rear Vision Camera	<p><b>REAR CAMERA LOCATION</b></p> <p>The rear camera will be located above the hose bed on the cross bar left side of traffic directing light .</p>
0511071	Guard, 4-Way, Rear Vision Camera	<p><b>VEHICLE CAMERA GUARD</b></p> <p>There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered above hosebed .</p>
0890416	Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	<p><b>ELECTRICAL POWER CONTROL SYSTEM</b></p> <p>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.</p> <p>Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.</p>

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 -40C to +70C

- Storage temperature from -40C to +70C

- Vibration to 50g

- IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter)

- Operating voltage from eight (8) volts to 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

0892649 ClearSky Telematics for Remote Fleet and On-scene Management

**TELEMATICS SYSTEM**

Your vehicle will include a cellular-based vehicle telematics system including a telematic control unit with external cellular Wi-Fi and GPS antenna. Pierce will provide access to a web-based user interface portal that will allow users to access vehicle data collected as part of the system, allow users to configure monitoring tools, provide a global view of the location of each vehicle that has the system, provide a summary of fleet data, etc. The web-based user interface portal or certain features thereof may be provided on a subscription basis.

The telematic control unit will be fully integrated into the electrical system of the vehicle, will monitor the vehicle through the CAN data bus, and will transmit data through a secure 4G LTE cellular connection, and be provided with a 3 year subscription..

The web-based user interface portal will provide, among other features:

- User defined interval notifications
- User defined fault alerts
- Remote access to Command Zone™ diagnostics
- Vehicle analytics and activity monitoring
- Vehicle system status

The system is activated while building your vehicle and thereafter remains active for a 60-day grace period starting when your vehicle ships from the factory. This means that the system is active at the time of factory acceptance and during the 60-day grace period. By selecting this option, it is agreed that use of the system and the web-based user interface portal will be subject to the terms set forth in the Data Systems Agreement referenced at <https://www.piercemfg.com/privacy-statement>. Customers will be provided with an initial login at the time of factory acceptance to verify performance of the system and the web-based user interface portal. The term of the subscription, if any, will begin when the vehicle ships from the factory. If customers do not log into the web-based user interface portal and confirm acceptance of the terms before the 60-day grace period ends, the system will be deactivated, and no new data will be collected or retained Pierce. Reactivation can be coordinated through the customer's authorized Pierce Dealer.

**ELECTRICAL**

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal.

Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

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.

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.

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.

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).

All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

0079211

Batteries, (6) Stryten/Exide Grp 31,  
950 CCA each, Threaded Stud

**BATTERY SYSTEM**

There will be six (6) 12 volt Stryten/Exide®, Model 31S950X3W, batteries that include the following features will be provided:

950 CCA, cold cranking amps

190 amp reserve capacity

High cycle

Group 31

Rating of 5700 CCA at 0 degrees Fahrenheit

1140 minutes of reserve capacity

Threaded stainless steel studs

Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity.

The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.

0008621

Battery System, Single Start, All  
Custom Chassis

**BATTERY SYSTEM**

There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.

**MASTER BATTERY SWITCH**

There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.

An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.

0002698

Battery Compartment,  
Saber/Enforcer

**BATTERY COMPARTMENTS**

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.

Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound.

**JUMPER STUDS**

One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.

0812383

Charger, Sngl Sys, Kussmaul, Chief  
091-266-12-40

**BATTERY CHARGER**

There will be a Kussmaul™, Chief Series Smart Charger 4012, product code 091-266-12-40, 40 amp battery charger with build-in touch screen display provided.

The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.

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 inside compartment mounted to floor outboard so LCD can be easily accessed for maintenance and troubleshooting.
0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	<b>REMOTE CONTROL PANEL - BATTERY CHARGER</b> There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.
0815291	Location, Cab, Ind/Remote, LS Above Wheel Well	The battery charger indicator will be located on the left side of the cab centered above the wheel well.
0016856	Shoreline, 15A 120V, Kussmaul Auto Eject, 091-55-15-120, Super	<b>KUSSMAUL AUTO EJECT FOR SHORELINE</b> There will be one (1) Kussmaul Model 091-55-15-120, 15 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus without the use of the generator. 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. 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.
0647728	Alternator, 430 amp, Delco Remy 55SI	<b>ALTERNATOR</b> 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.

**ELECTRONIC LOAD MANAGER**

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

System voltage monitoring.

A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to activate before any electric loads are shed and deactivate with the service brake.

If enabled:

"Load Man Hi-Idle On" will display on the information center.

Hi-Idle will not activate until 30 seconds after engine start up.

Individual switch "on" indicator to flash when the particular load has been shed.

The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

Load managed items list, with priority levels and item condition.

Individual load managed item condition:

ON = not shed

SHED = shed

**SEQUENCER**

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch.

When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

Cab Heater and Air Conditioning

Crew Cab Heater (if applicable)

Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)

Third Evaporator (if applicable)

0783153

Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel

**HEADLIGHTS**

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

the outside light on each side will contain a part number 055\*\*\*1 low beam module

the inside light on each side will contain a part number 055\*\*\*1 high beam module

the headlights to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

0804681

Light, Directional, Wln 604T\*  
Common Bzl, Above Headlts,Sab/Enf

**DIRECTIONAL LIGHTS**

There will be two (2) Whelen®, Model 604T\*, amber LED populated directional lights provided on the front of the cab, above the headlights.

Each light will be housed in the same quad common bezel as the front warning light.

The lens color(s) to be clear.

The flash pattern of the directional lights will be Steady On (Arrow).

0620044

Light, Directional/Marker,  
Intermediate, Truck-Lite 21290Y LED  
2lts

**INTERMEDIATE LIGHT**

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.

0736083

Lights, Clearance/Marker, Side, P25  
LED 2 Lts, Others With Visor Lt

**CAB CLEARANCE/MARKER/ID LIGHTS**

There will be two (2) amber LED lights provided to indicate the presence and overall length of the vehicle in the following locations:

Two (2) lights with amber LEDs as front side clearance lights will be installed, one (1) on each side above the cab doors.

All other forward facing clearance lights will be included with the visor scene light.

0647899	Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29 LED, Sab/Enf	<b>FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS</b> 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.
0627282	Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	<b>REAR CLEARANCE/MARKER/ID LIGHTING</b> There will be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height There will be two (2) 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 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	<b>REAR FMVSS LIGHTING</b> 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 the same as the LEDs.
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	<b>LICENSE PLATE BRACKET</b> 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	<b>LIGHTING BEZEL</b> 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	<b>BACK-UP ALARM</b> 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.
0578480	Buzzer, Warning - Rear Step to Cab, Left Side, Smooth Aluminum Door	<b>REAR STEP BUZZER</b> A buzzer button compartment will be installed at the rear of the body, on the left side. The rear step control will be a button installed into a handle control with a ten (10) foot length of coil cord and housed in a separate compartment with a latched, smooth aluminum door.
0578264	Flash Pattern, California Title13, LED Warning Lights	<b>WARNING LIGHT FLASH PATTERN</b> 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.

0804659	Lights, Cornering/Scene, Wln M62BU, 1st	<p><b>CORNERING/SCENE LIGHTS</b>  There will be two (2) Whelen®, Model M62BU, 4.31" high x 6.75" wide x 1.37" deep lights with white LEDs and chrome trim provided on the sides of the apparatus, located in recess in each 45 degree corner on front bumper.  The light(s) will be wired so they activate and cancel when the battery switch is on, the headlight switch is on and with the directional light activation.</p>
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	<p><b>CAB PERIMETER SCENE LIGHTS</b>  There will be four (4) Amdor, Model AY-LB-12HW020, 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.</p>
0769572	Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	<p><b>PUMP HOUSE PERIMETER LIGHTS</b>  There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side.  If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light will be installed.  The lights will be controlled by the same means as the body perimeter lights.</p>
0770056	Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear Step	<p><b>BODY PERIMETER SCENE LIGHTS</b>  There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" long, white LED's, 12 volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear.  The perimeter scene lights will be activated when a switch within reach of the driver is activated and the rear scene lights are activated.</p>
0896454	Enhanced Software for Perimeter Lts	<p><b>ENHANCED SOFTWARE FOR PERIMETER LIGHTS</b>  All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected.  The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.</p>
0556360	Lights, Step, P25 LED 4lts, Pump Pnl Sw	<p><b>STEP LIGHTS</b>  Four (4) white LED step lights will be provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard.  In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.  These step lights will be actuated with the pump panel light switch.  All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.</p>
0550452	Lights, Side Scene, Zico ZQL-SS-LED, Stainless 1st	<p><b>SCENE LIGHTS</b>  There will be two (2) Ziamatic, Model Model ZQL-SS-LED, LED scene light(s) with stainless steel housing, installed on the side of the apparatus, one (1) each side in the rear fender area low, lights are also to point angled downwards to the rear (SEE PHOTOS 147 &amp; 12)&amp;#x0D; .  A control for the light(s) selected above will be the following:  a switch at the driver's side switch panel  no additional switch location  no additional switch location  no additional switch location  These lights may be load managed when the parking brake is set.</p>
0729921	SP Light, Roof Mt, Wln S72M**, 72" Cnt Feature, SUBKT* Mounts, Mkr Lts Activated	<p><b>12 VOLT LIGHTING</b>  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 left side pump 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.</p>

0768059	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 2nd	<p><b>12 VOLT DC SCENE LIGHTS</b></p> <p>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, right side rear of crew cab door as high as possible. The surface mount housing(s) will be provided with a chrome cover. The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the left side pump panel. The light(s) may be load managed when the parking brake is applied.</p>
0768061	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 1st	<p><b>12 VOLT DC SCENE LIGHTS</b></p> <p>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, left side rear of crew cab door as high as possible. The surface mount housing(s) will be provided with a chrome cover. The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the left side pump panel. The light(s) may be load managed when the parking brake is applied.</p>
0748793	Lights, WIn, S44M** 44" 12VDC, RS Body	<p><b>12 VOLT LIGHTING</b></p> <p>There will be one (1) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the right side of the body located, (1) mounted to outside on the "V Trough for the hard suction". as seen in prelim drawing. The painted parts of this light assembly to be black.</p> <p>The light(s) will include the following:  10 scene light modules with white LEDs  Three (3) amber LEDs as marker lights  Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs.</p> <p>The lights will be activated per the following:  The amber marker lights not activated.  The scene LEDs will be controlled by a switch at the driver's side switch panel and by a switch at the left side pump panel.  There will be a switch in the cab on the switch panel to control the flashing warning LED modules when selected.  The light(s) may be load managed when the parking brake is applied.</p>
0748795	Lights, WIn, S44M** 44" 12VDC, LS Body	<p><b>12 VOLT LIGHTING</b></p> <p>There will be one (1) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the left side of the body located, (1) LS centered on Catwalk mounted up high on the Side Sheet. The painted parts of this light assembly to be black.</p> <p>The light(s) will include the following:  10 scene light modules with white LEDs  Three (3) amber LEDs as marker lights  Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs.</p> <p>The lights will be activated per the following:  The amber marker lights not activated.  The scene LEDs will be controlled by a switch at the driver's side switch panel and by a switch at the left side pump panel.  There will be a switch in the cab on the switch panel to control the flashing warning LED modules when selected.  The light(s) may be load managed when the parking brake is applied.</p>
0774336	Lights, WIn, P*H1* Pioneer, 12 VDC, 1st	<p><b>12 VOLT LIGHTING</b></p> <p>There will be one (1) Whelen® Model P*H1*, 8,875 lumens 12 volt DC LED light(s) with a combination of flood and spot optics installed on the apparatus located, RS upper rear of vehicle hanging below the upper Code 3 light stanchion in a bail bracket. This would be directly above the ladder area..</p> <p>The painted parts of this light assembly to be black.  The light(s) to be installed on adjustable bail bracket(s).  The lights will be controlled by a switch at the driver'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.</p>
0532358	Not Required, Deck Lights, Other Hose Bed & Rear Lighting	
0635052	SP Lights, Hose Bed, Cover, Dual Amdor AY-9750-20 LED Light Strips 4lts, High	<p><b>HOSE BED LIGHTS</b></p> <p>There will be Amdor LumaBar H2O, Model AY-9750-20, 20.00" white 12 volt DC LED light strips provided to illuminate the hose bed area.</p> <p>Two (2) LED light strips will be installed on the driver's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the top of the cover as practical.  Two (2) LED light strips will be installed on the passenger's side hose bed cover 30.00" from the front and rear of the hose bed, as close to the top of the cover as practical.  The lights will be activated when the hosebed cover is raised.</p>

0606463	SP	Light, Hose Bed, Amdor AY-9750-020 LED, 20"	<p><b>ADDITIONAL HOSE BED LIGHTS</b></p> <p>There will be four (4) Amdor LumaBar, Model AY-9750-020, 20.00" LED strip light(s) installed (2) each side on forward hosebed doors.</p> <p>The light(s) will be activated with the other hosebed lights.</p>
0645677		Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	
0738110		Lights, Rear Scene, Wln, PCPSM1* Pioneer LED Fld/Spt, Surface Mount	<p><b>REAR SCENE LIGHT(S)</b></p> <p>There will be one (1) Whelen®, Model PCPSM*, 10,444 lumens scene light(s) with a chrome cover and white LEDs installed at the rear of the apparatus, one (1) high on the driver's side rear body bulkhead .</p> <p>The light(s) will be controlled by a switch at the driver's side switch panel and from the other rear scene light control.</p> <p>The light(s) may be load managed when the parking brake is applied.</p>
0892704		Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height Restrictions	<p><b>WALKING SURFACE LIGHT</b></p> <p>There will be eight (8) P25 12 volt DC LED lights with chrome housing provided on the hose bed cover to illuminate the walking surface. The lights will be located near the hose bed cover hinges evenly spaced four (4) on each side. The lights will be activated when the body step lights are on.</p>
0060115		Pumper, Medium, Aluminum, 2nd Gen	
0554271		Body Skirt Height, 20"	
0013303		Tank, Water, 500 Gallon, Poly, Med, New York Style	<p><b>SPECIAL WATER TANK</b></p> <p>Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.</p> <p>The Special tank will be T-shaped to provide for deep side compartments and to serve as a large sump to limit the amount of undraftable water.</p> <p>The tank will be designed to achieve a low hose bed. Tank design will be a stepped design with the forward section of the tank higher than the section of the tank that is below the hose bed.</p> <p>Tank joints and seams will be nitrogen welded inside and out.</p> <p>Tank will be baffled in accordance with the current edition of applicable NFPA standards.</p> <p>Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.</p> <p>Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.</p> <p>Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.</p> <p>All partitions will interlock and will be welded to the tank bottom and sides.</p> <p>Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.</p> <p>Tank top will be sufficiently supported to keep it rigid during fast filling conditions.</p> <p>Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.</p> <p>A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.</p> <p>Sump will include a drain plug and the tank outlet.</p> <p>Tank will have a combination vent and 14.00" fill tower.</p> <p>Tank will be installed in a special size fabricated cradle assembly constructed of structural steel. Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel flat bar or rectangular tubing.</p> <p>Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.</p> <p>Mounting system to be approved by the tank manufacturer.</p>
0003405		Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.</p> <p>Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.</p> <p>An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0028107		Not Required, Foam Cell Modification	
0023412		Drain, Tank - 1.50"	<p><b>TANK DRAIN</b></p> <p>A 1.50" tank drain will be installed with a 1.50" ball valve located underneath the left front compartment and properly labeled.</p>

0010011		Fill Dome Special Location	The water tank fill dome will be located place water fill dome on left side forward.
0635329		Modified Poly Tank & Cradle, Ext'd To Rear, Pumper	
0553725		Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	<b>WATER TANK RESTRAINT</b> A heavy-duty water tank restraint will be provided.
0003429		Not Required, Direct Tank Fill	
0003424		Not Required, Dump Valve	
0048710		Not Required, Jet Assist	
0030007		Not Required, Dump Valve Chute	
0514778		Not Required, Switch, Tank Dump Master	
0786934	SP	Body Modification, Add 3" Post, Welded at Rear of Beavertail, IPOS Return Flange	<b>BODY MODIFICATION</b> There will be a 3.0" post welded at the rear of the beavertail, one (1) on each side, in place of the standard beavertail return flange. The addition of the 3.0" post will be for the installation of a mounting bracket for the rear zone upper warning lights.
0815391		Hose Bed, Aluminum, Pumper, New York Style, Fill in the Blank Height	<b>HOSE BED</b> The hose bed will be fabricated of 0.125"-5052 aluminum with a nominal 38,000 psi tensile strength. The hose bed will be as low as practical. Upper and rear edges of side panels will have a double break for rigidity, a split tube finish will not be acceptable. The upper inside area of the beavertails will be covered with polished stainless steel to prevent damage to painted surface when hose is removed. Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation. A cross divider will be provided at the front of the hose bed before the tank transitions from the lower section to the upper section. The divider will run from the top of the side sheet down below the hose bed grating. The hose bed floor will be as low as possible " from the ground when the truck is fully loaded.
0723549		Painted Hose Bed	The hose bed interior walls will be painted to match the lower body color.
0003481		Hose Bed Capacity, Special	Hose bed will accommodate 300' SS 1.75"; 2.5" (3) bundles 5.5"W; 100' 1.75" SS; 1000' 4" 5S wide, 300' 2.5" SS; 300' 2.5" SS, 300' 1.75" SS . (1.75" - Matex Cobra Cmbt 1.77' 50' lgths; 2.5" Key Hs 50' lgths mod DP25-800; 4" w/ 4.5" thread cplg Key Hy-Flow mod DP40-600 in 100' .
0816687	SP	Divider, Hose Bed, .25" Unpainted, Special Height/Length, w/Handhold	<b>HOSE BED DIVIDER</b> Six (6) hosebed dividers will be furnished for separating hose. Each divider will be constructed of a .25" brushed aluminum sheet. Flat surfaces will be sanded for uniform appearance, or constructed of brushed aluminum. There will be two (2) oval openings provided near the rear of the divider to be used as hand holds and aid in accessing the hose bed. They will be designed to be located one above the other and still retain the material structure. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. The divider will be approximately 90" (held back 6" from rear of hosebed) in length. The height of the hose bed divider(s) will be Approx 27" H (Engineering to determine height based on hose load. All dividers equal height). Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

