

EXHIBIT 1

PREPARED ESPECIALLY FOR:

CITY OF ALAMEDA

One (1) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumper





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goldenstatefire.com

PRODUCT PROPOSAL



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 (\$218,196.02) 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 Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
03/19/2025	04/30/2025	90319-25A	983	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 <u>CITY OF ALAMEDA</u> ("Customer") for consideration. This proposal (this "Product Proposal") includes the following exhibits attached hereto: the Standard Terms and Conditions attached as <u>Exhibit A</u> (the "Terms and Conditions"); the Product Specifications attached as <u>Exhibit B</u> (the "Specifications"); the Product Warranties attached as <u>Exhibit C</u>; and the Dealer Supplied Products and/or Services attached as <u>Exhibit D</u> (the "Dealer Supplied Products/Services List") (all of the foregoing, collectively, the "Agreement"). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the "Executed Date").

ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumper	1,393,128.00
В	Discount for 100% Payment at Time of Order (the "Prepayment Discount")	(196,549.00)
C	SUBTOTAL	1,196,579.00
D	10.75% State Sales Tax	128,632.24
E	California Tire Fee	10.50
F	100% Performance Bond	3,355.00
G	GRAND TOTAL PURCHASE PRICE	1,328,576.74

<u>PAYMENT TERMS</u> – 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.

<u>PRODUCT COMPLETION</u> – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately <u>49 to 52 MONTHS</u> 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.

<u>COUNTERPARTS</u> - 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 <u>dated 03/19/2025</u>, <u>GSFA Proposal Number 90319-25A</u> 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 Mobile: (209) 613-3809

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
03/19/2025	04/30/2025	90319-25B	983	Pierce Manufacturing, Inc.	Sourcewell #113021- OKC-1, ID #259, Member #926

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ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumper	1,393,128.00
В	10.75% State Sales Tax	149,761.26
C	California Tire Fee	10.50
D	100% Performance Bond	3,873.00
E	GRAND TOTAL PURCHASE PRICE	1,546,772.76

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 (<u>or</u> 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 <u>or</u> 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.





<u>PRODUCT COMPLETION</u> – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately <u>49 to 52 MONTHS</u> 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 <u>dated 03/19/2025</u>, <u>GSFA Proposal Number 90319-25B</u> to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

Signature of Authorized Customer Representative

Print Name

Title

Signature of Authorized GSFA Representative

ACCEPTED AND AGREED TO BY GSFA

Print Name

Title

Date

Date



goldenstatefire.com

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 <u>Exhibit D</u>, 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.
- "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.
- I. "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 <u>Exhibit C</u>.
- 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. <u>Purchase</u>. 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. <u>Contingency Reserve Fund</u>. 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 <u>Exhibit D</u>. 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 <u>Section 8.b</u>). 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. <u>Prepayment Discount</u>. 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 <u>Section 6</u>, in each case in GSFA's sole discretion.

d. <u>State Sales Tax</u>. 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. <u>Product Completion Date</u>. 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. <u>Stock / Demo Units</u>. Notwithstanding any other provision contained in the Agreement (including <u>Section 12</u> 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. <u>Multiple Unit Purchase</u>. 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. <u>Delivery</u>. Subject to <u>Section 5</u> 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 <u>Section 7.a</u>, 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. <u>Inspection and Acceptance</u>. 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. <u>Component Price Volatility; Increases Imposed by Manufacturer</u>. 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 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, then in lieu of the cancellation fees described in <u>Section 9.a</u> 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. <u>New Legal Standards</u>. 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. <u>Change Orders</u>. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by <u>Sections 8.b.i and 8.b.ii</u> 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 <u>Section 9</u>. Absent such a termination, failure to execute a Change Order does not alter Customer's obligations under this <u>Section 8.b</u>.

c. <u>Changes in Commercial Specifications</u>. 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. <u>By Customer</u>. Customer may terminate a Product order identified in the Product Proposal or a Change Order by providing written notice to GSFA in accordance with <u>Section 16</u> 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 <u>Section 16</u> (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

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

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

c. <u>Based on Discontinuation or Cancellation by Manufacturer</u>. 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. <u>Customer's Obligations</u>. 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. <u>Representations and Warranties</u>. 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. <u>Standard Warranty</u>. 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. <u>Disclaimer</u>. 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. <u>Exclusions of Incidental and Consequential Damages.</u> 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. <u>Default</u>. 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. <u>Force Majeure</u>. 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. <u>Notice</u>. 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 <u>Section 16</u>, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

<u>GSFA</u>: Golden State Fire Apparatus Inc. 7400 Reese Road Sacramento, CA 95828 <u>CUSTOMER</u>: To the address listed in the Product Proposal

17. <u>Contradictions</u>. 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. <u>Manufacturer's Statement of Origin</u>. 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. <u>Assignment</u>. 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. <u>Governing Law; Jurisdiction; Disputes</u>. 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 <u>Section 16</u> 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. <u>Entire Agreement; Amendments</u>. 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



goldenstatefire.com

B PRODUCT SPECIFICATIONS Exhibit "B"



Proposal Details Report

Pierce.	>	
Customer:	ALAMEDA CITY FIRE DEPARTMENT	Bid Number: 983
Representative	Klockzien, Dave	Job Number:
Requirements Manager:		Organization: Golden State Fire Apparatus, Inc
Description:	Enforcer Pumper (42172 Dup	
Chassis:	Enforcer Chassis	
		2nd Gen
-	• • • • • • • • • • • • • • • • • • • •	
		Golden State Fire Apparatus is pleased to submit a proposal to Alameda City FD for a Pierce ®
Body: OptionCode Type Op	Pumper, Medium, Aluminum,	ProposalText
		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 operator's manual library is available for easy reference.

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

LIABILÍTY

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 polices 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 polices 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	SINGLE SOURCE MANUFACTURER Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.
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	SPECIAL INSTRUCTIONS 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.
0816491	Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions	 NFPA 2024 STANDARDS This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions. 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.	 NFPA COMPLIANCY Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA". PUMP TEST Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department. GENERATOR TEST 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. BREATHING AIR TEST 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, Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection.
0816495	Certification, Vehicle Inspection Program, NFPA 1900	VEHICLE INSPECTION PROGRAM CERTIFICATION To assure the vehicle is built to current NFPA 1900 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.
0766110	Consortium, Sourcewell	
0537375	Unit of Measure, US Gallons	
0030006	Bid Bond Not Requested	BID BOND NOT REQUESTED A bid bond will not be included. If requested, the following will apply: All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract. Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.
0816571	Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond, PPI Terms	PERFORMANCE BOND, 1 YEAR The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required. Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) Year Ifrom 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.

000007	Approval Drawing	APPROVAL DRAWING A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc. A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.
0672031	Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only	DRAWING, CAB TOP VIEW 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.
0082910	Drawing, Compartment Layout, Standard Pumper Body	DRAWING, COMPARTMENT LAYOUT 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 & etc.
0683883	Electrical Diagrams, 12V As-Built on CD, Custom Chassis Pumper	 ELECTRICAL WIRING DIAGRAMS 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 zooming in on any section of 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 for m 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.
0649754	Enforcer Chassis	ENFORCER CHASSIS The Pierce Enforcer [™] is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.
0021007	Maximum Overall Height	MAXIMUM OVERALL HEIGHT The maximum overall height of the apparatus will be 10' 9".
0021010	Maximum Overall Length	MAXIMUM OVERALL LENGTH The maximum overall length of the apparatus will be 32' 11".
0000110	Wheelbase	WHEELBASE The wheelbase of the vehicle will be 187.5.
0000070	GVW Rating	GVW RATING The gross vehicle weight rating will be 48,500 lbs.
0729280	Frame Rails, 13.38 x 3.50 x .375, Enforcer	FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.

0889469	Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal	FRAME REINFORCEMENT 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. The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame.
0630705	Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Enforcer	 FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 lb. Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron. The center cross members and side plates will be constructed out of 80,000-psi yield strength steel. Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations. There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension. The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be zero degrees for optimum tire life. The ball joint bearing will be of low friction design and be maintenance free. Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided. The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle. The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase. The axle will have a turning angle of up to 45 degrees.
0030264	Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Enf/SFR	 FRONT SUSPENSION Front Oshkosh TAK-4[™] independent suspension will be provided with a minimum ground rating of 19,500 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment. Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side. The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.
0087572	Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.
0000322	Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply	FRONT TIRES 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.
0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	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.
0530460	Axle, Rear, Meritor RS26-185, 27,000 lb, Saber/Enforcer) REAR AXLE The rear axle will be a Meritor™, Model RS-26-185, with a capacity of 27,000 lb.
0544253	Top Speed of Vehicle, 68 MPH /109 KPH	TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.

0565380	Suspen, Rear, Single Slipper Spring, 27,000 lb, Saber/Enforcer	REAR SUSPENSION The rear suspension will be Standens, semi-elliptical, 3.00" wide x 52.50" long, 12-leaf pack with a ground rating of 27,000 lb. The spring hangers will be castings. The two (2) top leaves will wrap the forward spring hanger pin, and the rear of the spring will be a slipper style end that will ride in a rear slipper hanger. 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.
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0782552	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	REAR TIRES Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.
0019625	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	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.
0589368	Tire Balancing, All, Single Axle	TIRE BALANCE All tires will be dynamically balanced with wheel weights.
0606653	Tire PSI and Temp Monitoring System, Bendix Smartire, CZIII	TIRE PRESSURE MANAGEMENT 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. The system will have three (3) alert levels: Critical Low Pressure Alert Pressure Deviation Alert High Temperature Alert Each alert will trigger an audible alarm and an indicator light within the gauge to signal the driver of the problem The system will be covered by a five (5) year parts and labor warranty. Please see warranty document for details.
0801932	Lug Nut, Covers, Stainless Steel	LUG NUT COVERS Stainless steel lug nut covers will be installed on all lug nuts.
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.
0001960	Axle Hub Covers, Rear, S/S, High Hat (Pair)	REAR HUB COVERS A pair of stainless steel high hat hub covers will be provided on rear axle hubs.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0544802	Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	WHEEL CHOCKS There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.
0544806	Mounting Brackets, Chocks, SAC-44- E, Folding, Horizontal	• Wheel Chock Brackets There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted one (1) forward and one (1) rearward of the left side rear tire.

0820509	ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/ULC	ELECTRONIC STABILITY CONTROL A vehicle control system will be provided as an integral part of the ABS brake system from Meritor where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event. The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to brain the vehicle back to is intended direction. MTHLOC BRAKE SYSTEM The vehicle will be equipped with a Vabco 4S4M, anti-lock braking system. The ABS will provide a for (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 wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel tus helping to prevent the apparatus from skidding out of control. MTONET CRACT CONCONCINE Mathematical Restructions . The Automatic Traction Control will be used for fraction in poor road and weather conditions. The Automatic Traction Control will be used for fraction in poor road and weather conditions. The Automatic Traction Control will be used for fraction in poor road and weather conditions. The Automatic Traction Control will be used for fraction in poor road and weather conditions. The Automatic Traction Control will be used for fraction in poor road and weather conditions. The Automatic Traction Control will
0030185	Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	BRAKES The service brake system will be full air type. The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance. The brake system will be certified, third party inspected, for improved stopping distance.
0509206	Brakes, Meritor, EX225, Disc Plus, Rear, Single Axle	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.
0020784	Air Compressor, Brake, Cummins/Wabco 18.7 CFM	BRAKE SYSTEM AIR COMPRESSOR The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.
0644232	Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber FR/Enforcer	 BRAKE SYSTEM The brake system will include: Brake treadle valve Heated automatic moisture ejector on air dryer Total air system minimum capacity of 4,272 cubic inches Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi Spring set parking brake system Parking brake operated by a push-pull style control valve A parking "brake on" indicator light on instrument panel Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa) 1/4 turn drain valves on each air tank The air tank will be primed and painted to meet a minimum 750 hour salt spray test. The air tank swill be painted same as frame color. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0587034	Air Dryer, Bendix, AD-IP w/Heat, 2010	BRAKE SYSTEM AIR DRYER The air dryer will be a Bendix AD-IP, with coalescing filter and heater.
0000790	Brake Lines, Nylon	BRAKE LINES Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.
0000854	Air Inlet, w/Disconnect Coupling	AIR INLET One (1) air inlet with 3D series male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located forward in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female fitting will also be provided with the loose equipment.

0643363		Outlet, Air, with Shut Off Valve, Location	AIR OUTLET 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.
0000840		Air Tank, Additional for Air Tools w/Outlet	AIR TANK FOR TOOLS 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 air tank(s) will be painted same as frame color. 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.
0000845		Air Tank, Additional for Extra Capacity	ADDITIONAL AIR TANK An additional air tank with 1454 cubic inch displacement will be provided to increase the capacity of the main air brake system. This tank will be plumbed into the rear half of the brake system. The air tank will be primed and painted to meet a minimum 750 hour spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets. The air tank(s) will be painted same as frame color. The output flow of the engine air compressor will vary with engine rpm. Full compressor output will only be achieved at governed engine speed. Engine speed will be limited by generators, pumps and other PTO driven options.
0589828	SP	Air Tanks, Mount High, Maximize Ground Clearance	AIR TANK MOUNTING Air tanks will be installed to maximize ground clearance. Smaller tanks may be required to allow for them to be mounted higher for increased ground clearance.
0000810		All Wheel Lock-up	ALL WHEEL LOCK-UP An all wheel lock-up system will be installed which will apply air to the front brakes and use the spring brake at the rear. A control switch will be provided for the driver on the instrument panel.
0808497		Engine, Cummins X15, 565 hp, 1850 Ib-ft, W/OBD, EPA 2027, Enforcer	ENGINE 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 filter from Cummins®. 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 give the A10W30 oil as required by Cummins.
000000	STF	Engine Contingency Adjustment	
0730808		Filters, Remote Mounted, Oil, Fuel, X15, VEL/AXT/Enf	REMOTE MOUNTED ENGINE FILTERS The engine fuel and oil filters will be remote mounted for ease of maintenance.

0001244	High Idle w/Electronic Engine, Custom	HIGH IDLE A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation. The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	 ENGINE BRAKE A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver. The driver will be able to turn the engine brake system on/off and have a high, medium and low setting. The engine brake will activate when the system is on and the throttle is released. The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine. The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated. The ABS system will automatically disengage the auxiliary braking device, when required.
0552334	Clutch, Fan, Air Actuated, Horton Drive Master	CLUTCH FAN A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.
0644573	Air Intake, Water & Ember Screen, Saber FR/Enforcer	ENGINE AIR INTAKE The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille. 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.
0814375	Exhaust System, Horizontal, Right Side	EXHAUST SYSTEM 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. 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. 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.
0829493	Radiator, Enforcer X15	 RADIATOR The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards. For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. The radiator core will have a minimum front area of 1060 square inches. The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain. The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.
0001090	Cooling Hoses, Rubber	COOLANT LINES Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing. Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping a constant clamping pressure on the hose.

0001125	Fuel Tank, 65 Gallon, Left Side Fill	FUEL TANK A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A 0.75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only." A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.
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	DIESEL EXHAUST FLUID TANK 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. A 0.50" drain plug will be provided in a low point of the tank for drainage. A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the air bottle storage behind a common door on the driver side of the vehicle. The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.
0723716	Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	FUEL PRIMING PUMP A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.
0582243	Shutoff Valves, Fuel Line @ Primary Filter, Cummins	FUEL SHUTOFF A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.
0553019	Cooler, Engine Fuel, Imp/Vel, SFR/Enf	FUEL COOLER An air to fuel cooler will be installed in the engine fuel return line.
0578959	Fuel/Water Separator, Racor Inline	FUEL SEPARATOR The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	 TRANSMISSION 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	TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0522824	Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 6 speed	DOWNSHIFT MODE (w/engine brake) The transmission will be provided with an aggressive downshift mode. This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.
0801876	Fluid, 4000 Series Trans, Allison Approved TES-668 Synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid.

0001375		Driveline, Spicer 1810	DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
0669988		Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
0605356		Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0690274		Logo/Emblem, on Dash	LOGO AND CUSTOMER DESIGNATION ON DASH 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	BUMPERThe 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 45degree 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 Cchannel frame. The frame will be a bolted modular extension frame constructed of 50,000 psitensile steel. GRAVEL PAN A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumperand cab face. The gravel pan will be properly supported from the underside to prevent flexing andvibration of the aluminum treadplate.
0778092		Lift & Tow Package, Enforcer	LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.
0072272		Tow Eyes, Chrome, Below Deck	TOW EYES 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.
0692444		Recess, Front/Side Warning Light, In Angled Corner of Extended Bumper	SIDE ZONE LIGHT MOUNTING 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.
0030434		Travel Stops, Front Inlet/Outlet Swivel, Qty & Location	SWIVEL STOPS 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.
0770911	SP	Hose Restraint, Seat Belt Style, Push Button Style, Hose Pack, (4), Black	HOSE RESTAINT STRAPS 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.

