



GOLDEN STATE

FIRE APPARATUS

PREPARED ESPECIALLY FOR:

SACRAMENTO METROPOLITAN FIRE DISTRICT

Five (5) Pierce Manufacturing, Inc.
Enforcer 1500 GPM Type 1 Fire Engines



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1 PRODUCT PROPOSAL

OPTION A

100% PRE-PAYMENT

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

IF YOU ELECT THIS OPTION,
IT RESULTS IN A SAVINGS OF
(\$898,809.40) 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:
Sacramento Metropolitan Fire District

 4425 Dudley Boulevard
 McClellan, CA 95652

Sales Consultant

 Brad Hansen
brad@goldenstatefire.com
 Mobile: (916) 869-6072

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
07/17/2024	07/31/2024	10717-24A	791	Pierce Manufacturing Inc.	HGAC Contract FS12-23, Model 23P-105

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

ITEM	PRODUCT DESCRIPTION	EXTENDED PRICE
A	Five (5) Pierce Manufacturing, Inc. Enforcer 1500 GPM Type 1 Fire Engines	5,340,000.00
B	Pre-Payment Discount for 100% Payment at Time of Order (the "Prepayment Discount")	(832,250.00)
C	SUBTOTAL	4,507,750.00
D	7.75% State Sales Tax	349,350.60
E	California Tire Fee	52.50
F	100% Performance Bond	12,175.00
G	GRAND TOTAL PURCHASE PRICE	4,869,328.10

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

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

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

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **45.5 to 48.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **0.5 to 1 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

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

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

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

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

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 07/17/2024, GSFA Proposal Number 10717-24A 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:
Sacramento Metropolitan Fire District

 4425 Dudley Boulevard
 McClellan, CA 95652

Sales Consultant

 Brad Hansen
brad@goldenstatefire.com
 Mobile: (916) 869-6072

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
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ITEM	PRODUCT DESCRIPTION	EXTENDED PRICE
A	Five (5) Pierce Manufacturing, Inc. Enforcer 1500 GPM Type 1 Fire Engines	5,340,000.00
B	7.75% State Sales Tax	413,850.00
C	California Tire Fee	52.50
D	100% Performance Bond	14,235.00
E	GRAND TOTAL PURCHASE PRICE	5,768,137.50

PAYMENT TERMS – Customer shall pay the total purchase price set forth directly above (the "Grand Total Purchase Price") to GSFA no later than the time of GSFA's delivery of the applicable Product to Customer's address listed above (or Customer's pick up of such Product at GSFA's facilities, if approved by GSFA). GSFA shall have no obligation to deliver, or permit pick up of the Product if the Customer does not have full payment ready when the Product is complete and ready to deliver or pick up, as applicable. Customer shall pay any balance due as a result of Change Orders as described in the Terms and Conditions.

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above ("Manufacturer") and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit an order form to the Manufacturer for the Product. GSFA's further performance under the Agreement is contingent upon Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **45.5 to 48.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **0.5 to 1 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

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

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

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 07/17/2024, GSFA Proposal Number 10717-24B to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER**ACCEPTED AND AGREED TO BY GSFA**

Signature of Authorized Customer Representative

Signature of Authorized GSFA Representative

Print Name

Print Name

Title

Title

Date

Date

2 STANDARD TERMS AND CONDITIONS

Exhibit "A"

STANDARD TERMS AND CONDITIONS

1. Definitions.

- a. **“Agreement”** has the meaning given in the Product Proposal.
- b. **“Customer”** means the customer identified in the Product Proposal.
- c. **“Dealer Preparation,”** if applicable, means additional product(s) and/or services added by GSFA after Manufacturer’s completion of the Product and prior to delivery, in accordance with the Dealer Supplied Products/Services List.
- d. **“Delivery Date”** means the Product Completion timeframe plus the Predelivery Service timeframe equals the Delivery Date.
- e. **“Dealer Supplied Products/Services List”** means the Dealer Supplied Products and/or Services List attached to the Product Proposal as Exhibit D, which reflects all Dealer Preparation under the Agreement absent a valid Change Order(s).
- f. **“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)).
- g. **“GSFA”** means Golden State Fire Apparatus, Inc., a California corporation.
- h. **“Manufacturer”** means the person or persons, company, firm, corporation, partnership, or other organization identified in the Product Proposal as responsible for manufacturing the Product.
- i. **“Party”** or **“Parties”** means GSFA and/or Customer, as applicable.
- j. **“Predelivery Service”** means the Products and/or Services that will be provided by GSFA after transportation of the Product(s) from the manufacturing facility and prior to Final Delivery or Pick-Up.
- k. **“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).
- l. **“Product”** means the fire apparatus(es) and any associated equipment listed in the Product Proposal and further described in the Specifications.
- m. **“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.
- n. **“Product Proposal”** means the GSFA proposal executed by Customer to which these Terms and Conditions are attached.
- o. **“Product Warranties”** means the Manufacturer warranties for the Product attached to the Product Proposal as Exhibit C.
- p. **“Specifications”** means the specifications for the Product attached to the Product Proposal as Exhibit B.
- q. **“Terms and Conditions”** means these Standard Terms and Conditions, which are attached to the Product Proposal as Exhibit A.

2. Purchase and Payment.

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

b. **Contingency Reserve Fund.** The Grand Total Purchase Price may include an amount to be set aside for the purpose of funding any future costs or financial obligations incurred by Customer under the Product Proposal or any valid Change Order(s) (the “**Contingency Reserve Fund**”). If applicable, the amount of any required Contingency Reserve Fund will be set forth in either the Product Proposal or Exhibit D. The Contingency Reserve Fund may be withdrawn against by Customer or GSFA for the purpose of satisfying Customer’s payment obligations under the initial Product Proposal or any valid Change Order(s) (including, without limitation, a Change Order submitted by GSFA pursuant to Section 8.b). If a Contingency Reserve Fund is required under the Agreement, the amount of such fund is not intended as an estimate of the actual additional costs of contingencies, Change Orders, unforeseen items or other required work that may be incurred under the Agreement after submission of the Product Proposal to

Customer, which amounts Customer acknowledges may exceed the Contingency Reserve Fund amount. The balance of any Contingency Reserve Fund will be credited against Customer's payment obligations, or otherwise returned to Customer within thirty (30) calendar days of delivery of all Products under the Agreement (provided that Customer has paid all amounts owed under the Agreement as of such date).

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

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

3. Product Completion Date. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the "**Executed Date**"), GSFA shall submit to Customer a tentative Product completion date (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available. If the product is not available for delivery on the Product Completion Date, no additional costs, fees , or charges shall be billed to or attributable to Customer in the Grand Total Purchase Price solely by reason of failure to meet the Product Completion Date, including but not limited to any costs identified in Section 8 below.

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

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

6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received. Any such charges shall not exceed the statutory limit for such charges pursuant to California Government Code 926.10. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or

(ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer's possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. Delivery; Inspection and Acceptance.

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

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

8. Changes to Agreement Terms.

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

b. Additional Changes.

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

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

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

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

9. Termination.

a. By Customer. Customer may terminate a Product order identified in the Product Proposal or a Change Order by providing written notice to GSFA in accordance with Section 16 hereof. If Customer elects to terminate a Product order, Customer shall pay GSFA a cancellation fee as follows: (a) after the Product order is accepted and entered by GSFA, 10% of the portion of the Grand Total Purchase Price applicable to such Product (including all associated taxes, fees and costs) (such amount, the "**Product Purchase Price**"); (b) after completion of the pre-construction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted

to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer's termination of the Product order ("Manufacturer Termination Fees"), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation, as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

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

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

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

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

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

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

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

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

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

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

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

15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make

GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.

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

GSFA:

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

CUSTOMER:

To the address listed in the Product Proposal

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

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

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

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

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

END OF STANDARD TERMS AND CONDITIONS

3 PRODUCT SPECIFICATIONS

Exhibit “B”



Proposal Details Report

5/30/2024

Customer: Sacramento Metropolitan Fire District **Bid Number:** 791
Representative Hansen, Brad **Job Number:**
Requirements Manager: **Organization:** Golden State Fire Apparatus, Inc
Description: Sac Metro Enforcer Engines Du
Chassis: Enforcer Chassis
Body: Pumper, Short, Aluminum, 2nd Gen

OptionCode	Type	Option	ProposalText
0766611	Boiler Plates, Pumper		<p>Golden State Fire Apparatus Inc is pleased to submit a proposal to Sacramento Metropolitan Fire District for a Pierce® triple combination pumper per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.</p> <p>PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.</p> <p>Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.</p> <p>Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.</p> <p>In accordance with the current edition of applicable NFPA standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.</p> <p>Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.</p> <p>GENERAL DESIGN AND CONSTRUCTION</p> <p>To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.</p> <p>QUALITY AND WORKMANSHIP</p> <p>Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding Society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs an American Welding Society certified welding inspector in plant during working hours to monitor weld quality.</p> <p>Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.</p> <p>In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to ensure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.</p> <p>To demonstrate the quality of our products and services, a list of at least fifteen (15) fire departments/municipalities that have purchased vehicles for a second time is provided.</p> <p>DELIVERY</p> <p>The apparatus will be delivered under its own power to ensure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</p> <p>MANUAL AND SERVICE INFORMATION</p> <p>At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p>SAFETY VIDEO</p> <p>At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. A link to the video is also available on the Pierce Training website. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.</p> <p>PERFORMANCE TESTS</p>

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

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Golden State Emergency Vehicle Service Inc by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within twenty five (25) miles of the fire department.

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

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

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

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

LIABILITY

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

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

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

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Personal and Advertising Injury \$1,000,000

General Aggregate \$2,000,000

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

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

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

Each Accident Combined Single Limit: \$1,000,000

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Aggregate: \$3,000,000

Each Occurrence: \$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

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

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form. The manufacturer's policy will include the owner as additional insured when required by written contract between the Owner and a Pierce authorized dealer.

UMBRELLA/EXCESS LIABILITY INSURANCE

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

Each Occurrence: \$25,000,000

Aggregate: \$25,000,000

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

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

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

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

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

0661794	Single Source Compliance	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 37403 . 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 COMPLIANTY

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 NFPA1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

0000000

STF GSFA, Final Insp, ATW Factory,
Major Airport, 6 Days and 5 nights

FINAL INSPECTION FACTORY TRIP

A final inspection trip to the manufacturing facility will be provided for six (6) Customer representative(s). The intent of this trip is to ensure that the apparatus is built to specification and to detect any deficiencies that require correction. The final inspection trip will have a duration of six (6) days and five (5) nights and be scheduled at times mutually agreed upon between Golden State Fire Apparatus (GSFA), and the Customer. Costs for airfare, lodging, meals and ground transportation while at the manufacturers location will be the responsibility of GSFA. Air travel will be from one of the following airports: Sacramento, San Francisco or San Jose. Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory will be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

0799172

FLEET CUSTOMER

0020531

Product Improvements

PRODUCT CHANGES AND IMPROVEMENTS

Our components and processes, as described in this proposal document, are as accurate as known at the time of bid submission, but are subject to change for the purpose of product or process improvements, or changes in industry standards providing the change does not affect the meaning or definition of the bid specifications.