0755462	SP	Hose Restraint,HB,2" HeavyWeb,Velcro Top, Split, Seat Belts,Bungee,Tether,J-Clip	<b>HOSEBED RESTRAINT REAR</b> The hose in the hose bed will be restrained by a black nylon Velcro® strap at the top of the hose bed. The hose at the rear of the hosebed will be restrained by 2.00" black nylon webbing with a 1.50" x 4.00" box pattern split into two sections. The split will be located Center. The webbing will be attached to the top hosebed frame with (2) two seat belt fasteners for each section. The seat belt fasteners will be mounted with the receiver portions on a bracket at the top. There will be a horizontal bar attached to the seat belt buckles with a red tether on each side of the hose bed to allow a single pull release. Web straps with rubber covered J-clips will attach to footman loops located on the outboard corners of the restraint and mounted permanently to the body sheet below the hosebed. A bungee cord restraint will be installed on each section to secure the middle portion of the restraints.
0630182	SP	Hex Bolts and Anti-Seize Compound, Divider	<b>FASTENERS</b> All fasteners will be hex head type and have anti-seize compound applied during assembly. A quantity of six (6) dividers all hosebed dividers will be mounted with these items.
0567899		Tracks, Adjustable, Hose Bed Divider, Front Crossdivider of Hose Bed, Additional	One (1) additional adjustable track will be provided at the cross divider in the hosebed. The track will be located mid-height between the standard tracks with the hosebed dividers bolted to the track.
0678132		Track, Recessed, Hose Bed Divider, Additional	There will be one (1) recessed track provided in the hosebed to provide additional support to the hosebed dividers. The track will be recessed into to the hosebed grating and will be positioned so they run from side to side and are equally spaced from the front to the back of the hosebed. Adjustable fasteners will be provided in the tracks to hold the hosebed dividers in place.
0649038		Notch, Hose Bed Divider(s)	<b>HOSE BED DIVIDER NOTCH(ES)</b> There will be a notch provided in four (4) hose bed dividers located between beds 1/2, 2/3, 5/6, 6/7. The notch will be 14" high x 60" long angles with 45 degrees angle at each end of notch. Notch centered lengthwise in each divider .
0512506		Scuffplate, Polished S/S IPO Brushed, Upper Inside Beavertail	<b>SCUFFPLATE INSIDE UPPER BEAVERTAIL</b> The upper inside area of the beavertails will be covered with polished stainless steel in place of the brushed stainless steel to prevent damage to painted surface when hose is removed.
0653470		Side Sheet, Special Height	<b>HOSE BED SIDE SHEET MODIFICATION</b> The body side sheet will be match height of cab in height.
0584344	SP	Cover, Hose Bed, Alum Treadplate, Full Length, Dome Access, Four Section	<b>HOSE BED COVER</b> A four (4) section full length hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be split into front and rear with each section having a left and right side. Each section will be attached with a full length stainless steel piano hinge. The sides will be slanted down. The cover will be reinforced so that it can support the weight of a man walking on the cover. If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors. Chrome grab handles and gas filled cylinders will be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover. The hose bed cover will be connected to the Do Not Move Truck indicator. The light will be activated if the cover is not in the stowed position and the parking brake is released.
0817437	SP	Stay Arm, Hose Bed Cover, 4-Section, Frt/Rr, Mechanical, C-Channel Design	<b>HOSE BED STAY ARM COVER</b> An additional positive stay arm will be provided at the front each section of the hose bed cover. The front and rear hose bed covers will have a stay arm on each side for a total of four (4) stay arms. The stay arms will be a c-channel bar, mechanical design.
0013512		Running Boards, 12.75" Deep	<b>RUNNING BOARDS</b> Running boards will be fabricated of .125" bright aluminum treadplate. Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure. Running boards will be 12.75" deep and spaced .50" away from the pump panel. A splash guard will be provided above the running board treadplate.

0655093		Tailboard, 14" Deep, Full Width, Extended Substructure, Angled Corners	<p><b>TAILBOARD</b></p> <p>The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.</p> <p>The tailboard area will be 14.00" deep and full width of the body.</p> <p>The outboard sides of the tailboard will be angled at 45 degrees beginning at the point where the body meets the tailboard at the forward outboard edge angling rearward to the rear edge of the tailboard.</p> <p>The exterior side will be flanged down and in for increased rigidity of tailboard structure.</p>
0690027		Wall, Rear, Smooth Aluminum/Body Material, Flush Rear Wall	<p><b>REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL</b></p> <p>The rear facing surfaces of the center rear wall will be smooth aluminum.</p> <p>The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body.</p> <p>The rear wall will be flush.</p>
0887592	SP	Tow Eyes, w/Tow Bar, Spaced Forward, 2G Pumper	<p><b>REAR TOW EYES</b></p> <p>Two (2) tow eyes, which are an integral part of the body mounting substructure, will be installed below the rear of the truck.</p> <p>The tow eyes will be of adequate strength to allow the truck to be pulled from the eyes.</p> <p><b>REAR TOW BAR</b></p> <p>One (1) tow bar will be installed under the tailboard, 6.00"-8.00" forward from the rear of the tailboard. With air ride suspension and a 65 gallon fuel tank, the tow bar will be located .50" further rearward than normal when there is this combination of options.</p> <p>The tow bar assembly will be designed and positioned to allow up to a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.</p> <p>The tow bar design will have been tested and evaluated using finite element analysis techniques.</p>
0590934		Hose Restraint, Running Board, Straps, FV Fastener	<p><b>RUNNING BOARD HOSE RESTRAINT</b></p> <p>A pair of 2.00" wide black nylon straps with spring clip and hook fasteners will be provided for each hose tray to secure the hose during travel. There will be Two (2) hose trays located one (1) in each side running board.</p>
0815707		Tray, Hose, Running Board, Free Floating, Special Capacity, Tapered	<p><b>HOSE TRAY</b></p> <p>Two (2) hose trays will be made free floating one (1) in each side running board.</p> <p>The tray(s) will be flanged and drop in from the top. The front and rear corners at the base of tray will be tapered. No fasteners will be used to secure the tray(s).</p> <p>Capacity of the tray will be please make as large as possible using standard depths. ACFD intends to store 35' of 4" RS and 20' of 2.5" LS and may change or add hose as space permits.</p> <p>Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.</p>

**COMPARTMENTATION**

Body and compartments will be fabricated of 0.125", 5052-H32 aluminum.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

Side compartment flooring will be of the sweep out design with the floor higher than the compartment door lip.

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded.

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

**UNDERBODY SUPPORT SYSTEM**

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

Forward to the rear axle, the support system will include "L"-shaped support members bolted to the chassis frame rails. These welded support members will include vertical formed channels, horizontal structural channels, and support gussets. These parts extend from the chassis frame outward underneath the body.

Rearward to the rear axle, the body support system will include two rearward facing "L"-shaped support members bolted to the chassis frame rails. These support members will be connected to the two body supporting crossmembers forming a boxed foundation for the rear body support system.

Steel upper platform decks will be mounted on the top of these support members to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

All structural components of this system will be made from high strength 50K steel plate material or structural steel componentry. The steel frames as well as the steel vertical angles will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals as standard.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators will have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a pattern which assimilates a three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis in an unsupported fashion will not be acceptable.

**AGGRESSIVE WALKING SURFACE**

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.

**LOUVERS**

Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

**TESTING OF BODY DESIGN**

Body structural analysis will be fully tested. Proven engineering and test techniques such as finite element analysis, strain gauging, and model analysis will be performed with special attention given to fatigue, life and structural integrity of the body and substructure.

Body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

Driving the vehicle at 35 mph on a washboard road.

Driving the vehicle at 55 mph on a smooth road.

Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of actual testing techniques will be made available upon request.

0658192	LS 152" Lap, Full Height Front & Rear, FDLER, Double Door Over Wheel	<p><b>LEFT SIDE COMPARTMENTATION</b></p> <p>The left side compartmentation will consist of three lap door compartments. A full height, vertically hinged, single door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.63" wide x 61.88" high. A vertically hinged, double door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 57.00" wide x 28.13" high. A full height, vertically hinged, double door compartment behind the rear wheels will be provided. <b>The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 43.50" wide x 62.88" high. The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.</b> Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand. The vertically hinged doors will be furnished with a positive door holder.</p>
0063623	RS 152" Lap, Low, FDLER	<p><b>RIGHT SIDE COMPARTMENTATION</b></p> <p>The right side compartmentation will consist of two lap door compartments. A vertically hinged, single door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 32.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.63" wide x 27.88" high. A vertically hinged, double door compartment behind the rear wheels will be provided. <b>The interior dimensions of this compartment will be 47.75" wide x 33.63" high x 25.88" deep in the lower 26.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 43.50" wide x 28.88" high. The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.</b> Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand. A positive door holder will be furnished with this compartment.</p>
0774324	SP Doors, Lap w/ "D" Handles - Side Compartments, Bid 205, Alameda	<p><b>DOORS, SIDE COMPARTMENT</b></p> <p>All hinged compartment doors will be lap style with double panel construction and will be a minimum of 1.50" thick. To provide additional door strength a "C" section reinforcement will be installed between the outer and interior panels. Doors will be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core will be installed on the door framing that seals onto the interior panel, to ensure a weather resisting compartment. All compartment doors will have polished stainless steel continuous hinge with a pin diameter of .25" that is bolted or screwed on with stainless steel fasteners. All door locking mechanisms will be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area. Doors will be latched with recessed, polished stainless steel "D" ring handles and FMVSS approved door locking mechanisms. To prevent corrosion caused by dissimilar metals, compartment door handles will not be attached to outer door panel with screws. A rubber gasket will be provided between the "D" ring handle and the door. The outside corners of the doors will be welded.</p>
0098470	Compt, Flush Rear, Rollup, 30.75" FF, 25.88" D	<p><b>REAR COMPARTMENTATION</b></p> <p>A roll-up door compartment above the rear tailboard will be provided. The interior dimensions of this compartment will be 40.00" wide x 33.63" high x 25.88" deep. The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame. A louvered, removable access panel will be furnished on the back wall of the compartment. The rear compartment will be open into the rear side compartments. The clear door opening of this compartment will be a minimum of 33.25" wide x 23.88" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.</p>

0594003	Door, Amdor, Rollup, Rear Compartment	<b>ROLLUP REAR COMPARTMENT DOOR</b>
		<p>The rear compartment will have a rollup door.  The door will be double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.  The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.  Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water 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 gutters and bottom panel are to be manufactured utilizing non-marring materials.  Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.  A polished stainless steel lift bar 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 rollup door wear components will be constructed of Type 6 Nylon.  The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.  The header for the rollup door assembly will not exceed 4.00".  A heavy-duty magnetic switch will be used for control of open compartment door warning lights.</p>
0554995	No Body Modification Required	
0817436	SP Scuffplate, Brushed S/S, On Catwalk, Below Ladder Brackets	<b>SCUFFPLATE</b> A brushed stainless steel scuffplate will be furnished below the ladder brackets on the horizontal surface of the catwalk with width being from poly blocks to rain drip and length being full length of catwalk under wood ladder.
0003915	Keyed Locks for Latches, Lap Doors (#751 Lock to Match Cab)	<b>KEYED LOCK(S)</b> A keyed lock will be furnished for six (6) compartment doors. The compartmentation, to have a keyed lock, will be all body compartment doors (D1 to D3, P1 to P3) .
0003919	Reverse Hinge Compartment Door	<b>REVERSE HINGED DOOR</b> The one (1) compartment door, located LS3, will have the hinge at the rear of the door.
0004010	Scuffplate, Polished S/S Bottom of Door Frame	<b>DOOR FRAME SCUFFPLATE</b> Five (5) scuffplates will be provided for the lower door frame of all body compartments. Each scuffplate will be polished stainless steel with a .38" lip down.
0004012	Scuffplate, Polished S/S, Inside Each Compartment Door	<b>SCUFFPLATE ON INTERIOR OF COMPARTMENT DOOR(S)</b> The seven (7) compartment doors will include a polished stainless steel scuffplate to cover the entire width and height on the inside panel of each door pan. Scuffplate will be located all body compartments.
0616670	Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door, Pumper/Tanker	<b>COMPARTMENT LIGHTING</b> There will be six (6) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartment(s). Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb. Opening the compartment door will automatically turn the compartment lighting on.
0687146	Shelf Tracks, Painted	<b>MOUNTING TRACKS</b> There will be four (4) sets of tracks for mounting shelf(s) in LS1, LS3, RS1 and RS2. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be painted to match the compartment interior.
0647536	SP Shelves, Adjustable, 500 lb Capacity, Full Width/Depth, Welded Corners, Painted	<b>ADJUSTABLE SHELVES</b> There will be three (3) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum with 2.00" sides. Each shelf will be painted to match the compartment interior and will be infinitely adjustable by means of a threaded fastener, which slides in a track. The inner shelf corners will be square while the outer corners will be clipped to avoid vertical LED compartment light interference. All vertical lip seams will be welded shut. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location will be (1) LS3 above s/o tray, (2) in LS1,.

0816662	SP Shelves, Adjustable Full Width/Depth, Front .75", Angled/Welded Corners, Painted	<p><b>ADJUSTABLE SHELVES</b></p> <p>There will be one (1) shelf provided. The shelf construction will consist of .188" aluminum. The front lip of the shelf will be .75" tall. The rear and side lips of the shelf will be 2.00" tall. The side lips will be angled at the front to match the height of the .75" tall front lip. Each shelf will be painted to match the compartment interior and will be infinitely adjustable by means of a threaded fastener, which slides in a track.</p> <p>The inner shelf corners will be square while the outer corners will be clipped to avoid vertical LED compartment light interference. All vertical lip seams will be welded shut.</p> <p>The shelves will be held in place by .12" thick stamped plated brackets and bolts.</p> <p>The location will be RS1.</p>
0559456	Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Full Width	<p><b>SLIDE-OUT ADJUSTABLE HEIGHT TRAY</b></p> <p>There will be one (1) slide-out tray provided.</p> <p>Each tray will have 2.00" high sides and a capacity rating of up to 500 lb in the extended position. Each tray will be designed to be as wide as the compartment space will allow.</p> <p>Each tray will be constructed of aluminum painted spatter gray.</p> <p>Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location.</p> <p>An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.</p> <p>The tray(s) will be located LS3 above floor tray.</p>
0647472	Tray, Floor Mounted, Slide-Out, w/ Side Slides, FW/FD, 500lb, 2.00" Sides, 2G	<p><b>SLIDE-OUT FLOOR MOUNTED TRAY</b></p> <p>There will be two (2) floor mounted slide-out tray(s) with 2.00" sides provided (1) LS3, (1) RS2. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of a minimum .13" aluminum. The finish will be painted spatter gray.</p> <p>The tray(s) will be designed for maximum compartment width and depth.</p> <p>Slides will be equipped with ball bearings for ease of operation and years of dependable service. The slides will be located on the sides of the tray so that the tray can be located as close to the compartment floor as possible.</p> <p>Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.</p>
0540335	Toolboard, Swing-out, Alum, .188", No Holes	<p><b>SWING OUT TOOLBOARD</b></p> <p>A swing out aluminum toolboard will be provided.</p> <p>It will be a minimum of .188" thick without holes in the board.</p> <p>A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard.</p> <p>The board will be mounted on a pivoting device at the front of the compartment on the top and bottom to allow easy movement in and out of the compartment. The maximum tool load will be 400 pounds.</p> <p>The board will have positive lock in the stowed and extended position.</p> <p>The board will have a D-ring handle to secure it in the stowed position</p> <p>The board will be mounted on adjustable tracks from front to back within the compartment.</p> <p>There will be One (1) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed LS2.</p>
0726401	Partition, Trans Rear Compt, Sealed	<p><b>PARTITION, TRANSVERSE REAR COMPARTMENT</b></p> <p>Two (2) partitions will be bolted in place to separate the left and right side rear compartments from the rear tailboard compartment. The partition will be body material painted spatter gray.</p> <p>Each partition will be permanently sealed with caulk to ensure no water will leak to or from the adjoining compartments.</p>
0726403	Partition, Vertical Compt, Special Height	<p><b>VERTICAL COMPARTMENT PARTITION</b></p> <p>One (1) partition will be bolted in B1 2.00" inboard from the intake so that you can connect a hose.. Each partition will be from floor to top of fuel tank access panel vertical height of the compartment. Each partition will be painted spatter gray.</p>
0539735	Caulk, Seam, Catwalk to Side Sheet	<p>The seam between the catwalk and side sheet both sides of body will be caulked.</p>
0502057	SP Brushed S/S on Compt Floor	<p><b>COMPARTMENT FLOOR SCUFFPLATE</b></p> <p>Brushed stainless steel will be provided on the floor of four (4) compartments. The locations will be (1) LS1, (1) LS2, (1) RS1, (1) B1 THE ENTIRE FLOOR OF EACH COMPARTMENT TO BE COVERED WITH THIS BRUSHED S/S SCUFFPLATE.</p> <p>The edges of the stainless steel will be completely caulked before installation to prevent corrosion.</p>
0003934	Dust Filter, Compt Louvers	<p><b>COMPARTMENT DUST FILTERS</b></p> <p>A total of six (6) body compartment louvers will have a removable dust filter installed to restrict road dirt from easily entering the compartment and will be installed LS1, LS2, LS3, B1, RS1, RS2.</p>