0816883	SP	Tray, Bumper, Top surface Mntd, 55" W x 6" F to B x 6" H, 1.75" Hose	HOSE TRAY 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.
0698960		Coating, Top Flange, Front Bumper, Outside Exterior, UL-LX Coating, Black	FRONT BUMPER UL-LX COATING 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.
0625650		Cab, Enforcer, 7000	 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), and filler (side center posts), can filler will be constructed of two (2) 200° x 1.00° inner aluminum extrusions. All main vertical structural members will a constructed of solid A356-T5 aluminum castings. The B-pillar and co-pillar will be constructed of two (2) 200° x 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 toro de extrusions to provide a cage-like structure with the A-pillar and cof extrusions being welded into a 0.25° thick corner casting at each of the front corners of the root assembly. The front of the cab will be constructed of a 0.13° firewall plate, covered with a minimum 0.090° front skin thickness, and reinforced at 0.13° firewall plate, and the front skin. The cab floors will be constructed of 10.02° thick cross-cab support located just below the windshield and fully welded to the angine tunnel. The cross-cab support located just below the windshield and fully welded to floor area will also be supported with two (2) rangular 0.30° wall extrusions that also provides the mounting point for the cab lift. This tubing will run front the fornt floor area. The front floor area will also be supported with two (2) ritargular 0.30° wall extrusions. The coverall height (from the cab roof to the ground) of approximately 99.00°. The overall height listed the floor to the subversion, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and s

0727969		Engine Tunnel, X15, Foil Insulation w/Mech Fasteners, Enforcer	ENGINE TUNNEL Engine tunnel side walls will be constructed of 0.375" aluminum. The top will be constructed of 0.125" aluminum and will be tapered at the top to allow for more driver and passenger elbow room. The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards. The engine tunnel will be no higher than 18.00" off the crew cab floor.
0887601		Cab Insulation, Enforcer/Saber FR	INTERIOR CAB INSULATION The cab will include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, a minimum of 1.00" insulation in the crew cab floor, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.
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	 CAB LIFT A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves. Hydraulic pump will have a manual override for backup in the event of electrical failure. Lift controls will be located on the right side pump panel or front area of the body in a convenient location. 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. For hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the chanical 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. Ma Lift Interlock Ma Lift Interlock The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.
0695930		Grille, Bright Finished, Front of Cab, Enforcer	GRILLE A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab.
0794201		Scuffplate, Aluminum Treadplate, Outboard Vertical Floor Risers,Crew Cab,SFR/Enf	STEP RISER SCUFFPLATE Aluminum treadplate scuffplates will be provided on the vertical surface between the crew cab steps and floor in the crew cab.
0722550		Scuffplates, S/S At Cab Door Jambs, 4-Door Cab, Full Coverage, Full Height	DOOR JAM SCUFFPLATES All cab door jambs will be furnished with a brushed 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.
0758591	SP	Caulk, Cab/Crew Cab Stepwell Edge, Aluminum Treadplate	CAB AND CREW CAB STEPWELL CAULK The cab and crew cab stepwell aluminum treadplate shall have edges sealed with caulk. The cab stepwell area shall be caulked at the rearward edge along the fender curve at the treadplate transition. The crew cab stepwell area shall be caulked at the forward edge along the fender curve at the treadplate transition.
0647932		Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	
0015440		No Chrome Molding, On side of cab	

0032189	Mirrors, Ramco, 8000PCHR, Heated/Remote, w/Heated/Remote Convex, Door Mount	MIRRORS 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. The mirror head will have a highly polished aluminum finish. The flat glass in each mirror will be heated and adjustable, with remote controls that are convenient to the driver. The convex section in each mirror will be heated and adjustable, with remote controls that are convenient to the driver.
0648171	Door, Half-Height, Saber FR/Enforcer 4-Door Cab, Level Roof	 DOORS 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 throme handle will be provided on the inside of each cab door for ease of entry. A chrome handle will be provided on the inside of each cab door for ease of entry. A chrome handle will be provided on the inside of each cab door for ease of entry. A chrome handle will be provided on the inside of each cab door stop strap. The grab handles will be executely mounted. The bothor cab step at each cab door location will be located below the cab doors and will be expo
0655537	Door Panel, Polished Stainless Steel, Saber/Enforcer 4-Door Cab	Door Panels The inner cab door panels will be constructed out of polished stainless steel.
0528958	Not Required, Controls, Electric Window, AXT, Quantum, Saber, Enforcer	MANUAL CAB DOOR WINDOWS All cab entry doors will contain a conventional roll down window.
0528251	Electric Door Locks, Cab Doors, QXS, AXT, Sab, Enf, Dash CF	ELECTRIC CAB DOOR LOCKS 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	CAB STEPS The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with 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	CAB EXTERIOR HANDRAILS 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	STEP LIGHTS 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 side cab 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 crew cab access steps. One (1) light for the right side cab access steps. One (1) light for the right side cab 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	FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.
0637984		Window, Side of C/C, Fixed, Saber FR/Enforcer	CREW CAB WINDOWS One (1) fixed window with tinted glass will be provided on each side of the cab, to the rear of the front cab door. The windows will be sized to enhance light penetration into the cab interior. The windows will measure 18.70" wide x 23.75" high.
0786278		Window Tint, Crew Cab Door, Right Side, Medium Gray	RIGHT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the right side crew cab door will be tinted medium gray.
0786283		Window Tint, Behind Cab Door, Right Side, Medium Gray	BEHIND RIGHT SIDE CAB DOOR WINDOW TINT The window behind the right side front cab door will be tinted medium gray.
0786289		Window Tint, Crew Cab Door, Left Side, Medium Gray	LEFT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the left side crew cab door will be tinted medium gray.
0786295		Window Tint, Behind Cab Door, Left Side, Medium Gray	BEHIND LEFT SIDE CAB DOOR WINDOW TINT The window behind the left side front cab door will be tinted medium gray.
0898690		Compt, Transverse C/C, Dbl Pan, Rec Tube, 70" SFR/Enf	 STORAGE COMPARTMENT Provided under the forward facing crew cab seats will be a transverse compartment. The compartment will be 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 16.50" wide x 25.50" high x 15.00" deep on both sides. A 7.50" diameter tube will be provided in the compartment located on each side of the cab. Part of the tube will be recessed below the compartment floor. The overall height of the tube will be 5.50" high at the back and 4.00" high at the front of the compartment for ease of removing the extinguisher. There will be two (2) reverse hinged double pan doors painted to match the cab exterior with a locking D-Ring latch with #751 key, one (1) on each side of the cab with a web strap for each exterior door provided as a door stop. The clear door opening of each compartment door will be 10.25" wide x 32.00" high. The exterior access will be provided with no scuffplate on the lower door frame. There will be no access with no louvers on the forward face of the seat riser. The exterior of the compartment will be painted to match the cab interior color. The interior of the compartment will be painted spatter gray. Compartment Light There will be eight (8) white LED strip lights, one (1) each side of lower and upper exterior compartment door opening. The lighting will be controlled by an automatic door switch.
0750772	SP	Trough for D-handle, Pike Pole Storage, Transverse Compartment	PIKE POLE STORAGE 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. 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.
0745808		Scuffplate, Inner Door Pan, Aux Cab Compts, Pair	SCUFFPLATE A full height polished stainless steel scuffplate will be installed on the inside of each of the auxiliary cab compartment door pans.
0794837		Scuffplates, S/S, Door Frame, Three Sides, Exterior Cab Compts	SCUFFPLATE Both crew cab exterior compartments will be furnished with a scuffplate on three (3) sides of each door frame. Each scuffplate will be polished stainless steel with a 0.38" lip down.
0816708	SP	Tubes, Alum, Pike Pole Storage	PIKE POLE STORAGE 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. The size and brand of the pike poles stored will be Firehooks Unlimited 6' steel NY Hook w/ pry end .

0602317		Storage Pockets, Elastic Cover, Recessed, Switch Panel, Saber FR/Enf	RECESSED POCKET WITH ELASTIC COVER To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be approximately 6.00" wide x 2.12" high and will be constructed of aluminum. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. There will be two (2) pockets installed to be determined. Pockets will only be installed in locations where there is available depth behind the panel.
0539585		Cover, Aluminum, Painted to Match Cab Interior	COVER There will be one (1) painted aluminum cover(s) located over MedVault in forward facing cabinet to protect the wiring and antenna.
0816728	SP	Drug Locker, Knox, MedVault Mini, 5230S3*, Surface Mounted	KNOX MEDVAULT 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.
0894089		Dash, Heavy Duty Metal, Enforcer	CAB DASH The driver side dash, switch panel located to the right of the driver, and center console will be constructed of metal and painted fire smoke gray. The officer side dash will be a flat top design with an upper beveled edge to provide easy maintenance and will be constructed out of aluminum and painted to match the cab interior. The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.
0894499	SP	Work Surface, 1/4" Alum, Eng Tnl, Back 5", To RF Cabinet, Flange,Lip x 2,SFR/Enf	WORK SURFACE ON ENGINE TUNNEL 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. The beginning of the work surface will be spaced 1.50" off the top surface of the engine tunnel. 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" 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. The mounting surface will be painted to match the cab interior.
0750824		Cab Interior, Vinyl Headliner, Saber FR/Enforcer, CARE	 CAB INTERIOR The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service. 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. For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum. 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. The forward portion of the cab headliner will permit easy access for service of electrical wiring or other maintenance needs. All wiring will be placed in metal raceways. CAB INTERIOR UPHOLSTERY The cab interior upholstery will be 36 oz dark silver gray vinyl.
0753903		Cab Interior, Paint Color, Saber FR/Enforcer	CAB INTERIOR PAINT The cab interior metal surfaces, excluding the rear heater panels, will be painted fire smoke gray, vinyl texture paint. The rear heater panels will be painted black, vinyl textured paint.
0052100		Floor, Rubber Padded, Cab & Crew Cab, Saber/Enforcer	CAB FLOOR The cab and crew cab floor areas will be covered with Polydamp [™] acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler. The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.

HVAC, Heavy-Duty, Enforcer, w/X15, DEFROST/AIR CONDITIONING SYSTEM

A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.

Cab Defroster

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 outlet directed towards the left side cab window.

One (1) adjustable outlet directed towards the right side cab window.

Six (6) fixed outlets 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.

Cab/Crew Auxiliary Heater

There will be no auxiliary heater provided in the rear facing seat risers.

Air Conditioning

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 to match the cab roof.

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) outlets directed towards the seating position on the left side of the cab.

Four (4) outlets 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) outlets 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. Climate Control

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.

Gravity Drain Tubes

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.

0639675	Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf	SUN VISORS 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.
0622887	Grab Handles, Driver Door Post, Officer Door Post Low, Saber FR/Enforcer	GRAB HANDLE 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.
0583938	Lights, Engine Compt, Custom, Auto Sw, WIn 3SC0CDCR, 3" LED, Trim	ENGINE COMPARTMENT LIGHTS 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.
0631830	Fluid Check Access, Saber FR/Enforcer, Arrow XT	ACCESS TO ENGINE DIPSTICKS For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.

0817150	SP	Console, 2 Cup Holders, 4" Diameter x 4 H x 1" Slit, Matting, Center Tray, Size	CUP HOLDER/STORAGE CONSOLE 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.
0599959		Straps, Velcro, Map Box, Custom Chassis	VELCRO STRAP(S) FOR MAP BOX There will be two (2) Velcro® strap(s) installed at final inspection.
0002501		Map box, 4 bin/30 Deg Slant, Custom Chassis	MAP BOX 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.
0583042		Side Roll and Frontal Impact Protection	 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 with devices to retract them to the lowest travel position during a side roll or frontal impact event. Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event. The SX 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 front air bag The cash and chassis will have been subjected, via third party test facility, to a crash impact during format and oblique impact esting. Testing included all major chassis and cab components, rear suspension components, frame rail cro
0622617		Seating Capacity, 6 Belted 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, PRIMARY, SFR/Enf	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, PRIMARY, Enf 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	RADIO COMPARTMENT A compartment for the radio amplifier will be located on the floor of the cab behind the officer seat. A lift-up door with a chrome plated lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.
0792717	Seat, Rr Fcng C/C, LS Otbrd, USSC, Valor, SCBA, 17" Btm, Safety, PRIMARY,SFR/Enf	REAR FACING DRIVER SIDE OUTBOARD SEAT 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 17.00" deep cushion. 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 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. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.
0102783	Not Required, Seat, Rr Facing C/C, Center	
0792718	Seat, Rr Fcng C/C, RS Otbrd, USSC, Valor, SCBA, 17" Btm, Safety, PRIMARY,SFR/Enf	REAR FACING PASSENGER SIDE OUTBOARD SEAT 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 17.00" deep cushion. 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 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. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.

0757156		Seat, Fwd Fcng C/C, LS Otbrd, USSC, Valor,I- Back,Foldup,Safety,SECONDARY,S FR/Enf	FORWARD FACING LEFT SIDE OUTBOARD SEAT 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. The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position A seat safety system will be included. When activated, this system will pretension the seat belt. The seat will be furnished with a 3-point, shoulder type seat belt. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers.
0816689	SP	Cabinet, Forward Facing, Center, 38.50 W x 40 H x 16.25 D, Web, SFR/Enf	FORWARD FACING CENTER CABINET A forward facing cabinet will be provided in the crew cab at the center position. 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. The cabinet will include two (2) infinitely adjustable shelves with a 1.25" up-turned lippainted to match the cab interior. The cabinet will include no louvers. The cabinet will be constructed of smooth aluminum, and painted to match the cab interior. Cabinet Light 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 right side of the interior cabinet door opening. The lighting will be controlled by a rocker switch on the front of the cabinet.
0757157		Seat, Fwd Fcng C/C, RS Otbrd, USSC, Valor,I- Back,Foldup,Safety,SECONDARY,S FR/Enf	FORWARD FACING PASSENGER SIDE OUTBOARD SEAT 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.
0782746		Upholstery, Seats In Cab, All Vinyl, USSC	SEAT UPHOLSTERY All seat upholstery will be leather grain black vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have six (6) seating positions.
0543991		Bracket, Air Bottle, Hands-Free II, Cab Seats	AIR BOTTLE HOLDERS All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G. There will be a quantity of three (3) SCBA brackets.
0613020		Inserts, Back Rest For USSC SCBA Seats	BACK REST INSERTS 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.
0734952		Door, Access, Front, (2) Rear Facing Seat Risers, No Heater	ACCESS DOOR 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.
0730233	SP	Seat Mounting, Forward Facing. Moved 2" Rearward, USSC Recline	SPECIAL SEAT MOUNTING 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.

0603866	Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	SEAT BELTS All cab and tiller cab (if applicable) seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA 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 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.
0817557	Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.
0647632	Lights, Dome, WIn 60C*EGCS Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) Whelen, Model 60C*EGCS, 6.00" round dual LED dome lights provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the lens switch.
0813183	Not Required, Enhanced Software for Cab and Crew Cab Dome Lts	
0556186	Handlts, (4) Streamlight, Survivor C4 LED, 12v, Orange, 90503 Steady Charge	HAND HELD SPOTLIGHT There will be four (4) Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC cords 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.
0774457	Handlight, Streamlight, Vulcan 180, 44315, 12v, Orange	ADDITIONAL HAND HELD LIGHT 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.
0603606	Cab Instruments, Ivory Gauges, Chrome Bezels, Enf MUX	CAB INSTRUMENTATION The cab instrument panel will include gauges, an LCD display, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership. Gauges The gauge panel will include the following ten (10) ivory faced gauges with chrome bezels to monitor vehicle performance: Voltmeter gauge (volts): Low volts (11.8 VDC) Amber caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly High volts (15.5 VDC) Amber caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly Very low volts (11.3 VDC) Red warning indicator on the information center with a steady alarm Amber caution light on gauge assembly Very high volts (16.0 VDC) Red warning indicator on the information center with a steady alarm Amber caution light on gauge assembly Engine Tachometer (RPM) Speedometer (RPM) Speedometer (RPM) Speedometer (RPM) Migher Caution indicator on the information center with a steady alarm Amber caution light on gauge assembly Engine Tachometer (RPM) Speedometer (RPM) Migher Caution indicator on the information center with a steady alarm Amber caution light on gauge assembly Engine Tachometer (RPM) Speedometer (RPM) Speedometer (RPM) Migher Caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly Engine Tachometer (RPM) Speedometer (RPM) Migher Caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly Engine Tachometer (RPM) Speedometer (RP

Engine Oil pressure Gauge (PSI): Low oil pressure to activate engine warning lights and alarms Red caution indicator on the information center with steady alarm Amber caution light on gauge assembly Front Air Pressure Gauges (PSI): Low air pressure to activate warning lights and alarm Red warning indicator on the information center with a steady alarm Amber caution light on gauge assembly Rear Air Pressure Gauges (PSI): Low air pressure to activate warning lights and alarm Red warning indicator on the information center with a steady alarm Amber caution light on gauge assembly Transmission Oil Temperature Gauge (Fahrenheit): High transmission oil temperature activates warning lights and alarm Amber caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly Engine Coolant Temperature Gauge (Fahrenheit): High engine temperature activates an engine warning light and alarms Amber caution indicator on the information center with intermittent alarm Amber caution light on gauge assembly Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions): Low fluid (1/8 full) Amber indicator light in gauge dial All gauges will perform prove out at initial power-up to ensure proper performance. Indicator Lamps To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols. The following amber telltale lamps will be present: I ow 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

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

"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	AIR RESTRICTION INDICATOR A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.
0543751	Light, Do Not Move Apparatus	"DO NOT MOVE APPARATUS" INDICATOR A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On." The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

0509042	Messages, Open Dr/DNMT, Color Dsply,	 DO NOT MOVE TRUCK MESSAGES Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged). The following messages will be displayed (where applicable): Do Not Move Truck DS Cab Door Open (Driver Side Cab Door Open) PS Cab Door Open (Passenger's Side Cab Door Open) DS Crew Cab Door Open (Driver Side Crew Cab Door Open) PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open) PS Body Door Open (Driver Side Body Door Open) PS Body Door Open (Driver Side Ladder Rack Down) PS Ladder Rack Down (Passenger's Side Ladder Rack Down) PS Ladder Rack Down (Passenger Side Ladder Rack Down) Deck Gun Not Stowed Li Tower Not Stowed (Fold-A-Tank Not Stowed) Fold Tank 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	SWITCH PANELS 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.
0802940	Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer	WIPER CONTROL 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.
0821329	Wiring, Spare, 10 A 12V DC Batt Dir 1st NFPA1900/ULC	 SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 10 amps. 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 protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed
0821330	Wiring, Spare, 10 A 12V DC Batt Dir 2nd NFPA1900/ULC	 SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 10 amps. Power and ground will terminate 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 protected to meet the NFPA Automotive Fire Apparatus standard. This circuit(s) may be load managed when the parking brake is applied.

0822617	Wiring, Spare, (1) 20A 12V DC, Multi Loc, Cab, Batt Dir, 1st, NFPA1900/ULC	SPARE CIRCUITS There will be one (1) shared 20 amp circuit, including a positive and a negative wire, dropped out in multiple locations on the apparatus. All dropout locations will be wired in a parallel configuration. The wires will have the following features: The positive wire will be connected directly to the battery power The negative wire will be connected to ground Wires will be capable of carrying 10 amps The spare wiring circuit will be located and terminated as follows: Spare circuit drop #1 will Switch panel #9 and termination with 15 amp, power point plug with rubber cover Spare circuit drop #2 will Switch panel #9 and termination with 15 amp, power point plug with rubber cover Spare circuit drop #3 will on the dash in front of the officer and termination with 15 amp, power point plug with rubber cover Spare circuit drop #4 will on the dash in front of the officer and termination with 15 amp, power point plug with rubber cover Spare circuit drop #4 will not be required and termination is not required with no location Spare circuit drop #6 will not be required and termination is not required with no location Spare circuit drop #6 will not be required and termination is not required with no location Spare circuit drop #6 will not be required and termination is not required with no location Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery Direct loads cannot be Load Managed.
0547318	Wiring, Spare, 10 A 12V DC, Switch Feature 1st	 SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 10 amps. 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"
. 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 protected to meet the NFPA Automotive Fire Apparatus standard. This circuit(s) may be load managed when the parking brake is set. 		
0819994	Radio, Jensen, AM/FM/WB, Bluetooth	STEREO RADIO There will be one heavy duty AM/FM / Weatherband / Bluetooth stereo radio. The radio will be installed per 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 Jensen features will be included: 180 watts max power (45W x 4); 100 watts RMS (25W x 4) Bluetooth® streaming audio (A2DP/AVRCP) Weatherband AM/FM tuner with 30 presets Audio settings (volume/bass/treble/balance/fade) Toggle switch between day and night display Daylight-readable, segmented LCD Two-wire power with non-volatile memory and clock support Low battery alert
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714	 INFORMATION CENTER An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing. The information center will have the following specifications: Operate in temperatures from -40 to 158 degrees Fahrenheit LCD optically bonded to hardened AR glass lens Five weather resistant user interface switches Grey with black accents Sunlight Readable Linux operating system Minimum of 1000nits rated display Display can be changed to an available foreign language A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area. Programmed to read US Customary General Screen Design Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used. If a caution or warning situation arises the following will occur: A namber background/text color will indicate a warning 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 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 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) 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 degrees Celsius to 85 degrees Celsius. 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. While on scene with emergency lights on 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	 VEHICLE DATA RECORDER There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided. The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line. The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs: Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Degeed - RPM Engine Throttle Position - % of Full Throttle ASS Event - On/Off Seat Belt Buckled Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Internal clock syncs the time and date when a laptop is connected. A seat belt monitoring System (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following: Seat Occupied & Buckled = Green LED indicator illuminated Seat Occupied & Buckled = Red LED indicator with audible alarm No Occupant & Buckled = Ned LED indicator with audible alarm No Occupant & Unbuckled = Red LED indicator with audible alarm No Occupant & Buckled = Not indicator and no alarm FAULT = Blue LED indicator illuminated The seat belt monitoring screen will become active on the Command Zone color display when: The Dime screen is active: and there are no other Do Not Move Apparatus conditions present. As soon as all 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 incleat an audibe laa

0811745	SP	Intercom, David Clark, 7-Pos, 3- Radio, (D, O, RPTT, P), 4obC, 3805	INTERCOM SYSTEM 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) U3800 Intercom unit (1 Crew) One (1) U3815A Radio interface station (Pump panel) All interconnect cables
0637058		David Clark Universal Radio Interfaces Included with Single/Dual System	RADIO / INTERCOM INTERFACE INCLUDED 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).
0597914		Headset, David Clark, H3442 Under Helmet, Flex Mic	UNDER THE HELMET HEADSET 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, 280Å 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
0819255		Hangers For Headsets, NFPA/ULC 2024, Each	HEADSET HANGERS There will be four (4) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat and passenger's side outboard forward facing seat. The hanger(s) will meet the current edition of applicable NFPA and ULC standards for equipment mounting.
0597940		Install Customer Provided Two-Way Radio Speaker(s)	TWO WAY RADIO SPEAKER INSTALLATION 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. Specific shipping requirements will be followed.
0559156		Install Customer Provided Two-Way Radio(s)	TWO WAY RADIO INSTALLATION 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. No antenna mount or whip will be included in this option. Specific radio shipping requirements will be followed.
0559503		Install Customer Provided, Portable Radio Charger(s)	PORTABLE RADIO CHARGER INSTALLATION 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.
0003757		Antenna, Std and Add'l Mts Only, 2- way Radio,Cust,Spl Cable Routing	RADIO ANTENNA MOUNT 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 .