0620362

Consortium, HGAC

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 from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter. Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible. If the Producer Price Index of Components for Manufacturing [www.bls.gov Series ID: WPUID6112] ("PPI") has increased at a compounded annual growth rate of 5.0% or more between the month Pierce accepts the order ("Order Month") and a month 14 months prior to the then predicted Ready For Pickup date ("Evaluation Month"), then pricing may be updated in an amount equal to the increase in PPI over 5.0% for each year or fractional year between the Order Month and the Evaluation Month. The seller will document any such updated price for the customer's approval before proceeding and provide an option to cancel the order.
0000007	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.
0891594	SP Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only- FLEET	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.
0611571	SP Drawing, As Built, At Delivery a Revised Print w/ Changes, FLEET	FINAL DRAWING There will be a revised drawing of the truck with all the changes made during production provided at pickup.
0727746	SP Drawing, Compartment Layout, FLEET	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.
0002928	Electrical Diagrams	ELECTRICAL WIRING DIAGRAMS Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.
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 9' - 10.00" (118.00").
0021010	Maximum Overall Length	MAXIMUM OVERALL LENGTH The maximum overall length of the apparatus will be 361.50" (30'-1.50").
0000110	Wheelbase	WHEELBASE The wheelbase of the vehicle will be 180.50".

0000070	GVW Rating	GVW RATING The gross vehicle weight rating will be 42,000 lbs.
0649713	Frame Rails, 10.25" x 3.50" x .375", Saber FR/Enf	FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will be heat-treated steel measuring 10.25" x 3.50" x 0.375". Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.
0020018	Frame Liner Not Req'd	
0821543	Axle, Front, Hendrickson Steertek, 18,000 lb, Saber FR/Enforcer	FRONT AXLE The front axle will be a reverse "I" beam type with inclined king pins. It will be a Hendrickson SteerTek™ axle, with a rated capacity of 18,000 lb.
0821551	Suspension, Front, Hendrickson, Steertek NXT, 18,000 lb, Saber FR/Enforcer	FRONT SUSPENSION The front springs will be a Hendrickson, SteerTek™ NXT, taper leaf design, with a ground rating of 18,000 lb.
0807746	Shock Absorbers on Front Axle, Steertek	SHOCK ABSORBERS Hendrickson Steertek shock absorbers will be provided on the front axle.
0000322	Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0802633	Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg	FRONT TIRES Front tires will be Goodyear 385/65R22.5 radials, 18 ply Armor Max MSA tread, rated for 20,050 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.
0530457	Axle, Rear, Meritor RS23-186, 24,000 lb Saber/Enforcer	REAR AXLE The rear axle will be a Meritor™, Model RS-23-186, with a capacity of 24,000 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.
0555350	Suspen, Rear, Hendrickson FMX 242 EX, Air Ride, 24,000 lb	REAR SUSPENSION Rear suspension will be a Hendrickson FMX 242 EX, air ride with a ground rating of 24,000 lb. The suspension will have the following features: <ul style="list-style-type: none"> - Heavy-duty shock absorbers to protect air springs from overextension - Heavy-duty torque rods and bushings - Premium, heavy-duty rubber bushings require no lubrication - Integrated stabilizer design results in greater stability - Low spring rate air springs for excellent ride quality - Dual height control valves to maintain level vehicle from side to side
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0629346	Valves, Dump, Air Ride, Rear Axle, Prk Brk Interlock	REAR AIR RIDE SUSPENSION DUMP VALVES The rear air ride suspension will be supplied with a dump valve system provided by the custom chassis manufacturer. The control will be located inside the cab and at the driver's side rear of body. To prevent accidental activation of the valves, a 5 second timed delay will be built into the control circuit. The chassis back-up alarm will sound when the control is active. The parking brake must be applied before the control will be active. Release of the parking brake will automatically inflate the suspension.
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	<p>TIRE BALANCE</p> <p>All tires will be dynamically balanced with wheel weights.</p>
0620570	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	<p>TIRE PRESSURE MANAGEMENT</p> <p>There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.</p> <p>The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.</p> <p>Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.</p>
0801932	Lug Nut, Covers, Stainless Steel	<p>LUG NUT COVERS</p> <p>Stainless steel lug nut covers will be installed on all lug nuts.</p>
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	<p>FRONT HUB COVERS</p> <p>Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.</p>
0001960	Axle Hub Covers, Rear, S/S, High Hat (Pair)	<p>REAR HUB COVERS</p> <p>A pair of stainless steel high hat hub covers will be provided on rear axle hubs.</p>
0002045	Mud Flap, Front and Rear, Pierce Logo	<p>MUD FLAPS</p> <p>Mud flaps with a Pierce logo will be installed behind the front and rear wheels.</p>
0544802	Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	<p>WHEEL CHOCKS</p> <p>There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.</p>
0544806	Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	<p>Wheel Chock Brackets</p> <p>There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted one (1) forward and one (1) rearward of the left side rear tire.</p>
0820509	ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900	<p>ELECTRONIC STABILITY CONTROL</p> <p>A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco.</p> <p>The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event.</p> <p>The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction.</p> <p>ANTI-LOCK BRAKE SYSTEM</p> <p>The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.</p> <p>AUTOMATIC TRACTION CONTROL</p> <p>An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.</p>

0810608	Brakes, Meritor, EX225, 17", Disc Plus, Front w/ Steertek	BRAKES The service brake system will be full air type by Meritor™. Front brakes will be Model EX225 Disc Plus, disc type with automatic pad wear adjustment and 17.00" ventilated rotors 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 tanks will be same as frame color. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0630489	Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber FR/Enforcer	BRAKE SYSTEM AIR DRYER The air dryer will be a Bendix AD-9 air dryer, with spin-on coalescing filter cartridge and 100 watt heater.
0000790	Brake Lines, Nylon	BRAKE LINES Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.
0020851	Not Required, Air Inlet	
0000860	Outlet, Air, with shut off valve	AIR OUTLET One (1) air outlet will be installed with a female coupling and shut off valve, located on the driver side pump panel. This system will tie into the "wet" tank of the brake system and include an 85-psi pressure protection valve in the outlet line to prevent the brake system from losing all air. Female coupling and male fitting will be .25" thread. A mating male fitting will be provided with the loose equipment.
0014130	Air Tank, Additional for Extra Air Horn Capacity	ADDITIONAL AIR TANK FOR AIR HORN An additional air tank with 1,454 cubic inch displacement will be provided to increase the capacity of the air system. This tank will be dedicated for air horn use. The air tank will be primed and painted to meet a minimum 750 hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets. The air tank(s) will be 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.
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.
0757136	SP Valve, Front Brake Modulator, Crossmember Mounted	BRAKE MODULATOR VALVE The front brake modulator valve assembly will be mounted to the front cross member.
0615609	Fittings, Compression Type, Entire Apparatus, Single Rear Axle	COMPRESSION FITTINGS ONLY Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable. Push lock fittings will not be acceptable for any pneumatic nylon tube plumbing.

0808535	Engine, Cummins X10, 450 hp, 1250 lb-ft, W/OBD, EPA 2027, Saber FR/Enforcer	ENGINE The chassis will be powered by an electronically controlled engine as described below: Make: Cummins Model: X10 Power: 450 hp at 2100 rpm Torque: 1250 lb-ft at 1400 rpm Governed Speed: 2200 rpm Emissions Level: EPA 2027 Fuel: Diesel Cylinders: Six (6) Displacement: 606 cubic inches (9.9L) Starter: Delco 39MT™ Fuel Filters: Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter. The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.
0000000	STF Engine Contingency Adjustment	
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."
0776761	SP Retarder, Telma Driveline, Focal Mount, Single Axle, 1st/2nd Stage Acc, Ind Lts	DRIVELINE RETARDER There will be a Telma focal mounted driveline retarder provided on the front of the differential. The retarder will be the electromagnetic type, actuated in four stages. The first and second stages of the retarder will be activated whenever the drivers foot is taken off of the accelerator pedal. The third and fourth stages will be activated with application of the brake pedal. The third stage will be activated with two (2) lbs. of pressure, and the fourth stage will be engaged with seven (7) lbs. of pressure. When the Telma retarder is slowing the vehicle the brake lights will be activated. Cab dash mounted indicator lights will be provided to show retarder activation stages applied. The Telma retarder model that is suitable for the application, based on vehicle weight and axle ratio, will be provided. There will be a master on/off switch with indicator light provided. The ABS system will automatically disengage the auxiliary braking device, when required.
0644227	Clutch, Fan, Air Actuated, Saber FR/Enforcer	CLUTCH FAN A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.
0640477	Air Intake, Metal 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. A stainless steel metal screen will be installed at the inlet of the air intake system that will meet current edition of applicable NFPA standards. The air cleaner and stainless steel screen 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 aluminized steel. There will be an aluminized steel exhaust diffuser 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.

0788765

Radiator, Saber FR/Enforcer

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.

Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability.

The radiator will be compatible with commercial antifreeze solutions.

The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.

The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap.

A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.

Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.

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.

0804381

Fuel Tank, 50 Gallon, Left Side Fill,
w/ Air Suspension**FUEL TANK**

A 50 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 .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 .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.

0618791

DEF Tank, 4.5 Gallon, LS Fill,
Forward 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 left side body forward of the rear axle.

A 0.50" drain plug will be provided in a low point of the tank for drainage.

A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located below the air bottle storage behind a common door on the left 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.

0001281

Chain, Fuel Cap Retaining

The fuel filler cap will have a retaining chain.

0690880

No Selection Required From This
Category

0887559	Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	TRANSMISSION An Allison 6th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear. A transmission temperature gauge with amber light and audible alarm will be installed on the cab dash.
0625329	Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	TRANSMISSION SHIFTER A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st 3.49 to 1.00 2nd 1.86 to 1.00 3rd 1.41 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 R 5.03 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.
0801878	Fluid, 3000 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.
0001370	Driveline, Spicer 1710	DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1710 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
0637248	Steering, Dual Gear, TRW TAS-65, w/tilt, Pump w/ Cooler, Saber FR/Enforcer	STEERING Dual steering gear, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and Vickers® V 20NF hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
0605356	Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	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: METRO The second row of text will be: FIRE The third row of text will be: SACRAMENTO
0606557	Bumper, 13" Extended, Saber FR/Enforcer	BUMPER A one (1) piece, ten (10) gauge, 304-2B type polished stainless steel bumper, minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength. The bumper will be extended 13.00" from front face of cab. Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

0782376	SP	Tray, Hose, Center, 13" Bumper, Outside Air Horns, 15" Deep, 13" Below/2" Above	HOSE TRAY A hose tray, constructed of aluminum, will be placed in the center of the bumper extension. The tray will be 15.00" deep, 13.00" below the gravel pan and a 2.00" extension above. The tray will have a capacity of 75' of 1.75" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes are also provided.
0633479		Hose Restraint, Bumper Tray, Velcro Straps, Pair	Center Hose Tray Restraint There will be one (1) pair of hose tray restraint straps located over the center mounted tray. The restraints will be a pair of 2.00" wide black nylon straps with Velcro® fasteners provided. The strap(s) will be used to secure the hose in the tray.
0614646		No Lift & Tow Package, Imp/Vel, AXT, SFR/Enf	
0002270		Tow Hooks, Chrome	TOW HOOKS Two (2) chromed steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks will not be used for lifting of the apparatus.
0012300		Bracket, License Plate, Frt Bumper Non-Illuminated	LICENSE PLATE BRACKET A non-illuminated license plate bracket will be mounted on the front bumper. The bracket will be formed from bright stainless steel.
0689308		Notch, Front For Recessing Of Q2B, Stainless Bumper	FRONT BUMPER NOTCH The front bumper will be notched for recessing of the Q2B siren. The notch will be designed so that the bumper is one (1) continuous piece. The notch will be welded in place for strength with a continuous top and bottom flange. All areas will be polished for appearance. The siren will be located Left side pos, match #36221 just now notched of the bumper.

CAB

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

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

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

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

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

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

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

The centerline of front axle to the rear of the cab will be 70.00" long.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed will be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The floor to ceiling height inside the crew cab will be 64.50" in the center and outboard positions. The crew cab floor will measure 46.00" from the rear wall to the back side of the rear facing seat risers.