0755638		Pegboard, Back Wall Mounted, 3/16" Alum, Full Height Compt	<b>PEGBOARD</b> There will be 0.188" thick aluminum pegboard spatter gray painted will be installed on the back wall of one (1) compartments. It will be mounted using two (2) horizontal tracks. Retainers will be used to mount the pegboard to the tracks. The pegboard will be installed on the back wall. The holes will be .203" diameter, punched 1.00" on center. Pegboard will be provided in the following compartments: LS3.
0775959		Strap, Nylon w/Velcro Hook & Loop, 2" wide	<b>STRAP</b> There will be four (4) 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 (2) in each storage compartment in front hosebed area.. The strap(s) will have a Velcro® fastener.
0887745	SP	Nuts, Installed on self Tapping Door Hinge Screws Compt Interiors, Qty	<b>NUTS</b> There will be nuts provided on self tapping screws for the interior compartment door hinge screws on a total of five (5) compartment(s) located LS1, LS2, LS3, RS1, RS2.
0642390	SP	Rub Rail, Aluminum Extruded, Side of Body, Additional Screws (4)	<b>RUB RAIL</b> Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage. A screw will be added in the center of the rub rail under each of the side compartments.
0784811		Fender Crowns, Rear, Stainless, w/Removable Liner	<b>BODY FENDER CROWNS</b> Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion. The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown. <b>BODY FENDER LINER</b> A painted to match the lower body color fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.
0004068		Hose, Hard Suction, 6.0", 10.0', Corrugated	<b>HARD SUCTION HOSE</b> Two (2) lengths of 6.00" corrugated hard suction hose, 10' in length, will be provided. The hose will be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings will be hard coated aluminum.
0612955		Trough, HSH, (1), Compartment Top Mount	<b>HOSE TROUGH</b> A quantity of one (1) hard suction hose trough(s) will be compartment top mounted on a bracket, located on the left side. Trough(s) will be constructed of aluminum painted job color. The hose(s) will be held in place by chrome plated, quarter turn, spring loaded clamps.
0612957		Trough, HSH, (1), Side Sheet Mount	<b>HOSE TROUGH</b> A quantity of one (1), hard suction hose trough(s) will be side sheet mounted on an adjustable bracket, located on the right side. Trough(s) will be constructed of aluminum painted job color. The hose(s) will be held in place by chrome plated, quarter turn, spring loaded clamps.
0621021		Handrails, Side Pump Panels, Per Print, Hansen Knurled Alum Tubing, LED Backlit	<b>HANDRAILS</b> 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. Handrails will be provided to meet current edition of applicable NFPA standards. The handrails will be installed as noted on the sales drawing.
0889368	SP	Handrails, Beavertail, Hansen Tubing, Knurled Aluminum, LED Backlit, Offset	<b>HANDRAILS</b> One (1) Hansen LED lit knurled aluminum vertical offset handrail will be located on each rear beavertail. The handrails will be lit with a white LED light. The handrails will be activated with the application of the parking brake.
0011212		Handrail, Not Required, Rear Hose Bed, Pumper	

0767359	SP	Compt, (1) Extinguisher and (1) Air Bottle, Fender Panel, Tri Door	<p><b>EXTINGUISHER/AIR BOTTLE/ STORAGE (Triangular)</b></p> <p>A total of one (1) extinguisher/air bottle/storage compartments will be provided on the right side forward of the rear wheels . The triangular shaped compartment will sized to fit one (1) 6.50" diameter air bottle in the lower area and one (1) 9.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. There will be black rubber matting furnished to line the floor as well as a drain hole. A triangular shaped polished stainless steel door with a chrome plated flush lift &amp; turn latch will be provided. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p>
0622393		Compt, Air Pack Fender Panel	<p><b>AIR PACK STORAGE</b></p> <p>A total of one (1) air pack compartment(s) will be provided and located left side forward of rear axle. The air pack compartment(s) will be tapered to match the profile of the space available in the fender. The compartment(s) will be approximately 15.50" wide at the top and 5.00" wide at the bottom for the wheel cutout. The compartment(s) will be 15.50" tall at the body side compartment and 6.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole. Inside the compartment, black rubber matting will be provided.</p> <p>A polished stainless steel hinged door with a chrome plated flush lift &amp; turn latch will be provided to contain the air pack. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p>
0654143		Compt, Air Bottle, Single, Tri Door (DEF/Fuel), Fender Panel	<p><b>AIR BOTTLE STORAGE (Single)</b></p> <p>A quantity of one air bottle compartment, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the driver side rearward of the rear wheels. The triangular door will cover the air bottle opening, the DEF tank access, and fuel fill. The compartment will be square with angled corners. A polished stainless steel door with a chrome plated flush lift &amp; turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p> <p>Inside the compartment, black rubber matting will be provided.</p> <p><b>AIR BOTTLE COMPARTMENT STRAP</b></p> <p>A strap will be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>
0657522		Compt, Air Bottle, Triple, Fender Panel	<p><b>AIR BOTTLE STORAGE (Triple)</b></p> <p>A quantity of one (1) air bottle compartment designed to hold (3) air bottles up to 7.25" in diameter x 26.00" deep will be provided on the right side rearward of the rear wheels. A polished stainless steel door with a chrome plated flush lift &amp; turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p> <p>Inside the compartment, black rubber matting will be provided.</p> <p><b>AIR BOTTLE COMPARTMENT STRAP</b></p> <p>A strap will be provided in the air bottle compartment(s) to help contain the air bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>
0811636	SP	Ladder, 24' Alaco 2300-24 2-Sec, 22" Wide, Non-NFPA, Provided by Dealer	<p><b>EXTENSION LADDER, PROVIDED BY DEALER</b></p> <p>There will be one (1) 24', two (2) section, wood, Alaco Series 2300-24 provided and installed by the dealer.</p> <p>The stored overall length, width, and banking thickness of this ladder, including any bolts, pulleys, ropes, butt spurs, etc, is EXTENSION LADDERS ARE TO HAVE UNMANILA HALYARD MADE OF POLYESTER CORE/WOVEN SHEATH, Watco oil finish, chrome plated hardware and black and white ends.</p> <p>This ladder is non compliant to NFPA 1931, Chapter 4.4.3.1, "Standard on Design of and Design Verification Tests for Fire Department Ground Ladders".</p> <p>Per Fire Department specification request of this ladder, the apparatus will be non compliant to the current edition of applicable NFPA standards at time of contract execution.</p>
0811749	SP	Ladder, Alaco 2304-14, Roof, Non-NFPA, Provided by Dealer	<p><b>ROOF LADDER, PROVIDED BY DEALER</b></p> <p>There will be one (1) 14' roof, wood Alaco Series 2304-14 ladder provided by the dealer.</p> <p>The ladder dimensions will be LENGTH = 14'-6", OUTSIDE WIDTH = 15", OVERALL DEPTH = 5" with watco oil finish, chrome plated hardware and black and white ends</p> <p>This ladder is non compliant to NFPA 1931, Chapter 4.4.3.1, "Standard on Design of and Design Verification Tests for Fire Department Ground Ladders".</p> <p>Per Fire Department specification request of this ladder, the apparatus will be non compliant to the current edition of applicable NFPA standards at time of contract execution.</p>
0724178	SP	Brackets, Adjustable, RS, Special Hardware and Spacing 75.50"	<p><b>LADDER BRACKETS</b></p> <p>The ladders will be installed on the right side of the hose body in lined brackets and held in place by steel chrome plated, quarter-turn spring loaded clamps with stainless steel rods. The clamps will be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. The ladder brackets will be adjustable up and down. The ladder brackets will be spaced at 75.50" on center, 20.00" from the front edge of the body side sheet and 17.75" off the catwalk, to hold Alaco wood ladders.</p>

0811751	SP	Ladder, 10' Alaco 2305-10, Provided by Dealer, Pumper NFPA	<b>FOLDING LADDER PROVIDED BY FIRE DEALER</b> NFPA 1901, 2016 edition, section 5.8.1.2 requires a folding ladder. The folding ladder is not on the apparatus as manufactured. There will be one (1) 10' Alaco Model 2305-10 wood folding ladder provided by the dealer.
0761352		Trough, Folding Ladder, Behind Ladders on Ladder Brackets	<b>FOLDING LADDER STORAGE</b> One (1) folding ladder will be stored behind the ladders on the side sheet, in a stainless steel box-shaped trough. One (1) strap will be provided at the rear of the trough to secure the folding ladder in the trough.
0515803	SP	Spacers, Non-Abrasive, Ladder Supports	<b>SPACERS, NON-ABRASIVE, LADDER SUPPORTS</b> Four (4) nonabrasive ladder support spacers will be provided on the catwalk below the ladders. These spacers are to be evenly spaced and design to relieve stress from the ladder brackets and provide protection to the ladders from the aluminum treadplate on the catwalks.
0725328		Backboard Storage, Rack, In Compartment	<b>BACKBOARD STORAGE</b> A rack constructed of one (1) storage trough for backboard(s) will be installed in transverse compartment above pump. The rack will be installed vertically. 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. Each trough will be sized for backboard(s) 72.00" long x 18.00" wide x 2.00" high. Access to the backboard(s) will be from right side. The backboards will be secured at the access point(s) with Velcro® straps.
0812076	SP	Pole, Pike 10', Fire Hooks Unlimited, National Hook, Wood	<b>PIKE POLE, 10'</b> There shall be one (1) Fire Hooks Unlimited National Hook 10 foot pike pole(s) with wood handles provided pike pole / folding ladder compartment.pike pole / folding ladder compartment
0552649		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Steel, Pry End, RH-6	<b>6 FT PIKE POLE</b> There will be one (1) Fire Hooks Unlimited NY roof hook RH-6, 6 foot pike pole(s) with steel handles and pry end provided in tube behind wood ladders.
0004361		Tubes, Alum, Pike Pole Storage	<b>PIKE POLE STORAGE</b> Aluminum tubing will be used for the storage of one (1) pike pole and will be located mounted behind the ladders on the side sheet, passenger's side. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.
0058193		Tubes, Alum, Pike Pole Storage, Spcl Notch, NY PP Head	<b>PIKE POLE STORAGE</b> Aluminum tubing will be used for the storage of one (1) pike pole and will be located Behind wood ladders on PS body side sheet. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.
0768976		Bell, 12" Chrome w/Eagle, Mounted on Cab Corner, Large Brkt	<b>BELL</b> A chrome plated, 12.00" bronze cast bell, complete with an eagle, will be mounted on the passenger side radiused 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.
0504812		Label, "NOT A STEP"	<b>WARNING LABEL(S)</b> There will be one (1) label(s) indicating "NOT A STEP", provided on the top treadplate surface of the cover over the PS front air lock per job 26350.
0647522		Label, Special, Bezel Type, Qty.	<b>SPECIAL LABEL</b> There will be two (2) special bezel type label(s) provided and installed items 1 to 3 = on the outside of various passenger's side pump panel doors.. The label will be worded as follows, 1) PS lower door below 6" suction = MANUAL OVERRIDE 2) PS lower rearmost door = REAR INLET OVERRIDE .
0785102		Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Trident	<b>FOLDING STEPS FRONT OF BODY</b> Folding steps will be provided full height on the left side body compartments to provide access to the cargo bed. Steps will be spaced evenly on the sales drawing. Actual quantity may vary due to pump panel interferences but will meet the NFPA required maximum stepping height. The Trident steps will be bright finished, non-skid with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. The step will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.

0592994	Steps, Folding, Rear of Body, w/LED, Trident	<p><b>REAR FOLDING STEPS</b> Bright finished, non-skid folding steps with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface will be provided at the rear. Each step will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with two openings wide enough for a gloved hand.</p>
0724153	Step, Folding - Extra, Body Only, w/LED, Trident	<p>One (1) additional folding step will be located right side front bulkhead, low to match left side position. The step(s) will be bright finished, non-skid with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. Each step will incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.</p>
0586899	Step, Cargo Area, Ea.	<p>There will be one (1) bright aluminum treadplate cover/step/s provided and installed to assist stepping from the top of the DS enclosed compartment to the cargo compartment floor within the cargo area over the pump. The step will be reinforced for walking.</p>
0007575	Pump House, Side Control, 48", Control Zone	<p><b>PUMP COMPARTMENT</b> The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment will be constructed of the same material as the body compartmentation. The pump compartment substructure will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards. The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist. Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.</p> <p><b>PUMP MOUNTING</b> Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.</p> <p><b>LEFT SIDE PUMP CONTROL PANEL</b> All pump controls and gauges will be located at the left (driver's) side of the apparatus and properly identified. Layout of the pump control panel will be ergonomically efficient and systematically organized. The pump operator's control panel will be removable in two (2) main sections for ease of maintenance: The upper section will contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels will be removable from the face of the pump panel for ease of maintenance. Below the sub panels will be located all valve controls and line pressure gauges. The lower section of the panel will contain all inlets, outlets, and drains. All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.</p> <p><b>IDENTIFICATION TAGS</b> The identification tag for each valve control will be recessed in the face of the tee handle. All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge. All line pressure gauges will be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting will be removable from the face of the pump panel for ease of maintenance. The casting will be color coded to correspond with the discharge identification tag. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. The pump panel on the right (passenger's) side will be removable with lift and turn type fasteners. Trim rings will be installed around all inlets and outlets.</p>
0035500	Raised Pump House Structure, Side Control	
0661706	Lighting, Pierce, LED Strip Light, 63", Cargo Area, Pmp Pnl Sw	<p><b>CARGO AREA LIGHTING</b> There will be one (1) LED light stick(s) provided below the body flange of the cargo area. Each light will be 63.00" in length and the location(s) will be (1) along forward wall inside cargo compartment. The light(s) will be activated with a switch at the pump panel.</p>
0816460	SP Compt, Long Item Storage, Over Pump, Transverse, Water Resistant, Dbl Pan Door	<p><b>LONG ITEM STORAGE OVER PUMP</b> A transverse area over the pump and forward of the cargo area. This compartment will contain an adjustable shelf with a 1.00" lip on all four (4) sides. There will be shelf tracking at each end near the door and on set in the center of the compartment to help support the shelf. A blister will be supplied at each side as needed to enclose the stored items due to their length. The stored items will be accessible from either side of the vehicle through the painted aluminum double pan door(s) with a D-handle latch. The door will be hinged along the forward edge. The compartment will be water tight to keep the stored equipment dry. The items to be stored will be approx size of 35" H x 17" W per 71014 pre-lim drawing.</p>

0759645	SP	Platform, LS Cargo Area, Hatch Style Access Door, Caulked, Water Resistant	<p><b>LEFT SIDE CARGO AREA PLATFORM WITH HATCH DOOR</b></p> <p>A bright aluminum treadplate platform will be provided above the left side portion of the cargo compartment vertical wall on the back side (side closest to the deluge) shall leave a little clearance between wall and deluge pipe for servicing and easy usage of monitor per job 26350. This platform will be properly reinforced to support the weight of firefighters. A hatch style lift-up door will be furnished, with a gas-charged cylinder and a pair of flush lift and turn latches.</p> <p>The door will be made as water resistant as possible. The compartment will be caulked along the seams at the floor and around the top to improve water resistance.</p>
0726848	SP	Raise Side Sheet Above Pump House, Fill-in-Blank	<p><b>SIDESHEETS, PUMPHOUSE</b></p> <p>The side sheet over the pump house will be raised to to allow the transverse storage to be 35" high per prelim drawing 71014.</p>
0004425		Pump, Waterous, CSU, 1500 GPM, Single Stage	<p><b>PUMP</b></p> <p>Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type. Pump will be the class "A" type.</p> <p>Pump will deliver the percentage of rated discharge at pressures indicated below:</p> <ul style="list-style-type: none"> <li>- 100% of rated capacity at 150 psi net pump pressure.</li> <li>- 70% of rated capacity at 200 psi net pump pressure.</li> <li>- 50% of rated capacity at 250 psi net pump pressure.</li> </ul> <p>Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings).</p> <p>Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping.</p> <p>Pump case halves will be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used.</p> <p>Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency.</p> <p>The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold.</p> <p>Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply.</p> <p>Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.</p>
0004481		Seal, Grafoil, Waterous	<p><b>PUMP PACKING</b></p> <p>Stuffing boxes will be of the conventional two (2) piece, split-gland type, to permit adjustment or replacement of Grafoil packing without disturbing the pump. Water will be fed into stuffing box lantern rings for proper lubrication and cooling when the pump is operating.</p> <p>Lantern rings will be located at the inner ends of the stuffing boxes, to avoid having to remove them when replacing pump packing.</p> <p>Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.</p>
0816447		Trans, Pump, Waterous C22 Series	<p><b>PUMP TRANSMISSION</b></p> <p>The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By the use of a chain rather than gears, 50% of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work.</p> <p>Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.</p>
0635600		Pumping Mode, Stationary Only	<p><b>PUMPING MODE</b></p> <p>An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.</p>
0605126		Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	<p><b>AIR PUMP SHIFT</b></p> <p>Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel.</p> <p>Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump".</p> <p>The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements.</p> <p>The pump shift control in the cab will be illuminated to meet NFPA requirements.</p>
0003148		Transmission Lock-up, EVS	<p><b>TRANSMISSION LOCK-UP</b></p> <p>The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.</p>