0816158		Camera, Pierce, LS Mux, RS, LS, R, Cameras, AHD	 VEHICLE CAMERA SYSTEM There will be a color vehicle camera system provided with the following: One (1) Analog High Definition (AHD) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal. One (1) AHD camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal. One (1) AHD, black camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse. The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control in the blank panel to the right of the steering column. The following components will be included: One (1) 1080P Rear Camera Two (2) 1080P Side Cameras All necessary cables
0814861		Camera, Switcher, Pierce, 4 channel, AHD, CVBS	Camera Switcher There will be one (1), HMU318 HD Image Processor multiplexer, 4 channel camera video switcher with remote control provided to allow single, dual, triplex, quad, trefoil, Y split and PIP view display modes on the vehicle information center display provided. The switcher will have one (1) CVBS, Composite Video Blanking and Sync, standard Definition video output and one (1) AHD, Analog High Definition video output for High Definition cameras.
0769446	SP	Bracket, Camera, Hose Bed Cover Cross Bar	CAMERA MOUNTING 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.
0511071		Guard, 4-Way, Rear Vision Camera	VEHICLE CAMERA GUARD There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered above hosebed.
0674566		Location, Rear Vision Camera	REAR CAMERA LOCATION The rear camera will be located above the hose bed on the cross bar left side of traffic directing light .
0890416		Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	ELECTRICAL POWER CONTROL SYSTEM The primary power distribution will be located forward of the officer's seating position and be easily accessible while staribution 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 located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership. Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protected control type-I automatic reset (continuously resetting). When required, automotive type fuses will be trilized 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 electronic spystem 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. Hey system will use a real Time Operating System (RTOS) fully compliant with OSEK/VDX [™] specifications providing a lower cost of ownersh

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.

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

0896456

0816093	ClearSky Telematics, Remote Fleet & On-scene Management, AT&T Commercial	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 AT&T 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.
0624253	Electrical System, Enforcer MUX	 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 codes. 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 corsoin 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.
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.
0812586	Charger, Sngl Sys, Kussmaul, Chief 091-266-12-60, 60 Amp	BATTERY CHARGER There will be a Kussmaul [™] , Chief Series Smart Charger 6012, product code 091-266-12-60, 60 amp battery charger with build-in touch screen display provided. 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	REMOTE CONTROL PANEL - BATTERY CHARGER 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	KUSSMAUL AUTO EJECT FOR SHORELINE 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 Ratting (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	ALTERNATOR A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

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 halfsecond 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, WIn 604T* Cmn 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	FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS There will be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab. The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.
0627282	Lights, Clearance/Marker/ID, Rear, FRP LED Bar & P25 LED 4Lts	REAR CLEARANCE/MARKER/ID LIGHTING 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 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 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) LED lights installed on the rear of the truck facing to the rear. One (1) each side 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 rear 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
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	REAR FMVSS LIGHTING The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be the same as the LEDs.
0806466	Lights, Backup, Wln M62BU, LED, For Tail Lt Housing	There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	LICENSE PLATE BRACKET One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus. One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.
0556842	Bezels, Wln, (2) M6 Chrome Pierce, For mtg (4) Wln M6 lights	LIGHTING BEZEL There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.
0589905	Alarm, Back-up Warning, PRECO 1040	BACK-UP ALARM A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.
0578480	Buzzer, Warning - Rear Step to Cab, Left Side, Smooth Aluminum Door	REAR STEP BUZZER 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	WARNING LIGHT FLASH PATTERN The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern.
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0804659		Lights, Cornering/Scene, WIn M62BU, 1st	CORNERING/SCENE LIGHTS 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.
0769420		Lights, Perimeter Cab, Amdor AY-LB- 12HW020 LED 4Dr	CAB PERIMETER SCENE LIGHTS 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.
0769572		Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	PUMP HOUSE PERIMETER LIGHTS 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.
0770056		Lights, Perimeter Body, Amdor AY- LB-12HW020 LED 2lts, Rear Step	BODY PERIMETER SCENE LIGHTS 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.
0896454		Enhanced Software for Perimeter Lts	ENHANCED SOFTWARE FOR PERIMETER LIGHTS 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.
0556360		Lights, Step, P25 LED 4lts, Pump Pnl Sw	STEP LIGHTS 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. These step lights will be actuated with the pump panel light switch. All steps on the apparatus will be illuminated per the current edition of applicable NFPA standards.
0550452		Lights, Side Scene, Zico ZQL-SS- LED, Stainless 1st	SCENE LIGHTS There will be two (2) Ziamatic, Model Model ZQL-SS-LED, LED scene light(s) with stainless steel housing, installed on the side of the apparatus, one (1) each side in the rear fender area low, lights are also to point angled downwards to the rear (SEE PHOTOS 147 & 12) . 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.
0729921	SP	Light, Roof Mt, WIn S72M**, 72" Cnt Feature, Mkr Lts Activated, SUBKT* Mounts	 12 VOLT LIGHTING There will be a Whelen® Model S72M**, 72.00" long 32,400 lumens DC powered light provided on the front cab roof as far forward as practical. The painted parts of this light assembly to be black. The light(s) to be installed with flat horizontal mounts. The light will include the following: White scene LEDs Two (2) amber LED modules as clearance lights Three (3) amber LED modules. 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.

0768059		Lights, WIn, PCPSM2* Pioneer, 12 VDC, 2nd	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, 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.
0768061		Lights, WIn, PCPSM2* Pioneer, 12 VDC, 1st	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, 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.
0748793		Lights, WIn, S44M** 44" 12VDC, RS Body	12 VOLT LIGHTING 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. 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. 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.
0748795		Lights, WIn, S44M** 44" 12VDC, LS Body	 12 VOLT LIGHTING 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. 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. 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.
0774336		Lights, Wln, P*H1* Pioneer, 12 VDC, 1st	12 VOLT LIGHTING 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 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.
0635052	SP	Lights, Hose Bed, Cover, Dual Amdor AY-9750-20 LED Light Strips 4lts, High	 HOSE BED LIGHTS 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. 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.
0606463	SP	Light, Hose Bed, Amdor AY-9750- 020 LED, 20"	ADDITIONAL HOSE BED LIGHTS 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. The light(s) will be activated with the other hosebed lights.

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	REAR SCENE LIGHT(S) 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 . The light(s) will be controlled by a switch at the driver's side switch panel and from the other rear scene light control. The light(s) may be load managed when the parking brake is applied.
0892704	Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height Restrictions	WALKING SURFACE LIGHT 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.
0060115	Pumper, Medium, Aluminum, 2nd Gen	
0554271	Body Skirt Height, 20"	
0013303	Tank, Water, 500 Gallon, Poly, Med, New York Style	 SPECIAL WATER TANK Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated. 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. 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. Tank joins and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with the current edition of applicable NFPA standards. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments. Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding. Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover. All partitions will interlock and will be welded to the tank bottom and sides. Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. Sump that will be installed in a special size fabricated cradie assembly constructed of structural steel. Sufficient rossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel flat bar or rectangular tubing. Tank will have a combination vent and 14.00" fill to
0003405	Overflow, 4.00" Water Tank, Poly	Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.
0028107	Not Required, Foam Cell Modification	
0023412	Drain, Tank - 1.50"	TANK DRAIN A 1.50" tank drain will be installed with a 1.50" ball valve located underneath the left front compartment and properly labeled.
0010011	Fill Dome Special Location	The water tank fill dome will be located place water fill dome on left side forward.
0553725	Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	WATER TANK RESTRAINT 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	Welded at Rear of Side Sheet, IPOS	BODY MODIFICATION There will be a 3.00" post welded at the rear of the side sheet, on the left side and on the right side, in place of the standard 1.00" return flange.
0815391	York Style, Fill in the Blank Height	HOSE BED 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 area at the rear of the hose bed 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 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	Special Height/Length, w/Handhold	HOSE BED DIVIDER 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 beck 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.
0822495		HOSE BED COVER 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. If access to the water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that the tank may be filled without raising cover doors. The cover will be reinforced so that it can support the weight of a man walking on the cover. The cover is designed with the left cover opening first. 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.

0807430		Hose Restraint, Hose Bed, Web, Rear, Separate From Top, Split 2- Sec, Seat Belt	A heavy duty 2" black nylon webbing will be installed at the rear of the hose bed with seat belt buckles at the top. The seat belt buckles will be provided with a metal bar, to connect each set of two buckles, and attached to a web strap, to allow a single pull release per set of two buckles. At the bottom of the webbing, J-Clip hooks with a permanent footman loop on the outbobard corners and bungee cord and hooks in the inboard corners will be provided. The webbing will be split into two (2) sections center. The webbing will be provided with no fasteners between each section. If a strap is provided the color will be red.
0630182	SP	Hex Bolts and Anti-Seize Compound, Divider	FASTENERS 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.
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.
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.
0649038		Notch, Hose Bed Divider(s)	HOSE BED DIVIDER NOTCH(ES) 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	SCUFFPLATE INSIDE UPPER BEAVERTAIL 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	HOSE BED SIDE SHEET MODIFICATION The body side sheet will be match height of cab in height.
0817437	SP	Stay Arm, Hose Bed Cover, 4- Section, Frt/Rr, Mechanical, C- Channel Design	HOSE BED STAY ARM COVER 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	RUNNING BOARDS Running boards will be fabricated of 0.125" 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 0.50" 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	TAILBOARD The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly. The tailboard area will be 14.00" deep and full width of the body. 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. The exterior side will be flanged down and in for increased rigidity of tailboard structure.
0815881		Wall, Rear, Smooth Aluminum/Body Material, Flush Rear Wall	REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL The rear facing surfaces of the center rear wall will be smooth aluminum. The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body. The rear wall will be flush.

0887592	SP	Tow Eyes, w/Tow Bar, Spaced Forward, 2G Pumper	REAR TOW EYES Two (2) tow eyes, which are an integral part of the body mounting substructure, will be installed below the rear of the truck. The tow eyes will be of adequate strength to allow the truck to be pulled from the eyes. REAR TOW BAR 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. 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. The tow bar design will have been tested and evaluated using finite element analysis techniques.
0590934		Hose Restraint, Running Board, Straps, FV Fastener	RUNNING BOARD HOSE RESTRAINT 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.
0815707		Tray, Hose, Running Board, Free Floating, Special Capacity, Tapered	HOSE TRAY Two (2) hose trays will be made free floating one (1) in each side running board. 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). 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. Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.

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 or equivalent 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	 LEFT SIDE COMPARTMENTATION 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 over the rear wheels will be provided. The interior 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. 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 57.00" wide x 28.13" high. A full height, vertically hinged, double door 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. 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.
0063623		RS 152" Lap, Low, FDLER	 RIGHT SIDE COMPARTMENTATION 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. 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. 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.
0774324	SP	Doors, Lap w/ "D" Handles - Side Compartments, Bid 205, Alameda	 DOORS, SIDE COMPARTMENT 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.
0013671		Compt, Rear, Rollup, 30.75" FF, 25.88" D	REAR COMPARTMENTATION 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 spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed. 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.

0594003		Door, Amdor, Rollup, Rear Compartment	ROLLUP REAR COMPARTMENT DOOR 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 ingression. The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top 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 i
			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.
0554995		No Body Modification Required	
0817436	SP	Scuffplate, Brushed S/S, On Catwalk, Below Ladder Brackets	SCUFFPLATE 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)	KEYED LOCK(S) 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	REVERSE HINGED DOOR The one (1) compartment door, located on the LS3 compartment(s), will have the hinge located opposite of the standard location.
0004010		Scuffplate, Polished S/S Bottom of Door Frame	DOOR FRAME SCUFFPLATE 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	SCUFFPLATE ON INTERIOR OF COMPARTMENT DOOR(S) 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	COMPARTMENT LIGHTING 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	MOUNTING TRACKS 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	ADJUSTABLE SHELVES 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 have a 45 degree chamfer 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 1", Angled/Welded Corners, Painted	ADJUSTABLE SHELVES There will be one (1) shelf provided. The shelf construction will consist of .188" aluminum. The front lip of the shelf will be 1.00" 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 1.00" 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. The inner shelf corners will be square while the outer corners will have a 45 degree chamfer 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 RS1.
0559456		Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Full Width	 SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be one (1) slide-out tray provided. 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. Each tray will be constructed of aluminum painted spatter gray. Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location. An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand. The tray(s) will be located LS3 above floor tray.
0647472		Tray, Floor Mounted, Slide-Out, w/ Side Slides, FW/FD, 500lb, 2.00" Sides, 2G	SLIDE-OUT FLOOR MOUNTED TRAY 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 500 lb in the extended position. The tray(s) will be constructed of a minimum 0.13" aluminum. The finish will be painted spatter gray. The tray(s) will be designed for maximum compartment width and depth. 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. 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.
0540335		Toolboard, Swing-out, Alum, .188", No Holes	 SWING OUT TOOLBOARD A swing out aluminum toolboard will be provided. It will be a minimum of .188" thick without holes in the board. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the pegboard. The board will be mounted on a 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. The board will have positive lock in the stowed and extended position. The board will have a D-ring handle to secure it in the stowed position. The board will be mounted on adjustable tracks from front to back within the compartment. There will be One (1) toolboard(s) provided. The toolboard(s) will be spatter gray painted and installed LS2.
0726401		Partition, Trans Rear Compt, Sealed	PARTITION, TRANSVERSE REAR COMPARTMENT 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. Each partition will be permanently sealed with caulk to ensure no water will leak to or from the adjoining compartments.
0726403		Partition, Vertical Compt, Special Height	VERTICAL COMPARTMENT PARTITION 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.
0502057	SP	Brushed S/S on Compt Floor	COMPARTMENT FLOOR SCUFFPLATE 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. The edges of the stainless steel will be completely caulked before installation to prevent corrosion.

0539735		Caulk, Seam, Catwalk to Side Sheet	The seam between the catwalk and side sheet both sides of body will be caulked.
0003934		Dust Filter, Compt Louvers	COMPARTMENT DUST FILTERS 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.
0755638		Pegboard, Back Wall Mounted, 3/16" Alum, Full Height Compt	PEGBOARD 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	STRAP 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	NUTS 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)	RUB RAIL Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage. 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	 BODY FENDER CROWNS 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. BODY FENDER LINER A aluminum 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	HARD SUCTION HOSE 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	HOSE TROUGH 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	HOSE TROUGH 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	HANDRAILS 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	HANDRAILS 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	EXTINGUISHER/AIR BOTTLE/ STORAGE (Triangular) 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. Inside the compartment, black rubber matting will be provided as well as a drain hole. A triangular shaped polished stainless steel door with a chrome plated flush lift & turn latch will be provided. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.
0622393		Compt, Air Pack Fender Panel	AIR PACK STORAGE A total of one (1) air pack compartment(s) will be provided and located on the left side forward of the rear wheels. 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. A polished stainless steel hinged door with a chrome plated flush lift & 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.
0657522		Compt, Air Bottle, Triple, Fender Panel	AIR BOTTLE STORAGE (Triple) 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 & 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. Inside the compartment, black rubber matting will be provided. AIR BOTTLE COMPARTMENT STRAP 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.
0654143		Compt, Air Bottle, Single,Tri Door (DEF/Fuel), Fender Panel	 AIR BOTTLE STORAGE (Single) 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 & 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. Inside the compartment, black rubber matting will be provided. AIR BOTTLE COMPARTMENT STRAP 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.
0811636	SP	Ladder, 24' Alaco 2300-24 2-Sec, 22' Wide, Non-NFPA, Provided by Deale	 EXTENSION LADDER, PROVIDED BY DEALER r There will be one (1) 24', two (2) section, wood, Alaco Series 2300-24 provided and installed by the dealer. If using an existing ladder, the following dimensions, including any bolts, pulleys, ropes, butt spurs, etc, are required: stored overall length overall width banking thickness The dimensions are EXTENSION LADDERS ARE TO HAVE UNMANILA HALYARD MADE OF POLYESTER CORE/WOVEN SHEATH, Watco oil finish, chrome plated hardware and black and white ends. If dimensions aren't provided, the mounting provided will accommodate ladders sized per Alaco standard dimensions. 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". 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.