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

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

The cab will be a full tilt cab style.

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

CAB ROOF DRIP RAIL

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

FENDER LINERS

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

PANORAMIC WINDSHIELD

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

WINDSHIELD WIPERS

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

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

SP Engine Tunnel, ISL, Foil Insulation w/Mech Fasteners, Saber FR/Enforcer

ENGINE TUNNEL

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

The engine hood will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. 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 17.00" off the crew cab floor.

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.

0633594	Rear Wall, Interior, Adjustable Seating	INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING) The interior rear wall of the crew cab will have mounting holes every 2.75" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats will be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change.
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.
0639726	Cab Lift, Elec/Hyd, Manual Override, Unlocked Ind Light, 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. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel. The cab will be capable of tilting 43 degrees to accommodate engine maintenance and removal. The cab will be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system will be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms will return to the normally closed and locked position. The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered. Cab Lift Interlock The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.
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.
0512716	Scuffplate, Rear of Engine Tunnel	SCUFFPLATE A bright aluminum treadplate scuffplate will be provided on the entire rear vertical surface of the engine tunnel.
0002224	Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.
0647932	Not Required, Trim, S/S Band, Across Cab Face, AXT/Saber/Enforcer	
0087357	Molding, Chrome on Side of Cab	SIDE OF CAB MOLDING Chrome molding will be provided on both sides of cab.
0521669	Mirrors, Retrac, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	MIRRORS A Retrac, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.

0648170

Door, Half-Height, Saber FR/Enforcer
4-Door Cab, Raised 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 73.25" high.

The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins will be constructed from 0.090" aluminum. A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.

Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.

A chrome grab handle will be provided on the inside of each cab door for ease of entry.

A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.

The bottom cab step at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab.

0655543

Door Panel, Brushed Stainless Steel,
Saber/Enforcer 4-Door Cab**Door Panels**

The inner cab door panels will be constructed out of brushed stainless steel.

0630636

Controls, Electric Roll-Up Windows,
4dr, 4 Driver Controls, Saber
FR/Enforcer**ELECTRIC OPERATED CAB DOOR WINDOWS**

All four (4) cab doors will be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door will have four (4) switches, one (1) to control each door window.

Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second.

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.

0770200

Handrail, Exterior, Hansen, Knurled,
Alum, LED Backlit, 4-Door Cab**CAB EXTERIOR HANDRAILS**

A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with white LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

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 access steps.

Two (2) lights for the left side crew cab access steps.

Two (2) lights for the right side crew cab access steps.

One (1) light for the right side access step.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be activated when the battery switch is on and the adjacent door is opened.

0002141

Fenders, s/s on cab - Saber/Enforcer

FENDER CROWNS

Stainless steel fender crowns will be installed at the cab wheel openings.

0611614

Handrails, 10", Below Cab
Windshield, Hansen Knurled Alum,
LED, Backlit, Pair**LIGHTED HANDRAIL BELOW CAB WINDSHIELD**

A 10.00" long Hansen aluminum knurled handrail will be mounted below the front cab windshield, one (1) on each side.

Each handrail will be provided with white LED lights.

The lights will be activated when the parking brake is applied.

0751894	SP	Handrails, Exterior, 13" Long, Hansen LIGHTED HANDRAIL Knurled Alum, LED, Backlit, Additional	There will be two (2) slip-resistant 13.00" long Hansen aluminum knurled handrail(s) provided back of the cab each side per job 36221. Each handrail will be provided with white LED lights. The lights will be activated when the parking brake is applied.
0586967		Grab Handle, Chrome, Specify Location, Qty	GRAB HANDLE(S) There will be one (1) chrome grab handle(s) mounted in the interior of the cab on the driver's door post, match 36221. The grab handle(s) will be securely mounted.
0042105		No Windows, Side of Crew Cab	
0012090		Not Required, Windows, Front/Side of raised roof	
0779033		Not Required, Windows Rear of Crew Cab, Saber FR/Enforcer	
0786279		Window Tint, Crew Cab Door, Right Side, Privacy Dark Gray	RIGHT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the right side crew cab door will be tinted privacy dark gray.
0786286		Window Tint, Upper Crew Cab Door, Right Side, Privacy Dark Gray	RIGHT SIDE UPPER CREW CAB DOOR WINDOW TINT The upper window in the right side crew cab door will be tinted privacy dark gray.
0786290		Window Tint, Crew Cab Door, Left Side, Privacy Dark Gray	LEFT SIDE ROLLUP CREW CAB DOOR WINDOW TINT The rollup window in the left side crew cab door will be tinted privacy dark gray.
0786294		Window Tint, Upper Crew Cab Door, Left Side, Privacy Dark Gray	LEFT SIDE UPPER CREW CAB DOOR WINDOW TINT The upper window in the left side crew cab door will be tinted privacy dark gray.
0621136		Compt, Storage, 15 W x 24.50 H x 15 D, (1) Ea Side C/C, Dbl Pan, 70" SFR/Enf	STORAGE COMPARTMENTS Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be 15.00" wide x 24.50" high x 15.00" deep. There will be two (2) 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. A web strap for each exterior door will be used as a doorstop. The clear door opening will be 10.50" wide x 22.50" high. The compartment interior will be painted to match the cab interior. Compartment Lights There will be two (2) white Amdor, LED strip lights provided, one (1) each hinged side of compartment door openings.
0798178		Matting, Turtle Tile, Auxiliary Compartment	MATTING IN AUXILIARY COMPARTMENT Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compartments (option 062873). Tile color will be black (no ramp). The matting will be 0.75" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.
0745808		Scuffplate, Inner Door Pan, Aux Cab Compts, Pair	SCUFFPLATE A full height brushed stainless steel scuffplate will be installed on the inside of each of the auxiliary cab compartment door pans.
0814503	SP	Lip, Dash Board, 1.00" Aluminum Angle Lip, Officer Side, Loc, Qty	EQUIPMENT MOUNTING AREA There will be one (1) aluminum angle(s) with a 1.00" lip installed on the dash to prevent books, helmets and other item from sliding off the dash panel. The angle(s) will run full length of the dashboard and installed 1" lip in the recess portion of the Officer side dash area. Lip on leading edge closest to Officer side from side to side of opening. The lips will be painted to match the cab interior.
0618193		Storage Pockets, Elastic Cover, Recessed, Overhead Switch Panel, Saber FR/Enf	RECESSED POCKET WITH ELASTIC COVER To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be approximately 6.00" wide x 2.12" high and will be constructed of aluminum. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. There will be one (1) pockets installed switch panel #3. Pockets will only be installed in overhead locations where there is available depth behind the panel.

0722796

Dash, Poly, Saber FR/Enforcer

CAB DASH

The driver side dash, switch panel located to the right of the driver, and center console will be an easily removable high impact resistant polymer cover.

The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster.

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.

0614915

Work Surface, 1/4" Alum, Full Engine Tunnel, Flat, Lower Rear, SFR/Enf

WORK SURFACE ON ENGINE TUNNEL

There will be a work surface provided on the engine tunnel. The work surface will cover the entire engine tunnel and follow the width of the engine tunnel. It will be constructed of 0.25" aluminum. The beginning of the work surface will be spaced 1.00" off the top surface of the engine tunnel. The work surface will be flat from the front of the engine tunnel to the beginning of the lower flat section of the engine tunnel. The work surface will flange down 90 degrees at the beginning of the lower flat section and then extend to the rear of the engine tunnel. The rear of the work surface will be spaced 1.00" off the engine tunnel. The work surface will be open on the sides to allow for equipment to be mounted underneath it.

The mounting surface will be painted to match the cab interior.

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 black 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 black 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 black, 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.

0722696

HVAC, Standard-Duty, Enforcer,
CARE

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 one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.

Air Conditioning

A condenser will be a 59,644 BTU output that meets and exceeds the performance specification will be mounted on the radiator.

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 formed plastic cover.

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 rear plenum 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 #12.

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.

0624005

Sun Visor, Vinyl/Fabric, AXT, Dash
CF, Qtm, Saber FR/Enforcer

SUN VISORS

There will be two (2) vinyl covered sun visors provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a polished stainless steel 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.

0693439

Lights, Engine Compt, Custom, Auto
Sw, w/Fld Chk Dr 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 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 or when the dip stick door is opened.

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.
0599959	Straps, Velcro, Map Box, Custom Chassis	VELCRO STRAP(S) FOR MAP BOX There will be one (1) Velcro® strap(s) installed on the map box.
0030272	SP Map box, 3 bin - Feature Size	MAP BOX one (1) map box with three (3) bins, open from top, will be installed. The map box will be divided into three (3) equal bins, each being 12" Wide wide x 15" Long long x 3" High deep. The map box will be constructed of .125" aluminum and will be painted to match the cab interior. The map box will be on top of the work surface near the officer, up against the center rear facing compt, install velcro vertically down center. The bins should be open from the side that is 15", and should be slanted.
0640393	Map Pocket, Brushed S/S, 13.00" W x 14.00" H x 1.50" D, Each	MAP POCKET(S) There will be one (1) map pocket(s) installed inside the exterior door on the cab access compartment on the driver's side (D5). Each pocket will be 13.00" wide x 14.00" high x 1.50" deep and constructed of brushed stainless steel.
0768268	SP Map Pocket, Painted, 13.00" W x 14.00" H x 4.00" D, Each	MAP POCKET(S) There will be two (2) map pocket(s) installed each side on the inboard side of each rear facing ems compt. front vertical edge to be flush with the front vertical edge of the ems compt and the top of each map pocket should be flush with the top of the center rear facing compt on the top of eng tunnel. Each pocket will be 13.00" wide x 14.00" high x 4.00" deep and painted to match compartment 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 in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.

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

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

Frontal Impact Protection

The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.

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

Driver side front air bag

Passenger side knee bolster air bag

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

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

Side Roll Protection

The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.

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

Air curtains mounted in the outboard bolster of outboard seat backs

Suspension seats will be retracted to the lowest travel position

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

0622617

Seating Capacity, 6 Seats

SEATING CAPACITY

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

0749355

SP Seat, Driver, USSC, Valor, P1A, Air Ride, I-Back,Safety,Vehicle Lock,PRIMARY,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. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 45 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.

An additional occupant sensor will be included that will be connected to the brake lock system.

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

0632914

Seat, Officer, Bostrom 450, Fixed, SCBA, Safety, PRIMARY, SFR/Enf

OFFICER SEAT

A H.O. Bostrom, Tanker450, SCBA fixed seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion.

The seat back will be an SCBA back style with a 5 degree fixed recline angle. The SCBA cavity will be adjustable from front to rear in 1.50" 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 include no additional zip clean covers.