0004547	Auxiliary Cooling System	<p><b>AUXILIARY COOLING SYSTEM</b></p> <p>A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be a separate unit. It will be installed in the pump or engine compartment with the control located on the pump operator's control panel. The exchanger will be plumbed to the master drain valve.</p>
0014486	Not Required, Transfer Valve, Single Stage Pump	
0746501	Valve, Relief Intake, Elkhart	<p><b>INTAKE RELIEF VALVE - PUMP</b></p> <p>There will be One (1) Elkhart Style 40 relief valve(s) installed on the suction side of the pump preset at 125 psig.</p> <p>The relief valve(s) will have a working range of 75 psi to 250 psi.</p> <p>The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.</p> <p>The relief valve pressure control will be located behind behind the right side pump panel with a stainless steel access door .</p>
0564941	Controller, Pressure, FRC, Pump Boss, PBA200	<p><b>PRESSURE CONTROLLER</b></p> <p>A Fire Research Pump Boss Model PBA200 pressure governor will be provided.</p> <p>A pressure transducer will be installed in the water discharge manifold on the pump.</p> <p>The display panel will be located at the pump operator's panel.</p>
0024543	Primer, Hale, ESP Motor, (1) PVG Valve, (1) T-Handle Control, For An Other Pump	<p><b>ESP PRIMING PUMP</b></p> <p>Priming pump will be a positive displacement vane type, electrically driven, and conforming to standards outlined in NFPA pamphlet #1901.</p> <p>One (1) priming control will open the priming valve and start the priming motor.</p> <p>Primer will be environmentally safe and self lubricating.</p>
0780364	Manuals, Pump, (2) Total, Electronic Copies	<p><b>PUMP MANUALS</b></p> <p>There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.</p>
0602512	Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	<p><b>PLUMBING, STAINLESS STEEL AND HOSE</b></p> <p>All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.</p> <p>Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.</p> <p>Plumbing manifold bodies will be ductile cast iron or stainless steel.</p> <p>All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.</p> <p>All water carrying gauge lines will be of flexible polypropylene tubing.</p> <p>All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.</p>
0089437	Plumbing Without Foam System	
0004645	Inlets, 6.00" - 1250 GPM or Larger Pump	<p><b>MAIN PUMP INLETS</b></p> <p>A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.</p>
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	<p><b>MAIN PUMP INLET CAP</b></p> <p>The main pump inlets will have National Standard Threads with a long handle chrome cap. The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0084610	Valves, Akron 8000 series- All	<p><b>VALVES</b></p> <p>All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.</p> <p>Valves will have a <b>ten (10) year</b> warranty.</p>
0016158	Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	<p>The location of the valve for the one (1) inlet will be recessed behind the pump panel.</p>

0004700	Control, Inlet, at Valve	<b>INLET CONTROL</b> The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.
0004660	Inlet (1), Left Side, 2.50"	<b>LEFT SIDE INLET</b> There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0004680	Inlet, Right Side, 2.50"	<b>RIGHT SIDE INLET</b> There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0034720	Anode, Zinc, Pair, Pump Inlets	<b>ANODE, INLET</b> A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.
0544980	Inlet, Rear, 4.00" w/4.00" Plumbing, Rear Compartment, w/Bleeder Valve	<b>LARGE DIAMETER REAR INLET</b> A 4.00" rear inlet with die cast zinc screens will be provided using 4.00" welded, black iron pipe and a 4.00" butterfly valve. Piping will contain only large radiused elbows, no mitered joints. The inlet will terminate in the rear compartment, above the tailboard. Bleeder valves will be located near the threaded connection and the valve control.
0004820	Control, Rear Inlet, Handwheel, w/Indicator Lights	<b>REAR INLET CONTROL</b> The rear inlet valve will have a chrome plated hand wheel control located at the pump operator's panel. A light will be provided to indicate when the valve is closed.
0563788	Elbow & Cap, Rear Inlet, 4.00" FNST x 5.00" Storz	<b>REAR INLET ELBOW &amp; CAP</b> The rear 4.00" inlet will be furnished with a 4.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with a Storz cap.
0746865	Valve, Relief Intake, Rear Inlet, Elkhart	<b>REAR INLET INTAKE RELIEF VALVE</b> An Elkhart Brass Style 40 intake pressure relief valve will be provided on the inlet side of the valve preset at 125 psig . The pressure relief valve will be adjustable from 75 to 250 psi. The outlet will be 2.50" National Standard hose thread and terminate below the frame rails and will have a "do not cap" warning tag near the discharge outlet.
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	<b>INLET BLEEDER VALVE</b> A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.
0029043	Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing	<b>TANK TO PUMP</b> The booster tank will be connected to the intake side of the pump with stainless steel piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.
0004905	Outlet, Tank Fill, 1.50"	<b>TANK REFILL</b> A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

0063565	Control, Outlets, Manual, HW by valve Manufacturer if applicable	<b>DISCHARGE OUTLET CONTROLS</b> The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve or an indicator will be provided to show when the valve is closed. If a handwheel control valve is used, the pump panel control will be furnished by the valve manufacturer. Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.
0004940	Outlet, Left Side, 2.50"	<b>LEFT SIDE DISCHARGE OUTLETS</b> There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0005091	Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	<b>LEFT SIDE OUTLET ELBOWS</b> The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	
0004945	Outlet, Right Side, 2.50"	<b>RIGHT SIDE DISCHARGE OUTLETS</b> There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0025091	Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	<b>RIGHT SIDE OUTLET ELBOWS</b> The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0811594	SP Outlet, 3.50" w/3.00" Akron Valve, HW, Right - w/ Relief, Alameda	<b>LARGE DIAMETER DISCHARGE OUTLET</b> There shall be a 3.50" discharge outlet with a 3.00" Akron valve terminating with male a 3.50" National Standard hose thread adapter. This discharge outlet shall be actuated with a handwheel control at the pump operator's control panel. A Ross relief valve shall be furnished between the discharge valve and the hose thread adapter. This relief shall dump to ground. A Ross relief valve shall provide for the right side large diameter discharge and shall be located inside of the pumphouse on the right side pump panel behind the stainless steel access door. The right side large diameter discharge Ross relief valve shall be controlled inside of the pumphouse by a lever that is connected directly to the valve.
0076350	Elbow, Large Dia Outlet, 30 Deg, 3.50" FNST x 5.00" Storz	<b>LARGE DIAMETER OUTLET ELBOWS</b> The 3.50" outlet will be furnished with a 3.50" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.
0648906	Outlet, Front, 2.50" w/2.50" Plumbing	<b>FRONT DISCHARGE OUTLET</b> There will be one (1) 2.50" discharge outlet piped to the front of the apparatus and located on the top of the left side of the front bumper. Plumbing will consist of 2.50" piping and flexible hose with a 2.50" full flow valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 2.50" NST with 90 degree stainless steel swivel. There will be automatic drains provided at all low points of the piping.

0004995	Outlet, Rear, 2.50"	<b>REAR DISCHARGE OUTLET</b> There will be Four (4) discharge outlets piped to the rear of the hose bed, two (2) on the left side and two (2) on the right side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.
0045091	Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	<b>REAR OUTLET ELBOWS</b> The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092574	Not Required, Outlet, Rear, Additional	
0085695	Not Required, Elbow, Rear Outlets, Large, Additional	
0092573	Not Required, Outlet, Hose Bed/Running Board Tray	
0085076	Caps for 1.50" to 3.00" Discharge, Chain	<b>DISCHARGE CAPS</b> Chrome plated, rocker lug, caps with chains will be furnished for all discharge outlets 1.50" thru 3.00" in size, besides the pre-connected hose outlets. The cap will incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).
0723042	Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	<b>OUTLET BLEEDER VALVE</b> A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.
0005080	Reducer, 2.50" FNST x 1.50" MNST, w/Cap	<b>REDUCER</b> There will be seven (7) adapters with 2.50" FNST x 1.50" MNST threads and a 1.50" chrome plated cap installed on (2) right side, (1) left side and (4) rear 2.5" discharges.
0736172	SP Outlet, 3.00" Deluge w/Dual Ctrl, SM HW On Pnl, LG HW Up Top, Akr Vlv	<b>DELUGE RISER, w/DUAL CONTROL</b> Three (3) inch deluge riser plumbing shall be installed and routed above the pump in such a manner that a monitor can be mounted and used effectively. The riser plumbing shall be gated and controlled at the pump operator's panel by a small handwheel control with position indicator. A second large handwheel control without position indicator shall be provided above the pump adjacent to the outlet. Plumbing shall consist of 3.00" piping and a 3.00" valve. Piping shall be installed securely so no movement develops when the line is charged.
0543608	Monitor, Akron 3433 Hi-Riser and (2) 2.5" Inlet Grd Base	<b>MONITOR</b> An Akron Model 3433 Apollo Hi-Riser monitor will be properly installed on the deluge riser. A fixed mounting base and a portable base with two (2) 2.50" inlets will be provided. A position sensor will be provided on the monitor that will activate the "do not move apparatus" light inside the cab when the monitor is in the raised position. The monitor will be painted as provided by monitor manufacturer.
0046968	Nozzle, Akron 2499, Quad Stacked Tips and 3488 Shaper	<b>NOZZLE, DELUGE</b> Akron model #2499 Quad Stacked pyrolite deluge tips will be provided. The tip sizes will be 1.375", 1.50", 1.75", and 2.00". This will include an Akron 3488 pyrolite stream shaper.
0005070	Deluge Mount, NPT	The deluge riser will have male National Pipe Threads for mounting the monitor.
0723726	Speedlay Module Not Required	

0722432		Hose Restraint Not Required, No Speedlay Module	
0723395		Speedlays, Not Required	
0723394		Speedlays, Not Required	
0025140		Not Required, 1.50" Crosslays	
0029196		Not Required, 2.50" Crosslay	
0500535		Not Required, Hose Restraint, Crosslay	
0029260		Not Required, Speedlays	
0750536		Hose Restr, Spdly, Not Required, No Spdly	
0730686	SP	Crosslays, 18.00" Lower Than Standard - Control Zone w/9" Raised PH	<b>CROSSLAY 18.00" LOWER THAN STANDARD</b> The crosslays will be lowered 18.00" from standard with a 9.00" raised pumphouse.
0015215		Reel, Booster, Over Pump, Right Side, Steel	<b>BOOSTER HOSE REEL</b> A Hannay electric rewind booster hose reel will be installed over the pump in a recessed open compartment on the right side of the apparatus. The exterior finish of the reel will be painted job color matching the lower body. A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus. Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" Aeroquip hose and a 1.50" valve.
0011060		Switch, Reel Rewind - One at Pump Panel	Reel motor will be protected from overload with a circuit breaker rated to match the motor. An electric rewind control switch will be installed on the reel side pump panel.
0005300		Hose, Booster - 150' of 1.00"/800 PSI	Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings will be provided. Working pressure of the booster hose will be a minimum of 800 psi.
0005245		Capacity, Hose Reel, Special	Capacity of the hosereel will be 150' x 1.00" booster hose.
0007428		Nozzle for Booster Reel Not Req'd	
0630827	SP	Nozzle Cup, Zico w/Bracket, Drain Holes	<b>NOZZLE CUP AND BRACKET</b> A Zico nozzle cup and chrome plated mounting bracket will be provided for storage of the booster reel nozzle. Drain holes will be provided in the bottom of the cup. There will be one (1) provided. The nozzle cup(s) will have a 3-1/8" inside diameter and will be located above right side pump panel and centered over forward handrail stanchion as low as possible (as determined at pickup).
0622237		Roller Assembly, Additional	There will be one (1) additional polished stainless steel roller and guide assembly mounted driver side cargo side sheet.
0044333		Not Required, Foam System	<b>FOAM SYSTEM</b> A foam system will not be required on this apparatus.
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	
0746447	Approval Dwg, All Pump Panel(s), Includes Color And Label Tags	<p>The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made for up 32136 Except want all switches in one location apparatus and/or similar Pierce job number.</p> <p><b>PUMP OPERATOR'S PANEL DRAWING</b>  A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.  The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents.  Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p><b>REMAINING PUMP PANEL(S)</b>  Detailed drawing(s) to scale of the remaining pump panel(s) will be provided for the customer to review. The drawing(s) will include all of the gauges, controls, switching, etc., located on the pump panel(s). The customer will be allowed to make changes and/or mark-ups to these approval drawing(s). The fire apparatus manufacturer will make revisions (If needed) to the drawing(s) per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.  The finalized and signed customer approved pump panel drawing(s) will become part of the contract documents.  Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p><b>COLOR CODED TAGS</b>  A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.  The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.</p> <p><b>SPECIAL TEXT/VERBIAGE TAGS</b>  A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.  The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.</p>
0032479	Pump Panel Configuration, Control Zone	<p><b>PUMP PANEL CONFIGURATION</b>  The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.</p>
0005525	Material, Pump Panels, Side Control Brushed Stainless	<p><b>PUMP AND GAUGE PANEL</b>  The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.</p>
0811622	SP Panel, Pump Access - Right Side, Hinged, Chain, Side Control	<p><b>PUMP ACCESS</b>  <b>Right Side Panel</b>  The right side pump panel will be hinged along the forward edge.  <b>Panel Fastener</b>  The right side hinged panel will be secured using a black swell latch .  The right side lower (drain bank) and all left side panel will be secured using screws.  Vinyl covered retainer chains will be installed on the hinged access doors to prevent damage to the body or the cab.</p>

0583824	Light, Pump Compt, WIn 3SC0CDCR LED White	<b>PUMP COMPARTMENT LIGHT</b> There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGE, flange(s) installed in the pump compartment.
0586382	Gauges, Engine, Included With Pressure Controller	Engine monitoring graduated LED indicators will be incorporated with the pressure controller. Also provided at the pump panel will be the following: - Master Pump Drain Control
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle, Green	<b>THROTTLE READY GREEN INDICATOR LIGHT</b> There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.
0549333	Indicators, Engine, Included with Pressure Controller	
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	<b>OK TO PUMP INDICATOR LIGHT</b> There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.
0069390	Control, Air Horn At Pmp Pnl, Red Button	<b>AIR HORN BUTTON</b> An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.
0025635	Door, Pump Access, S/S, RS	<b>PUMP ACCESS DOOR</b> A vertically hinged stainless steel door will be provided on the right side pump panel for access to pump and plumbing. The door will be sized as large as possible.
0066121	Drains, LS, Keep Area Under Main Inlet Clear	<b>DRAINS, LEFT SIDE</b> The drains on the left side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.
0081262	Drains, RS, Keep Area Under Main Inlet Clear	<b>RIGHT SIDE DRAINS</b> The drains on the right side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.
0682383	Switch, Momentary, DPF Regeneration Inhibit, Pump Operator's Panel	<b>SWITCH, REGENERATION INHIBIT</b> A momentary switch will be provided on the pump operator's panel that will inhibit the engine from entering regeneration mode. It will be red and labeled "DPF REGEN INHIBIT".
0025637	Pump Panel Trim Rings, Oversized for Valve Removal	<b>OUTLET TRIM RINGS</b> The side discharges and auxiliary inlet valves will be recessed behind the panel and have larger holes provided in the pump panel to facilitate removal of the valves without removing the complete pump panel. Stainless steel trim plates will be provided to trim the holes.
0009227	Gauges, 6.00" Master, Class 1, Special	<b>VACUUM AND PRESSURE GAUGES</b> The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©. The gauges will be a minimum of 6.00" in diameter and will have white faces with black markings, with a pressure range of 30.00" 0-400 psi. The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel. Test port connections will be provided at the pump operator's panel. One (1) will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They will be marked with a label.

0511104	Gauge, 3.00" Pressure, Class 1, 30"-0-400psi	<p><b>PRESSURE GAUGES</b>  The individual "line" pressure gauges for the discharges will be interlube filled and manufactured by Class 1©.  The gauges will be a minimum of 3.00" in diameter and will have white faces with black lettering. Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.  Gauges will have a pressure range of 30"-0-400#.  The individual pressure gauge will be installed as close to the outlet control as practical.  This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>
0757359	Gauge, Water Level, Class 1, Remote Module Driver	<p><b>WATER LEVEL GAUGE</b>  There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows:  100 percent = Green  75 percent = Yellow  50 percent = Yellow  25 percent = Yellow  Refill = Red  The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.  The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level.  There will be a Hale part number 106877, 4-light driver module included with this installation to power additional water level gauges.  The system(s) will be energized when pump is in gear.</p>
0750438	Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level	<p><b>WATER LEVEL GAUGE</b>  There will be one (1) additional water level indicator(s), Whelen®, Model PSTANK2, LED module with chrome trim, installed one (1) over the right side pump panel.  This light module(s) will include four (4) colored levels, and function similar to the water level indicator located at the operators panel:  First green module indicates a full water level  Second blue module indicates a water level above 3/4 full  Third amber module indicates a water level above 1/2 full  Last red module indicates a water level above 1/4 full and empty  Above 1/4 this light will be steady burning  At empty this light will be flashing  The flash rate will be determined by the main water level tank sensor.  This module will be activated when the pump is in gear.</p>
0006774	Not Required, Foam Level Gauge	
0656224	Light Shield/Step 8", S/S Undr Crs, LED w/P25 LED Step Light	<p><b>STEP/LIGHT SHIELD</b>  There will be a polished, 16 gauge stainless steel light shield installed under the crosslays. This shield will be properly reinforced to support the crosslay hose weight.  There will be 12 volt DC white LED light(s) installed under the stainless steel light shield.  These lights will be activated when the battery switch is on and the pump panel light switch is on.  There will be an aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operators main panel.  There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.  One (1) pump panel light will come on when the pump is in ok to pump mode.  There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.  There will be one (1) white LED, step light provided above this step. In order to ensure exceptional illumination, each step light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step light will be activated by the pump panel light switch.</p>
0522730	Light, Over Passenger Side Pump Panel, P25 LED Stp Lt	<p>There will be two (2) white LED scene lights with ABS chrome housing, installed above the passenger side pump panel.  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 operated from a switch on the pump panel.</p>