0811645	SP	Ladder, Alaco 2304-14, Roof, Non- NFPA, Provided by Dealer	ROOF LADDER PROVIDED BY DEALER There will be one (1) 14' roof, Alaco Series 2304-14 ladder(s) will be provided by the dealer. The outside width of the ladder will be 15.00" wide. If using an existing ladder, the following dimensions, including any bolts, pulleys, ropes, butt spurs, etc, are required: stored overall length overall width banking thickness The dimensions are LENGTH = 14-6", OUTSIDE WIDTH = 15", OVERALL DEPTH = 5" with watco oil finish, chrome plated hardware and black and white ends. If dimensions aren't provided, the mounting provided will accommodate ladders sized per Alaco standard dimensions. This ladder is non compliant to NFPA 1931, Chapter 4.2.2, "Standard on Design of and Design Verification Tests for Fire Department Ground Ladders". 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.
0724178	SP	Brackets, Adjustable, RS, Special Hardware and Spacing 75.50"	LADDER BRACKETS 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.
0831491	SP	Ladder, 10' Alaco 2305-10, Provided by Dealer, Pumper NFPA/ULC 2024	FOLDING LADDER PROVIDED BY DEALER 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. The ladder will be installed in the pike pole/folding ladder compartment. If using an existing ladder, the following dimensions, including any bolts, pulleys, ropes, butt spurs, etc, are required: stored overall length overall width banking thickness The dimensions are OPEN LENGTH = 10', CLOSED LENGTH = 11'-2", OPEN WIDTH = 12-1/8", CLOSED WIDTH = 3-1/4" with watco oil finish, chrome plated hardware and black and white ends. If dimensions aren't provided, the mounting provided will accommodate ladders sized per Alaco standard dimensions.
0761352		Trough, Folding Ladder, Behind Ladders on Ladder Brackets	FOLDING LADDER STORAGE One (1) folding ladder will be stored behind the ladders on the side sheet, in a painted 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	SPACERS, NON-ABRASIVE, LADDER SUPPORTS 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	BACKBOARD STORAGE 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	PIKE POLE, 10' There will be one (1) Fire Hooks Unlimited National Hook 10 foot pike pole(s) with wood handles provided pike pole / folding ladder compartment.
0552649		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Steel, Pry End, RH-6	6' PIKE POLE There will be one (1) Fire Hooks Unlimited NY roof hook RH-6, 6' pike pole(s) with steel handles and pry end provided in tube behind wood ladders.
0004361		Tubes, Alum, Pike Pole Storage	PIKE POLE STORAGE 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, Spc Notch, NY PP Head	PIKE POLE STORAGE 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	BELL 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"	WARNING LABEL(S) 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.	SPECIAL LABEL 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	 FOLDING STEPS FRONT OF BODY 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	REAR FOLDING STEPS 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.
0724153	Step, Folding - Extra, Body Only, w/LED, Trident	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.
0586899	Step, Cargo Area, Ea.	CARGO AREA STEP 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. Each step will be reinforced for walking.

PUMP COMPARTMENT

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four Point partiern to allow for chassis frame twist. Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a

single assembly

PUMP MOUNTING

Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump

PUMP CONTROL PANELS (Side Control)

All pump controls and gauges will be located at the left side of the apparatus and properly marked.

The control panels will be 52.00" wide.

Polished stainless steel trim collars will be installed around all inlets and outlets. All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

The identification tag for each valve control will be recessed in the face of the tee handle. All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels will be done with a threaded peg cast on the back side of the bezel or screws.

0035500		Raised Pump House Structure, Side Control	
0661706		Lighting, Pierce, LED Strip Light, 63", Cargo Area, Pmp Pnl Sw	CARGO AREA LIGHTING 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.
0816460	SP	Compt, Long Item Storage, Over Pump, Transverse, Water Resistant, Dbl Pan Door	LONG ITEM STORAGE OVER PUMP 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.
0759645	SP	Platform, LS Cargo Area,Hatch Style Access Door, Caulked, Water Resistant	LEFT SIDE CARGO AREA PLATFORM WITH HATCH DOOR 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. 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.
0726848		Raise Side Sheet Above Pump House, Fill-in-Blank	SIDESHEETS, PUMPHOUSE The side sheet over the pump house will be raised to to allow the transverse storage to be 35" high per prelim drawing 71014.

0004425	Pump, Waterous, CSU, 1500 GPM, Single Stage	 PUMP Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type. Pump will be the class "A" type. Pump will deliver the percentage of rated discharge at pressures indicated below: 100 percent of rated capacity at 150 psi net pump pressure. 70 percent of rated capacity at 200 psi net pump pressure. 50 percent of rated capacity at 250 psi net pump pressure. Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings). Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping. Pump case halves will be bolted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used. Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency. The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold. Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply. Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.
0004481	Seal, Grafoil, Waterous	PUMP PACKING 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. Lantern rings will be located at the inner ends of the stuffing boxes, to avoid having to remove them when replacing pump packing. 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.
0816447	Trans, Pump, Waterous C22 Series	PUMP TRANSMISSION The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By using a chain rather than gears, 50 percent of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work. Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.
0635600	Pumping Mode, Stationary Only	PUMPING MODE An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	AIR PUMP SHIFT Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel. Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump". The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements. The pump shift control in the cab will be illuminated to meet NFPA requirements.
0003148	Transmission Lock-up, EVS	TRANSMISSION LOCK-UP The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.
0004547	Auxiliary Cooling System	AUXILIARY COOLING SYSTEM A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be 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.
0014486	Not Required, Transfer Valve, Single Stage Pump	

0746501	Valve, Relief Intake, Elkhart	INTAKE RELIEF VALVE - PUMP One (1) Elkhart Style 40 relief valve(s) will be installed on the suction side of the pump preset at 125 psig. The relief valve(s) will have a working range of 75 psi to 250 psi. The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. The relief valve pressure control will be located behind the right side pump panel with a stainless steel access door.
0826104	Controller, Pressure, FRC, Pump Boss Max, PBA500	 PRESSURE CONTROLLER A FRC Pump Boss 500 electronic pressure controller with one (1) 600 PSI transducer on the pump discharge will be provided. All readouts will be standard PSI. When a single 300 psi or single 600 psi pressure transducer is selected the transducer is installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sontinuously monitors pump pressure sontinuously monitors pump pressure controller. The intake transducer is and all 600 psi pressure transducer is selected the transducer are installed in the discharge side and intake side of the water pump. The discharge transducer continuously monitors pump pressure sonting a signal to the electronic pressure controller. The intake transducer controller. The pressure controller can be activated after vehicle parking brake has been set. When in this mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure soft by the operator (within the discharge capabilities). In pressure mode, the controller will automatically maintain the discharge pressure soft by the operator (within the discharge capabilities) of the pump and water supply) regardless of flow. A 2.00° diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrate/part of the pressure controller roll. Additional audible alarm will BE provided. The pressure controller for easy viewing. Safety features include recognition of low water and no water conditions with an automatic programmed for Clockwise rotation to increase engine speed. Individual LED indicators for ok to pump, throttle erady, pressure intensity can also be manually adjusted if needed. The pressure controller for easy viewing. Saf
0024543	Primer, Hale, ESP Motor, (1) PVG Valve, (1) T-Handle Control, For An Other Pump	ESP PRIMING PUMP Priming pump will be a positive displacement vane type, electrically driven, and conforming to the current edition of applicable NFPA standards. One (1) priming control will open the priming valve and start the priming motor. Primer will be environmentally safe and self lubricating.
0780364	Manuals, Pump, (2) Total, Electronic Copies	PUMP MANUALS There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

0603129	Plumbing, Stainless Steel and Hose, Single Stage Pump	PLUMBING, STAINLESS STEEL AND HOSE All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness. Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings. Plumbing manifold bodies will be ductile cast iron or stainless steel. All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be of flexible polypropylene tubing. All water carrying gauge lines will be of flexible polypropylene tubing.
0089437	Plumbing Without Foam System	
0004645	Inlets, 6.00" - 1250 GPM or Larger Pump	MAIN PUMP INLETS A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	MAIN PUMP INLET CAP 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.
0084610	Valves, Akron 8000 series- All	VALVES All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve. Valves will have a ten (10) year warranty.
0004686	Valve, Inlet(s) Recess Behind Panel, Side Cntrl	The location of the valve for the one (1) inlet will be behind the pump panel.
0004700	Control, Inlet, at Valve	INLET CONTROL The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.
0004660	Inlet (1), Left Side, 2.50"	LEFT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0004680	Inlet, Right Side, 2.50"	RIGHT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0034720	Anode, Zinc, Pair, Pump Inlets	ANODE, INLET 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	LARGE DIAMETER REAR INLET 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	REAR INLET CONTROL 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	REAR INLET ELBOW & CAP 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	REAR INLET INTAKE RELIEF VALVE 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	INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "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	TANK TO PUMP 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"	TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.
0820188	Control, Outlets, Manual, HW by valve Manufacturer if applicable	DISCHARGE OUTLET CONTROLS The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve 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 1900 2024 Edition 13.7.5.3.
0004940	Outlet, Left Side, 2.50"	LEFT SIDE DISCHARGE OUTLETS There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0005091	Elbow, Left Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	LEFT SIDE OUTLET ELBOWS The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 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"	RIGHT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0025091	Elbow, Right Side Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	RIGHT SIDE OUTLET ELBOWS The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 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	
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0089584		Not Required, Elbow, Right Side Outlets, Additional	
0831310	SP	Outlet, 3.50" w/3.00" Akron Valve, HW, Right - w/ Relief, Alameda	LARGE DIAMETER DISCHARGE OUTLET 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	LARGE DIAMETER OUTLET ELBOWS 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	FRONT DISCHARGE OUTLET 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"	REAR DISCHARGE OUTLET 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	REAR OUTLET ELBOWS The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 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	DISCHARGE CAPS 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	OUTLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a 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	REDUCER 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			DELUGE RISER, w/DUAL CONTROL Three (3) inch deluge riser plumbing will be installed and routed above the pump in such a manner that a monitor can be mounted and used effectively. The riser plumbing will 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 will be provided above the pump adjacent to the outlet. Plumbing will consist of 3.00" piping and a 3.00" valve. Piping will 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	MONITOR 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	NOZZLE, DELUGE 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	CROSSLAY 18.00" LOWER THAN STANDARD The crosslays will be lowered 18.00" from standard with a 9.00" raised pumphouse.
0015215		Reel, Booster, Over Pump, Right Side, Steel	 BOOSTER HOSE REEL A Hannay electric rewind booster hose reel will be installed over the pump in a recessed open compartment on the right side of the apparatus. The exterior finish of the reel will be painted job color matching the 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	NOZZLE CUP AND BRACKET 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	FOAM SYSTEM 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	

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

PUMP OPERATOR'S PANEL DRAWING

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.

REMAINING PUMP PANEL(S)

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

COLOR CODED TAGS

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.

SPECIAL TEXT/VERBIAGE TAGS

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 markups 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.

0615641		Pump Panel Configuration, Similar to Control Zone	PUMP PANEL CONFIGURATION The pump panel configuration layout will be ergonomically efficient and systematically organized.
0005525		Material, Pump Panels, Side Control Brushed Stainless	PUMP AND GAUGE PANEL The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.
0811622	SP	Panel, Pump Access - Right Side, Hinged, Chain, Side Control	PUMP ACCESS Right Side Panel The right side pump panel will be hinged along the forward edge. Panel Fastener 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.
0583824		Light, Pump Compt, WIn 3SC0CDCR LED White	PUMP COMPARTMENT LIGHT There will be one (1) Whelen®, Model 3SC0CDCR, 3.00" white 12 volt DC LED light(s) with Whelen, Model 3FLANGEC, 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	THROTTLE READY GREEN INDICATOR LIGHT 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.
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0549333	Indicators, Engine, Included with Pressure Controller	
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	OK TO PUMP INDICATOR LIGHT 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	AIR HORN BUTTON 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	PUMP ACCESS DOOR 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.
0081262	Drains, RS, Keep Area Under Main Inlet Clear	RIGHT SIDE DRAINS 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.
0066121	Drains, LS, Keep Area Under Main Inlet Clear	DRAINS, LEFT SIDE 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.
0682383	Switch, Momentary, DPF Regeneration Inhibit, Pump Operator's Panel	SWITCH, REGENERATION INHIBIT 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	OUTLET TRIM RINGS 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.
0830289	Gauges, 6.00" Master, IC	 VACUUM AND PRESSURE GAUGES The pump vacuum and pressure gauges will be liquid filled and manufactured by Innovative Controls. 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	 PRESSURE GAUGES 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.

0757359	Gauge, Water Level, Class 1, Pierce Std, Remote Module Driver	WATER LEVEL GAUGE There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows: 100 percent = Green 75 percent = Yellow 50 percent = Yellow 25 percent = Yellow Refill = Red The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty. The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level. The main water level gauge will be powered with battery switch. There will be a Hale part number 106877, 4-light driver module included with this installation to power additional water level gauges. The remote level lights will be energized when pump is in gear.
0750438	Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level	WATER LEVEL GAUGE 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 activated when the pump is in gear.
0006774	Not Required, Foam Level Gauge	
0656224	Light Shield/Step 8", S/S Undr Crs, LED w/P25 LED Step Light	STEP/LIGHT SHIELD There will be a polished, 16 gauge stainless steel light shield installed under the crosslays. This shield will be properly reinforced to support the crosslay hose weight. There will be 12 volt DC white LED light(s) installed under the stainless steel light shield. These lights will be activated when the battery switch is on and the pump panel light switch is on. There will be an aluminum treadplate stepping surface no less than 8.00° deep and properly reinforced to support a man's weight, installed over the pump operators main panel. There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00° depending on the size of the pump house. One (1) pump panel light will come on when the pump is in ok to pump mode. The switch panel will be lit when the parking brake is set. This is to afford the operator illumination when first approaching the control panel. All step lights on the apparatus will be illuminated per the current edition of applicable NFPA standards.
0522730	Light, Over Passenger Side Pump Panel, P25 LED Stp Lt	There will be two (2) white LED scene lights with ABS chrome housing, installed above the passenger side pump panel. All step lights on the apparatus will be illuminated per the current edition of applicable NFPA standards. The lights will be operated from a switch on the pump panel.
0606694	Air Horns, (2) Hadley, 6" Round, eTone, In Bumper	AIR HORN SYSTEM 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.
0606831	Location, Air Horns, Bumper, Right Side, Outside Frame, Same Side (Pos #1 & #2)	Air Horn Location The air horns will be located on the right side of the bumper, outside of the frame rail.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0757081	Control, Air Horn, Ft Sw, LS	Left side foot switch
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0743678	Control, Air Horn, Ft Sw, RS, Location Fet	Right side foot switch will beon 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	ELECTRONIC SIREN 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	SPEAKER 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.
0601556	Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame, Inbrd (Pos 6)	The speaker will be recessed in the left side of the front bumper, just outside of the frame rail.
0895310	Siren, Federal Q2B	AUXILIARY MECHANICAL SIREN There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus. The Q2B will be chrome finish. The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2- gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on. The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.
0665593	Siren, Mechanical, Recessed In Bumper, Special Recessing Depth, EF Grille	The mechanical siren will be recessed behind the front bumper on the left side. The siren will be supported by the bumper framework. The Federal, Model MSFMT-EF, grille will be used on the front bumper in place of the standard Q2B mechanical siren grille.
0748305	Control, Mech Siren, Multi Select	MECHANICAL SIREN CONTROL The mechanical siren will be activated by the following:
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, Wln, Freedom IV-V, 81", RAlyRRRWsrR_Opt_RsrWRRRAlyR	 FRONT ZONE UPPER WARNING LIGHTS There will be an 81.00" Whelen® Freedom™ IV LED lightbar mounted on the cab roof. The lightbar will include the following: One (1) red flashing LED module in the left side rear corner position. One (1) alley LED module in the left side end position. One (1) red flashing LED module in the left side front corner position. One (1) red flashing LED module in the left side first front position. One (1) red flashing LED module in the left side first front position. One (1) red flashing LED module in the left side second front position. One (1) white flashing LED module in the left side third front position. One (1) red steady burning LED module in the left side fourth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED module in the left side fifth front position. One (1) red flashing LED traffic light controller set to national standard high priority in the center positions.
			Open in the right side sixth front position. One (1) red flashing LED module in the right side fifth front position. One (1) red steady burning LED module in the right side fourth front position. One (1) white flashing LED module in the right side third front position. One (1) red flashing LED module in the right side second front position. One (1) red flashing LED module in the right side first front position. One (1) red flashing LED module in the right side front corner position. One (1) red flashing LED module in the right side front corner position. One (1) red flashing LED module in the right side rear corner position. One (1) red flashing LED module in the right side rear corner position. The following switches may be a installed in the cab on the switch panel to control the lightbar: a switch to control the flashing LED modules. a switch to control the flashing LED modules. a switch to control the right side alley LED module. the traffic light controller by a cab switch with emergency master control. no momentary switch to activate the traffic light controller. 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. The six (6) red flashing LED modules may be load managed when the parking brake is applied.
0605598		Lightbars, Wln, Freedom IV-Q, 2- 21.5", RRRRR RRRRR	SIDE WARNING LIGHTS There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the crew cab doors. Each lightbar will include the following: One (1) red flashing LED module in the outside end position. One (1) red flashing LED module in the outside front corner position. One (1) red flashing LED module in the outside front position. One (1) red flashing LED module in the inside front position. One (1) red flashing LED module in the inside front position. One (1) red flashing LED module in the inside front corner position. 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.
0540384		Lights, Front Zone, Wln M6*C LED, Clear Lens, in Common Bzl	LIGHTS, FRONT ZONE LOWER Two (2) Whelen model M6*C LED flashing warning lights will be installed on the cab face above the headlights, in a common bezel with the directional lights. The driver's side front warning light to be red. The passenger's side front warning light to be red. Both lights will include a clear lens. There will be a switch located in the cab on the switch panel to control the lights.
0746667		Lights, Side Zone Lower, WIn M6**, M6**, 4Lts	 SIDE ZONE LOWER LIGHTING 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: 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. 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. There will be a switch in the cab on the switch panel to control the lights.
0895709		Lights, Door Interior Flash, 4 Dr Cab, Wln 0S*00FCR	INTERIOR CAB DOOR WARNING LIGHTS There will be four (4) Whelen® Model 0S*00FCR, 1.0" high x 1.5" long x 0.5" deep flashing LED warning lights with chrome trim. One (1) light(s) to include red flashing LED's on the left side cab door One (1) light(s) to include red flashing LED's on the right side cab door. One (1) light(s) to include red flashing LED's on the right side crew cab door. One (1) light(s) to include red flashing LED's on the left side crew cab door. One (1) light(s) to include red flashing LED's on the left side crew cab door. One (1) light(s) to include red flashing LED's on the left side crew cab door. Each light will be located in the door pan as low and far to the outside as practical Each light will be activated when the battery switch is on, respective door is opened and no other controls are on.

0815847	Connectors, Door Interior Flash, All Cabs, Weatherproof	ELECTRICAL CONNECTORS FOR WARNING LIGHTS The lights will be installed with a weatherproof insulated crimped connectors in order to provide ease of connection/disconnection of the circuit applied to.
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.
0740407	Lights, Rear, Wln M6** LED, Features 1st	REAR WARNING LIGHTS 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	REAR/SIDE ZONE UPPER WARNING LIGHTS 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	Mtg, Rear Warn Lts, LS Compt Top, RS S/S Low Mt	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. The 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, WIn TAL85, 46.87" Long LED, Lens Feature	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The 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, TDL, Over Hose Bed, On Cross Tube (Not Included)	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	LOOSE EQUIPMENT 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.

0816508	NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept	 NFPA LOOSE EQUIPMENT NFPA Required Loose Equipment Provided by Fire Department The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department: One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, Standard for High Visibility Public Safety Vests, 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. 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. Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. MFPA Loose Equipment That Should be Considered The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered: 800 ft (60 m) of 2.50" (65 mm) or larger fire hose. 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) inter hose. 400 ft (20 m) of 1.50" (38 mm), 1.75" (45 mm), minum. Two (2) handline nozzle, 95 gpm (360 L/min) minimum. Four (4) SCBA apparatus Four (4) SCBA apparatus Four (4) SCBA apparatus Four (4) SCBA apparatus Four (4) combination spanner wrenches. Two (2) houble female 2.50" (65 mm) adapter with national hose (NH) threads. One (1) double female 2.50" (65 mm) adapter with national hose (NH) threads. One (1) cubber mallet, for use on suction hose connections. Two (2) salvage co
0816941	Soft Suction Hose, Provided by Fire Department, NFPA/ULC 2024	SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.
0007028	Strainer, 6.00"	- One (1)-6.00" National Standard hose thread barrel strainer, chrome plated
0816939	Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816937	Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816998	Axe, Flathead, Provided by Fire Department	FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0817000	Axe, Pickhead, Provided by Fire Department	PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT PROCESS

The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:

Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.