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

0620420	Radio Compartment, Below Non-Air Ride Seat, Saber FR/Enforcer	RADIO COMPARTMENT A radio compartment will be provided under the officer's seat. The inside compartment dimensions will be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure. A drop-down door with one (1) flush lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.
0824479	SP Cabinet, Rear Facing, LS, 23 W x 28 H x 22.75 D, Lap, Ext Acc, Sp Mtg, SFR/Enf	REAR FACING LEFT SIDE CABINET A rear facing cabinet will be provided in the crew cab at the left side outboard position. The cabinet will be mounted off the edge of the seat riser so that it is even with the crew cab door frame. The cabinet will be 23.00" wide x 28.00" high x 22.75" deep with one (1) lap door hinged on the outboard side, painted to match the cab interior with a non-locking D-ring latch. The interior clear door opening of the cabinet will be 16.00" wide x 25.50" high. The cabinet will also provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #751 key. A pneumatic stay arm will be provided as a door stop. The exterior clear door opening will be 17.00" wide x 25.50" high. The cabinet will include no adjustable shelves or trays in the cabinet interior. The cabinet will include no louvers. The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame. 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 left side of the exterior cabinet door opening and one (1) white Amdor LED strip light installed on the right side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.
0102783	Not Required, Seat, Rr Facing C/C, Center	
0824220	SP Cabinet, Rear Facing, RS, 22 W x 28 H x 22.75 D, Lap, Ext Acc, Sp Mtg, SFR/Enf	REAR FACING RIGHT SIDE CABINET A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be mounted off the edge of the seat riser so that it is even with the crew cab door frame. The cabinet will be 22.00" wide x 28.00" high x 22.75" deep with one (1) lap door hinged on the outboard side, painted to match the cab interior with a non-locking D-ring latch. The clear door opening of the cabinet will be 15.00" wide x 25.50" high. The cabinet will also provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #751 key. A pneumatic stay arm will be provided as a door stop. The exterior clear door opening will be 17.00" wide x 25.50" high. The cabinet will include no adjustable shelves or trays in the cabinet interior. The cabinet will include no louvers. The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame. 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 left side of the exterior cabinet door opening and one (1) white Amdor LED strip light installed on the right side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.
0757156	Seat, Fwd Fcng C/C, LS Otbrd, USSC, Valor,I-Back,Foldup,Safety,SECONDARY,SF R/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.
0749420	Seat, Fwd Fcng C/C, Ctr, (2) USSC, Valor, SCBA, 95 D, Safety, SECONDARY, SFR/Enf	FORWARD FACING CENTER SEATS There will be two (2) forward facing, USSC Valor seats provided at the center position in the crew cab. For optimal comfort, the seats will be provided with a 15.00" deep foam cushion. The seat backs will be an SCBA style with 95 degree back. 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: A seat safety system will be included. When activated, this system will pretension the seat belt. The seats will be furnished with a 3-point, shoulder type seat belt. Shipped loose with the seats will be no additional contaminant mitigation vinyl covers.

0757157		Seat, Fwd Fcng C/C, RS Otbrd, USSC, Valor,I-Back,Foldup,Safety,SECONDARY,SF R/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.
0754240	SP	Cabinet Floor, Qty, .50" Poly False Floor	CABINET FALSE FLOOR A .50" sheet of black polypropylene will be installed on two horizontal tracks on the floor of the cabinet located exterior crew cab compartments to provide ease of access to remove contents. The floor will not impact the clear door opening height. The false floor will be provided in two (2) cabinets.
0752005		Lip, Top of Interior Cabinet, All Sides	LIP ON CABINET There will be a 1.00" lip provided around the top perimeter of the cabinet. There will NOT be anything stored on the top portion without restraints There will be two (2) cabinet(s) provided with the lip options 0763338 and 0763335.
0638535	SP	Cup Holder, Quantum Style, Recessed	CUP HOLDER There will be two (2) Quantum style plastic cup holder(s) recessed KEEP LOOSE, location is to match #36221.
0676522		Matting, .13" Rubber, EMS/Cab, Shelving	MATTING IN EMS COMPARTMENT Black rubber matting will be provided in two (2) compartments. The locations are ON TOP OF the DS rear facing and PS rear facing cabinets. The matting will be 0.13" thick with corrugated top ribs.
0763613	SP	Cabinet, Rear Facing, Top Eng Tnl, 39 W x 18 H x 9.75 D, 3 Drs,Vent,Tray,SFR/Enf	REAR FACING CENTER CABINET A rear facing cabinet will be provided on the top rear of the engine tunnel. The cabinet will be 39.00" wide x 18.00" high x 9.75" deep. A horizontally hinged liftup door will be provided on top of the cabinet. The hinge will be located at the rear of the cabinet, towards the front of the cab. Two (2) locking lift and turn latches will be provided. Gas cylinders will be provided to hold the door in the open position. Two (2) lap doors will be provided at the front of the cabinet in the crew cab area. The doors will be hinged on a center pillar and open into the crew cab area. Two (2) locking lift and turn latches will be provided, one (1) for each door. There will be a 1.00" lip provided on the top of the cabinet. The rear of the cabinet will be adequately vented to allow for the installation of radios. An adjustable 1.00" thick poly tray will be provided in the cabinet. 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 horizontally above the interior cabinet door opening. The light will be controlled by an automatic door switch
0799941		Compt, Storage, (2) Rear Facing, Overhead, 21 W x 9 H x 34 D, Saber FR/Enforcer	REAR FACING OVERHEAD STORAGE COMPARTMENT There will be two (2) overhead rear facing storage compartments installed at the raised roof within the crew cab, on each side of the air conditioner. The compartments will be approximately 21.00" wide x 9.00" high x 34.00" deep at the bottom. Each compartment will include one (1) lift up compartment door. Non-locking latch, paddle handle, and gas operated stay arms will be provided. The compartment will be constructed of smooth aluminum and painted to match the cab interior. Compartment Light The storage compartment lighting will consist of one (1) white Amdor LED strip light installed horizontally above each compartment door opening.
0820412		Fasteners, Mechanical, Strip Lighting, Cab Compartments	BRACKETS/CLAMPS FOR COMPARTMENT LIGHTS Metal clamps will be used to retain the strip lighting in all cab compartments.
0803437	SP	Upholstery, Seats In Cab, USSC, VALORTechXD (Cordura), Bostrom Durawear	SEAT UPHOLSTERY The driver and crew cab seat upholstery will be black, sewn with red stitching, VALORTechXD anti-microbial material. The officer seat upholstery will be black Dura-wear, waterproof fabric.

0803436	SP	Bracket, Air Bottle, Zico, EZ-LOC w/Frt Cushion Release,USSC, SecureAll, Bostrom	AIR BOTTLE HOLDERS For the officer SCBA seat, a Bostrom SecureAll SCBA locking holder bracket will be installed directly into the Bostrom seat. The bracket will be compliant with the current edition of applicable NFPA standards. For the remaining USSC SCBA seats in the cab, a Ziamatic brand, Model EZ-LOC, SCBA holder will be mounted in each backrest. A front cushion release will be provided on each bracket. This bracket will accommodate all diameter bottles. There will be a total quantity of three (3) air bottle brackets provided.
0752123	SP	Seat Mounting, Officer's Seat Moved Rearward, SFR/Enf	OFFICER'S SEAT, SPECIAL LOCATION The officer's seat will be installed using the mounting holes that allow the seat to be more rearward.
0803432	SP	Inserts, Back Rest For USSC SCBA Seats and Bostrom SCBA Seat	BACK REST INSERTS Provided with the Bostrom SCBA seats will be back rest inserts which covers the SCBA cavity. 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.
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 - S615 standards. The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The 3-point shoulder type belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only. To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.
0817556		Helmet Storage, Provided by Dealer, NFPA 2024	HELMET STORAGE PROVIDED BY DEALER NFPA 1900, 2024 edition, section 11.1.8.4.1 requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The dealer will provide a location for storage of helmets.
0647638		Lights, Dome, Weldon Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) Weldon, 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the lens switch. The color LED's will be controlled by the door switches and the lens switch.
0896451		Enhanced Software for Cab and Crew Cab Dome Lts	ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.
0589669		Handlts, (4) Pelican, 9410L, 12v DC, Shoulder Strap	HAND HELD SPOTLIGHT There will be four (4) Pelican Products, Model 9410L LED, 12v DC rechargeable lights mounted (1) top of LS rear facing cabinet (SEE PHOTO 34278-15), (1) LS rear facing map pocket (SEE PHOTO 34278-17), (1) on top of RS rear facing cabinet (SEE PHOTO 34278-16) and (1) RS rear facing map pocket (SEE PHOTO 34278-18). The color will be yellow. Each charger will be hard wired to the 12 VDC system.
0685120	SP	Handlight, Pelican, 8060 LED 12V DC Rechargeable Flashlight, Base, Hard Wire	HAND HELD SPOTLIGHT There shall be four (4) Pelican Products, Model 8060 rechargeable light systems with a Model 6061F 12 volt DC connector and Model 8070 base unit, (1) outboard of driver seat (SEE PHOTO 34278-19, (1) outboard of officer seat (SEE PHOTO 34278-20) and (2) on the seat base of the center forward facing seats with light heads pointing towards each other (SEE PHOTO 34278-21). This flashlight shall be wired to a battery direct circuit.
0622803		Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX	CAB INSTRUMENTATION The cab instrument panel include gauges, an LCD display, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless

necessary. The cab instruments and controls will be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

Gauges

The gauge panel will include the following ten (10) black faced gauges with black bezels to monitor vehicle performance:

Voltmeter gauge (volts):

Low volts (11.8 VDC)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

High volts (15.5 VDC)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Very low volts (11.3 VDC)

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Very high volts (16.0 VDC)

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Engine Tachometer (RPM)

Speedometer MPH (Major Scale), KM/H (Minor Scale)

Fuel level gauge (Empty - Full in fractions):

Low fuel (1/8 full)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Very low fuel (1/32 full)

Red caution indicator on the information center with steady alarm

Amber caution light on gauge assembly

Engine Oil pressure Gauge (PSI):

Low oil pressure to activate engine warning lights and alarms

Red caution indicator on the information center with steady alarm

Amber caution light on gauge assembly

Front Air Pressure Gauges (PSI):

Low air pressure to activate warning lights and alarm

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Rear Air Pressure Gauges (PSI):

Low air pressure to activate warning lights and alarm

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Transmission Oil Temperature Gauge (Fahrenheit):

High transmission oil temperature activates warning lights and alarm

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Engine Coolant Temperature Gauge (Fahrenheit):

High engine temperature activates an engine warning light and alarms

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):

Low fluid (1/8 full)

Amber indicator light in gauge dial

All gauges will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

To promote safety, the following telltale indicator lamps will be located on the instrument panel in clear view of the driver. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

Low coolant

Trac cntl (traction control) (where applicable)

Check engine

Check trans (check transmission)

Aux brake overheat (Auxiliary brake overheat)

Air rest (air restriction)

Caution (triangle symbol)

Water in fuel

DPF (engine diesel particulate filter regeneration)

Trailer ABS (where applicable)

Wait to start (where applicable)

HET (engine high exhaust temperature) (where applicable)

ABS (antilock brake system)

MIL (engine emissions system malfunction indicator lamp) (where applicable)

Side roll fault (where applicable)

Front air bag fault (where applicable)

The following red telltale lamps will be present:

Warning (stop sign symbol)

Seat belt

Parking brake

Stop engine

Rack down

The following green telltale lamps will be provided:

Left turn

Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.
Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for three (3) to five (5) seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Probe-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 probe-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches will have backlit labels for low light applications.

Headlight/Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking and headlights. The second switch position will activate the parking lights. The third switch will activate the headlights.

Panel back lighting intensity control switch: A three (3)-position momentary rocker switch will be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times will allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will turn off and deactivate vehicle ignition. The second switch position will activate vehicle ignition and will perform probe-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:

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

Windshield wiper control: will have high, low and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided.

Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

High idle engagement switch: A momentary rocker switch with integral indicator lamp will be provided. The switch will activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"OK To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

Emergency switching will be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.

An additional "Emergency Master" button will be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.

Diagnostic Panel

A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

Roll sensor diagnostic port

Command Zone USB diagnostic port

ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function. The upper left section will display the outside ambient temperature.