0606694	Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	<b>AIR HORN SYSTEM</b> Two (2) Hadley®, eTone, chrome air horns will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.
0606835	Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	<b>Air Horn Location</b> The air horns will be located on each side of the bumper, towards the outside.
0757092	Control, Air Horn, Multi Select	<b>Air Horn Control</b> The air horn(s) will be activated by the following:
0757081	Control, Air Horn, Ft Sw, LS	Left side foot switch
0743678	Control, Air Horn, Ft Sw, RS, Location Fet	Right side foot switch will be on the floor in front of the officer CENTERED along with Q2B switch per job 26350 (SEE PHOTO 144). Air horn switch is INBOARD of Q2B switch.
0549924	Siren, Federal PA300-012MSC 690010, Hi-Lo Tone, 200 Watt	<b>ELECTRONIC SIREN</b> A Federal, model 690010, PA300-012MSC electronic siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on.
0016133	Location, Electronic Siren, Swivel Mount Centered Overhead	Siren head will be located on a swivel bracket mounted on the headliner so that it is accessible to both the driver and officer. The swivel bracket will be capable of rotating a minimum of 180 degrees.
0076156	Control, Elec Siren, Head Only	The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.
0550216	Speaker, (1) Federal, BP200-EF, 200 watt, Stainless Steel	<b>SPEAKER</b> A Federal, Model BP200-EF, 200 watt speaker will be provided. A chrome-plated "EF" flat grille will be installed in front of the speaker.
0601552	Location, Speaker, Frt Bumper, Recessed, Right Side, Outside Frame, Inbrd (Pos 2)	The speaker will be recessed in the right side of the front bumper, just outside of the frame rail.
0895310	Siren, Federal Q2B	<b>AUXILIARY MECHANICAL SIREN</b> 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	<b>MECHANICAL SIREN CONTROL</b> The mechanical siren will be activated by the following:
0748280	Control Mech Siren, Horn Ring	Steering wheel horn ring with horn/siren selector switch.
0898294	Control Mech Siren, Ft Sw RS, Loc	Right side foot switch on the floor in front of the officer CENTERED along with Air Horn switch per job 26350 (SEE PHOTO 144). Q2B switch is OUTBOARD of air horn switch.
0736164	Sw, Siren Brake, Momentary, LS Overhead Sw Pnl	A momentary switch will be included in the left side overhead switch panel to activate the siren brake.
0746353	Not Required, Warning Lights Intensity	

0602884	SP Lightbar, WIn, Freedom IV-V, 81", RAlyRRRWsrR_Opt_RsrWRRRRAlYr	<p><b>FRONT ZONE UPPER WARNING LIGHTS</b></p> <p>There will be an 81.00" Whelen® Freedom™ IV LED lightbar mounted on the cab roof. The lightbar will include the following:</p> <ul style="list-style-type: none"> <li>One (1) red flashing LED module in the left side rear corner position.</li> <li>One (1) alley LED module in the left side end position.</li> <li>One (1) red flashing LED module in the left side front corner position.</li> <li>One (1) red flashing LED module in the left side first front position.</li> <li>One (1) red flashing LED module in the left side second front position.</li> <li>One (1) white flashing LED module in the left side third front position.</li> <li>One (1) red steady burning LED module in the left side fourth front position.</li> <li>One (1) red flashing LED module in the left side fifth front position.</li> <li>Open in the left side sixth front position.</li> <li>One (1) 795 LED traffic light controller set to national standard high priority in the center positions.</li> </ul> <p>Open in the right side sixth front position.</p> <ul style="list-style-type: none"> <li>One (1) red flashing LED module in the right side fifth front position.</li> <li>One (1) red steady burning LED module in the right side fourth front position.</li> <li>One (1) white flashing LED module in the right side third front position.</li> <li>One (1) red flashing LED module in the right side second front position.</li> <li>One (1) red flashing LED module in the right side first front position.</li> <li>One (1) red flashing LED module in the right side front corner position.</li> <li>One (1) alley LED module in the right side end position.</li> <li>One (1) red flashing LED module in the right side rear corner position.</li> </ul> <p>The following switches may be installed in the cab on the switch panel to control the lightbar:</p> <ul style="list-style-type: none"> <li>a switch to control the flashing LED modules.</li> <li>a switch to control the left side alley LED module.</li> <li>a switch to control the right side alley LED module.</li> <li>the traffic light controller by a cab switch with emergency master control.</li> <li>no momentary switch to activate the traffic light controller.</li> </ul> <p>There will be clear lenses included on the lightbar. The white flashing LED module and the traffic light controller will be disabled when the parking brake is applied.</p> <p>The six (6) red flashing LED modules and two (2) steady burning LED modules in the front positions and the alley LED modules may be load managed when the parking brake is applied.</p>
0605598	Lightbars, WIn, Freedom IV-Q, 2-21.5", RRRRR RRRRR	<p><b>SIDE WARNING LIGHTS</b></p> <p>There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the crew cab doors. Each lightbar will include the following:</p> <ul style="list-style-type: none"> <li>One (1) red flashing LED module in the outside end position.</li> <li>One (1) red flashing LED module in the outside front corner position.</li> <li>One (1) red flashing LED module in the outside front position.</li> <li>One (1) red flashing LED module in the inside front position.</li> <li>One (1) red flashing LED module in the inside front corner position.</li> </ul> <p>There will be clear lenses included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars. These lights may be load managed when the parking brake is applied.</p>
0540384	Lights, Front Zone, WIn M6°C LED, Clear Lens, in Common Bzl	<p><b>LIGHTS, FRONT ZONE LOWER</b></p> <p>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.</p>
0746667	Lights, Side Zone Lower, WIn M6**, M6**, 4Lts	<p><b>SIDE ZONE LOWER LIGHTING</b></p> <p>There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" long x 1.37" deep flashing LED warning lights with chrome trim installed per the following:</p> <ul style="list-style-type: none"> <li>Two (2) lights located, one (1) each side on the bumper extension. The driver's side, side front light to include red warning LEDs and the passenger's side, side front light to include red warning LEDs.</li> <li>Two (2) lights located, one (1) each side above rear wheels. The driver's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs. The warning light lens colors to be the same as the LEDs.</li> </ul> <p>There will be a switch in the cab on the switch panel to control the lights.</p>
0895709	Lights, Door Interior Flash, 4 Dr Cab, WIn 0S*00FCR	<p><b>INTERIOR CAB DOOR WARNING LIGHTS</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>One (1) light(s) to include red flashing LED's on the left side cab door</li> <li>One (1) light(s) to include red flashing LED's on the right side cab door.</li> <li>One (1) light(s) to include red flashing LED's on the right side crew cab door.</li> <li>One (1) light(s) to include red flashing LED's on the left side crew cab door.</li> </ul> <p>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 the park brake is on.</p>

0815847	Connectors, Door Interior Flash, All Cabs, Weatherproof	<b>ELECTRICAL CONNECTORS FOR WARNING LIGHTS</b> The lights shall be installed with a weatherproof insulated crimped connectors in order to provide ease of connection/disconnection of the circuit applied to.
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light Housing	<b>REAR ZONE LOWER LIGHTING</b> There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.
0740407	Lights, Rear, Wln M6** LED, Features 1st	<b>REAR WARNING LIGHTS</b> There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided at the rear of the apparatus, Rear compt bulkheads . The light(s) to include red flashing LEDs. The warning light lens colors to be the same as the LEDs. These light(s) will be controlled with the rear upper warning switch. The light(s) may be load managed when the parking brake is applied.
0088745	Light, Rear Zone Up, Wln L31HRFN LED Beacon, Red LED	<b>REAR/SIDE ZONE UPPER WARNING LIGHTS</b> There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons. The color of the lights will be red LEDs with both domes red.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0016621	Mounting, Rear Warn Lights, Left Side Compt Top, Right Side S/S Low Mount	The left side rear warning light will be mounted on top of the compartmentation with all wiring totally enclosed. The clearance/marker light will be mounted to the side of the compartment ridge. The right side rear warning light will be mounted on a low mount stainless steel bracket with all wiring totally enclosed. This brackets will also support the clearance/marker light. The rear deck lights will be mounted on the beavertail flange to keep the overall height as low as possible.
0762435	Light, Traffic Directing, Wln TAL85, 46.87" Long LED, Lens Feature	<b>TRAFFIC DIRECTING LIGHT</b> There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The lens color will be the same color as the LED's. The control head will be included with this installation. The control head will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0806661	Location, Traf Dir Lt, Over Bed Between Body Side Shts, On Cross Tube	This traffic directing light will be mounted over the hosebed, between the body side sheets, on a cross tube 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.
0519934	Not Required, Brand, Hydraulic Tool System	
0649753	Not Required, PTO Driven Hydraulic Tool System	
0639193	Cap, 2.5" FNST, Chrome Rocker Lug w/Chain	There will be two (2) 2.5" FNST caps with stainless steel chains provided in the loose equipment. These caps will have a chrome finish.
0007150	Bag of Nuts and Bolts	<b>LOOSE EQUIPMENT</b> The following equipment will be furnished with the completed unit: One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

0602516	NFPA Required Loose Equipment, Pumper, NFPA 2016, Provided by Fire Department	<p><b>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</b></p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will be provided by the fire department.</p> <p>800 ft (60 m) of 2.50" (65 mm) or larger fire hose.</p> <p>400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.</p> <p>One (1) handline nozzle, 200 gpm (750 L/min) minimum.</p> <p>Two (2) handline nozzles, 95 gpm (360 L/min) minimum.</p> <p>One (1) smoothbore of combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm.</p> <p>One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.</p> <p>One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).</p> <p>One (1) first aid kit.</p> <p>Four (4) combination spanner wrenches.</p> <p>Two (2) hydrant wrenches.</p> <p>One (1) double female 2.50" (65 mm) adapter with National Hose threads.</p> <p>One (1) double male 2.50" (65 mm) adapter with National Hose threads.</p> <p>One (1) rubber mallet, for use on suction hose connections.</p> <p>Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m).</p> <p>One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</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>One (1) automatic external defibrillator (AED).</p> <p>Four (4) ladder belts meeting the requirements of NFPA 1983, <i>Standard on Fire Service Life Safety Rope and System Components</i> (if equipped with an aerial device).</p> <p>If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.</p> <p>If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.</p> <p>If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.</p> <p>If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.</p>
0602407	Soft Suction Hose, Provided by Fire Department, Pumper NFPA 2016 Classification	<p><b>SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT</b></p> <p>NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried.</p> <p>Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.</p>
0007028	Strainer, 6.00"	- One (1)-6.00" National Standard hose thread barrel strainer, chrome plated
0602538	Extinguisher, Dry Chemical, Pumper NFPA 2016 Class, Provided by Fire Department	<p><b>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</b></p> <p>NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.</p>
0602360	Extinguisher, 2.5 Gal. Pressurized Water, Pumper NFPA 2016, Provided by Fire Dept	<p><b>WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</b></p> <p>NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.</p>
0602679	Axe, Flathead, Pumper NFPA 2016 Classification, Provided by Fire Department	<p><b>FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT</b></p> <p>NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.</p> <p>The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.</p>

0602667	Axe, Pickhead, Pumper NFPA 2016 Classification, Provided by Fire Department	<p><b>PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT</b>  NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.  The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.</p>
0741569	Paint Process / Environmental Requirements, Appleton	<p><b>PAINT PROCESS</b>  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.  <b>Environmental Impact</b>  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.</p>
0709566	Paint, Two-Tone Color, Enforcer	<p><b>TWO-TONE CAB PAINT</b>  The cab will be painted two-tone with the upper section painted #10 white and the lower section painted Red #143 (Match 23652). There will be a special two-tone cab paint break at the roof line provided.  There will be no cab shield provided.</p>

0709845	Paint, Single Color, Body	<b>BODY PAINT</b> The body will be painted to match the lower section of the cab.
0646901	Paint Chassis Frame Assy, With Liner, E-Coat, Standard	<b>PAINT CHASSIS FRAME ASSEMBLY</b> 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 are: Frame rails Frame liners Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Air tanks 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	<b>AXLE HUB PAINT</b> All axle hubs will be painted to match lower job color.
0581434	Transit Coating, Carwell, Corrosion Protection, Including Underside	<b>TRANSIT COATING</b> All non-painted metal surfaces on the exterior of the vehicle will be sprayed with a corrosion protective coating provided by Carwell. The coating can be removed with soap and water. The coating is made of a linseed oil base and is biodegradable. The underside non-painted metal surfaces will also be coated with a corrosion protective coating.
0007230	Compartment, Painted, Spatter Gray	<b>COMPARTMENT INTERIOR PAINT</b> 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.
0544111	Reflective Band, 10"	<b>REFLECTIVE BAND</b> A 10.00" 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.
0536954	Stripe, Chevron, Rear, Diamond Grade, Pumper	<b>REAR CHEVRON STRIPING</b> There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0515348	Stripe, Black Outline, Scotchlite on Reflective Band	<b>OUTLINE, REFLECTIVE STRIPE</b> 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 Compt Door	<b>REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR</b> A 6.00" white reflective stripe will be provided inside four (4) compartment doors. D1, D3, P1 and P3.

0065687	Stripe, Reflective, Cab Doors Interior	<b>CAB DOOR REFLECTIVE STRIPE</b> A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel. This stripe will meet the NFPA 1901 requirement.
0528504	Stripe, Black Vinyl on Paint Break (Cab)	<b>STRIPE, CAB FACE</b> A black vinyl stripe will be provided on the paint break.
0027372	Lettering Specifications, (GOLD STAR Process)	<b>LETTERING</b> The lettering will be totally encapsulated between two (2) layers of clear vinyl.
0686434	Lettering, Gold Leaf, 3.00", (21-40)	<b>LETTERING</b> Twenty-one (21) to forty (40) genuine gold leaf lettering, 3.00" high, with outline will be provided.
0683997	Lettering, Vinyl, 18.00", Each	<b>LETTERING</b> There will be non-reflective vinyl lettering, 18.00" high, with no outline or shade provided. There will be five (5) letters provided.
0685985	Lettering, Reflective, 12.00", Each	<b>LETTERING</b> There will be reflective lettering, 12.00" high, with outline and shade provided. There will be one (1) letter provided.
0686007	Lettering, Reflective, 7.00", Each	<b>LETTERING</b> There will be reflective lettering, 7.00" high, with outline and shade provided. There will be six (6) letters provided.
0686033	Lettering, Reflective, 4.00", Each	<b>LETTERING</b> There will be reflective lettering, 4.00" high, with outline provided. There will be ten (10) letters provided.
0686215	Lettering, Gold Leaf, 8.00", Each	<b>LETTERING</b> There will be genuine gold leaf lettering, 8.00" high, with outline and shade provided. There will be 14 letters provided.
0686236	Lettering, Gold Leaf, 5.00", Each	<b>LETTERING</b> There will be genuine gold leaf lettering, 5.00" high, with outline and shade provided. There will be 12 letters provided.
0686288	Lettering, Gold Leaf, 3.00", Each	<b>LETTERING</b> There will be genuine gold leaf lettering, 3.00" high, with outline provided. There will be nine (9) letters provided.
0684206	Emblem, Maltese Cross, Gold Leaf, 21"-23", Pair	<b>MALTESE CROSS INSTALLATION</b> There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed one (1) each side cab door per job 26350.
0020371	SP Emblem, Alameda, Pair	<b>EMBLEM</b> There will be one (1) pair of emblems, number in a shield border approximately 9.00" high x 9.00" wide, provided and installed one (1) on each crew cab door, design to match 26350 however the unit number is to be "2". 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.

0772003	Manual, Fire Apparatus Parts, USB Flash Drive, Custom	<p><b>FIRE APPARATUS PARTS MANUAL</b>  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.  <b>Service Parts Internet Site</b>  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.</p>
0772037	Manual, Chassis Service, USB Flash Drive, Custom	<p><b>CHASSIS SERVICE MANUALS</b>  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.</p>
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	<p><b>CHASSIS OPERATION MANUAL</b>  The chassis operation manual will be provided on one (1) USB flash drive.</p>
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	<p><b>ONE (1) YEAR MATERIAL AND WORKMANSHIP</b>  A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.</p>
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	<p><b>ENGINE WARRANTY</b>  A Cummins <b>five (5) year</b> limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.</p>
0684952	Warranty, Steering Gear, TRW Ross TAS, 1 Year WA0202	<p><b>STEERING GEAR WARRANTY</b>  A TRW <b>one (1) year</b> limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.</p>
0596017	Warranty, Frame, 50 Year, Custom Chassis, WA0013	<p><b>FIFTY (50) YEAR STRUCTURAL INTEGRITY</b>  The Pierce custom chassis frame limited warranty certificate, WA0013, is included with this proposal.</p>
0733309	Warranty, Axle, 5 Year, Meritor, General Service, WA0384	<p><b>FRONT AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY</b>  A Meritor™ Axle 5 year limited warranty will be provided.</p>
0733306	Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	<p><b>SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY</b>  A Meritor™ Axle 5 year limited warranty will be provided.</p>
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	<p><b>ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</b>  A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.</p>
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	<p><b>TEN (10) YEAR STRUCTURAL INTEGRITY</b>  The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.</p>