<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 twocomponent high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

Finish Sanding - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultrasmooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.

<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. Base<u>coat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

<u>Clear Coat</u> - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T.

standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

Topcoats and primers will be chrome and lead free.

Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.

Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.

Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient.

Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.

Paint wastes are disposed of in an environmentally safe manner.

Empty metal paint containers will be recycled to recover the metal.

Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.

CAB PAINT

The cab will be painted #90 red.

0709567

Paint, Single Color, Enforcer

0709845

Paint, Single Color, Body

BODY PAINT

The body will be painted to match the lower section of the cab.

0646901	Paint Chassis Frame Assy, With Liner, E-Coat, Standard	PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components that are included with the chassis frame assembly that will be painted (unless otherwise stated in a secondary option) are: Frame rails Frame liners Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Statings Individual piece parts used in chassis and body assembly Components treated with epoxy E-coat protection prior to paint: Two (2) Crahnnel frame rails Two (2) frame liners The E-coat process will meet the technical properties shown.
0693797	No Paint Required, Aluminum Front Wheels	
0693792	No Paint Required, Aluminum Rear Wheels	
0733739	Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted to match lower job color.
0581434	Transit Coating, Carwell, Corrosion Protection, Including Underside	TRANSIT COATING 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	COMPARTMENT INTERIOR PAINT The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.
0544111	Reflective Band, 10"	REFLECTIVE BAND 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	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0515348	Stripe, Black Outline, Scotchlite on Reflective Band	OUTLINE, REFLECTIVE STRIPE 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	REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR 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	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" white reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel. This stripe will meet the current edition of applicable NFPA standards.

0528504		Stripe, Black Vinyl on Paint Break (Cab)	STRIPE, CAB FACE A black vinyl stripe will be provided on the paint break.
0027372		Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.
0686434		Lettering, Gold Leaf, 3.00", (21-40)	LETTERING Twenty-one (21) to forty (40) genuine gold leaf lettering, 3.00" high, with outline will be provided.
0685985		Lettering, Reflective, 12.00", Each	LETTERING 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	LETTERING 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	LETTERING 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	LETTERING 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	LETTERING 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	LETTERING There will be genuine gold leaf lettering, 3.00" high, with outline provided. There will be nine (9) letters provided.
0683997		Lettering, Vinyl, 18.00", Each	LETTERING There will be non-reflective vinyl lettering, 18.00" high, with no outline or shade provided. There will be five (5) letters provided.
0684206		Emblem, Maltese Cross, Gold Leaf, 21"-23", Pair	MALTESE CROSS INSTALLATION 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	EMBLEM There will be one (1) pair of emblems, number in a shield border approximately 9.00" high x 9.00" wide, provided and installed 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	 FIRE APPARATUS PARTS MANUAL There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided. The manual(s) will contain the following: Job number Part numbers with full descriptions Table of contents Parts section sorted in functional groups reflecting a major system, component, or assembly Parts section sorted in alphabetical order Instructions on how to locate parts Each manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies. Bervice Parts Internet Site The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

0772037	Manual, Chassis Service, USB Flash Drive, Custom	CHASSIS SERVICE MANUALS There will be one (1) chassis service manuals on USB flash drives containing parts and service information on major components provided with the completed unit. The manual will contain the following sections: Job number Table of contents Troubleshooting Front Axle/Suspension Brakes Engine Tires Wheels Cab Electrical, DC Air Systems Plumbing Appendix The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	CHASSIS OPERATION MANUAL The chassis operation manual will be provided on one (1) USB flash drive.
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	ENGINE WARRANTY A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.
0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.
0596017	Warranty, Frame, 50 Year, Custom Chassis, WA0013	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame only (does not include crossmembers) limited warranty certificate, WA0013, is included with this proposal.
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.
0733306	Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided.
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.
0019914	Warranty, Structure, 10 Year, Custon Cab, WA0012	n TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro- Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) monthwarranty will be provided for the camera system.
0647720	Warranty, Pierce LED Strip Lights, WA0203	COMPARTMENT LIGHT WARRANTY 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	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
0688798	Warranty, Water Tank, Lifetime, UPF Poly Tank, WA0195	, WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY 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	PUMP WARRANTY The Waterous pump will be provided with a seven (7) yearmaterial and workmanship limited warranty. A copy of the warranty certificate will be included with this proposal.
0648675	Warranty, 10 Year S/S Pumbing, WA0035	TEN (10) YEAR PUMP PLUMBING WARRANTY 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	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0595421	Warranty, Goldstar, 3 Year, Apparatus, WA0018	THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal.
0819254	Certification, Vehicle Stability, CD0196	VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal.
0808564	Certification, Engine Installation, Enf, Cummins X15, 2027	ENGINE INSTALLATION CERTIFICATION The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.
0686786	Certification, Power Steering, CD0098	POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.

0892691	Certification, Cab Integrity, Saber FR/Enforcer, CD0189	 CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cat accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Bide Impact The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident. Fontal Impact The same cab will withstand a frontal impact of 52,600 ft-lb of force using a moving barrier in accordance with SAE J2420. Med Trontal Impact The same cab will withstand a frontal impact of 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) Mo for Crush The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons. Additional Roof Crush The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area. There will be no exception to any portion of the cab integrity certification. Nonconformance will ead to im
0631973	Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	CAB DOOR DURABILITY CERTIFICATION Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.
0631978	Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield</i> <i>Wiper Systems - Trucks, Buses and Multipurpose Vehicles.</i> The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.
0556828	Certification, Electric Window, Not Available	
0631977	Certification, Seat Belt Anchors and Mounting, Saber FR/Enforcer, CD0134	SEAT BELT ANCHOR STRENGTH Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria. SEAT MOUNTING STRENGTH Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

0735949	Certification, Cab HVAC System Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175	 PERFORMANCE CERTIFICATIONS Cab Air Conditioning Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria. Cab Defroster Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria. Cab Auxiliary Heater 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.
0545073	Amp Draw Report, NFPA Current Edition	 AMP DRAW REPORT The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system. The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Current edition of applicable NFPA standards. The minimum continuous load of each component that is specified per: Current edition of applicable NFPA standards. Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.
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

Bid #:	983
Desc:	Enforcer Pumper (42172 Duplicate)
Customer:	ALAMEDA CITY FIRE DEPARTMENT

Job #:

Type:

Sales Rep: Klockzien, Dave

Multiplexed

Organization: Golden State Fire Apparatus, Inc

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

Option Description

Pierce.

Option	Description	Туре*	Minimum Load	Intermittent Load	Total Connected
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	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
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0550452	Lights, Side Scene, Zico ZQL-SS-LED, Stainless 1st		0.00	0.00	1.00
0556186	Handlts, (4) Streamlight, Survivor C4 LED, 12v, Orange, 90503		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
0639727	Cab Lift, Elec/Hyd, Manual Override, Saber FR/Enforcer		0.00	180.00	0.00
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	0.00	0.80
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
0800400	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
0819994 0820509	Radio, Jensen, AM/FM/WB, Bluetooth		0.00 0.00	0.00	2.00
0820309	ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA		0.00	6.00	0.00
	Wiring, Spare, 10 A 12V DC Batt Dir 1st NFPA1900/ULC			0.00	10.00
0821330	Wiring, Spare, 10 A 12V DC Batt Dir 2nd NFPA1900/ULC		0.00	0.00	10.00
0822617	Wiring, Spare, (1) 20A 12V DC, Multi Loc, Cab, Batt Dir, 1st,		0.00	0.00	20.00
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, Heavy-Duty, 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
0013671	Compt, Rear, Rollup, 30.75" FF, 25.88" D	NFPA	0.90	0.00	0.90
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
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
0556360	Lights, Step, P25 LED 4lts, Pump PnI Sw	NFPA	1.00	0.00	0.00

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

Electrical Analysis

3/19/2025



983

Bid #:

Desc:

Job #:

Sales Rep: Klockzien, Dave

Organization: Golden State Fire Apparatus, Inc

Customer: ALAMEDA CITY FIRE DEPARTMENT

Type: Multiplexed

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

Enforcer Pumper (42172 Duplicate)

Option	Description	Туре*	Minimum Load	Intermittent Load	Total Connected
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light	NFPA	1.80	2.70	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, Wln, 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
0620044	Light, Directional/Marker, Intermediate, Truck-Lite 21290Y LED	NFPA	0.04	0.13	0.04
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, Mkr Lts Activated,	NFPA	0.32	0.00	18.68
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor	NFPA	0.49	0.00	0.00
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.40	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, Pierce Std, 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	
0769420		NFPA	0.58	0.00	0.00
0770056	Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	NFPA	0.58		0.00
	Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear			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* Cmn BzI, Above Headlts, Sab/Enf	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
0816093	ClearSky Telematics, Remote Fleet & On-scene Management,	NFPA	1.61	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
0816728	Drug Locker, Knox, MedVault Mini, 5230S3*, Surface Mounted	NEPA	1.50	1.50	0.00
0826104	Controller, Pressure, FRC, Pump Boss Max, PBA500	NFPA	1.80	0.00	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
0892704	Lights, Walk Surf, 8-P25 LED, Hose Bed Cover, Overall Height	NFPA	0.07	0.00	0.00
0898690	Compt, Transverse C/C, Dbl Pan, Rec Tube, 70" SFR/Enf	NFPA	0.65	0.65	0.00
0647728	Alternator, 430 amp, Delco Remy 55SI	S_	0.00	0.00	0.00
		Load Totals:	101.64	688.55	272.36

Electrical Analysis

Bid #:	983	Job #:	
Desc:	Enforcer Pumper (42172 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	Туре:	Multiplexed

Note: Minimum Continous Load is in "Blocking Right of Way" mode.(Reference current edition of NFPA 1901) Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901) Note: Total Connected Load "Demand" represents Total Connected Load minus any Load Managed items

Alternator Output at Idle: 253.00

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Alternator Output at Governed Speed: 369.00

Minimum Continuous Load		
Supply:	253.00	
Demand:	101.64	
Variance:	151.36	

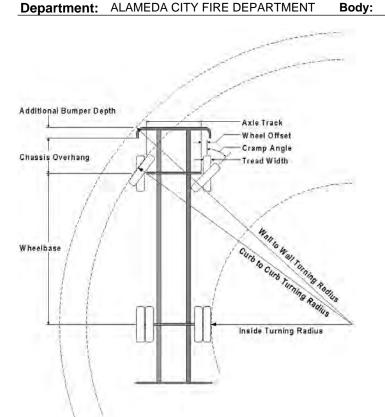
Total Connected Load	
Supply:	369.00
Demand:	274.00
Variance:	95.00



Turning Performance Analysis

Bid Number: 983 Department: ALAMEDA CITY FIRE DEPARTMENT

Chassis: Enforcer Chassis Pumper, Medium, Aluminum, 2nd Gen



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i ulumeters:	
*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	13 in.
Front Overhang:	78.95 in.
Wheelbase:	191.5 in.

Calculated Turning Radii:

Inside Turn:	14 ft. 11 in.
Curb to curb:	28 ft. 11 in.
Wall to wall:	32 ft. 11 in.

Category	Option	Description
Bumpers	0816701	Bumper, 13" Extended, Polished S/S, ENF
Axle, Front, Custom	0630705	Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Enforcer
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Tires, Front	0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

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



goldenstatefire.com

PRODUCT WARRANTIES Exhibit "C"

	Pierce Fire	e and Rescue Apparatus						
One (1) Year Material and Workmanship Basic Apparatus Limited Warranty								
						1. LIMITED WARRA Subject to the limitati	ions and exclusions set forth below, Pierce Manufacturing provides	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;
Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship	(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;						
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.	(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						
Warranty Period Ends After:	Twelve (12) months. (d) products or parts which may in the ordinary course wear out and have during the warranty period, including, but not limited to, tires, fluids, gasket bulbs. Pierce assumes no responsibility for the assembly of its parts or sul into finishing products or vehicles unless the assembly is performed by Pierce bulbs.							
Conditions and Exclusions: See Also Paragraphs 2 thru 4		The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty. 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.						
	No specific exclusions apply	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 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 ANX SLICH DAMAGES.						
with Pierce's mainter	shall apply only if the product is properly maintained in accordance nance instructions and manuals and is used in service which is lar model. Normal service means service which does not subject the	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						

normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

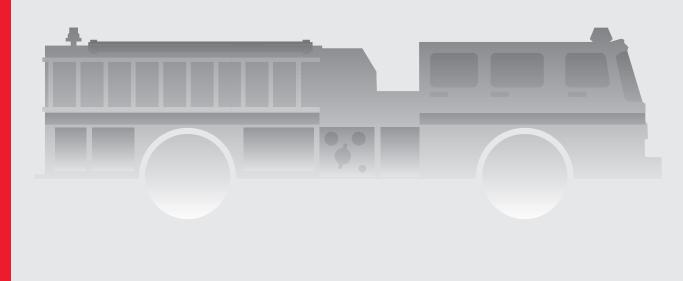
types of economic loss, or for any claims by any third party for any such damages.

2/8/2010 WA0008



Cummins Warranty

Worldwide Fire Apparatus/Crash Trucks



Coverage

Products Warranted

This Warranty applies to new diesel Engines sold by Cummins and delivered to the first user on or after April 1, 2007, that are used in fire apparatus truck and crash truck* applications Worldwide.

Base Engine Warranty

The Base Engine Warranty covers any failures of the Engine which result, under normal use and service, from a defect in material or factory workmanship (Warrantable Failure). This Coverage begins with the sale of the Engine by Cummins and ends five years or 100,000 miles (160,935 kilometers), whichever occurs first, after the date of delivery of the Engine to the first user.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.

Cummins Responsibilities

Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements, belts, hoses and other maintenance items that are not reusable due to the Warrantable Failure.

Cummins will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Cummins will pay reasonable costs for towing a vehicle disabled by a Warrantable Failure to the nearest authorized repair location. In lieu of the towing expense, Cummins will pay reasonable costs for mechanics to travel to and from the location of the vehicle, including meals, mileage and lodging when the repair is performed at the site of the failure.

Owner Responsibilities

Owner is responsible for the operation and maintenance of the Engine as specified in Cummins Operation and Maintenance Manuals. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Except for Engines disabled by a Warrantable Failure, Owner must also deliver the Engine to the repair facility.

Service locations are listed on the Cummins Worldwide Service Locator at cummins.com.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs and for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

Owner is responsible for a \$100 (U.S. Dollars) deductible per each service visit under this plan in the 3rd, 4th and 5th years of Base Engine Warranty. The deductible will not be charged during the first 2 years of the Base Engine Warranty.

Limitations

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel

exhaust fluid.

This Warranty does not apply to accessories supplied by Cummins which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans, air conditioning compressors, clutches, filters, transmissions, torque converters, vacuum pumps, power steering pumps, fan drives and air compressors. Cummins branded alternators and starters are covered for the first two years from the date of delivery of the Engine to the first user, or the expiration of the Base Engine Warranty, whichever occurs first.

Failures resulting in excessive oil consumption are not covered beyond the duration of the Coverage or 100,000 miles (160,935 kilometers) or 7,000 hours from the date of delivery of the Engine to the first user, whichever of the three occurs first. Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.

Failures of belts and hoses supplied by Cummins are not covered beyond the first year from the date of delivery of the Engine to the first user or the duration of the Warranty, whichever occurs first.

Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.

A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.

Cummins Inc. reserves the right to interrogate Electronic Control Module (ECM) data for purposes of failure analysis.

CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY AND THE EMISSION WARRANTY SET FORTH HEREINAFTER ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Emission Warranty

Products Warranted

This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States^{**} in vehicles designed for transporting persons or property on a street or highway. This Warranty applies to Engines delivered to the first user on or after September 1, 1992.

Coverage

Cummins warrants to the first user and each subsequent purchaser that the Engine is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. federal emission regulations applicable at the time of manufacture and that it is free from defects in material or factory workmanship which would cause it not to meet these regulations within the longer of the following periods: (A) Five years or 100,000 miles (160,935 kilometers) of operation, whichever occurs first, as measured from the date of delivery of the Engine to the first user or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

Limitations

Failures, other than those resulting from defects in material or factory workmanship, are not covered by this Warranty.

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

Cummins is not responsible for non-Engine repairs, "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs or other losses resulting from a Warrantable Failure.

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

* Airport operated crash trucks and fire department operated trucks employed to respond to fires, hazardous material releases, rescue and other emergency-type situations.

** United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.



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

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

LIMITED WARRANTY: The R. H. Sheppard Co. Inc., ("Sheppard") warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. ("Pierce") for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty SHALL NOT APPLY AND SHALL BE VOID. <u>SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF</u> <u>MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.</u> **SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT.** Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

<u>REMEDIES</u>: The sole and exclusive remedy of Pierce for Sheppard's breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:

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

Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free "Hotline" service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free "Hotline" for approval <u>before</u> product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PKG1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PKG1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce's purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard's determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty **should not** be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of \$85.00 USD per hour for M110PGK1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PGK1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce's discretion.

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

Outside Purchases: Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

Warranty Documentation: Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

<u>Parts Retention</u>: Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard's determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

<u>Good-Will Requests:</u> Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

RECALLS: Sheppard retains the right to review information regarding federal motor vehicle recall and /or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be noncompliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

MISCELLANEOUS: This writing constitutes the full complete and final statement of Sheppard's limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard's failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

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

Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

COOPERATIVE EFFORT: Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

AGREEMENT: This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of _____, 2006.

R. H. SHEPPARD CO., INC.

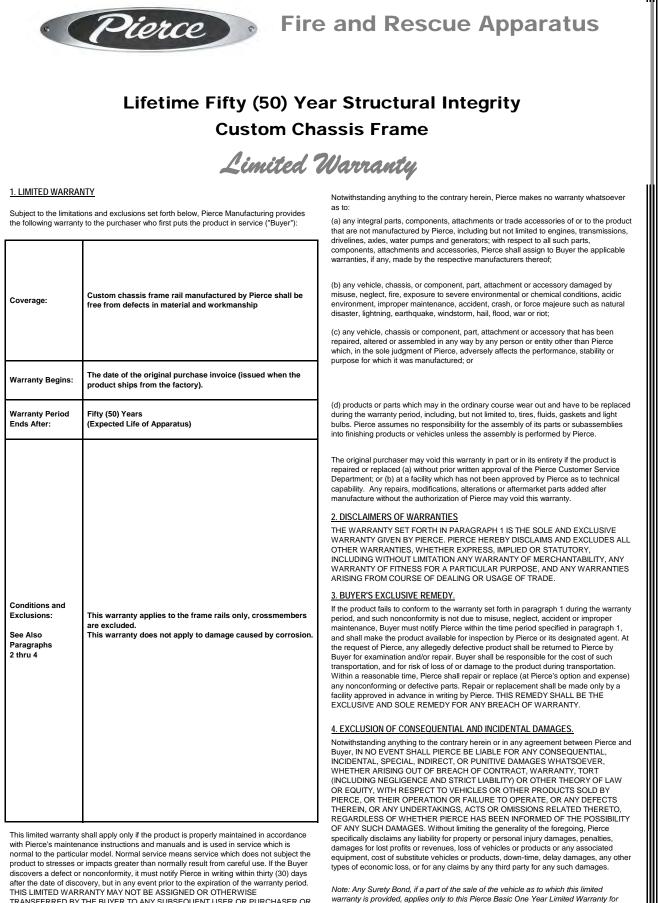
PIERCE MANUFACTURING INC.