The upper right section will display the following, along with other configuration specific information:

Odometer

Trip mileage
PTO hours
Fuel consumption
Engine hours
The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm.
The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

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.
0897511	SP Light, Do Not Move Apparatus, WIn 3SR00FRR LED, Floyd Bell MB-V09-530-S	"DO NOT MOVE APPARATUS" INDICATOR A Whelen Model 3SR00FRR flashing red LED indicator light with a Whelen, Model 3FLANGEC chrome surface mount flange 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 indicators will activate a Floyd Bell Model MB-V09-530-S(F) alarm when the parking brake is released.
0509042	Messages, Open Dr/DNMT, Color Dspla,	DO NOT MOVE TRUCK MESSAGES Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged). The following messages will be displayed (where applicable): Do Not Move Truck DS Cab Door Open (Driver Side Cab Door Open) PS Cab Door Open (Passenger's Side Cab Door Open) DS Crew Cab Door Open (Driver Side Crew Cab Door Open) PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open) DS Body Door Open (Driver Side Body Door Open) PS Body Door Open (Passenger's Side Body Door Open) Rear Body Door Open DS Ladder Rack Down (Driver Side Ladder Rack Down) PS Ladder Rack Down (Passenger Side Ladder Rack Down) Deck Gun Not Stowed Lt Tower Not Stowed (Light Tower Not Stowed) Fold Tank Not Stowed (Fold-A-Tank Not Stowed) Aerial Not Stowed (Aerial Device Not Stowed) Stabilizer Not Stowed Steps Not Stowed Handrail Not Stowed Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.
0611683	Switching, Cab Instrument Lower Console & Overhead, Membrane, Enforcer WiFi MUX	SWITCH PANELS The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliqués. The built-in switch panels will be located in the lower console or overhead console of the cab. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout. The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.
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 on the left side of the center instrument panel.

0820906	Wiring, Spare, 15 A 12V DC 2nd NFPA1900	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the ignition switched power The negative wire will be connected to ground Wires will be protected to 15 amps at 12 volts DC Power and ground will terminate INSIDE compartment on top rear of the engine tunnel Termination will be with heat shrinkable butt splicing Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set.
0820921	Wiring, Spare, 4.8 A 12V DC, USB Term, Blue Sea 1045, Batt Dir, 1st NFPA1900	SPARE CIRCUIT There will be two (2) dual USB fast charge socket mounts installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 4.8 amps at 12 volts DC. The USB socket mount will be (1) in panel location #13 and (1) inside recess forward of officer (SEE INSTRUMENT PANEL APPROVAL PRINT FOR DETAILS) Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be sized to 125% of the protection. Battery direct loads cannot be Load Managed
0821192	Wiring, Spare, 20 A 12V DC 1st NFPA1900	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the ignition switched power The negative wire will be connected to ground Wires will be protected to 20 amps at 12 volts DC Power and ground will terminate in the recess area on the officer side per job 37403 Termination will be with heat shrinkable butt splicing Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set.
0821312	Wiring, Spare, 30 A 12V DC Batt Dir 1st NFPA1900	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power The negative wire will be connected to ground Wires will be protected to 30 amps at 12 volts DC Power and ground will terminate officer side dash area Termination will be with heat shrinkable butt splicing Wires will be sized to 125% of the protection Battery direct loads cannot be Load Managed
0821470	Wiring, Spare, 4.8 A 12V DC, USB Termination 1st NFPA1900	SPARE CIRCUIT There will be two (2) dual USB fast charge socket mounts installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground. Wires will be protected to 4.8 amps at 12 volts DC. The USB socket mount will be one (1) each DS and PS rear facing compartment on the top horizontal surface at the rear most inboard corner. Termination will be a dual USB charger socket. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied.
0825135	SP Wiring, Spare, 100A 12V DC, Manual Reset Brkr, DS Bat Box, Neg to Bat NFPA 1900	SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground cable that connects the batteries together. Wires will be protected by a 100 amp manual reset breaker installed at the driver's side battery box and labeled Radio and Computer Master. Power and ground will terminate INSIDE compartment on top rear of the engine tunnel and labeled "COMMUNICATIONS MASTER". Termination will be with a 10-place bus bar with screws and removable cover. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied.
0743033	Bin, Center Dash Console	CENTER STORAGE BIN A bin will be provided within reach of the officer in the center of the cab close to the windshield. The depth and width of the bin will be maximized for the space available. The bin is not intended for storage of loose equipment. Items stored on bin will be permanently attached to meet NFPA requirements.
0814201	Vehicle Information Center, 7" Color	INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

Operate in temperatures from -40 to 158 degrees Fahrenheit

LCD optically bonded to hardened AR glass lens

Five weather resistant user interface switches

Grey with black accents

Sunlight Readable

Linux operating system

Minimum of 1000nits rated display

Display can be changed to an available foreign language

A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

Programmed to read US Customary

General Screen Design

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

An amber background/text color will indicate a caution condition

A red background/text color will indicate a warning condition

The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

Vehicle Mitigation (if equipped)

Water Level (if the water level system includes compatible communications to the information center)

Foam Level (if the foam level system includes compatible communications to the information center)

Seat Belt Monitoring Screen

Tire Pressure Monitoring (if equipped)

Digital Speedometer

Active Alarms

On Scene Screen

This screen will display the following and will be auto activated with pump engaged (if equipped):

Battery Voltage

Fuel

Oil Pressure

Coolant Temperature

RPM

Water Level (if equipped)

Foam Level (if equipped)

Foam Concentration (if equipped)

Water Flow Rate (if equipped)

Water Used (if equipped)

Active Alarms

Virtual Buttons

There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

Page Screen

The page screen will display the following and allow the user to progress into other screens for further functionality:

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

A list of items to be load managed will be provided. The list will provide a description of the load. The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.

The screen will indicate if a load has been shed (disabled) or not shed.

"At a glance" color features are utilized on this screen.

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter
 Transmission oil and filter
 Pump oil (if equipped)
 Foam (if equipped)
 Aerial (if equipped)
 Setup
 Clock Setup
 Date & Time
 12 or 24 hour format
 Set time and date
 Backlight
 Daytime
 Night time
 Sensitivity
 Unit Selection
 Home Screen
 Virtual Button Setup
 On Scene Screen Setup
 Configure Video Mode
 Set Video Contrast
 Set Video Color
 Set Video Tint
 Do Not Move
 The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated
 Driver Side Cab Door
 Passenger's Side Cab Door
 Driver Side Crew Cab Door
 Passenger's Side Crew Cab Door
 Driver Side Body Doors
 Passenger's Side Body Doors
 Rear Body Door(s)
 Ladder Rack (if applicable)
 Deck Gun (if applicable)
 Light Tower (if applicable)
 Hatch Door (if applicable)
 Stabilizers (if applicable)
 Steps (if applicable)
 Notifications
 View Active Alarms
 Shows a list of all active alarms including date and time of the occurrence is shown with each alarm
 Silence Alarms - All alarms are silenced
 Timer Screen
 HVAC (if equipped)
 Tire Information (if equipped)
 Ascendant Set Up Confirmation (if equipped)
 Button functions and button labels may change with each screen.

0816633

Collision Mitigation, HAAS Alert (R2V), HA7

COLLISION MITIGATION

There will be a HAAS Alert®, Model HA 7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degrees Celsius to 85 degrees Celsius.

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

While responding with emergency lights on, the HA7 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.

While on scene with emergency lights on, the HA7 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.

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

Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.

0606247	Vehicle Data Recorder w/CZ Display Seat Belt Monitor	VEHICLE DATA RECORDER There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided. The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line. The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs: Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Engine Speed - RPM Engine Throttle Position - % of Full Throttle ABS Event - On/Off Seat Occupied Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Internal clock syncs the time and date when a laptop is connected. Seat Belt Monitoring System A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following: Seat Occupied & Buckled = Green LED indicator illuminated Seat Occupied & Unbuckled = Red LED indicator with audible alarm No Occupant & Buckled = Red LED indicator with audible alarm No Occupant & Unbuckled = No indicator and no alarm The seat belt monitoring screen will become active on the Command Zone color display when: The home screen is active: and there is any occupant seated but not buckled or any belt buckled with an occupant. and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated. The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.
0616382	Install Customer Provided GPS/Multimode Antenna(s)	GPS / MULTIMODE ANTENNA INSTALLATION There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer. Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.
0660489	Antenna Mount, Custom Chassis, Fill in Blank Mounting and Cable Locations	RADIO ANTENNA MOUNT There will be four (4) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed on top of the cab roof, centered between the Lightbar and the Raised section of the roof. Marked on AD on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to INSIDE compartment on top rear of the engine tunnel. Each coaxial cable shall be labeled according to position on antenna on the roof . A weatherproof cap will be installed on the mount.
0653519	Camera, Pierce, LS Mux, RS, LS, R, Cameras, SD	VEHICLE CAMERA SYSTEM There will be a color vehicle camera system provided with the following: One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse. One (1) camera located on the right side of the apparatus, pointing rearward, displayed automatically with the right side turn signal. One (1) camera located on the left side of the apparatus, pointing rearward, displayed automatically with the left side turn signal. The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the rear camera will be emitted by an amplified speaker with volume control in the blank panel to the left of the steering column. The following components will be included: One (1) SV-CW134639CAL Rear Camera Two (2) CS134404CI 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.
0523921	Recess, Rear Vision Camera	RECESS REAR CAMERA A rear camera recess will be provided in the center at the rear.
0890416	Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	ELECTRICAL POWER CONTROL SYSTEM The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting.

Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible.

Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership.

Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.

Solid-State Control System

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include black housings, a power indicator and status indicator located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDXTM specifications providing a lower cost of ownership.

For increased reliability and simplified use the control system modules will include the following attributes:

Green LED indicator light for module power

Red LED indicator light for network communication stability status

Control system self test at activation and continually throughout vehicle operation

No moving parts due to transistor logic

Software logic control for NFPA mandated safety interlocks and indicators

Integrated electrical system load management without additional components

Integrated electrical load sequencing system without additional components

Customized control software to the vehicle's configuration

Factory and field programmable to accommodate changes to the vehicle's operating parameters To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

Module circuit board will meet SAE J771 specifications

Operating temperature from -40 degrees Celsius to +70 degrees Celsius

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

Vibration to 50g

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

Operating voltage from eight (8) volts to 32 volts DC

The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.

Circuit Protection and Control Diagram

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

On-Board Electrical System Diagnostics

The on-board information center will include the following diagnostic information:

Text description of active warning or caution alarms

Simplified warning indicators

Amber caution indication with intermittent alarm

Red warning indication with steady tone alarm

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

TCU Module with WiFi

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will communicate through a white WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The TCU capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

Indicator Light and Alarm Probe-Out System

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

Voltage Monitor System

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

Dedicated Radio Equipment Connection Points

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment. The studs will consist of the following:

12-volt 40-amp battery switched power
12-volt 60-amp ignition switched power
12-volt 60-amp direct battery power
There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

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

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

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

0816093

ClearSky Telematics, Remote Fleet & **TELEMATICS SYSTEM**

On-scene Management, AT&T
Commercial

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 coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

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

All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.

Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.

Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).

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

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

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

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

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

0811478

SP

Batteries, (5) Odyssey, ODX-AGM31, **BATTERY SYSTEM**

1150 CCA, (1) Iso Bat Threaded Stud There will be five (5) Odyssey, ODX-AGM31, 12 volt DC group 31 1150 CCA batteries with threaded studs provided.

ISOLATED BATTERY

There will be one (1) Odyssey, ODX-AGM31, 12 volt battery will be provided for voltage sensitive components. A battery isolator appropriately suited for the group 31 battery capacity will be supplied.

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.