0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	<b>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</b> A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	<b>FIVE (5) YEAR MATERIAL AND WORKMANSHIP</b> The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	<b>CAMERA SYSTEM WARRANTY</b> A Pierce fifty four (54) monthwarranty will be provided for the camera system.
0647720	Warranty, Pierce LED Strip Lights, WA0203	<b>COMPARTMENT LIGHT WARRANTY</b> The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	<b>TRANSMISSION WARRANTY</b> The transmission will have a <b>five (5) year/unlimited mileage</b> 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	<b>TRANSMISSION COOLER WARRANTY</b> The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.
0688798	Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	<b>WATER TANK WARRANTY</b> A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	<b>TEN (10) YEAR STRUCTURAL INTEGRITY</b> The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0690936	Warranty, Roll up Doors, Not Required	
0734463	Warranty, Pump, Waterous, 7 Year Parts, WA0382	<b>PUMP WARRANTY</b> The Waterous pump will be provided with a Seven (7) year <b>material and workmanship limited warranty.</b> <b>A copy of the warranty certificate will be submitted with the bid package (no exception).</b>
0648675	Warranty, 10 Year S/S Pumbing, WA0035	<b>TEN (10) YEAR PUMP PLUMBING WARRANTY</b> The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.
0641372	Warranty, Foam System, Not Available	
0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	<b>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</b> A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0595421	Warranty, Goldstar, 3 Year, Apparatus, WA0018	<b>THREE (3) YEAR MATERIAL AND WORKMANSHIP</b> The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.
0683627	Certification, Vehicle Stability, CD0156	<b>VEHICLE STABILITY CERTIFICATION</b> The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.
0808564	Certification, Engine Installation, Enf, Cummins X15, 2027	<b>ENGINE INSTALLATION CERTIFICATION</b> 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	<p><b>POWER STEERING CERTIFICATION</b></p> <p>The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.</p>
0892691	Certification, Cab Integrity, Saber FR/Enforcer, CD0189	<p><b>CAB INTEGRITY CERTIFICATION</b></p> <p>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:</p> <p>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.</p> <p><b>Side Impact</b></p> <p>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.</p> <p><b>Frontal Impact</b></p> <p>The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.</p> <p><b>Additional Frontal Impact</b></p> <p>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)</p> <p><b>Roof Crush</b></p> <p>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.</p> <p><b>Additional Roof Crush</b></p> <p>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)</p> <p>The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.</p> <p>There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.</p>
0631973	Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	<p><b>CAB DOOR DURABILITY CERTIFICATION</b></p> <p>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.</p>
0631978	Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	<p><b>WINDSHIELD WIPER DURABILITY CERTIFICATION</b></p> <p>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.</p>
0631974	Certification, Electric Window Durability, Saber FR/Enforcer, CD0133	<p><b>ELECTRIC WINDOW DURABILITY CERTIFICATION</b></p> <p>Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p>
0631977	Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	<p><b>SEAT BELT ANCHOR STRENGTH</b></p> <p>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><b>SEAT MOUNTING STRENGTH</b></p> <p>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>

0735949	Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	<p><b>PERFORMANCE CERTIFICATIONS</b></p> <p><b>Cab Air Conditioning</b> 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><b>Cab Defroster</b> 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><b>Cab Auxiliary Heater</b> <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><b>AMP DRAW REPORT</b></p> <p>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.</p> <p>The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Applicable NFPA 1901 or 1906 (Current Edition). The minimum continuous load of each component that is specified per: Applicable NFPA 1901 or 1906 (Current Edition). Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000018	PUMPER, 2ND GEN	
0000012	PIERCE CHASSIS	
0004713	ENGINE, OTHER	
0046396	EVS 4000 Series TRANSMISSION	
0020011	WATEROUS PUMP	
0020009	POLY TANK	
0028047	NO FOAM SYSTEM	
0020006	SIDE CONTROL	
0020007	AKRON VALVES	
0020015	ABS SYSTEM	
0658751	PUMPER BASE	





# Electrical Analysis

9/18/2023

**Bid #:** 943 **Job #:**  
**Desc:** Enforcer Pumper (32136 Duplicate) **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
0010670	ABS Wabco Brake System, Single rear axle		0.00	6.00	0.00
0015215	Reel, Booster, Over Pump, Right Side, Steel		0.00	36.00	0.00
0024543	Primer, Hale, ESP Motor, (1) PVG Valve, (1) T-Handle Control,		0.00	275.00	0.00
0032189	Mirrors, Ramco, 8000PCHR, Heated/Remote, w/Heated/Remote		0.00	0.00	8.00
0069390	Control, Air Horn At Pmp Pnl, Red Button		0.00	0.16	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
0547318	Wiring, Spare, 10 A 12V DC, Switch Feature 1st		0.00	0.00	10.00
0548001	Wiring, Spare, 10 A 12V DC 2nd		0.00	0.00	10.00
0548004	Wiring, Spare, 15 A 12V DC 1st		0.00	0.00	75.00
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0549393	Handlts, (4) Streamlight, Survivor C4 LED, 12v, Orange, 90509		0.00	0.50	0.00
0550452	Lights, Side Scene, Zico ZQL-SS-LED, Stainless 1st		0.00	0.00	1.00
0578480	Buzzer, Warning - Rear Step to Cab, Left Side, Smooth Aluminum		0.00	0.01	0.00
0583824	Light, Pump Compt, WIn 3SC0CDCR LED White		0.00	0.36	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
0606463	Light, Hose Bed, Amdor AY-9750-020 LED, 20"		0.00	0.00	1.56
0630636	Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber		0.00	26.00	0.00
0639727	Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer		0.00	180.00	0.00
0649587	Light, Map, Federal Littlite, LED, Gooseneck		0.00	0.00	0.10
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine		0.00	0.42	0.00
0738110	Lights, Rear Scene, WIn, PCPSM1* Pioneer LED Fld/Spt, Surface		0.00	0.00	6.00
0740407	Lights, Rear, WIn M6** LED, Features 1st		0.00	2.70	1.80
0748793	Lights, WIn, S44M** 44" 12VDC, RS Body		0.00	0.00	10.80
0748795	Lights, WIn, S44M** 44" 12VDC, LS Body		0.00	0.00	10.80
0768059	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 2nd		0.00	0.00	12.00
0768061	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 1st		0.00	0.00	12.00
0774336	Lights, WIn, P*H1* Pioneer, 12 VDC, 1st		0.00	0.00	6.50
0774457	Handlight, Streamlight, Vulcan 180, 44315, 12v, Orange		0.00	2.00	0.00
0803875	Radio, AM/FM/WB, Jensen, Frt,Rear Aux In/Frt,Rear		0.00	0.00	2.00
0804659	Lights, Cornering/Scene, WIn M62BU, 1st		0.00	3.20	0.00
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0811745	Intercom, David Clark, 7-Pos, 3-Radio, (D, O, RPTT, P), 4obC,		0.00	0.00	0.50
0816158	Camera, Pierce, LS Mux, RS, LS, R, Cameras, AHD		0.00	1.20	0.00
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
0722038	HVAC, Enforcer, w/X15, CARE	Load Managed	0.00	0.00	100.00
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0063623	RS 152" Lap, Low, FDLER	NFPA	1.80	0.00	1.80
0088745	Light, Rear Zone Up, WIn L31HRFN LED Beacon, Red LED	NFPA	3.20	4.80	0.00
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00
0098470	Compt, Flush Rear, Rollup, 30.75" FF, 25.88" D	NFPA	0.90	0.00	0.90
0522730	Light, Over Passenger Side Pump Panel, P25 LED Stp Lt	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
0549924	Siren, Federal PA300-012MSC 690010, Hi-Lo Tone, 200 Watt	NFPA	1.56	14.06	0.00

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



# Electrical Analysis

9/18/2023

**Bid #:** 943  
**Desc:** Enforcer Pumper (32136 Duplicate)  
**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
0556360	Lights, Step, P25 LED 4lts, Pump Pnl Sw	NFPA	1.00	0.00	0.00
0564654	Lights, Rear Zn Lwr, WIn M6*, Colored Lens, For Tail Light	NFPA	1.80	2.70	0.00
0564941	Controller, Pressure, FRC, Pump Boss, PBA200	NFPA	1.80	0.00	0.00
0586382	Gauges, Engine, Included With Pressure Controller	NFPA	0.30	0.00	0.00
0587034	Air Dryer, Bendix, AD-IP w/Heat, 2010	NFPA	4.70	0.00	0.00
0602884	Lightbar, WIn, Freedom IV-V, 81",	NFPA	9.60	4.18	9.92
0603606	Cab Instruments, Ivory Gauges, Chrome Bezels, Enf MUX	NFPA	1.26	0.00	0.00
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	NFPA	1.00	0.00	0.00
0605598	Lightbars, WIn, Freedom IV-Q, 2-21.5", RRRRR RRRRR	NFPA	6.48	0.00	9.76
0625650	Cab, Enforcer, 7000	NFPA	6.80	10.20	0.00
0627282	Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	NFPA	1.75	0.00	0.00
0635052	Lights, Hose Bed, Cover, Dual Amdor AY-9750-20 LED Light	NFPA	3.40	0.00	0.00
0647632	Lights, Dome, WIn 60C*EGCS Dual LED 4 Lts	NFPA	3.00	3.00	0.00
0647899	Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29	NFPA	0.80	0.00	0.00
0656224	Light Shield/Step 8", S/S Undr Crs, LED w/P25 LED Step Light	NFPA	5.00	0.00	0.00
0658192	LS 152" Lap, Full Height Front & Rear, FDLER, Double Door Over	NFPA	4.50	0.00	4.50
0661706	Lighting, Pierce, LED Strip Light, 63", Cargo Area, Pmp Pnl Sw	NFPA	0.40	0.00	0.00
0662965	DEF Tank, 4.5 Gallon, DS Fill, Rear of Axle, Common Air Bottle	NFPA	0.60	11.40	0.00
0729921	Light, Roof Mt, WIn S72M**, 72" Cnt Feature, SUBKT* Mounts,	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
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.10	0.00	0.00
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	NFPA	0.10	0.00	0.00
0746667	Lights, Side Zone Lower, WIn M6**, M6**, 4Lts	NFPA	3.60	5.40	0.00
0750438	Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level	NFPA	0.80	0.00	0.00
0757359	Gauge, Water Level, Class 1, Remote Module Driver	NFPA	1.23	0.00	0.00
0762435	Light, Traffic Directing, WIn TAL85, 46.87" Long LED, Lens	NFPA	2.52	2.52	0.00
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	NFPA	1.20	0.00	0.00
0769572	Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	NFPA	0.58	0.00	0.00
0770056	Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear	NFPA	0.60	0.00	0.00
0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	NFPA	4.20	4.20	0.00
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	NFPA	2.00	2.00	0.00
0804514	Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0804681	Light, Directional, WIn 604T* Common Bzl, Above	NFPA	0.02	0.02	0.00
0808497	Engine, Cummins X15, 565 hp, 1850 lb-ft, W/OBD, EPA 2027,	NFPA	6.00	0.00	0.00
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX,	NFPA	1.20	0.00	0.00
0816689	Cabinet, Forward Facing, Center, 38.50 W x 40 H x 16.25 D,	NFPA	0.40	0.40	0.00
0816695	Compt, Transverse Crew Cab, Dbl Pan, 8" Rec Tube, 70" SFR/Enf	NFPA	0.65	0.65	0.00
0816728	Drug Locker, Knox, MedVault Mini, 5230S3*, Surface Mounted	NFPA	1.50	1.50	0.00
0889368	Handrails, Beavertail, Hansen Tubing, Knurled Aluminum, LED	NFPA	1.00	1.00	2.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0892638	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	NFPA	1.00	0.00	0.00
0892649	ClearSky Telematics for Remote Fleet and On-scene	NFPA	1.61	0.00	0.00
0892704	Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height	NFPA	0.07	0.00	0.00
0647728	Alternator, 430 amp, Delco Remy 55SI	S	0.00	0.00	0.00
<b>Load Totals:</b>			<b>101.60</b>	<b>716.92</b>	<b>315.62</b>

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





# Turning Performance Analysis

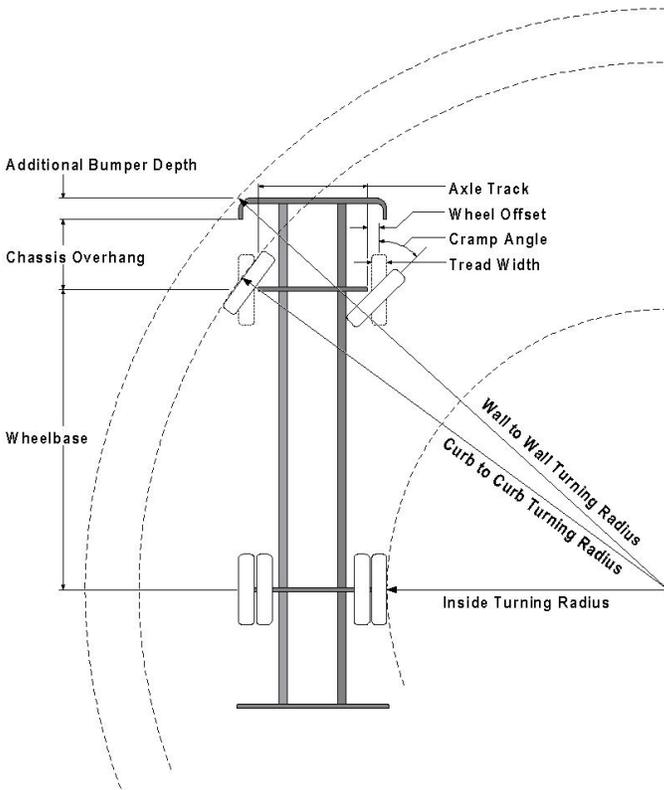
09/18/2023

**Bid Number:** 943

**Department:** ALAMEDA CITY FIRE DEPARTMENT

**Chassis:** Enforcer Chassis

**Body:** Pumper, Medium, Aluminum, 2nd Gen



**Parameters:**

*Inside Cramp Angle:	50°
Axle Track:	85.86 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	13 in.
Front Overhang:	78.95 in.
Wheelbase:	187.5 in.

**Calculated Turning Radii:**

Inside Turn:	12 ft. 0 in.
Curb to curb:	26 ft. 8 in.
Wall to wall:	30 ft. 10 in.

Category	Option	Description
Axle, Front, Custom	0728338	Axle, Front, Meritor FL-943, 21,500 lb, Enforcer
Bumpers	0816701	Bumper, 13" Extended, Polished S/S, ENF
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.

# **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:

<b>Coverage:</b>	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
<b>Warranty Begins:</b>	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
<b>Warranty Period Ends After:</b>	Twelve (12) months.
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	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.

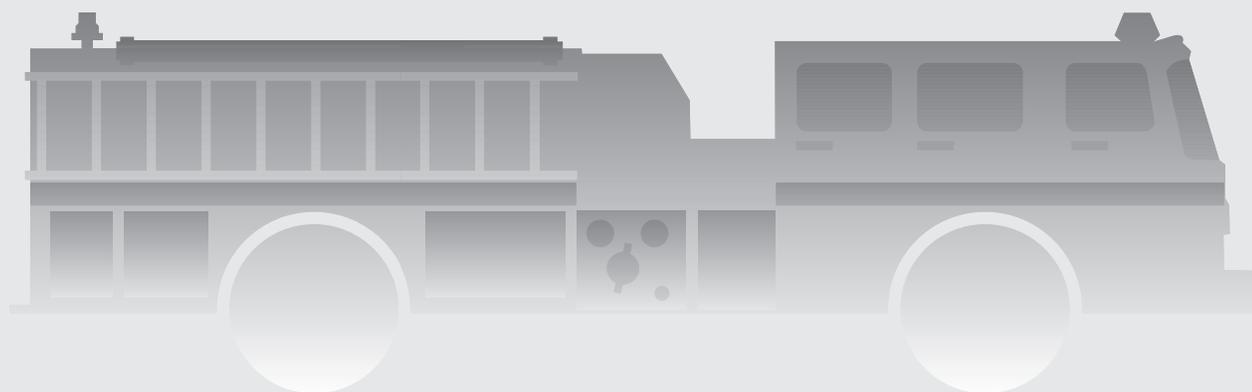
*Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any 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](http://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.



**Cummins Inc.**  
**Box 3005**  
**Columbus, IN 47202-3005**  
**U.S.A.**

Bulletin 3381161  
Printed in U.S.A. Rev. 08/09  
©2001 Cummins Inc.

**TRW COMMERCIAL STEERING SYSTEMS**  
800 HEATH STREET  
LAFAYETTE, INDIANA 47904



## **PRODUCT WARRANTY**

- I. WARRANTY:** The Commercial Steering Systems group of TRW, Inc., hereinafter referred to as "CSS", warrants that each new product supplied by CSS to its customer, when properly installed, used and maintained, shall be free from defect in material and workmanship for the period specified below:
- (A) CSS Product installed in **New On-highway Motor Vehicle:**
- Within twelve (12) months after date of delivery of such vehicle to the original retail purchaser, or before such vehicle has been driven one hundred thousand (100,000) miles, whichever event shall first occur.
- (B) CSS Product installed in **New Agricultural, Turf, Industrial, or Construction Vehicles and Related Equipment**
- Within twelve (12) months after date of delivery of such vehicle/equipment to the original retail purchaser or before such vehicle/equipment has been operated for two thousand (2000) hours or fifty thousand (50,000) miles, whichever occurs first.
- (C) CSS Product installed in **New End Product, Not Specifically Mentioned in Classifications (A) or (B) Above and All Other Off-Highway/Severe Applications:**
- Within six (6) months after date of delivery of the original equipment manufacturer's end product to the original retail purchaser.
- II. REMEDY:** Customer's sole remedy under the foregoing warranty is limited to correction by means of repair, replacement or issuance of credit, at the option of CSS, of any product which is:
- (A) Returned to CSS within the specified warranty time period, with prior notice to, and the written consent of, CSS, with transportation and handling charges prepaid, together with a statement describing the alleged defect, the part number, model number and application, and mileage or hours of use of such product; and
- (B) Upon examination, determined by CSS not to conform to the warranty.
- III.** Any product which is repaired or replaced under this warranty will be returned to customer prepaid. Disposition of any product determined not to be covered by this warranty will be at the customer's expense.
- IV.** CSS will not be liable for any repairs, replacements, or adjustments to any product or any cost of labor performed by or at the request of customer without the express prior written consent of CSS.
- V. EXCEPTIONS:** The provision of this warranty shall not apply to any CSS product which is used for a purpose for which it is not designed, or which shall have been repaired or altered in any way, or which has been subject to misuse, negligence or accident, neglect of normal maintenance services, so as, in the judgement of CSS to adversely affect its performance and reliability. In no case will the CSS warranty exceed the standard published warranty of its customer in terms of time and/or distance. In all events, the CSS warranty will expire thirty (30) months after the date of manufacture as stamped on the Product. In the case of hydraulic equipment, operation with unapproved fluid or temperatures voids this warranty.
- VI. EXCLUSION OF ALL OTHER REMEDIES AND LIMITATION OF LIABILITY:** Customer's sole and exclusive remedy under the foregoing warranty shall be for the repair, replacement or issuance of credit with respect to a defective product, as set forth and described above. Other provisions hereof notwithstanding, CSS shall not be liable to Customer, or any successor in interest, beneficiary or assignee of Customer, based upon any claim against CSS, whether in contract, warranty, negligence, strict liability, indemnity or otherwise, for any special, consequential, incidental or other damages relating in any way to the design, manufacture, sale, installation or other use of any product purchased from CSS.
- VII. EXCLUSION OF ALL OTHER WARRANTIES: THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY BY CSS AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES AND REPRESENTATIONS, WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**



# Fire and Rescue Apparatus

## Lifetime Fifty (50) Year Structural Integrity Custom Chassis Frame Limited Warranty

### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<b>Coverage:</b>	<b>Custom chassis frame rail manufactured by Pierce shall be free from defects in material and workmanship</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Fifty (50) Years (Expected Life of Apparatus)</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<b>This warranty does not apply to damage caused by corrosion.</b>

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"):

<b>Coverage:</b>	<b>The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Five (5) Years</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<b>The exclusions listed in the attached Meritor warranty description shall apply.</b>

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
-----------------	---	-----------------------------------

**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](http://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 <sup>1,2</sup>	MT-34-14X/P	MT-40-943
RT-46-160/P <sup>1,2</sup>	MT-40-14T/P	MT-40-943-SP
RT-46-164EH/P <sup>1,2</sup>	MT-40-14X/P	RZ-166 <sup>2</sup>
RT-50-160/P <sup>1,2</sup>	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

<sup>1</sup> These models required for Chip Hauler and Linehaul warranty consideration.  
<sup>2</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



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

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

<sup>2</sup> Based on stamped wear diameter max.