Authorized Signature

Authorized Signature

Title

Title

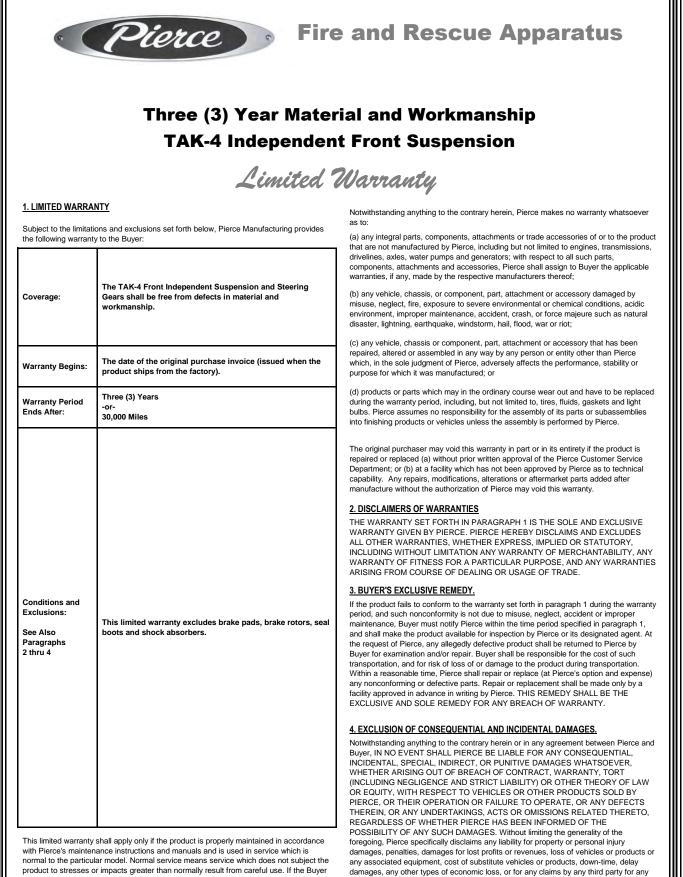


such vehicle, and not to other warranties made by Pierce in a separate document (if any)

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.

TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

12/10/2024 WA0013



such damages

vehicle.

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

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.

12/16/2013 WA0050



Fire and Rescue Apparatus

SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("Buyer"):

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

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hali, 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 NEGLGENCE 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.

6/29/2020 WA0384

ERITOR 9567.2 EME 1 100

COVERAGE FOR THE UNITED STATES AND CANADA MODEL YEAR 2024 VEHICLES

Meritor



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How to Read Warranty Coverage

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

Models or components that are approved for use by Cummins-Meritor's vocational guidelines contained in Cummins-Meritor publication TP-9441 for axles, SP-8320 for trailer axles and TP-12126 for drivelines, or any other products that have an application approval completed with Cummins-Meritor 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 **meritor.com** or by contacting Cummins-Meritor at **866-OnTrac1 (866-668-7221)**.

LINEHAUL WARRANTY INFORMATION

Vocational Definition of Linehaul

- Long distance hauling of food, goods and finished materials
- Not included are raw ferrous materials, minerals (except oil), sand, gravel, stone, rocks, topsoil, waste or logs
- Linehaul includes turnpike and hub & spoke

Linehaul Vehicles

Auto Hauler¹
Bulk Hauler¹

Chip Hauler^{1,2}

- DoublesFlatbed
- Flatbed
 General Freight
- Grain Hauler¹
 Livestock Hau
 - Livestock Hauler
 - Moving Van
- Pipe Hauler
 - Refrigerated Freight
 - Tanker¹
- Triples
- ¹ Cummins-Meritor classifies these vehicle types as high center of gravity, which require special axle housing considerations.
- ² 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)
- Greater than 30 miles between starts and stops
- Maximum grades of 12%
- Well maintained highways of concrete or asphalt construction (100% on-road)

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

Category A job sites, terminals, docks and transfer sites (defined as pavement, concrete or maintained and hard packed gravel).
 Note: Category B job sites, terminals, docks, transfer sites (defined as loose or unmaintained sand, dirt or gravel; landfill; farm field; mud; or other similar surfaces) are NOT approved for certain linehaul axle models.

Front Non-Drive Steer Axles – 5/750/P&L

FD-965	MFS-10-144A-N	MFS-12-143A-N	MFS-13B-132B-N	MFS-14G-132B-N
FF-941	MFS-12-122A-N	MFS-12E-143A-N	MFS-13B-132C-N	MFS-14-132C-N
FF-942	MFS-12-122B-N	MFS-12-144A-N	MFS-14-122A-N	MFS-14F-132C-N
FF-943	MFS-12-122C-N	MFS-13-122A-N	MFS-14-122B-N	MFS-14G-132C-N
FF-944	MFS-12E-122A-N	MFS-13-122B-N	MFS-14F-122B-N	MFS-14-142B-N
FF-961	MFS-12E-122B-N	MFS-13-122C-N	MFS-14G-122B-N	MFS-14F-142B-N
FF-966	MFS-12E-122C-N	MFS-13-132B-N	MFS-14-122C-N	MFS-14G-142B-N
FF-967	MFS-12-124A-N	MFS-13-132C-N	MFS-14F-122C-N	MFS-14-142C-N
FG-941	MFS-12-132B-N	MFS-13-143A-N	MFS-14G-122C-N	MFS-14F-142C-N
FG-943	MFS-12-132C-N	MFS-13-144A-N	MFS-14-124A-N	MFS-14G-142C-N
MFS-10-122A	MFS-12E-132B-N	MFS-13B-122B-N	MFS-14-132B-N	MFS-14-143A-N
MFS-10-143A-N	MFS-12E-132C-N	MFS-13B-122C-N	MFS-14F-132B-N	MFS-14-144A-N

Rear Drive Single Axles – 5/750/P&L

MS-19-14X	MS-23-17H ^{1,2}	RS-23-160	RS-23-185
RS-21-160	MS-23-17X ²	RS-23-161	RS-23-186

¹ Not approved for use in any Category B job sites, terminals, docks or transfer sites.

² Recommend 11 mm minimum wall thickness for these models used in combination with high center of gravity vehicles and trailing arm suspensions or vehicles operating mainly in Canada.

LINEHAUL WARRANTY INFORMATION

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

RT-40-160/P ^{1,2}	
RT-46-160/P ^{1,2}	
RT-46-164/P ^{1,2}	

RZ-166² RT-50-160/P^{1,2} MA-40-165

MT-40-14X/P⁴ MT-40-14H/E^{3,4}

¹ These models required for Chip Hauler and Linehaul warranty consideration.

² Each vehicle must have a Request for Application Recommendation (RAR) approved by Cummins-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.

MA-40-17H³

MA-40-175

RZ-188

³ Not approved for use in any Category B job sites, terminals, docks or transfer sites.

⁴ Recommend 11 mm minimum wall thickness for these models used in combination with high center of gravity vehicles and trailing arm suspensions or vehicles operating mainly in Canada.

Trailer Axles¹

5/500/P, 1/100/L
10/Unl/P, 1/Unl/L
1/100/P&L
5/Unl/P&L
7/Unl/P&L

¹ For brake components and ABS coverage, refer to appropriate product warranties.

² Structural components only excluding spindle wear. Spindle wear is 5/Unl/P, 1/Unl/L.

³ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

⁴ When installed by Cummins-Meritor.

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

TAG/Pusher Axles¹

TQ, TR Beam and Brackets

5/750/P&L

¹ For brake components and ABS coverage, refer to appropriate product warranties.

Trailer Mechanical Suspension Systems¹

IMS40 (Integrated Mechanical Suspension – Tandem)² 1/UnI/P&L IMS20 (Integrated Mechanical Suspension – Single)² 1/UnI/P&L

¹ For axle coverage, refer to appropriate product warranties.

² All other suspension components refer to appropriate manufacturer's warranty.

Trailer Air Suspension Systems

MT-34-14X/P4

MT-40-14T/P

MT-40-14X/P4

MPA40 (Tandem Axle Parallelogram) ¹ Major Structural Components Curbing Damage Warranty ² Height Control Valve Shock Absorbers Air Springs	5/500/P, 1/100/L 5/500/P, 1/100/L 1/100/P&L 2/200/P&L 2/200/P, 1/100/L
Bushings	5/Unl/P, 3/Unl/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/Unl/P, 3/Unl/L
MTA and MTA-Tec6 Trailing Arm Suspensio	n System
Major Structural Components	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/500/P, 3/300/L
Shock Absorbers	2/200/P&L
Lift Kit System	1/100/P&L
	1/ 100/1 GE

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

² "Curbing damage" is defined as deformation (bending, buckling or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding sub-frame consisting of the frame rails, cross-members 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 resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferable to another trailer VIN and coverage does not apply if the trailer is deemed to be a total loss, scrapped or otherwise not salvageable.

LINEHAUL WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	5/500/P, 1/100/L
Q+ Drum Brake ^{™1}	5/500/P, 1/Unl/P&L
ASA	5/500/P, 1/Unl/P&L
Hubs/Cast Drums and Other Wheel-E	End Components 1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake ^{™2}	12-Years or Wearable Life/P
EX+ L and EX+LS Air Disc Brake ^{™3}	5/500/P, 1/Unl/L
EX+L Air Disc Brake Extended Stand	ard Warranty ^{3,4} 5/500/P&L

¹ For Trailer only, 3/300/P against rust jacking when equipped with Platinum Shield III.

² Based on stamped wear diameter max.

³ Warranty coverage for boots, seals, caps, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

⁴ Applies only to calipers using friction: MA9300 (EX225LXXXCGXXX).

Drivelines

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

Meritor Tire Inflation System (MTIS)

MTIS Components

5/Unl/P, 1/Unl/L

GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis

Maximum grades of 12%

mud, or other similar surfaces)

- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- **General Service Typically Is:**

An average of 3 to 30 miles between starts and stops

Generally, on-road service (less than 10% off-road allowed)

Category A job sites, terminals, docks and transfer sites (defined)

as pavement, concrete or maintained and hard packed gravel) or

Category B job sites, terminals, docks and transfer sites (defined as loose or unmaintained sand, dirt or gravel; landfill; farm field:

Typically, moderate mileage operation (less than 60,000 miles/year)

- 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

- Coverage under Cummins-Meritor's warranty require that the application of products be properly approved pursuant to OEM and Cummins-Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines and/or contact Cummins-Meritor regarding specific application approval questions on any product line.
- Front Non-Drive Steer Axles 2/Unl/P&L

FD-965	MFS-7-113C-N	MFS-12-132C-N	MFS-14G-122B-N	MFS-16-122A-N
FF-941	MFS-7-153C-N	MFS-12E-132C-N	MFS-14-122C-N	MFS-16-133A-N
FF-942	MFS-7-163C-N	MFS-12-143A-N	MFS-14F-122C-N	MFS-16-135A-N
FF-943	MFS-8-113B-N	MFS-12-144A-N	MFS-14G-122C-N	MFS-16-143A-N
FF-944	MFS-8-143A-N	MFS-12E-143A-N	MFS-14-124A-N	MFS-18-133A-N
FF-946	MFS-8-153B-N	MFS-13-122A-N	MFS-14-132B-N	MFS-18-135A-N
FF-961	MFS-8-163B-N	MFS-13-122B-N	MFS-14F-132B-N	MFS-18-193A-N
FF-966	MFS-10-122A	MFS-13B-122B-N	MFS-14G-132B-N	MFS-20-133A-N
FF-967	MFS-10-143A-N	MFS-13-122C-N	MFS-14-132C-N	MFS-20-135A-N
FG-941	MFS-10-144A-N	MFS-13B-122C-N	MFS-14F-132C-N	MFS-20-192A-N
FH-941	MFS-12-122A-N	MFS-13-132B-N	MFS-14G-132C-N	MFS-20-193A-N
FH-946 ¹	MFS-12E-122A-N	MFS-13-132C-N	MFS-14-142B-N	MFS-22-135A-N
FL-941	MFS-12-122B-N	MFS-13B-132B-N	MFS-14F-142B-N	MFS-22H-135A-N
FL-943	MFS-12E-122B-N	MFS-13B-132C-N	MFS-14G-142B-N	MFS-22-193A-N
MFS-6-151A-N	MFS-12-122C-N	MFS-13-143A-N	MFS-14-142C-N	MFS-22H-193A-N
MFS-6-153B-N	MFS-12E-122C-N	MFS-13-144A-N	MFS-14F-142C-N	
MFS-6-162B-N	MFS-12-124A-N	MFS-14-122A-N	MFS-14G-142C-N	
MFS-6-153C-N	MFS-12-132B-N	MFS-14-122B-N	MFS-14-143A-N	
MFS-6-162C-N	MFS-12E-132B-N	MFS-14F-122B-N	MFS-14-144A-N	

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

GENERAL SERVICE WARRANTY INFORMATION

Rear Drive Single Axles – 2/Unl/P&L

MS-17-13X	MS-21-14X	RC-23-1621	RS-23-186	MS-26-616-SP
MS-17-14X	MS-23-17X	RC-23-1651	RS-24-160	RS-30-185
MS-19-13X	RS-21-160	RS-23-160	RC-25-160	MS-30-616
MS-19-14X	RC-23-160	RS-23-161	RS-26-185	MS-30-616-SP
MS-21-13X	RC-23-161	RS-23-185	MS-26-616	RS-35-380

¹ 3/Unl/P&L if PreSet by Cummins-Meritor.

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

MT-34-14X/P	MT-44-14X/P	RT-52-1851	MT-70-380
MT-40-14T/P	RT-46-169	MT-58-616	RZ-188
MT-40-14X/P	MT-52-616	RT-58-185 ¹	

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

Rear Drive Tandem/Tridem – 3/Unl/P&L

RT-40-160/P	RT-46-160/P	RT-46-164/P	RT-50-160/P	RZ-166
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Rear Drive Axles – 1/Unl/P&L

RND-14H

RND-16A

Brake Components

Cam Q Series Trailer Brakes ¹	3/Unl/P, 1/Unl/L
Cam P ²	2/200/P
Cam	3/Unl/P
Q+ Drum Brake [™]	3/Unl/P&L
Q+ Drum Brake ^{™1,2}	2/200/P&L
ASA	3/Unl/P
ASA ²	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 ^{™3}	12-Years or Wearable Life/P
EX+ Air Disc Brake ^{™4}	2/Unl/P&L

¹ For Trailer only, 3/300/P against rust jacking when equipped with Platinum Shield III or Chassis Protect.

² Applies to Tour Bus and Cross Country Coach only.

³ Based on stamped wear diameter max.

⁴ Warranty coverage for boots, seals, caps, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Drivelines

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

PTO – 1/Unl/P&L

MPT-170	MPT-185	MPT-500	MPT-1702
MPT-180	MPT-309	MPT-518	

GENERAL SERVICE WARRANTY INFORMATION

Trailer Axles¹

Beam and Brackets ²	5/Unl/P, 1/Unl/L
TPX4000 Axle Series ³	10/Unl/P, 1/Unl/L
Wheel End Systems ⁴	
Standard System ⁵	1/Unl/P&L
AxlePak5	5/Unl/P&L
AxlePak7 ⁶	7/Unl/P&L
AxlePak10 ⁷	10/Unl/P&L

¹ For brake components and ABS coverage, refer to appropriate product warranties.

- ² 9000 Series is 3/Unl/P, 1/Unl/L
- ³ Structural components only excluding spindle wear. Spindle wear 5/Unl/P, 1/Unl/L.
- ⁴ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.
- ⁵ When installed by Cummins-Meritor.
- ⁶ When specified with AxlePak7 wheel end system, coverage on Meritor Tire Inflation System (MTIS) thru-tee and stator is 7/Unl/P, 1/Unl/L.
- ⁷ AxlePak10 is limited to Intermodal Chassis applications equipped with TPX4000 series axles.

TAG/Pusher Axles¹

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

¹ For brake components coverage, refer to appropriate product warranties.

 $^{\rm 2}\,$ 3/Unl/P&L if sold with PreSet by Cummins-Meritor.

Meritor Tire Inflation System (MTIS)

MTIS Components

5/Unl/P, 1/Unl/L

Trailer Mechanical Suspension Systems¹

IMS40 (Integrated Mechanical Suspension – Tandem)² 1/UnI/P&L IMS20 (Integrated Mechanical Suspension – Single)² 1/UnI/P&L

¹ For axle coverage, refer to appropriate product warranties.

² All other suspension components refer to appropriate manufacturer's warranty.

Trailer Air Suspension Systems¹

MPA40 (Tandem Axle Parallelogram) ²	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty ³	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 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 and Rebound Straps	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
MTA and MTA-Tec6 Trailing Arm Suspens	ion System
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings ⁴	5/Unl/P, 3/Unl/L
Shock Absorbers	2/Unl/P&L
Lift Kit System	1/Unl/P&L

¹ For axle coverage, refer to appropriate product warranties.

² Fastener torque coverage is limited to 2/UnI/P&L when torqued by Cummins-Meritor.

³ "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 sub-frame, consisting of the frame rails, cross-members and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferable to another trailer VIN and coverage does not apply if the trailer is deemed to be a total loss, scrapped or otherwise not salvageable.