0816197

Charger, Sngl Sys, Kussmaul, LPC 80, 091-206-12-194C-WT-XX, 80 Amp

BATTERY CHARGER

There will be a Kussmaul, Model LPC 80, part number 091-206-12-194C-WT-XX, 80 amp 12 volt DC battery charger with part number 091-194-provided.

There will be a, Model 091-194X-IND-WT-XX, display indicating the state of charge provided. The color of the outside trim of this display will be red.

The battery charger will be wired to the AC shoreline inlet through a splice box.

0813919

Panel, Charger Display, Kussmaul, Included w/ Charger

REMOTE CONTROL PANEL - BATTERY CHARGER

There will be a Kussmaul™, charger display included.

0814939

Location, Cab, Ind/Remote, Driver's Seat Riser

The battery charger indicator will be located on the driver's seat riser.

0814936	Location, Body, Inverter/Battery Charger, Forward Compartment, LS	The battery charger/inverter will be located in the left side forward body compartment located on the left wall as high as practical.
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	<p>AUTO EJECT FOR SHORELINE</p> <p>There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.</p> <p>The shoreline inlet(s) will include red weatherproof flip up cover(s).</p> <p>There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.</p> <p>The shoreline(s) will be connected to the battery charger.</p> <p>There will be a mating connector body supplied with the loose equipment.</p> <p>There will be a label installed near the inlet(s) that state the following:</p> <p>Line Voltage Current Rating (amps) Phase Frequency</p>
0026800	Shoreline Location	The shoreline receptacle will be located passenger's side of body, below RS2 and aft of the front air bottle compartment (SEE APPROVAL DRAWING)
0803454	SP Access Panel, Inner Wheelwell, Shoreline	<p>WHEELWELL ACCESS PANEL, SHORELINE INLET</p> <p>A removable access panel will be provided in the wheelwell located RS inner fender well painted to match lower job color . This panel will be held in place with threaded fasteners. It will provide access to the shoreline inlet.</p>
0625793	Alternator, 350 amp, Leece-Neville BLP4004H	<p>ALTERNATOR</p> <p>A Leece-Neville, Model BLP4004H, alternator will be provided. It will have a rated output current of 350 amp as measured by SAE method J56. The alternator will feature an integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p>
0669209	Fan, Electrical Component Cooling 12 V, Switched Battery Thermostat	<p>FAN, ELECTRICAL COOLING</p> <p>There will be one (1) 12 volt DC electrical cooling fan with thermostat control located positioned in the compartment on top rear of the engine tunnel in the interior wall to exhaust air from inside the cabinet. The fan will vent the heat outward.</p> <p>The fan will be activated through the thermostat when the battery switch is on.</p>
0757129	SP Sealer (Gorp), No Gorp Req'd on Starting Motor Studs	<p>NO SEALER REQUIRED</p> <p>There will be no sealer on the starting motor cables at the studs.</p>

ELECTRONIC LOAD MANAGER

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

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

The system will include the following features:

System voltage monitoring.

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

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

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

If enabled:

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

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

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

The information center indicates system voltage.

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

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

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

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

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

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

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

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

Cab Heater and Air Conditioning

Crew Cab Heater (if applicable)

Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)

Third Evaporator (if applicable)

HEADLIGHTS

There will be four (4) JW Speaker® 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.

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600 series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be the same color as the LED's.

INTERMEDIATE LIGHT

There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

CAB CLEARANCE/MARKER/ID LIGHTS

There will be 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.

0786144	SP	Lights, Marker, Cab Front Side, Truck-Lite 19036YLED, Enf, Saber FR	FRONT CAB SIDE MARKER LIGHTS There will be two (2) Truck-Lite® Model 19036Y, amber LED lights installed to the outside of the chrome wrap around bezel, one (1) on each side of the cab. The lights will activate as marker lights with the headlight switch.
0511569		Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	REAR CLEARANCE/MARKER/ID LIGHTING There will be three (3) LED identification lights located at the rear installed per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height There will be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following: To indicate the overall width of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the rear All at the same height There will be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height The lights will be mounted with no guard. There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground. There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground. Per FMVSS 108 and CMVSS 108 requirements.
0804514		Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	REAR FMVSS LIGHTING The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be the same as the LEDs.
0806466		Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.
0889577		Bracket, License Plate & Light, P25 LED, Stainless Brkt	LICENSE PLATE BRACKET One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus. One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.
0556842		Bezels, WIn, (2) M6 Chrome Pierce, For mtg (4) WIn M6 lights	LIGHTING BEZEL There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.
0038809		Location, Tail Lights, Special Location	TAIL LIGHTS LOCATION The tail lights will be mounted Please position tail lights in the upper slot of option #556842.
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.
0065911		Switch, Back-Up Alarm Override	SWITCH, BACK-UP ALARM OVERRIDE There will be a momentary switch provided in the cab for the back-up alarm. The switch will be within reach of the driver. The switch will cancel the back-up alarm when the switch is pushed and automatically reset when the apparatus is shifted out of reverse.

0578264

Flash Pattern, California Title 13, LED **WARNING LIGHT FLASH PATTERN**
Warning Lights
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.

0769569

Lights, Perimeter Cab, Amdor AY-LB- 12HW012 LED 4Dr **CAB PERIMETER SCENE LIGHTS**
There will be four (4) Amdor, Model AY-LB12HW012, 190 lumens each, 12.00" white LED strip lights provided.
One (1) under the driver's side cab access step.
One (1) under the passenger's side cab access step.
One (1) under the passenger's side crew cab access step.
One (1) under the driver's side crew cab access step.
The lights will be activated when the battery switch is on and the respective door is open and whenever control has been selected for the body perimeter lights.

0769559

Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts **PUMP HOUSE PERIMETER LIGHTS**
There will be two (2) Amdor, Model AY-LB12HW012, 190 lumens each, 12.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, centered front to rear as much as possible, one (1) each side.
The lights will be activated when the battery switch is on, and controlled by the same means as the body perimeter lights.

0769560

Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step **BODY PERIMETER SCENE LIGHTS**
There will be two (2) Amdor, Model AY-LB12HW012, 190 lumens each, 12.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.
The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.

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.

0566799

Lights, Step, P25 LED 4lts, Ign, Prk Brk Activated **STEP LIGHTS**
There will be four (4) white LED, step lights provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. These step lights will be actuated when the ignition switch is on and the parking brake is set. All other steps on the apparatus will be illuminated per the current edition of applicable NFPA standards.

0696870

Lights, Side Scene, TecNiq, E960 LED, Stainless 1st Pr **SCENE LIGHTS**
There will be one (1) pair of TecNiq, Model E960, LED scene light(s) with stainless steel housing, installed on the side of the apparatus, one (1) each side aft rear wheels below Tri door. See Sacramento 36221 for reference..
A control for the light(s) selected above will be the following:
no additional switch location
no additional switch location
no additional switch location
by the same switching as the rear scene
These lights may be load managed when the parking brake is set.

0626449

Light, Wln, 12V NP6B* Nano Pioneer Series LED, Bail Mount 2nd **12 VOLT LIGHTING**
There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail bracket to be located passenger side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per 32995.
The painted parts of this light assembly to be white.
The light(s) selected above will be controlled by the following:
a switch at the driver's side switch panel.
no additional switch location.
no additional switch location.
no additional switch location.
These light(s) may be load managed when the parking brake is applied.

0626453

Light, WIn, 12V NP6B* Nano Pioneer Series LED, Bail Mount 1st

12 VOLT LIGHTING

There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail bracket to be located driver side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per 32995 .
 The painted parts of this light assembly to be white.
 The light(s) selected above will be controlled by the following:
 a switch at the driver's side switch panel.
 no additional switch location.
 no additional switch location.
 no additional switch location.
 These light(s) may be load managed when the parking brake is applied.

0774476

Light, Roof Mt, HiViz, FT-B-80-ML-*, Cnt Feature

12 VOLT LIGHTING

There will be a HiViz Model FT-B-80-ML-*, 2.56" high x 82.75" long x 3.31" deep 31,680 raw lumens 12 volt DC light provided on the front cab roof as far forward as practical. The light will include white scene LEDs, two (2) amber LEDs as clearance lights and three (3) amber LEDs as identification lights.
 The painted parts of the light housing and brackets to be white.
 The clearance and identification LEDs will be activated with the headlight switch.
 The scene LEDs will be activated when the battery switch is on and by a switch at the driver's side switch panel.
 The white LEDs may be load managed when the parking brake is applied.

0768062

Lights, WIn, PCPSM1* Pioneer, 12 VDC, 2nd

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model PCPSM 1*, 10,444 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, on the PS cab above the exterior access compartment door.
 The surface mount housing(s) will be provided with a chrome cover.
 The light(s) will be activated by the same control that has been selected for the passenger's side scene light(s).
 The light(s) may be load managed when the parking brake is applied.

0768064

Lights, WIn, PCPSM1* Pioneer, 12 VDC, 1st

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model PCPSM 1*, 10,444 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, on the DS cab above the exterior access compartment door.
 The surface mount housing(s) will be provided with a chrome cover.
 The light(s) will be activated by the same control that has been selected for the driver's side scene light(s).
 The light(s) may be load managed when the parking brake is applied.

0766905

Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 2nd

12 VOLT LIGHTING

There will be one (1) Whelen® PCPSM 1*, 10,444 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, on the passenger's side body as far rearward as possible yet inboard of the warning light.
 The light(s) will include black housing(s) with a chrome cover.
 The light(s) will be controlled 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.

0766906

Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 1st

12 VOLT LIGHTING

There will be one (1) Whelen® Model PCPSM 1*, 10,444 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, on the driver's side body as far rearward as possible yet inboard of the warning light.
 The light(s) will include black housing(s) with a chrome cover.
 The light(s) will be controlled 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.

0763739

Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 3rd

12 VOLT LIGHTING

There will be two (2) Whelen® Model PCPSM 1*, 10,444 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, at the rear of the body, one (1) each side bulkhead below the hatch compartment rear access door.
 The light(s) will include black housing(s) with a chrome cover.
 The light(s) will be controlled 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.

0532358

Not Required, Deck Lights, Other Hose Bed & Rear Lighting

0747151	SP	Lights, Hose Bed, Below Alum Cvr, Amdor AY-LB-12HW040, 40", 20" LED 4lts	LIGHTS BELOW HOSE BED COVER There will be two (2) Amdor®, Model AY-LB-12HW040, 700 lumens, 40.00" white LED lights and two (2) Amdor Model AY-LB-12HW020, 20.00" white 12 volt DC LED lights provided to illuminate the hose bed area. Two (2) LED light strips will be installed on the driver's side hose bed cover, as close to the hinge as practical. Two (2) LED light strips will be installed on the passenger's side hose bed cover, as close to the hinge as practical. The lights will be activated when the battery switch is on, and when the hosebed cover is raised.
0645677		Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	
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.
0753300	SP	Switch, All Upper & Lower Rear Warning Lights, Activated Together 1 Sw In Cab	UPPER & LOWER REAR WARNING LIGHTS SWITCH All the upper and lower rear warning lights shall be switched from one (1) switch provided on a cab instrument panel.
0060101		Pumper, Short, Aluminum, 2nd Gen	
0554271		Body Skirt Height, 20"	
0631919	SP	Tank, Water, 700 Gallon, Poly, Short, New York Style	WATER TANK Booster tank will have a capacity of 700 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated. Tank joints and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with 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. Tank top will be sufficiently supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. Sump will include a drain plug and the tank outlet. Tank will be installed in a fabricated cradle assembly constructed of structural steel. Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing. Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle. Mounting system will be approved by the tank manufacturer.
0003405		Overflow, 4.00" Water Tank, Poly	Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.
0028104		Foam Cell Required	
0662467		Modified Poly Tank, Raised Tee, One Side	
0084432		Modified Poly Tank, Ext'd Over Rear Compt	The water tank will be extended to the rear of the truck, over the rear compartment.
0633066		Sleeve, Through Tank	SLEEVE, PLUMBING, THROUGH TANK Two (2) sleeves will be provided in the water tank for a 3.00" pipe to the rear.