<sup>3</sup> Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXXCDXXX

## Trailer Axles

Beam and Brackets	5/500/P, 1/100/L
Wheel End Systems <sup>1</sup>	
Standard System <sup>2</sup>	1/100/P&L
PreSet by Meritor <sup>3</sup>	5/500/P&L
AxlePak <sup>4</sup>	5P/L
AxlePak <sup>5</sup>	7P/L

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

<sup>2</sup> When installed by Meritor.

<sup>3</sup> Requires approved hubcap stating PreSet by Meritor on hubcap face.

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

<sup>5</sup> 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 Axles<sup>1</sup>

TQ, TQD, TR, TRD Beam and Brackets	5/750/P&L
------------------------------------	-----------

<sup>1</sup> For brake components and ABS Coverage, refer to appropriate product warranties.

## Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------

## Trailer Air Suspension Systems

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

<sup>1</sup> Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor (For axle and ABS coverage, refer to appropriate product warranties.)

<sup>2</sup> “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.



# GENERAL SERVICE WARRANTY INFORMATION

## General Service Vehicles

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

## General Service Typically Is

- Lower mileage operations (less than 60,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

## Front Non-Drive Steer Axles – 2/Uni/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
FG-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 <sup>1</sup>	MFS-8-153B-N	MFS-12-132B-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N
FL-941					

<sup>1</sup> Can also be used with reduced steer angles in tag position in Coach Applications.

## Front Drive/Non-Drive Steer Axles – 1/Uni/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 Tandem/Tridem - 3/Uni/P&L

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

## Rear Drive Axles – 1/Uni/P&L

11170	RND-14H
523	RND-16A

## Drivelines

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

## Rear Drive Single Axles – 2/Uni/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 <sup>1</sup>	RS-26-185	71162
MS-19-14X	RS-21-145/A	RC-23-165 <sup>1</sup>	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	

<sup>1</sup> 3/Uni/P&L if PreSet by Meritor.

## Rear Drive Tandem/Tridem Axles – 2/Uni/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 <sup>1</sup>
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 <sup>1</sup>	RZ-188

## Transmission – 1/Uni/P&L

516	FAT 30
-----	--------

## PTO – 1/Uni/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

<sup>1</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



# GENERAL SERVICE WARRANTY INFORMATION

## Brake Components

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

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

<sup>2</sup> Based on stamped wear diameter max.

<sup>3</sup> Applies to Tour Bus and Cross Country Coach only.

## Trailer Axles

Beam and Brackets <sup>1</sup>	5/Unl/P, 1/Unl/L
Wheel End Systems <sup>2</sup>	
Standard System <sup>3</sup>	1/Unl/P&L
AxlePak <sup>4</sup>	5/P&L
AxlePak <sup>5</sup>	7/P&L

<sup>1</sup> 9000 Series is 3/Unl/P, 1/Unl/L

<sup>2</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>3</sup> When installed by Meritor.

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

<sup>5</sup> 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 <sup>1</sup>	
Standard System	1/Unl/P&L
AxlePak7	7/P&L
Beam and Brackets	7/P, 1/L

<sup>1</sup> 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) <sup>1</sup>	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty <sup>2</sup>	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 <sup>3</sup>	5/Unl/P, 3/Unl/L

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

<sup>1</sup> Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor

<sup>2</sup> "Curbing damage" is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

<sup>3</sup> Raw wood applications 3/Unl/P, 1/Unl/L

## TAG/Pusher Axles

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

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

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

## Meritor® Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------



# HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

## Heavy Service/Specialty Vehicle

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle\*
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig
- Dump
- 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
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus\*
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

\*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 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

### 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	

### 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 <sup>1,2</sup>	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 <sup>1,2</sup>	
MT-44-14X/P	MT-52-616-SP	RT-70-380	

<sup>1</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>2</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Brake Components

Cam P	3/Unl/P
Cam P <sup>3</sup>	2/100/P
Cam Cast Plus™	2/100/P&L
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ <sup>2</sup>	2/100/P&L
ASA	3/Unl/P
ASA <sup>2</sup>	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

<sup>1</sup> Based on stamped wear diameter max.

<sup>2</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

<sup>3</sup> 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 <sup>3</sup>
RT-46-160/P/A <sup>1,3</sup>
RT-46-164EH/P/A <sup>2,3</sup>
RT-50-160/P/A <sup>3</sup>
RZ-166

<sup>1</sup> U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

<sup>2</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>3</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------

## Trailer Air Suspension Systems

MTA (Trailing Arm)	
Major Structural Components <sup>1</sup>	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 <sup>1</sup>	5/Unl/P, 3/Unl/L

<sup>1</sup> Raw wood applications 3/Unl/P, 1/Unl/L

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

## Trailer Axles

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

<sup>1</sup> 9000 Series is 3/Unl/P, 1/Unl/L.

<sup>2</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>3</sup> 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	

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

<sup>1</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Brake Components

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

<sup>1</sup> 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-941<sup>1</sup>                     MFS-13-155

<sup>1</sup> 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-23-162<sup>1</sup>  
 71163                          RC-23-165<sup>1</sup>

<sup>1</sup> 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™<sup>1</sup>                    2/100/P&L  
 ASA<sup>1</sup>                                      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

<sup>1</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

## Center Non-drive Axles – 5/300/P&L

MC-26000  
 71063  
 79063





# 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 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

## (2) Designation of Vocational Use Required.

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor's warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

## (3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

## (4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not 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.



Meritor Heavy Vehicle Systems, LLC  
2135 West Maple Road  
Troy, Michigan 48084 USA

For more information:  
call Ontrac at 866-668-7221  
or visit [meritor.com](http://meritor.com)

©2018 Meritor, Inc.  
Litho in USA, SP-95155  
Revised 1-19 (47865/11900)



# 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"):

<b>Coverage:</b>	<b>The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Five (5) Years</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<b>The exclusions listed in the attached Meritor warranty description shall apply.</b>

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
-----------------	---	-----------------------------------

**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](http://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 <sup>1,2</sup>	MT-34-14X/P	MT-40-943
RT-46-160/P <sup>1,2</sup>	MT-40-14T/P	MT-40-943-SP
RT-46-164EH/P <sup>1,2</sup>	MT-40-14X/P	RZ-166 <sup>2</sup>
RT-50-160/P <sup>1,2</sup>	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

<sup>1</sup> These models required for Chip Hauler and Linehaul warranty consideration.  
<sup>2</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



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

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

<sup>2</sup> Based on stamped wear diameter max.

<sup>3</sup> Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXXCDXXX

## Trailer Axles

Beam and Brackets	5/500/P, 1/100/L
Wheel End Systems <sup>1</sup>	
Standard System <sup>2</sup>	1/100/P&L
PreSet by Meritor <sup>3</sup>	5/500/P&L
AxlePak <sup>4</sup>	5P/L
AxlePak <sup>5</sup>	7P/L

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

<sup>2</sup> When installed by Meritor.

<sup>3</sup> Requires approved hubcap stating PreSet by Meritor on hubcap face.

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

<sup>5</sup> 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 Axles<sup>1</sup>

TQ, TQD, TR, TRD Beam and Brackets	5/750/P&L
------------------------------------	-----------

<sup>1</sup> For brake components and ABS Coverage, refer to appropriate product warranties.

## Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------

## Trailer Air Suspension Systems

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

<sup>1</sup> Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor (For axle and ABS coverage, refer to appropriate product warranties.)

<sup>2</sup> “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.



# GENERAL SERVICE WARRANTY INFORMATION

## General Service Vehicles

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

## General Service Typically Is

- Lower mileage operations (less than 60,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

## Front 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
FG-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 <sup>1</sup>	MFS-8-153B-N	MFS-12-132B-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N
FL-941					

<sup>1</sup> 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 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

## 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 <sup>1</sup>	RS-26-185	71162
MS-19-14X	RS-21-145/A	RC-23-165 <sup>1</sup>	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	

<sup>1</sup> 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 <sup>1</sup>
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 <sup>1</sup>	RZ-188

## 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

<sup>1</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



# GENERAL SERVICE WARRANTY INFORMATION

## Brake Components

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

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

<sup>2</sup> Based on stamped wear diameter max.

<sup>3</sup> Applies to Tour Bus and Cross Country Coach only.

## Trailer Axles

Beam and Brackets <sup>1</sup>	5/Unl/P, 1/Unl/L
Wheel End Systems <sup>2</sup>	
Standard System <sup>3</sup>	1/Unl/P&L
AxlePak <sup>4</sup>	5/P&L
AxlePak <sup>5</sup>	7/P&L

<sup>1</sup> 9000 Series is 3/Unl/P, 1/Unl/L

<sup>2</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>3</sup> When installed by Meritor.

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

<sup>5</sup> 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 <sup>1</sup>	
Standard System	1/Unl/P&L
AxlePak7	7/P&L
Beam and Brackets	7/P, 1/L

<sup>1</sup> 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) <sup>1</sup>	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty <sup>2</sup>	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 <sup>3</sup>	5/Unl/P, 3/Unl/L

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

<sup>1</sup> Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor

<sup>2</sup> "Curbing damage" is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

<sup>3</sup> Raw wood applications 3/Unl/P, 1/Unl/L

## TAG/Pusher Axles

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

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

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

## Meritor® Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------



# HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

## Heavy Service/Specialty Vehicle

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle\*
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig
- Dump
- 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
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus\*
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

\*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 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

### 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	

### 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 <sup>1,2</sup>	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 <sup>1,2</sup>	
MT-44-14X/P	MT-52-616-SP	RT-70-380	

<sup>1</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>2</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Brake Components

Cam P	3/Unl/P
Cam P <sup>3</sup>	2/100/P
Cam Cast Plus™	2/100/P&L
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ <sup>2</sup>	2/100/P&L
ASA	3/Unl/P
ASA <sup>2</sup>	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

<sup>1</sup> Based on stamped wear diameter max.

<sup>2</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

<sup>3</sup> 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 <sup>3</sup>
RT-46-160/P/A <sup>1,3</sup>
RT-46-164EH/P/A <sup>2,3</sup>
RT-50-160/P/A <sup>3</sup>
RZ-166

<sup>1</sup> U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

<sup>2</sup> Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

<sup>3</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
-----------------	------------------

## Trailer Air Suspension Systems

MTA (Trailing Arm)	
Major Structural Components <sup>1</sup>	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 <sup>1</sup>	5/Unl/P, 3/Unl/L

<sup>1</sup> Raw wood applications 3/Unl/P, 1/Unl/L

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

## Trailer Axles

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

<sup>1</sup> 9000 Series is 3/Unl/P, 1/Unl/L.

<sup>2</sup> Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

<sup>3</sup> 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	

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

<sup>1</sup> Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

## Brake Components

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

<sup>1</sup> 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-941<sup>1</sup>                     MFS-13-155

<sup>1</sup> 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-23-162<sup>1</sup>  
 71163                                RC-23-165<sup>1</sup>

<sup>1</sup> 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™<sup>1</sup>                    2/100/P&L  
 ASA<sup>1</sup>                                        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

<sup>1</sup> Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

## Center Non-drive Axles – 5/300/P&L

MC-26000  
 71063  
 79063





# 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 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

## (2) Designation of Vocational Use Required.

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor's warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

## (3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

## (4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not 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.



Meritor Heavy Vehicle Systems, LLC  
2135 West Maple Road  
Troy, Michigan 48084 USA

For more information:  
call Ontrac at 866-668-7221  
or visit [meritor.com](http://meritor.com)

©2018 Meritor, Inc.  
Litho in USA, SP-95155  
Revised 1-19 (47865/11900)



# 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.

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.

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.

# 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 <sup>1</sup>	
Air Management	
Air Brake Valves	1/100/P&L
Trailer Lift Axle Control Valve	
Trailer Control Line Filter <sup>3</sup>	
Air Compressors (ALL) <sup>2</sup>	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow <sup>®</sup> TrailerSkirt	2/UnU/P
OptiFlow <sup>®</sup> 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) <sup>3</sup>	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/P&L
OptiRide <sup>®</sup> Automated Manual Transmission (AMT)	
OptiRide <sup>®</sup> Electronically Controlled Air Suspension (ECAS)	3/300/P&L

WABCO Components <sup>1</sup> (cont.)	
Safety	
OnGuardACTIVE <sup>®</sup>	3/300/P&L
OnLane <sup>®</sup>	
OnLaneALERT <sup>®</sup>	
OnSide <sup>®</sup>	
Trailer SafeStart <sup>™</sup>	
Trailer TailGUARD <sup>™</sup>	
Telematics	
TrailerCAST <sup>™</sup> Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit <sup>™</sup> Slack Adjuster	6/600/P
MAXXUS <sup>™</sup> 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/UnI/P and 1/UnI/L
Pan 22 Air Disc Brake	5/500/P and 1/L
TRISTOP <sup>™</sup> D Actuator w/ IBV or IRB	6/600/P
TRISTOP <sup>™</sup> D Actuator	3/300/P
UNISTOP <sup>™</sup> Actuator	2/200/P
Trailer MAXX22T <sup>™</sup> Air Disc Brake	5/500/P and 1/L

<sup>1</sup> ZF and WABCO branded components. <sup>2</sup> 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. <sup>3</sup> 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 <sup>1</sup>	
Air Management	
Air Brake Valves	1/100/P&L
Air Compressors (ALL) <sup>2</sup>	
Air Dryers (ALL)	
Trailer Control Line Filter <sup>3</sup>	
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 <sup>3</sup>	
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

<sup>1</sup> ZF and WABCO branded components. <sup>2</sup> 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. <sup>3</sup> 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 operation<sup>3</sup>
- 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, Scalers
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 <sup>1</sup>	
Air Management	
Air Brake Valves	2/Unl/P
Air Compressors (ALL) <sup>2</sup>	
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
MAXXUS™ 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
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

<sup>1</sup> ZF and WABCO branded components. <sup>2</sup> 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. <sup>3</sup> 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](http://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:

<b>Coverage:</b>	<b>The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Ten (10) Years - or - 100,000 Miles</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<b>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.</b>  <b>This warranty does not apply to damage caused by corrosion.</b>

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:

<b>Coverage:</b>	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.
<b>Warranty Begins:</b>	The date of the original purchase invoice (issued when the product ships from the factory).
<b>Warranty Period Ends After:</b>	Ten (10) Years
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p><b>Topcoat Durability &amp; Appearance: Gloss, Color Retention &amp; Cracking</b>  0-72 months 100%  73-96 months 50%  97-120 months 25%</p> <p><b>Integrity of Coating System: Adhesion, Blistering/Bubbling</b>  0-36 months 100%  37-84 months 50%  85-120 months 25%</p> <p><b>Corrosion: Dissimilar Metal and Crevice</b>  0-36 months 100%  37-48 months 50%  49-72 months 25%  73-120 months 10%</p> <p><b>Corrosion Perforation</b>  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.



# Fire and Rescue Apparatus

## Ten (10) Year Material and Workmanship

### Pierce 12V LED Strip Light

#### Limited Warranty

#### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<b>Coverage:</b>	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Pierce 12V LED strip lights installed on the apparatus occurring during the warranty period.
<b>Warranty Begins:</b>	The date of the original purchase invoice (issued when the product ships from the factory).
<b>Warranty Period Ends After:</b>	Ten (10) Year
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	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:

<b>Coverage:</b>	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.
<b>Warranty Begins:</b>	The date of delivery to the first retail purchaser.
<b>Warranty Period Ends After:</b>	Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<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.*

 **UNITED PLASTIC FABRICATING, INC.**  
**WARRANTY**  
**FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™**

## LIFETIME SERVICE WARRANTY

United Plastic Fabricating, Inc. (hereinafter called "UPF") warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines. Failure to do so can void the warranty.

Every UPF Tank is inspected and tested before leaving our facility. Should your UPF Tank require service, please notify UPF via email, fax, in writing or by calling UPF at 1-978-975-4520. Please provide the serial number, a description of the service request, the location along with the phone number and name of the contact person. Our goal is to have scheduled work completed within a reasonable time period.

Under a valid warranty claim, UPF will cover the cost to repair the UPF Tank including the customary and reasonable costs to make the tank accessible such as the removal and reinstallation of the tank if authorized in advance (pre-approved) by UPF. The warranty will not cover tanks that have been improperly installed, operated, misused, abused, or modified from its intended or designed use. Serial number must not have been altered, defaced or removed. Tanks that are not stored or installed properly which results in the tank suffering UV damage will not be covered by this agreement.