⁴ Raw wood applications 3/Unl/P, 1/Unl/L

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicles

Dump

Equipment Hauling

Flatbed Truck

Front Loader

Log Hauling

Lowboy

Train

Fracturing Truck

Flatbed Trailer Hauler

Geophysical Exploration

Landscaping Truck

Liquid Waste Hauler

Michigan Special Gravel

Hopper Trailer Combinations

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle¹
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig

¹ 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)
- An average of three (3) miles between starting and stopping

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 Bus¹
- 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

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

Front Non-Drive Steer Axles – 2/Unl/P&L

FD-965	MFS-7-113C-N	MFS-12E-132C-N	MFS-14G-122B-N	MFS-16-122A-N
FF-941	MFS-7-153C-N	MFS-12-143A-N	MFS-14-122C-N	MFS-16-133A-N
FF-942	MFS-7-163C-N	MFS-12-144A-N	MFS-14F-122C-N	MFS-16-135A-N
FF-943	MFS-8-113B-N	MFS-12-155	MFS-14G-122C-N	MFS-16-143A-N
FF-944	MFS-8-153B-N	MFS-13-122	MFS-14G-124A-N	MFS-18-133A-N
FF-946	MFS-8-163B-N	MFS-13-122B-N	MFS-14-132B-N	MFS-18-135A-N
FF-961	MFS-10-122A	MFS-13B-122B-N	MFS-14F-132B-N	MFS-18-192A-N
FF-966	MFS-10-143A-N	MFS-13-122C-N	MFS-14G-132B-N	MFS-18-193A-N
FF-967	MFS-10-144A-N	MFS-13B-122C-N	MFS-14-132C-N	MFS-20-133A-N
FG-941	MFS-12-122	MFS-13-132B-N	MFS-14F-132C-N	MFS-20-135A-N
FG-943	MFS-12E-122	MFS-13B-132B-N	MFS-14G-132C-N	MFS-20-192A-N
FH-941	MFS-12-122B-N	MFS-13-132C-N	MFS-14-142B-N	MFS-20-193A-N
FH-946	MFS-12F-122B-N	MFS-13B-132C-N	MFS-14F-142B-N	MFS-22-135A-N
FL-941	MFS-12-122C-N	MFS-13-143A-N	MFS-14G-142B-N	MFS-22H-135A-N
FL-943	MFS-12E-122C-N	MFS-13-144A-N	MFS-14-142C-N	MFS-22-193A-N
MFS-6-151A-N MFS-6-153B MFS-6-162B MFS-6-162C	MFS-12-124A-N MFS-12-132B-N MFS-12E-132B-N MFS-12-132C-N	MFS-13-155 MFS-14-122 MFS-14-122B-N MFS-14F-122B-N	MFS-14F-142C-N MFS-14G-142C-N MFS-14-143A-N MFS-14-144A-N	MFS-22H-193A-N RF-16-145 RF-21-160

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Front Drive Steer Axles – 2/Unl/P&L

MX-10-120	MX-12-120 EV0	MX-16-120	MX-19-140	MX-23-160
MX-10-120 EV0	MX-14-120	MX-18-120	MX-21-140	MX-23-810
MX-12-120	MX-14-120 EV0	MX-17-140	MX-21-160	

Front Drive Steer Axles – 1/Unl/P&L

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

Rear Drive Axles – 2/Unl/P&L

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

Rear Drive Axles – 1/Unl/P&L

RND-14H RND-16A

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

MT-34-14X/P	MT-44-14X/P	MT-52-616	MT-58-616	RT-70-380
MT-40-14T/P	RT-46-169	MT-52-616-SP	MT-58-616-SP	MT-70-380
MT-40-14X/P	RT-58-160	RT-52-185/3801,2	RT-58-185/3801,2	RZ-188

¹ Axle model designated will vary according to options and variations specified on these axles. Contact Cummins-Meritor Axle Applications Engineering for details.

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

Rear Drive Tandem/Tridem – 3/Unl/P&L

RT-40-160/P/A3

RT-46-160/P/A^{1,3}

RT-50-160/P/A³

MPT-1702

RZ-166

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

² Axle model designated will vary according to options and variations specified on these axles. Contact Cummins-Meritor Axle Applications Engineering for details.

RT-46-164/P^{2,3}

³ Each vehicle must have a Request for Application Recommendation (RAR) approved by Cummins-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.

PTO – 1/Unl/P&L

MPT-170	MPT-185	MPT-500
MPT-180	MPT-309	MPT-518

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Drivelines

 RPL
 3/Unl/P, 1/Unl/P&L

 92N
 1/Unl/P&L

 MXL
 1/Unl/P&L

Transmission – 1/Unl/P&L

FAT 30

Brake Components

Cam P Cam P	3/Unl/P 2/100/P
Cam Cast Plus™	2/100/P&L
Q+ Drum Brake ^{™1}	3/Unl/P&L
Q+ Drum Brake ^{™2}	2/100/P&L
ASA	3/Unl/P
ASA ²	2/100/P
Hubs/Cast Drums and Other Wheel-End Components ³	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
EX+ Air Disc Brake ⁴	2/100/P&L

¹ For Trailer only, 3/300/P against rust jacking when equipped with Platinum Shield III.

² Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

³ Based on stamped wear diameter max.

⁴ Warranty coverage for boots, seals, caps, bushings and pins is 2/100/P. Warranty coverage for pads is 1/100/P.

Gearboxes – 1/Unl/P&L

MGX-402	MGX-450	MGX-466
MGX-423	MGX-451	MGX-479

Transfer Cases – 1/Unl/P

MTC-2212-CV (306) MTC-3106-FV (TC-137) MTC-3111 (T-2111) MTC-3112-CV (548C) MTC-3116 (T-2111 through-shaft) MTC-3118-FV (TC-180 and TC-180-23) MTC-3118-CV (358) MTC-3120-FV (TC-143) MTC-3124 (T-2119) MTC-3203 MTC-3205-GV (MTC-25/RTC-25) MTC-3206-FV (TC-237) MTC-3206-CS (544) MTC-3208-GV (RTC-50) MTC-3209-GV (MTC-60/RTC-60) MTC-3212-CV (315 and 548B)

Trailer Axles¹

Beam and Brackets ²	
Wheel End Systems ³	
Standard System ⁴	

5/Unl/P, 1/Unl/L

1/Unl/P&L

¹ For brake components coverage, refer to appropriate product warranties.

² 9000 Series is 3/Unl/P, 1/Unl/L

 $^{\scriptscriptstyle 3}$ Includes hub, wheel seals and wheel bearings—all systems require annual

inspections and proper documentation to ensure full coverage.

⁴ When installed by Cummins-Meritor.

Trailer Air Suspension Systems¹

MTA and MTA-Tec6 Trailing Arm Suspension System

Major Structural Components ²	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Air Springs	2/200/P, 1/100/L
Bushings ²	5/500/P, 3/300/L
Shock Absorbers	2/200/P&L
Lift Kit System	1/100/P&L

¹ For axle coverage, refer to appropriate product warranties.

 $^{\rm 2}\,$ Raw wood applications 3/Unl/P, 1/Unl/L

MGX-538

Meritor Tire Inflation System (MTIS)

MTIS Components

5/Unl/P, 1/Unl/L

MTC-3312-FV (TC-270) MTC-3220-FC (TC-142) MTC-4206-FV (TC-38) MTC-4208 MTC-4210 MTC-4213

FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

Aerial Ladder Truck

Aerial Platform

- AmbulanceCommand Vehicle
- Crash Fire Rescue
- 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 Cummins-Meritor's warranty require that the application of products be properly approved pursuant to OEM and Cummins-Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines and/or contact Cummins-Meritor regarding specific application approval questions on any product line.

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

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

Front Drive Steer Axles – 2/Unl/P&L

MX-19-140	MX-21-140	MX-21-160	MX-23-160	MX-23-810

Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-185	RC-25-160	RS-35-1851
RS-23-160	RS-23-186	RS-26-185	RS-25-160
RS-23-161	RS-24-160	RS-30-185	

¹ 2/Unl/P&L if PreSet by Cummins-Meritor.

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

MT-40-14X/P	RT-46-160/P	RT-50-160/P	MT-58-616
RT-40-160/P	RT-46-164/P	MT-52-616	RT-58-185 ¹
MT-44-14X/P	RT-46-169	RT-52-1851	MT-70-380 ²

¹ Each vehicle must have a Request for Application Recommendation (RAR) approved by Cummins-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.

² 2/Unl/P&L

Transfer Cases – 1/Unl/P

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

FIRE AND EMERGENCY WARRANTY INFORMATION

Brake Components

_		
	rive	lines

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 ^{™1}	2/Unl/P&L

¹ Warranty coverage for boots, seals, caps, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

PTO – 1/Unl/P&L

MPT-170	MPT-185	MPT-500
MPT-180	MPT-309	MPT-518

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

MPT-1702

TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

- Airport ShuttleCity Bus
- Commuter CoachShuttle 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)

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

FH-946 ¹ Commuter coach only –	FH-941 ¹ 2/Unl/P&L	MFS-12-155	MFS-13-155
Rear Drive	Single Axles	- 5/300/P&L	
RS-23-160 RC-23-161	71163 79163	RC-23-162 ¹ RC-23-165 ¹	RS-21-160
¹ Commuter coach only –	2/Unl/P&L		
Tag Axles	– 2/Unl/P&L		
MC-14002	MC-16003	FH-946	
		- ((

Center Non-drive Axles – 5/300/P&L

MC-26000 71063	79063
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Gearboxes – 1/Unl/P&L

Brake Components

Cam Cast Plus™	2/100/P&L
Q+ Drum Brake ^{™1}	2/100/P&L
ASA ¹	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	2/100/P&L

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

² Warranty coverage for boots, seals, caps, bushings and pins is 2/100/P. Warranty coverage for pads is 1/100/P.

Drivelines

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

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

OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Industrial and Off-Highway Service Vehicles

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Yard JockeyAll and Rough Terrain Cranes

Trailer Spotter

- Forestry
- Material Handling
- Specialized Heavy
 - Haul
- Excavator
- Compactor
- Fertilizer Spreader
- Snow Blower
- Mining and
- Specialized Mining
- Rail Car Mover
- Loader
- Tow Tractor
- Pushback Tractor

Industrial and Off-Highway Service Typically Is:

- Low mileage operation
- Low speed vehicle speed restriction
- Vehicles are not typically licensed for highway use
- Six (6) starts/stops per mile (typical)

Coverage under Cummins-Meritor's warranty require that the application of products be properly approved pursuant to OEM and Cummins-Meritor approvals. Contact Cummins-Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 1/Unl/P

FF - 941	FG - 941	FN - 951	MFS-20-192A-N	MFS-22-193A-N
FF - 943	FG - 943	FS-25	MFS-20-193A-N	MFS-22H-193A-N
FF - 961	FL - 941	MFS-20-133A-N	MFS-22-135A-N	MON-Z0 FAMILY
FF - 966	FL - 943	MFS-20-135A-N	MFS-22H-135A-N	

Rear Drive Axles – 1/Unl/P

MT-14X ¹	RS-23-380	RS-30-185	RT-1451
RS-23-186	RS-24-160	RS-30-380	RT-1601

¹ 2/UnI/P for LO/LO Terminal Tractor applications

Planetary Axles – 1/Unl/P

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

Gearboxes – 1/Unl/P&L

MGX-402	MGX-450	MGX-466	MGX-538
MGX-423	MGX-451	MGX-479	

PTO – 1/Unl/P&L

MPT-170	MPT-185	MPT-500	MPT-1702
MPT-180	MPT-309	MPT-518	

OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Transfer Cases – 1/Unl/P

MTC-2212-CV (306) MTC-3106-FV (TC-137) MTC-3111 (T-2111 through-shaft) MTC-3112-CV (548C) MTC-3116 (T-2111)

MTC-3118-FV (TC-180 and TC-180-23) MTC-3118-CV (358) MTC-3120-FV (TC-143) MTC-3124 (T-2119) MTC-3206-FV (TC-237) MTC-3208-GV (RTC-50) MTC-3209-GV (MTC-60/RTC-60) MTC-3220-FC (TC-142)

Drivelines – 1/Unl/P

RPL

MXL

Transmission – 1/Unl/P&L

FAT 30

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

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 Cummins-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 Cummins-Meritor with suspension and interface brackets designed and/or attached by non-Cummins-Meritor parties, Cummins-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 Axles¹

Linehaul – King Pin Bushings 1yr/Unl P&L All Other Vocations – King Pin Bushings Excluded

¹ King Pin Bushing wear excluded for all vocations.

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/UnI/P).

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Cummins-Meritor representative for specific details.

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 Cummins-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 Cummins-Meritor. If yoke is not installed by Cummins-Meritor, then Cummins-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 Cummins-Meritor.

Rear Axles

The Cummins-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.

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 Cummins-Meritor publication Maintenance Manual Number I and the applicable Cummins-Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

TERMS AND CONDITIONS

(2) Designation of Vocational Use Required

To obtain warranty coverage, each Owner must notify Cummins-Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Cummins-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 Cummins-Meritor directly. Failure to notify Cummins-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 Cummins-Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Cummins-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 Cummins-Meritor's warranty requires that the application of products be properly approved pursuant to OEM and Cummins-Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines and/or contact Cummins-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 Cummins-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 Cummins-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/UnI/P) will apply.

(5) Remedy

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Cummins-Meritor's option. Cummins-Meritor reserves the right to require that all applicable failed materials are available and/or returned to Cummins-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 Cummins-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 Cummins-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 Cummins-Meritor service location. The dealer will inspect the vehicle and contact Cummins-Meritor for an evaluation of the claim. When authorized by Cummins-Meritor, the dealer will repair or replace during the term of this warranty any defective Cummins-Meritor component covered by this warranty.

(9) Entire Agreement

This is the entire agreement between Cummins-Meritor and the Owner about warranty and no Cummins-Meritor employee or dealer is authorized to make any additional warranty on behalf of Cummins-Meritor. This agreement allocates the responsibilities for component failure between Cummins-Meritor and the Owner.



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cummins.com

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Pierce Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Meritor Wabco ABS Brake System

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor Wabco warranty description shall apply.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE, PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

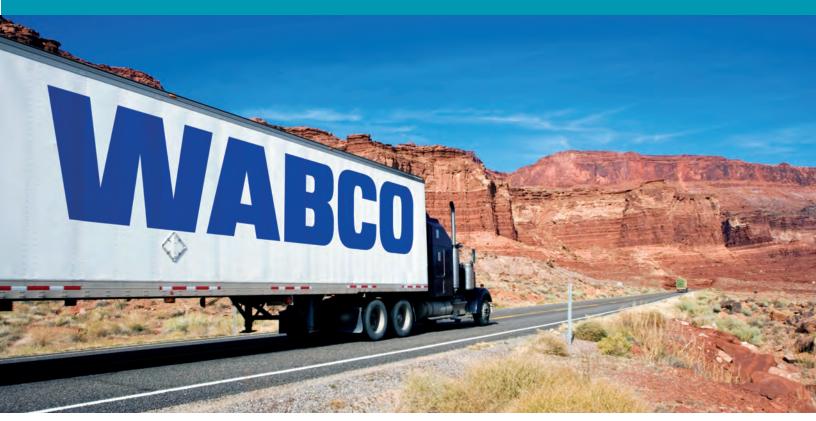
Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/25/2013 WA0232

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	Р			

• 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.



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 FreightSchool 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

- 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

GENERAL SERVICE TYPICALLY IS

WABCO Components ¹	
Air Management	
Air Brake Valves	_
Trailer Lift Axle Control Valve	1/100/P&L
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow [®] TrailerSkirt	2/UnU/P
OptiFlow [®] Trailer Tail and AutoTail	2/Unl/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	3/300/P&L
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System) ³	_
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/02
OptiRide® Automated Manual Transmission (AMT)	1/100/P&L
OptiRide® Electronically Controlled Air Suspension (ECAS)	3/300/P&L

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

¹ **ZF** and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ⁸ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler

- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste

- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck Winch Truck

HEAVY SERVICE TYPICALLY IS

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



WABCO Components ¹	
Air Management	
Air Brake Valves	
Air Compressors (ALL)2	1/100/091
Air Dryers (ALL)	1/100/P&L
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	3/300/P&L
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 [®]	
OnGuardACTIVE®	3/300/P&I
OnGuardACTIVE® OnLane®	3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT®	3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide®	3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics	3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics TrailerCAST™ Telematics Device	3/300/P&L 3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics TrailerCAST™ Telematics Device Wheel End Solutions	
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics Wheel End Solutions Wheel End Solutions	
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics TrailerCAST™ Telematics Device Wheel End Solutions	3/300/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics Wheel End Solutions Wheel End Solutions	3/300/P&L 2/200/P
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics Wheel End Solutions EasyFit™ Slack Adjuster MAXXUS™ Air Disc Brake	3/300/P&L 2/200/P 1/Unl/P&L
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics Wheel End Solutions TasyFit™ Slack Adjuster MAXXUS™ Air Disc Brake IVTM - Wheel Module	3/300/P&L 2/200/P 1/Unl/P&L 6/P
OnGuardACTIVE® OnLane® OnLaneALERT® OnSide® Trailer SafeStart™ Trailer TailGUARD™ Telematics Wheel End Solutions MAXXUS™ Air Disc Brake IVTM - Wheel Module IVTM - All Other Products	3/300/P&L 2/200/P 1/Unl/P&L 6/P 2/P
OnGuardACTIVE®OnLane®OnLaneALERT®OnSide®Trailer SafeStart™Trailer TailGUARD™TelematicsWheel End SolutionsEasyFit™ Slack AdjusterMAXXUS™ Air Disc BrakeIVTM - Wheel ModuleIVTM - All Other ProductsPan 22, 19 and 17 Air Disc Brake	3/300/P&L 2/200/P 1/Unl/P&L 6/P 2/P 1/Unl/P&L
OnGuardACTIVE®OnLane®OnLaneALERT®OnSide®Trailer SafeStart™Trailer TailGUARD™TelematicsWheel End SolutionsMAXXUS™ Air Disc BrakeIVTM - Wheel ModuleIVTM - All Other ProductsPan 22, 19 and 17 Air Disc BrakeTrailer MAXX22T™	3/300/P&L 2/200/P 1/Unl/P&L 6/P 2/P 1/Unl/P&L 1/Unl/P&L

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

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

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

Market	Common Application Types
Agriculture	Fertilizer Spreader, Tractor, Heavy Duty Ag Trailers, Harvester, Sprayer, Skid Loader, Silage Bagger, Slurry Wagons, Grain Cart
Airport Support	Pushback Tractor, Towing Tugs, Aircraft Tow Tractor, Refueling Trucks, Food Service Trucks, Baggage Tractors, De-Icing Equipment, Runway Clearing Equipment
Construction	All-Terrain Crane, Rough Terrain Crane, Excavator, Compactor, Wheel Loader, Road Roller, Motor Grader, Articulated Dump Truck, Rubber Tire Road Roller, Backhoe Loaders, Haul Trucks, Scraper Rough Terrain Forklifts, Trenchers, Drills
Forestry	Logging Forwarder, Kidder, Loaders, Yard Forklifts, Harvesters Fellers
Material Handling	Port Tractor, Rail Yard Spotter, Stevedoring Tractor, Trailer Spotter, Yard Jockey, Scissor Lift, Straddle Carrier, Manlift, Forklift, Boom Lift Telebandlers, 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, Injecter 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	S ¹
Air Management	
Air Brake Valves	
Air Compressors (ALL)2	2/Unl/P
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	
Master Cylinders	
Remote Actuators	2/Unl/P
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	
Electric Brake Locks	2/Unl/P
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	4 (400 (D0)
ABS (Anti-Lock Braking System) Hydraulic	1/100/P&L
Driveline Suspension Control	ol
Clutch Controls	
Leveling Valves	1/100/P&L
Electrohydraulics & Control	ls
Electronic Pedals	
Electrohydraulic Brake Valves (EBV)	2/Unl/P
Pressure Switches	
Hydraulic Braking Solution	S
Accumulator Charging Valves	
Hydraulic Throttle Controls and Switches	2/Unl/P
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/Pal
	2/200/P
TRISTOP™ D Actuator	

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.

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 inservice 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 inservice 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 ZFs 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 ZE 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**



Pierce Fire and Rescue Apparatus					
Ten (10) Year Structural Integrity					
Custom Cab					
	Limited Warranty				
1. LIMITED WARRA Subject to the limitat the following warran	tions and exclusions set forth below, Pierce Manufacturing provides	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 the second product th			
Coverage:	The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship	 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; 			
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).	(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			
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles	(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.			
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.	The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approved 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. JISCLAIMERS 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 WARRANTYES, WHETHER EXPRESS, IMPLIED OR STATUTTORY, 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 replace by BLALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF 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.

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.

equipment, cost of substitute vehicles or products, down-time, delay damages, any other

damages for lost profits or revenues, loss of vehicles or products or any associated

types of economic loss, or for any claims by any third party for any such damages.