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	
0815391	Hose Bed, Aluminum, Pumper, New York Style, Fill in the Blank Height	<p>HOSE BED</p> <p>The hose bed will be fabricated of 0.125"-5052 aluminum with a nominal 38,000 psi tensile strength.</p> <p>The hose bed will be as low as practical.</p> <p>Upper and rear edges of side panels will have a double break for rigidity, a split tube finish will not be acceptable.</p> <p>The upper inside area of the beavertails will be covered with polished stainless steel to prevent damage to painted surface when hose is removed.</p> <p>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.</p> <p>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.</p> <p>The hose bed floor will be MAXIMUM of 6'-8.00" (80.00") UNLOADED. We want the "raised" NY portion of the water tank to start at the cross divider and run to the forward most portion of the body" from the ground when the truck is fully loaded.</p>
0723549	Painted Hose Bed	The hose bed interior walls will be painted to match the lower body color.
0003481	Hose Bed Capacity, Special	Hose bed will accommodate (DS to PS): 1000' x 5" (4 STACKS WIDE) / 600' x 2.5" (3 STACKS WIDE) / 300' x 1.75" (2 STACKS WIDE) / 200' x 3" above ladders (SINGLE STACK) / 2 STACKS OF 200' x 3" above ladders (EACH STACK IS SINGLE STACK).
0604019	SP Divider, Hose Bed, .25" Unpainted, Special Length	<p>HOSE BED DIVIDER</p> <p>One (1) hosebed divider will be furnished for separating hose.</p> <p>Each divider will be constructed of a .25" brushed aluminum sheet. Flat surfaces will be sanded for uniform appearance, or constructed of brushed aluminum.</p> <p>Divider will be fully adjustable by sliding in tracks, located at the front of the hose bed and a track recessed in the grating at the rear of the divider.</p> <p>The divider will be shorten divider between Bay 4 and 5 by 16.00" per job #36221 & #37403 in length.</p> <p>Divider will be held in place by tightening bolts, at each end.</p> <p>Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.</p>
0821715	SP Cover, Hose Bed, Alum Treadplate, Bolted T-Bar, Elec Act, HD Hinge, No Handrail	<p>HOSE BED COVER ELECTRIC ACTUATOR</p> <p>A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel heavy duty hinge. The hinge will be finished to match the surrounding area of the cover. The sides will be slanted down with the center of the cover supported by a modular stationary bridgework support. The covers will not over lap.</p> <p>The cover will be reinforced so that it can support the weight of a man walking on the cover. A pneumatic gas spring assist will be installed at the rear of the covers to help support and stabilize the cover throughout its range of motion.</p> <p>If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors.</p> <p>Chrome grab handles and two (2) (one (1) each side) electric linear actuator with brake cylinders will be provided to assist in opening and closing the cover. A rubber-covered momentary toggle switch will be provided for each actuator that controls the opening and closing of the covers. Each switch will be located at the rear body of the body left side. Additional locks on top of the cover are not required to secure the cover in the nested position.</p> <p>A cross divider will be provided directly behind the actuators, at the front of the hose bed, to support the actuators and provide a clean appearance.</p> <p>No handrail will be provided at the rear center support.</p> <p>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.</p>

0807353	Hose Restraint, Hose Bed, Vinyl, Rear, Separate From Top, Split 2-Sec	HOSE RESTRAINT REAR At the rear of the hose bed, a red vinyl flap will be provided. The vinyl flap will be split into two sections in the middle of cover. The vinyl flap will be provided with no fasteners between each section. The top of the vinyl flap will be attached to the top of the hosebed with permanent attachment to the aluminum hose bed cover with an aluminum angle. At the bottom of the flap, Velcro strap and footman loop will be provided. The bottom of the flap will be not weighted.
0526260	Cross-Divider, Hose Bed, Location	A cross-divider will be provided 33.00" from the front wall of the body. The divider will be bolted to the side sheet.
0010133	Cross-Divider, Hose Bed	A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.
0581892	Divider, .25", Unpainted, Permanent	ADDITIONAL HOSE BED DIVIDER There will be one (1) additional hose bed dividers furnished. Each divider will be constructed of a 0.25" brushed aluminum sheet. Partition will be permanently installed and located Per Print Match #37403. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads. Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.
0894698	SP Tool Storage, Alum Cover, Front of Hose Bed, Fill Dome Access,Amdor Lights	TRANSVERSE TOOL COMPARTMENT, FRONT OF HOSE BED A storage area will be provided at the front portion of the hose bed. A cross-divider will be installed approximately 33.00" behind the front sheet of the hose bed. The compartment will be the full width and height of the hosebed. An aluminum treadplate cover hinged along the forward edge will be provided above the entire storage compartment. These covers will be properly reinforced to support the weight of firefighters. A chrome plated handle and two (2) recessed lift and turn latches will be provided. Gas shocks will be provided to assist in the opening of the door. Two (2) Amdor LED light strips will be provided on each side of the compartment door opening.
0699946	Safety Cable(s), Hose Bed Cover	SAFETY CABLE FOR HOSE BED COVER There will be four (4) safety cable(s) provided for the hosebed cover to provide additional support.
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.
0689496	Tailboard, 12" 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 12.00" 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 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.
0690027	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.
0889214	Tow Eyes, w/Tow Bar, 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. The tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow bar design will have been tested and evaluated using finite element analysis techniques.
0590926	Hose Restraint, Running Board, Velcro Straps	RUNNING BOARD HOSE RESTRAINT A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. Two (2) hose trays will be located one (1) in each side running board.

0612289	SP	Tray, Hose, Running Board, Special Dimensions	HOSE TRAY Two (2) hose trays will be recessed one (1) in each side running board. The size of the tray will be Make both trays with Clear Inside dimensions of 32" L x 9" W x 10.75" D. DO NOT MATCH Previous trucks! They don't want to have the added cover on LS trough. Trough opening should be as above dimensions state. Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.
0895820		Construction, Compt, Alum, 2G Pumper	<p>COMPARTMENTATION Body and compartments will be fabricated of 0.125", 5052-H32 aluminum. Side compartments will be an integral assembly with the rear fenders. Circular fender liners will be provided for prevention of rust pockets and ease of maintenance. Side compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle. Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel. The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded. Side compartment covers will be separate from the compartment tops. Front facing compartment walls will be covered with bright aluminum treadplate. All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.</p> <p>UNDERBODY SUPPORT SYSTEM Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided. The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads. Forward to the rear axle, the support system will include "L"-shaped support members bolted to the chassis frame rails. These welded support members will include vertical formed channels, horizontal structural channels, and support gussets. These parts extend from the chassis frame outward underneath the body. Rearward to the rear axle, the body support system will include two rearward facing "L"-shaped support members bolted to the chassis frame rails. These support members will be connected to the two body supporting crossmembers forming a boxed foundation for the rear body support system. Steel upper platform decks will be mounted on the top of these support members to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment. All structural components of this system will be made from high strength 50K steel plate material or structural steel componentry. The steel frames as well as the steel vertical angles will be treated with an epoxy E-coat to provide resistance to corrosion and chemicals as standard. The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body. Isolators will have a broad load range, proven viability in vehicular applications, be of a fail-safe design and allow for all necessary movement in three (3) transitional and rotational modes. The neoprene isolators will be installed in a pattern which assimilates a three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body. A design with body compartments hanging on the chassis in an unsupported fashion will not be acceptable.</p> <p>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.</p> <p>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.</p> <p>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.</p>

0590517

LS 145" Rollup, Full Height Front & Rear, FDLER, 5" Longer than STD Short Body

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 27.50" 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 21.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment.** The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0595591

RS 145" Rollup, Full Height Front & Rear, 5" Longer than Standard Short, FDLER

RIGHTSIDE COMPARTMENTATION

The right side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 27.50" 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 21.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment.** The clear door opening will be a minimum of 44.75" wide x 57.88" high.

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0594005

Doors, Rollup, Amdor, Side Compartments

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.

The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar 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.

Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

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

0080647

Compt, Flush Rear, Rollup, 30.75" FF, 41.88" 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 41.88" deep. The interior height of the compartment will be measured from the compartment floor to the ceiling.

The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

A louvered, removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments.

The clear door opening of this compartment will be a minimum of 33.25" wide x 23.88" high.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

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 ingress.

The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 751 to match all compartment and cab doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 Nylon.

The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

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

0808925

Body Modification, 4" Reduced Depth
Rear Compt, Air Ride**BODY MODIFICATION FROM STANDARD**

The following body modifications will be required for the installation of a single axle air ride suspension:

- Rear compartment will be 4.00" shorter in depth.
- Special water tank mounting required if applicable.

0793115

SP Scuffplate, Brushed S/S, Rear Body

SCUFFPLATE

There will be a total of one (1) brushed stainless steel scuffplate(s) provided on the rear body Rear of body LS below option #602988 Tool compartment. The scuffplate size will be Match the door size for option #602988.

0589427

Holder, Postive Door, Gas Cylinder,
Each**POSITIVE DOOR HOLDER BRACKET**

one (1) body compartment doors will have a gas cylinder style positive door hold open brackets. The door holder will open the door at least 90 degrees to the body. The door holder brackets will be included in compartments ladder compartment door (option 0552352) per job 24014 01-20.

0659353

Lights, Compt, Amdor AY-9220 LED,
Dual Lt Strip**COMPARTMENT LIGHTING**

There will be seven (7) compartments with Amdor, Model AY9220, white 12 volt DC LED compartment light strips. The lights will be mounted with mechanical fasteners.

There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.

The lights will be activated when the battery switch is on and the respective compartment door is opened.

0630454

Door(s), Liftup, Single Panel, Rear of
Hatch Compt

Two (2) hatch compartments on the left and right side will have a single panel, liftup, smooth aluminum door with a Southco C2 chrome raised trigger lever latch located at the rear.

0739915

Hatch, (2) Liftup, Pumper

HATCH COMPARTMENT

Two (2) hatch compartments will be provided above the left and right side compartments.

Each hatch compartment will extend the full length of the side body compartmentation x 13.75" wide. The height of each hatch compartment will match the side sheet height.

Sides of the compartment will be constructed of the same material as the body and painted job color. A 2.00" tall formed aluminum painted to match the lower body color will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will be smooth weld finished and painted. The top of the compartment will be constructed of bright aluminum treadplate.

Two (2) lift-up, bright aluminum treadplate doors will be provided on the top of the compartment. Doors will have lipped edges with a rubber seal for weather resistance. Each door will have a socket and plunger type latch and chrome grab handle. Doors will be hinged on the outboard side and will utilize a gas strut (or rubber covered chain on narrow width doors)

Compartment will drain to an area below the hose bed. Black Turtle Tile mattin shall be provided to help prevent stored equipment in pooled water.