Should UPF determine that the service claim is valid under this warranty for a tank located outside of the United States and Canada, UPF will assume the costs for labor and material for the warranty repair as described above plus all travel costs to the U.S. port of embarkation. Costs for airline travel outside of the U.S. and Canada will not be the responsibility of UPF.

In the event the tank shall become stationed in an area of the world that is considered to be a war zone or where unsafe conditions exist for the safe passage of United States Nationals, as reported by the United States Department of State, (<http://www.state.gov>), and a request to perform service or warranty repairs, UPF reserves the right to refuse to honor such requests. It is the purchaser's responsibility to relocate the tank to an area where such repairs can be performed without undue risk to UPF employees or their designee. UPF will make every reasonable effort to support our products through alternative means.

For Ellipse™ elliptical tanks, a separate five year warranty provided by the subcontractor is applied to the sub-frames, chute linings (rubber isolation strips) and metal components. The stainless steel wrap provided by UPF shall be warranted by the subcontractor performing the wrap installation in accordance with their warranty in place at the time of the installation. UPF will not be liable for any warranty costs associated with the wrap, sub-frames, chute linings (rubber isolation strips) and metal components but will assist with all claims on behalf of its customer.

For PolySide® wetsided tanks and Integrator™ Tank/Body units, all polypropylene components related to the tank shall carry the standard UPF lifetime



**UNITED PLASTIC FABRICATING, INC.**

# **WARRANTY**

**FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™**

service warranty. Other polypropylene components, including but not limited to compartments, wheel wells, fenders and other body related components shall be warranted by UPF for a period of ten years. The warranty for the PolySide® and Integrator™ units excludes paint or hardware, which shall be covered by the manufacturer of the paint/hardware.

All UPF tanks 50 gallons or less utilized for non-fire applications and installed on specialty vehicles such as ATVs, trailers, boats, etc. are covered under a separate warranty policy available from UPF. Further, UPF Protector™ foam and water trailers are warranted under a separate warranty policy available from UPF.

This UPF warranty is transferable within the United States only with prior written approval by UPF (except an original apparatus manufacturer may assign this warranty to the first titled owner/lessee of the apparatus).

**UPF will NOT reimburse any unnecessary work and/or work that has not been pre-approved. Any and all third party charges must be pre-authorized and approved in writing by UPF prior to commencing the work. Any unauthorized third party repairs, alterations, actions or modifications will not be covered and can void the warranty. UPF will be the sole determining authority as to whether a service claim will be valid and covered under this warranty.**

In no event will UPF be liable for an amount in excess of the purchase price of the booster/foam tank at the time of manufacture or for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of failure of its product. Loss of contents (water, foam, etc.) shall not be the responsibility of UPF. Further, UPF is not responsible for costs associated with service repairs to chassis, sub-frames, bodies, valves, dumps, hoses, pressure vacuum vents, and other components (i.e. liquid level transducers, etc.). Further, UPF will not cover the cost for travel of the vehicle to and from a repair facility.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UPF neither assumes, nor authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation or incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you.

**THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATION OR LIABILITIES ON THE PART OF UPF.**



# BULLETIN

**TO: All Dealer Service Representatives**

**From: Kevin Hanegraaf**

**DATE: January 4, 2010**

**RE: UPF Tank Warranty Policy – Truck in Accident**

**Service Topic #292**



---

To keep the UPF tank warranty valid on trucks that have been involved in a vehicular accident, it is UPF's policy that the customer must remove the tank from the truck and send it back to one of UPF's facilities for inspection. In the event that this does not take place, the warranty will be considered null and void.

The customer must remove and send the tank back to UPF for inspection in order to maintain the original warranty coverage, at which time it will be:

- *Filled with water*
- *Visually inspected*
- *Ultraviolet spark tested on articulating test stand in the dark*
- *Recommendation for repairs if necessary provided by UPF*
- *Fully evaluated and repaired by UPF*

If your customer chooses to leave the tank on the truck and wants a technician to inspect and/or repair the tank in the field, then **the warranty is no longer in effect.** This direction is upheld by UPF because the technician cannot inspect the entire tank when it is still installed on the truck.

**Note:** This memo is intended to relay the information Pierce has received on UPF's tank warranty for trucks that are in a vehicular accident. In the event of an actual claim, we direct you to consult with UPF's service Manager Maura Watts (800-638-8265 x253)



# Fire and Rescue Apparatus

## Ten (10) Year Structural Integrity Apparatus Body

# Limited Warranty

### 1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

<b>Coverage:</b>	<b>The apparatus body shall be free from structural failures caused by defects in material and workmanship</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Ten (10) Years - or - 100,000 Miles</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<b>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.</b>  <b>This warranty does not apply to damage caused by corrosion.</b>

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.*

# Waterous Seven-Year Limited Warranty

WATEROUS warrants, to the original Buyer only, that products manufactured by WATEROUS will be free from defects in material and workmanship under normal use and service for a period of seven (7) years from the date the product is first placed in service, or seven and one-half (7-1/2) years from the date of shipment by WATEROUS, whichever period shall be the first to expire; provided the Buyer notifies WATEROUS, in writing, of the defect in said product within the warranty period, and said product is found by WATEROUS to be nonconforming with the aforesaid warranty. When required in writing by WATEROUS, defective products must be promptly returned by Buyer to WATEROUS at WATEROUS' plant at South St. Paul, Minnesota, or at such other place as may be specified by WATEROUS, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested by phone, fax, email, or mail. The aforesaid warranty excludes any responsibility or liability of WATEROUS for:

- (a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, or improper maintenance, or attributable to written specifications or instructions furnished by Buyer;
- (b) defects in products manufactured by others and furnished by WATEROUS hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, WATEROUS will assign to Buyer, if requested by Buyer;
- (c) any product or part, altered, modified, serviced or repaired other than by WATEROUS, without its prior written consent;
- (d) the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation; and
- (e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.).

**ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.**

The exclusive remedy of Buyer and the sole liability of WATEROUS, whether based on contract, warranty, tort or any other basis of recovery whatsoever, is expressly limited at the election of WATEROUS to:

- (a) the replacement at the agreed point of delivery of any product or part, which upon inspection by WATEROUS or its duly authorized representative, is found not to conform to the limited warranty set forth above, or
- (b) the repair of such product or part, or
- (c) the refund or crediting to Buyer of the net sales price of the defective product or part.

**BUYER'S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.**

Waterous Company  
125 Hardman Avenue South  
South St. Paul, MN 55075 USA  
[www.waterousco.com](http://www.waterousco.com)





Ten (10) Year Material and Workmanship
Stainless Steel Piping
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Table with 2 columns: Label (Coverage, Warranty Begins, Warranty Period Ends After, Conditions and Exclusions) and Description (Stainless steel piping shall be free from structural failures... The date of the original purchase invoice... Ten (10) Years - or - 100,000 Miles... Pierce's obligation under this warranty is limited to repairing or replacing without charge... This warranty does not cover the use of fluoroprotein (FP) type foam...)

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...
(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions...
(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...
(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period...

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.

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.

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.

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.

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.



# 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:

<b>Coverage:</b>	<b>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.</b>
<b>Warranty Begins:</b>	<b>The date of the original purchase invoice (issued when the product ships from the factory).</b>
<b>Warranty Period Ends After:</b>	<b>Ten (10) Years</b>
<b>Conditions and Exclusions:</b>  <b>See Also Paragraphs 2 thru 4</b>	<p><b>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</b></p> <p><b>Topcoat Durability &amp; Appearance: Gloss, Color Retention &amp; Cracking</b>  0-72 months 100%  73-96 months 50%  97-120 months 25%</p> <p><b>Integrity of Coating System: Adhesion, Blistering/Bubbling</b>  0-36 months 100%  37-84 months 50%  85-120 months 25%</p> <p><b>Corrosion: Dissimilar Metal and Crevice</b>  0-36 months 100%  37-48 months 50%  49-72 months 25%  73-120 months 10%</p> <p><b>Corrosion Perforation</b>  0-120 months 100%</p> <p><b>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.</b></p> <p><b>Items not covered by this warranty include:</b>  (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.

# **5 DEALER SUPPLIED PRODUCTS AND /OR SERVICES**

**Exhibit "D"**

**DEALER SUPPLIED EQUIPMENT and/or SERVICES**

The following items and/or services will be provided **PER UNIT** by Golden State Fire Apparatus Inc. (GSFA) prior to final delivery:

**LICENSED MANUFACTURER**

The State of California Vehicle Code, section 11701 requires “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 has a current license at the time of the proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

**LICENSED DEALERSHIP**

The State of California Vehicle Code, section 11701 requires 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. has a current license at time of bid as outlined above and is available upon request. Temporary licenses are not acceptable.

**LICENSED SALES REPRESENTATIVE**

The State of California Vehicle Code, section 11800 requires that it shall be “unlawful for any person to function as a vehicle salesperson without having first procured a license issued by the Department of Motor Vehicles (DMV)”. The representative has a current vehicle salesperson’s license at the time of proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

**VEHICLE REGISTRATION**

The State of California Vehicle Code section 11739 requires 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). Golden State Fire Apparatus, Inc. is a factory-authorized dealer of the vehicle being sold and is authorized to register with the State of California as a new vehicle manufacturer.

GSFA will make all necessary applications and complete all transfer papers, including applying for California Exempt “E” license plates.

**WEEKLY PROGRESS PHOTOGRAPHS**

GSFA will provide weekly photographs of the apparatus or the major components as they are being constructed. The photographs will commence at the start of the manufacturing process and will continue through production by the manufacturer. The reports will show the progress of the apparatus through the course of each week. Special attention will be given to the unique features and aspects of the apparatus as construction progresses.

**PRE-CONSTRUCTION, FACTORY TRIP**

A pre-construction trip to the manufacturing facility will be provided for five (5) Customer representative(s). The intent of this trip is to review and finalize, in detail, the specifications prior to the start of production. The pre-construction trip will have a duration of four (4) days and three (3) nights and be scheduled at times mutually agreed upon between GSFA and the Customer. Costs for airfare, lodging, meals, and ground transportation while at the manufacturer’s location will be the responsibility of GSFA. Air travel will be from one of the following airports: Fresno, Sacramento, San Francisco, or San Jose.

Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory will be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

*Please note that one (1) factory pre-construction trip has been priced for the two units being proposed (meaning that the cost for this inspection trip, has been spread evenly over two units).*

#### **FINAL INSPECTION, FACTORY TRIP**

A final inspection trip to the manufacturing facility will be provided for five (5) Customer representative(s). The intent of this trip is to ensure that the apparatus is built to specification and to detect any deficiencies that require correction. The final inspection trip will have a duration of three (3) days and four (4) nights and be scheduled at times mutually agreed upon between Golden State Fire Apparatus (GSFA). and the Customer. Costs for airfare, lodging, meals, and ground transportation while at the manufacturer's location will be the responsibility of GSFA. Air travel will be from one of the following airports: Fresno, Sacramento, San Francisco, or San Jose.

Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory will be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

*Please note that one (1) factory final inspection trip has been priced for the two units being proposed (meaning that the cost for this inspection trip, has been spread evenly over two units).*

#### **LADDERS**

One (1) Alaco model 2300-24 Wood, 2 section extension ladder with dimensions of 24'-0" Long x 22" Wide and three (3) coats of Watco Oil finish with Black and White ends will be provided.

One (1) Alaco model 2304-14 Wood, roof ladder with hooks with dimensions of 14'-0" Long x 15" Wide and three (3) coats of Watco Oil finish with Black and White ends will be provided.

One (1) Alaco model 2305-10 Wood, folding attic ladder with dimensions of 10'-0" Long X Standard Width and three (3) coats of Watco Oil finish will be provided.

The above ladders will be crated and shall be shipped directly to the City of Alameda Fire Department.

The City of Alameda Fire Department shall be responsible for storage and uncrating of the ladders.

Crate and Freight costs are included in this proposal.

#### **HIGH FLOW BALL INTAKE VALVES**

Two (2) Task Force Tips model #AX8NR-NX manually operated lightweight aluminum high flow ball intake valves shall be provided. The unit shall be equipped with an adjustable pressure relief valve under the main valve body with an eight-position adjustable inlet elbow. The valve shall be controlled with an NFPA compliant slow-close hand wheel gear operator which can be configured for left or right hand

operation. A 3/4" bleeder valve shall be provided to exhaust excess air or water from the valve and hoseline. A position indicator shall be provided to allow for quick visualization of the status of the valve in the open, closed or partial positions. For maximum corrosion protection the aluminum casting shall be hardcoat anodized, with a powder coat internal and external finish and all components facing the wet side of the valve shall be constructed from hard coat anodized aluminum alloy with corrosion resistant coating.

The connections shall be: 4-1/2" male NH rigid with 30 degree swiveling detent elbow and a 6" female NH swivel long handle connection and include polymer bearing strips for prevention of galvanic corrosion. The unit shall have a unique serial number. The valve shall be covered by a 10-year warranty against manufacturing defects and corrosion that affect the valve's operational performance.

**FIRE HOSE**

The following fire hose is included in the quotation:

Quantity	U/M	Description
10	EA	Key <b>DP25-800</b> Big 10 Heavy Duty Double Jacket Rubber Lined, All Polyester Attack Hose, 2.5" x 50', CPLD 1.5" NST, <b>Color: Tan</b> <b>Stenciled on Female End: "ALAMEDA FD"</b>
9	EA	Key <b>DP40-600</b> HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 100' with 4.5" NST, <b>Color: Yellow</b> <b>Stenciled on Female End: "ALAMEDA FD"</b>
2	EA	Key <b>DP40-600</b> HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 50' with 4.5" NST, <b>Color: Yellow</b> <b>Stenciled on Female End: "ALAMEDA FD"</b>
3	EA	Key <b>DP40-600</b> HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 25' with 4.5" NST, <b>Color: Yellow</b> <b>Stenciled on Female End: "ALAMEDA FD"</b>

The above fire hose shall be shipped directly to the City of Alameda Fire Department.

The City of Alameda Fire Department shall be responsible for storage and unboxing of the fire hose.

Freight costs are included in this proposal.

**CONTINGENCY RESERVE FUND**

A contingency reserve fund in the sum of \$70,000 is included in the quotation to cover the cost of change orders, unforeseen items due to EPA 2027 motor compliance or required work that may come up during the contract to be used at the discretion of the City of Alameda. This reserve fund is not an

estimate of those contingencies, and the cost of change orders, unforeseen items or required work could exceed the amount reserved depending on their nature. Any unused portion of this reserve fund will be credited back on the final invoice or returned in the form of a check to the City of Alameda promptly following final invoicing.

#### **FIRE FIGHTING EQUIPMENT FUND**

A firefighting equipment fund in the sum of \$70,000.00 is included in the quotation. Any unused portion of this fund will be credited back on the final invoice or reimbursed in the form of a check to the City of San Jose.

#### **DELIVERY TO AUTHORIZED SERVICE FACILITY**

GSFA will, at their expense, deliver the apparatus (including any applicable equipment, spare parts, and supplies) to their Northern California facility in Sacramento for a dealer preparation inspection.

To ensure proper break-in of all components while still under warranty, the apparatus shall be delivered under its own power - rail or truck freight shall not be acceptable.

#### **PRE-DELIVERY SERVICE**

After transportation from the factory and prior to delivery, the apparatus will receive a pre-delivery service to confirm proper operation and correction of any issues found as a result of said inspection. The Golden State Fire Apparatus, Inc. pre-delivery service consists of the following:

- Engine Compartment and Undercarriage – Check for any broken mounting brackets and inspect for correct capacities of the following (if applicable): engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear end fluid, pump transmission oil, and primer oil.
- Interior – Operate all doors, windows, and locks for proper adjustment. Check upholstery.
- Exterior – Repair reasonable paint scratches or chips. Tighten any loose hardware and inspect tires and wheels for proper pressure and lug torquing.
- Road Test – With the water tank (if applicable) full, the apparatus will be driven approximately twenty miles which allows the drive train components to get up to operating temperature. Road test will be on both city and highway roads. A DOT compliant brake test will be conducted to ensure the system is holding air. The brake condition and wheel seals will also be inspected.
- Electrical - Operate all lights, sirens, and other electrical accessories to verify operation.
- Pump - If applicable, vacuum test the pump to hold for 15 minutes. After vacuum test, operate the relief valve, transfer valve and check pump shift. Check water tank for leaks and inspect water level gauge for calibration. With discharge caps loose, rapid test all individual gauges and main gauges for calibration. Lubricate valve rods.
- Foam System – If applicable, tighten caps and connect foam lines. Test selector, valves, metering valve and operation of foam system (including flush).
- Fuel Tank - Fuel tank will be filled at the dealership location prior to final delivery.

- DEF Tank - DEF tank will be filled at the dealership location prior to final delivery.
- Wash - The apparatus will be thoroughly washed at the dealership location prior to final delivery.

**FINAL DELIVERY (CUSTOMER LOCATION)**

GSFA will, at their expense, deliver the Product (including any applicable equipment, spare parts, and supplies) to the Customer specified address once completed. Prior to delivery of the Product, Customer agrees to provide proof of liability and physical damage insurance to GSFA. GSFA will not release the Product to the Customer until such proof of insurance is provided.

It is the responsibility of the Customer to have any outstanding balance due, paid in full to GSFA, prior to or at the time that the Product is complete and ready to deliver. If payment is late or delivery is delayed pending payment, a daily finance charge of \$150.00 and a daily storage fee of \$50.00 may apply until such payment is received.

Due to insurance liability, the Product will not be delivered without full acceptance and full payment (or prior written agreement between the Customer and GSFA).

**END OF EXHIBIT "D"**