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2/8/2010 WA0012



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Cab

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any: Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25% Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25% Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10% Corrosion Perforation 0-120 months 10% This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty. Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. 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 vehices or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0055

Pierce Fire and Rescue Apparatus				
Five (5) Year Material and Workmanship				
Command Zone Electronics				
	Limited	Warranty		
1. LIMITED WARRANTY Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoev as to: Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoev as to:				
the following warrant	y to the Buyet.	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;		
Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship	(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;		
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).	(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		
Warranty Period Ends After:	Five (5) Years	(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.		
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.	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. JDECLAIMERS 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. J.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 replaces (br WARRANTY. ACCLUSION 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 VE		

with Pierce's maintenancy shared ppy only in the product is properly maintained in accordance with Pierce's maintenancy and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

damages for lost profits or revenues, loss of vehicles or products or any associated

types of economic loss, or for any claims by any third party for any such damages.

equipment, cost of substitute vehicles or products, down-time, delay damages, any other

2/8/2010 WA0014

Pierce Fire and Rescue Apparatus					
54 Months Material and Workmanship Camera System					
		-			
1. LIMITED WARRA		Warranty			
Subject to the limitat	ions and exclusions set forth below, Pierce Manufacturing provides	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			
the following warrant	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occuring during the warranty period.	 (b) any integrate path, our point of the autoministic of the autoministic of the autoministic of 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 			
Warranty Begins:	The date of delivery.	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			
Warranty Period Ends After:	Fifty - Four (54) months	(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.			
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.	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. JISCLAIMERS OF WARRANTIES THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUSIVE WARRANTY OF PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUSIVE WARRANTY OF FITNESS, 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 Ball repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replace were south and expense) any nonconforming or defective parts. Repair or replace were south and expense) any nonconforming or BEACH OF CONTRACT. 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.

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.

damages for lost profits or revenues, loss of vehicles or products or any associated

types of economic loss, or for any claims by any third party for any such damages.

equipment, cost of substitute vehicles or products, down-time, delay damages, any other

1/11/2011 WA0188

Fire and Rescue Apparatus Ten (10) Year Material and Workmanship Pierce 12V LED Strip Light 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 Pierce 12V LED strip lights installed on the apparatus occuring during the warranty period.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Year
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, panalites, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

7/5/2011 WA0203





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	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
MODELS	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

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

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 State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

** Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc. P.O. Box 894 Indianapolis, IN 46206-0894 Attention: Warranty Administration PF-9

Form SE0616EN (201009)



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

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to \$10,000 per occurrence is available for the first three (3) years.
Warranty Begins:	The date of delivery to the first retail purchaser.
Warranty Period Ends After:	Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty. This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner. Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission. Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization. Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of \$700 to remove, replace, or repair the oil cooler.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE, PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/22/2012 WA0216



1. General. United Plastic Fabricating, Inc. (the "Company") warrants to the owner (the "Owner") that the products set forth on Exhibit A, attached hereto (the "Product") will be reasonably free from defects in materials and workmanship for the service life of the Product. This Limited Lifetime Warranty (the "Warranty") only applies to Company Products that are: (a) owned by a federal, state, county or local government, a volunteer fire department or dedicated commercial fire service operation; (b) continuously and actively used in emergency response and/or fire suppression vehicles; and (c) used, stored, handled and installed in the manner recommended by Company.

2. Warranty Obligations. Subject to the exclusions and limitations set forth in this Warranty, Company will, at its option, repair or offer a one (1) time replacement of the Product without charge, if the Product fails or does not perform as warranted during the warranty period due to a manufacturing defect or a defect in materials. Repair or replacement shall include reasonable labor charges necessary to repair or replace the defective Product but shall not include: (a) the costs associated with removal of the Product from the vehicle or the cost to otherwise provide access to the Product in the vehicle; (b) the cost associated with any required upgrades the vehicle (including, without limitation, upgrades required to strengthen the vehicle's frame); or (c) travel costs, except as provided by Section 3. Company's obligation as to repair or replacement shall further be limited to repair or replacement with the models of the Product that are available at the time of the repair or replacement, and shall be limited to the repair or replacement of only the specific Product that fails due to a manufacturing defect. In the event a Product becomes unavailable or cannot be supplied by Company for any reason a substitute Product of equal quality and functionality of the subject Product may be substituted by Company. Any repaired Product shall remain subject to this Warranty and any repair shall not extend the warranty period in any manner or start a new warranty period. Any Product that is replaced by Company shall be excluded from this Warranty. In no

event shall Company be required to expend, in any one (1) or series of expenditures, more than the purchase price of the Product to repair or replace a defective Product. Amounts expended by Company shall include all amounts paid by Company in connection the repair or replacement, including without limitation, amounts paid to third-parties, material costs, incidental costs and travel costs (except as provided by <u>Section 3</u>).

3. Travel; Expenses; Product Access. Company shall be responsible for any travel costs incurred to repair or replace the Product provided that: (a) the Product is located in the continental United States or Canada; and (ii) the warranty claim is initiated prior to the date on which NFPA 1912 Standards (Annex D) recommends replacement of the Product. All other travel costs incurred by Company or its agents to repair or replace the Product shall be the responsibility of the party asserting the warranty claim. Company reserves the right to require, as a condition to undertaking any repair or replacement: (y) pre-payment of its anticipated travel costs; and (z) satisfactory arraignments concerning scheduling and access to the Product. If the subject Product is located in an area of the world considered, in Company's sole discretion, to be unsafe Company may refuse to process the claim or require relocation of the Product, at no expense to Company, to an area where such repairs can be performed safely by Company or its agents. In the event Company or Company's agents are dispatched to repair or replace a defective Product and the vehicle in which the Product has been installed is not available or the Product is not readily accessible, for any reason, Company or Company's agents, as the case may be, shall be immediately reimbursed for all expenses incurred therewith.

4. <u>Exclusions</u>: Products must be stored, handled, installed, used and maintained in accordance with instructions provided by Company, and this Warranty is conditioned upon compliance with all such instructions. This Warranty does not cover defects caused by: (a) improper installation; (b) modification, alteration or repair of the Product by any unauthorized third-party; (c) misuse, including, without limitation, improper

storage or handling of the Product (e.g. excessive exposure to UV rays); chemical abuse (e.g. harsh cleansers and solvents), thermal abuse or shock (e.g. excessive heat or cold); (d) damage not resulting from manufacturing defects that occur while the Product is not in Company's possession (e.g. accidents); or (e) unreasonable or unintended use of the Product. Copies of the Company's operation and maintenance instructions are available on the Company's website https://www.unitedplastic.com/upf-documents/

5. Disclaimer. THE WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY COMPANY IN CONNECTION WITH THE PRODUCT. COMPANY CAN NOT AND DOES NOT MAKE ANY IMPLIED OR EXPRESS WARRANTIES WITH RESPECT TO THE PRODUCT, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF **FITNESS** MERCHANTABILITY OR FOR А PARTICULAR PURPOSE. PRODUCTS SOLD BY COMPANY ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY COMPANY IN WRITING. OTHER THAN THE LIMITED WARRANTY SET FORTH HEREIN, COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. COMPANY'S SOLE OBLIGATION UNDER THIS WARRANTY SHALL ΒE REPAIR OR REPLACEMENT OF NON-CONFORMING PRODUCT. BUYER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCT PURCHASED. WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.

6. Limitation of Liability. NO CLAIM BY OWNER OF ANY INCLUDING KIND. CLAIMS FOR INDEMNIFICATION, SHALL BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT IN RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL COMPANY BE LIABLE TO OWNER IN TORT, CONTRACT OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, ANY OBLIGATION OF COMPANY то REPAIR REPLACE ANY OR CHASSIS. SUB-FRAMES, BODIES. VALVES. DUMPS, HOSES, PRESSURE VACUUM VENTS OR OTHER SIMILAR COMPONENTS), RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME, LOSS OF REVENUES, INCONVENIENCE, LOSS BUSINESS OPPORTUNITIES, OR DAMAGE TO GOOD WILL OR REPUTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF BUYER TO ANY THIRD PARTY WITH RESPECT THERETO.

7. Reformation. If any term or provision of this Warranty shall be held or deemed to be, or shall in fact be, invalid, inoperative, illegal or unenforceable as applied in any case or in any jurisdiction or jurisdictions because of the conflicting nature of any provision with any constitution or statute or rule of public policy or for any other reason, then: (a) such circumstance shall not have the effect of rendering the provision or provisions in question invalid, inoperative, illegal or unenforceable in any other jurisdiction or in any other case or circumstance or of rendering any other provision or provisions herein contained invalid, inoperative, illegal or unenforceable to the extent that such other provisions are not themselves actually in conflict with such constitution, statute or rule of public policy; and (b) any such invalid, inoperative, illegal or unenforceable provision shall be reformed and construed in any such jurisdiction or case so that such provision would be valid, operative and enforceable to the maximum extent permitted in such jurisdiction or case.

8. <u>Headings</u>. The headings contained herein are for convenience and reference only, and shall be given no effect in the interpretation of any term or condition of this Warranty.

9. <u>Submitting a Warranty Claim</u>. To request coverage under this Warranty you must submit a claim through Company's_website:

https://www.unitedplastic.com/contact/product-support/

10. <u>Transferability</u>. This Warranty is transferable and entitles the transferee to coverage for the remainder of the original warranty period.

11. <u>Modification</u>. This Warranty may be modified (a) as set forth on a binding sales order for the Product or (b) by a written agreement between Company and the Owner.

Exhibit A

Covered Product List

- Poly-Tanks®
- PolySide® Wetside Tanks
- Defender™ Skid Tanks
- Ellip-T™ Elliptical Tanks
- ARFF Tanks

Pierce 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:		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				
Coverage:	The apparatus body shall be free from structural failures caused by defects in material and workmanship	 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; 				
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).	(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				
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles	(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.				
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.	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 EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUSIVE WARRANTY OF UNTRESS FOR A PARTICULAR PURPOSE, AND 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 replace ment 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 Muthitstanding 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 ARIS				

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 TRANSFERED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

damages for lost profits or revenues, loss of vehicles or products or any associated

types of economic loss, or for any claims by any third party for any such damages.

equipment, cost of substitute vehicles or products, down-time, delay damages, any other

2/8/2010 WA0009

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



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

Pierce Fire and Rescue Apparatus

1. LIMITED WARRANTY

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

Coverage:	Stainless steel piping shall be free from structural failures caused by defects in material and workmanship, or perforation caused by corrosion.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the stainless steel piping or components which Pierce determines to have failed due to defective material and workmanship, or perforation caused by corrosion. This warranty does not cover the use of fluoroprotein (FP) type foam. The sodium chloride within FP foam can cause long-term damage to system components if not thoroughly flushed immediately after use.

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.

3/22/2012 WA0035



Fire and Rescue Apparatus

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

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any: Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25% Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25% Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% Corrosion Perforation 0-120 months 10% Corrosion Perforation 0-120 months 100% This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty. Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY. Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0057

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:		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				
	Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.	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;											
Coverage:		(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;											
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).	(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											
Warranty Period Ends After:	Three (3) Years	(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.											
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).	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.											
with Pierce's mainte normal to the particu	y shall apply only if the product is properly maintained in accordance nance instructions and manuals and is used in service which is ular model. Normal service means service which does not subject the or impacts greater than normally result from careful use. If the Buyer	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 POSIBILITY 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.											

normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/22/2010 WA0018



goldenstatefire.com

5 DEALER SUPPLIED PRODUCTS AND SERVICES Exhibit "D"

PROPOSAL INTRDUCTION

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

We sincerely appreciate the opportunity to present this comprehensive proposal for a <u>PIERCE</u> <u>MANUFACTURING, INC. ENFORCER 1500 GPM PUMPER</u>. Your consideration of this proposal is greatly valued, and we are eager for the opportunity to support your department with the highest level of excellence and professionalism.

DEALER-SUPPLIED PRODUCTS AND SERVICES

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

AUTHORIZED MANUFACTURER

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

AUTHORIZED DEALERSHIP

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

AUTHORIZED SALES REPRESENTATIVE

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

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

VEHICLE REGISTRATION

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

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

WEEKLY PROGRESS PHOTOGRAPHS

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

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

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

CONTINGENCY RESERVE FUND

A Contingency Reserve Fund amounting to <u>\$70,000</u> per unit is incorporated into the quotation to address potential change orders, unforeseen items, or necessary work that may arise during the contract. The utilization of this reserve fund is at the sole discretion of the Customer. It is essential to note that this reserve fund is not an estimate for the aforementioned contingencies, and the actual costs associated with change orders, unforeseen items, or required work may surpass the reserved amount depending on their nature.

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

FIRE FIGHTING EQUIPMENT MOUNTING FUND

A Fire Fighting Equipment Mounting Fund amounting to <u>\$70,000</u> per unit is incorporated into the quotation and is specifically designated to cover the expenses associated with mounting of said equipment, adhering to the directives of the Customer.

In the event that the mounting costs surpass the stipulated allowance, any additional work required can be undertaken at the prevailing shop rate. Any unused portion of the Fire Fighting Equipment Mounting Fund will be credited back on the final invoice. Alternatively, if not credited, the remaining funds will be promptly returned to the Customer in the form of a check following the completion of the final invoicing process. This approach guarantees financial transparency and effective management throughout the project.

LADDERS

- One (1) Alaco model 2300-24 Wood, 2 section extension ladder for Fire Service, 24' 0" L
 22" Wide. 3 coats of Watco Oil finish with Black and White ends.
- One (1) Alaco model 2304-14 Wood, roof ladder with hooks for fire service, 14' 0" L 15" Wide. 3 coats of Watco Oil finish with Black & White ends.
- One (1) Alaco model 2305-10 Wood, folding attic ladder for fire service 10' 0" L Standard Width 3 coats of Watco Oil Finish.

<u>HOSE</u>

- Ten (10) Key DP25-800 Big 10 Heavy Duty Double Jacket Rubber Lined, All Polyester Attack Hose, 2.5" x 50', CPLD 1.5" NST, Color: Tan Stenciled on Female End: "ALAMEDA FD"
- Nine (9) Key DP40-600 HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 100' with 4.5" NST, Color: Yellow Stenciled on Female End: "ALAMEDA FD"
- Two (2) Key DP40-600 HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 50' with 4.5" NST, Color: Yellow Stenciled on Female End: "ALAMEDA FD"
- Three (3) Key DP40-600 HY FLOW LDH Lightweight Double Jacket Attack Hose, 4" x 25' with 4.5" NST, Color: Yellow Stenciled on Female End: "ALAMEDA FD"

INTAKE VALVES

Two (2) TFT model AX8NR-NX Jumbo Intake Valves, Right Handwheel Controls, Swiveling Elbow – 4.5" NHM Rigid Street-Side, 6" NHF Swivel Truck-Side, Pressure Relief Valve

FINAL INSPECTION, FACTORY VISIT

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

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

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

DELIVERY TO AUTHORIZED SERVICE FACILITY

GSFA will deliver the apparatus to one our Northern California facilities (either Tracy or Sacramento – whichever is closest) for a comprehensive dealer preparation inspection. This service, conducted at the expense of GSFA, aims to have the apparatus in optimal condition at the time of final delivery.

To ensure the proper break-in of all components while still under warranty, the apparatus will be delivered under its own power. The use of rail or truck freight for transportation is deemed unacceptable in order to uphold the highest standards of quality assurance during the delivery process. This approach reflects our commitment to delivering a fully operational, road-tested apparatus to our valued customers.

PRE-DELIVERY SERVICE

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

- 1. Engine Compartment and Undercarriage:
 - Inspect for broken mounting brackets.

- Inspect and identify locations of any fluid leaks.
- General inspection of hoses, wiring, and linkage, focusing on potential wear points.
- Verify correct fluid capacities for engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear-end fluid, pump transmission oil, and primer oil if applicable.
- Re-torque U-bolts to OEM specifications if equipped with leaf spring suspension (Pierce Custom chassis only).
- 2. Interior:
 - Confirm proper operation of doors, windows, and locks, ensuring accurate adjustment.
 - Confirm proper operation of seatbelt alarms.
 - Confirm proper operation of all compartment door alarms, as well as hose bed cover, ladder rack, light tower, and deck gun alarms.
 - Ensure functionality of auxiliary power points, interior lighting, mirror, and seat controls, and if applicable headsets and radios.
 - Inspect upholstery for quality and condition.
- 3. Exterior:
 - Address reasonable paint scratches or chips.
 - Tighten any loose hardware.
 - Inspect tires and wheels, ensure proper pressure.
 - Check compartment doors for proper operation and latch fit.
 - Lubricate compartment door locks if applicable.
- 4. Road Test:
 - Conduct a road test with a full water tank (if applicable), covering approximately twenty miles on both city and highway roads.
 - Perform a DOT compliant brake test to verify the system is holding air.
 - Inspect brake condition, wheel seals, and ensure drive train components reach optimal operating temperatures.
 - Conduct an Allison Transmission self-diagnostic to verify fluid level, fluid and filter life, and check for fault codes.
- 5. Electrical:
 - Verify the operation of all lights, sirens, and other electrical accessories.
- 6. Pump:
 - Operate the Pressure Governor or Relief Valve, transfer valve, and check pump shift.

- Inspect water tank, pump and plumbing for leaks and calibrate the water level gauge.
- Ensure smooth operation of all discharge, suction, and drain valves.
- 7. Pierce Husky[™] Foam System:
 - If applicable, draft and inject clean water to ensure proper operation of the foam pump.
- 8. Fuel and DEF Tanks:
 - Fill the fuel tank and DEF tank prior to final delivery.
- 9. Wash:
 - Thoroughly wash the apparatus prior to final delivery.

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

FINAL DELIVERY (CUSTOMER LOCATION)

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

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

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

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

COMPREHENSIVE SALES AND SERVICE SUPPORT

At GSFA, we understand that immediate response is essential - and the service and support of your apparatus should be no different. Since our founding in 1989, our mission has been to provide first responders with the highest quality, most reliable fire and emergency apparatus

from top-tier manufacturers. We specialize in guiding our customers through the entire process - from apparatus evaluation and customization to final inspection - and ensuring years of reliable service through our Golden State Emergency Vehicle Service (GSEVS) division.

Golden State Emergency Vehicle Service (GSEVS)

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

Sacramento Facility

Our Sacramento location features a 33,814-square-foot facility with 18 working bays and a 4,500-square-foot, two-story parts distribution department stocked with an extensive inventory of Pierce and non-Pierce parts. Conveniently located near Highway 99 with easy access to Interstates 80 and 50, we are positioned to serve you efficiently. If a part is not in stock, we order it directly from the factory to minimize downtime.

Tracy Facility (Opening Fall 2025)

Our second location in Tracy will expand our service capacity with a 49,634-square-foot facility featuring 22 working bays and a parts department equal in size to our Sacramento facility. Strategically located within the "Tracy Triangle" - bordered by I-580, I-205, and I-5 - this facility will enhance our ability to serve customers in the Bay Area and beyond.

Mobile Service

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

Certified and Experienced Technicians

Our service team includes factory-trained professionals certified by Pierce, ASE, and EVT. They undergo regular training to stay current on chassis, electrical systems, and aerial devices, ensuring expert handling of any challenge.

Your Single Source for Sales and Service

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

END OF EXHIBIT "D"