0730092

Not Required

0722593	SP	Lights, Hatch Compt, 42", LED, Light Strips, 2-Sides 4 Dr, Inboard	CCompartment Lighting There will be a 42.00" 12 volt DC strip light with white LEDs mounted on the interior, inboard side of each door. The lights will be mounted with mechanical fasteners. The lights will be activated when the battery switch is on and the door is opened.
0687135		Shelf Tracks, Unpainted	MOUNTING TRACKS There will be seven (7) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be unpainted with a natural finish.
0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	ADJUSTABLE SHELVES There will be nine (9) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted nightspots with 2.00" sides. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location(s) will be in RS2 centered between the floor and the ceiling, in RS1 in the lower third, in RS3 in the lower third, in RS1 in the upper third, in LS3 centered between the floor and ceiling, in B1 centered between the floor and ceiling, in LS3 in the lower third, in LS1 in the upper third and in LS1 in the upper third.
0726441		Partition, Trans Rear Compt	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 nightspots 909017.
0630598	SP	Polypropylene, .50", Floor of Compartment	POLYPROPYLENE FLOOR A sheet of smooth .50" black polypropylene will be installed on the floor of LS1, RS1, RS3, B1. A total quantity of four (4) compartments will include polypropylene on the floor.
0659383		Matting, Turtle Tile w/Ramp, Compartment Floors	MATTING, COMPARTMENT FLOOR Turtle Tile compartment matting will be provided in two (2) compartments on the compartment floor. The locations are, LS2 and RS2. The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be black.
0028026		Matting, Turtle Tile, Compartment Shelving Only	MATTING, COMPARTMENT SHELVING Turtle Tile compartment matting will be provided in nine (9) shelves. The locations are, all adjustable shelves. The color of the Turtle Tile will be black.
0009729		Pac Trac, Installed on Compartment Walls	EQUIPMENT MOUNTING Pac Trac equipment mounting system will be installed on the left side, right side, and rear walls of one (1) compartment(s), LS2. The Pac Trac shall be model #7020 and shall be mounted DIRECTLY to the water tank wall (and not mounted to adjustable shelf tracking) See photo's of previous unit install!!.
0519119		Cutout in Partition Between Compartments	CUTOUT IN PARTITION There will be one (1) cutout(s) between partitions D2/D3 - see photos of previous.
0004016		Rub Rail, Aluminum Extruded, Side of Body	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.
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 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.
0519849		Not Required, Hose, Hard Suction	HARD SUCTION HOSE Hard suction hose will not be required.

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 with the application of the parking brake. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails. Handrails will be provided to meet current edition of applicable NFPA standards. The handrails will be installed as noted on the sales drawing.
0625975	Handrails, Beavertail, Hansen Tubing, Knurled Aluminum, LED Backlit	HANDRAILS One (1) Hansen LED lit knurled aluminum vertical handrail will be located on each rear beavertail. The handrail will be lit with a white LED light. The hand rail will be activated with the application of the parking brake.
0625966	Handrail, Rear, Below Hose Bed, Full Width, Hansen, Knurled Aluminum LED Backlit	HANDRAIL There will be one (1) full width horizontal handrail provided below the hose bed at the rear of the apparatus. The handrail will be Hansen LED backlit knurled aluminum. The handrail will be lit with a white LED light. The handrail will be activated with the application of the parking brake.
0614589	Handrail, Extra - 10" Long, Hansen Tubing, Knurled Aluminum LED Backlit	ADDITIONAL HANDRAIL One (1) handrail, 10.00" long, will be mounted Match #36221. LS pumphouse side sheet above Light Shield. mounted vertically to forward area. The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a white LED light. The handrails will be activated with the application of the parking brake. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails.
0609286	Handrail, Extra - 15-20" Long, Hansen Tubing, Knurled Aluminum LED Backlit	ADDITIONAL HANDRAIL Two (2) handrails, will be mounted front of aluminum hose bed covers, one each side. The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a white LED light. The handrails will be activated with the application of the parking brake. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails.
0636301	Compt, Extinguisher (2) Fender Panel, Triangular Door, 8" Dia	EXTINGUISHER/AIR BOTTLE/ STORAGE (Triangular) A total of two (2) extinguisher/air bottle/storage compartments will be provided on the right side forward of the rear wheels and on the right side rearward of the rear wheels. The triangular shaped compartment will be sized to fit a 8.00" diameter extinguisher in the lower area and a 8.00" diameter extinguisher in the upper area. The compartment will be approximately 25.50" deep. A partition will be provided to separate the compartment. Also inside the compartment, black rubber matting will be provided. The compartment will be furnished with a drain hole. A painted stainless steel, triangular shaped door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottles. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment(s) to help contain the bottles when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.
0648325	Compt, Air Bottle, Double, Tri Door, Fender Panel	AIR BOTTLE STORAGE (Double) A quantity of two (2) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, will be provided on the left side forward of the rear wheels. The triangular door to cover the double air bottle opening and the DEF tank access and on the left side rearward of the rear wheels. The triangular door to cover the double air bottle opening and the fuel tank access. A painted stainless steel door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, "W" shaped insert formed of composite materials will be provided. AIR BOTTLE COMPARTMENT STRAP A strap 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.
0004225	Ladder, 24' Duo-Safety 900A 2-Section	EXTENSION LADDER There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.
0004230	Ladder, 14' Duo-Safety 775A Roof	ROOF LADDER There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.

0730790	SP	Ladders Btwn Tank & S.Sht, RS, Extended Rear, Enclosed, RPH, Vinyl, Special Mnt	LADDER STORAGE The ladders will be stored between the water tank and the right side compartments. The ladders will extend into the pump compartment just to the rear of the water pump discharges. The ladder storage area will be enclosed as practical by means of sheet metal to protect the ladders from road dirt. The ladders that extend into the pump house will also be enclosed with vinyl. A black rubber boot will be provided to enclose the ladders in the gap between the pump house and the body. Each ladder will be stored vertically in a separate stainless steel storage trough. Each stainless steel trough will be lined with Dura-Surf nylon slides. The ladders will be mounted with the extension ladder's fly section inboard. If the apparatus does not have a flush rear wall, an aluminum enclosure will be provided at the rear of the body to properly contain the ladders. This enclosure will extend to the rear of the side body compartments. The enclosure will also include a vertically hinged aluminum treadplate door with a D-handle latch to access the ladders.
0733387		Ladder, 10' Duo-Safety Folding 585A	FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.
0761364		Compt, w/Trough, Folding Ladder, Long Tool Storage Btwn Tank & S.Sht, LS	FOLDING LADDER STORAGE One (1) folding ladder will be stored in a compartment on the left side between the tank and side sheet in a stainless steel U-shaped trough. A door constructed of smooth aluminum and hinged along the inboard edge will be provided at the rear with a Southco C2 chrome raised trigger lever latch.
0816920		Pike Pole, Provided by Fire Department, NFPA 2024	PIKE POLE PROVIDED BY FIRE DEPARTMENT The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles. There will be one (1) pike pole(s) provided. The pike pole(s) will be a Nupla 10' pike pole.
0733148		Tube, Pike Pole 8' or Longer, Btwn Tank & S.Sht Long Tool Storage	PIKE POLE STORAGE There will be storage designated left side for One (1) pike pole 8' or longer pike poles stored in a tube with a .75" standard notch for the head of a pike pole. This will be located between the side sheet and tank in the folding ladder storage compartment.
0816918		Pike Pole, 6', Provided by Fire Department, NFPA 2024	6' PIKE POLE PROVIDED BY FIRE DEPARTMENT The pike pole is not on the apparatus as manufactured. The fire department will provide and mount the pike poles. There will be one (1) 6' pike pole(s) provided. The pike pole(s) will be a Nupla 6' pike pole.
0733150		Tube, Pike Pole 6', Btwn Tank & S.Sht Long Tool Storage	PIKE POLE STORAGE There will be storage designated left side for One (1) pike pole stored in a tube between the side sheet and tank in the folding ladder storage compartment. The tube(s) will have a .75" standard notch.
0769033		Steps, Folding, Front of Body, Cargo Bed Access, w/LED, Signature 4	FOLDING STEPS FRONT OF BODY Signature 4 model 102189-21 folding steps will be provided full height on the left side and one (1) step on the right 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 steps will incorporate an LED light to illuminate the stepping surface. The steps can be used as a hand hold with one opening wide enough for a gloved hand.
0784562		Steps, Folding, Rear of Body, w/LED, Signature 4	REAR FOLDING STEPS Bright finished, non-skid Signature 4 folding steps 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 one opening wide enough for a gloved hand.
0784587		Step, Folding - Extra, Body Only, Chrome, w/LED, Signature 4	One (1) additional folding step will be located on the wall of the right side cargo side sheet. The step(s) will be bright finished, non-skid with a chrome finish. Each step will incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with one opening wide enough for a gloved hand.

0007575

Pump House, Side Control, 48",
Control Zone**PUMP COMPARTMENT**

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment will be constructed of the same material as the body compartmentation.

The pump compartment substructure will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.

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.

LEFT SIDE PUMP CONTROL PANEL

All pump controls and gauges will be located at the left (driver's) side of the apparatus and properly identified.

Layout of the pump control panel will be ergonomically efficient and systematically organized. The pump operator's control panel will be removable in two (2) main sections for ease of maintenance:

The upper section will contain sub panels for the mounting of the pump pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable). Sub panels will be removable from the face of the pump panel for ease of maintenance. Below the sub panels will be located all valve controls and line pressure gauges.

The lower section of the panel will contain all inlets, outlets, and drains.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position.

The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

IDENTIFICATION TAGS

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted directly above the corresponding discharge control tee handles and recessed within the same chrome plated casting as the rod guide for quick identification. The gauge and rod guide casting will be removable from the face of the pump panel for ease of maintenance. The casting will be color coded to correspond with the discharge identification tag.

All remaining identification tags will be mounted on the pump panel in chrome plated bezels.

The pump panel on the right (passenger's) side will be removable with lift and turn type fasteners. Trim rings will be installed around all inlets and outlets.

0037731

Pump House Structure, Raised,
Included with Ladder Storage

0049444

Notch Cargo Compt Side Sheet w/
Rollers, Right Side**NOTCH CARGO COMPARTMENT SIDESHEET**

The cargo compartment side sheet on the right side of the unit will be notched for access to the hose reel. The notch will be designed as to allow viewing of the hose reel while rewinding the booster hose.

Speedlay style rollers will be provided on the sides and bottom of the notch to aid the payout of hose.

0674277

Notch Cargo Compt Side Sheet w/
Rollers, Left Side**NOTCH CARGO COMPARTMENT SIDESHEET**

The cargo compartment sidesheet on the left side of the unit will be notched for access to the hose reel. The notch will be designed as to allow viewing of the hose reel while rewinding the booster hose.

Speedlay style rollers will be provided on the sides and bottom of the notch to aid the payout of hose.

0003977

Floor, Hinged for Access, Aluminum
Treadplate, Left Side**ACCESS PANEL**

The bright aluminum treadplate flooring on the left side of the cargo compartment will be hinged with quarter turn latches for access to the pump and plumbing.

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 the use of a chain rather than gears, 50% of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work. Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.
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	

0897371	SP	Valve, Relief Intake, Waterous, Remote Control, Sacramento Metro	INTAKE RELIEF VALVE - PUMP There will be One (1) Waterous remote control relief valve(s) installed on the suction side of the pump preset at 125 psig. The relief valve(s) will have a working range of 50 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 directly behind a S/S access door at the right side pump panel to provide easy viewing of pressure setting.
0721609		Controller, Pressure, Pierce LCD, Custom Chassis	PIERCE PRESSURE CONTROLLER A Pierce electronic pressure controller will be provided. A pressure transducer will be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to Pressure Setting mode. In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities). In the pressure 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 set 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 integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed. Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing. A pump cavitation protection feature will also be provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds. Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle. The pressure controller LCD screen will be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity will be automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed. The following information will be provided/displayed on the LCD screen - Engine RPM Check engine and stop engine warning indicators Engine oil pressure Engine coolant temperature Water pump transmission temperature Fuel Level Water tank level Battery voltage Operating mode (RPM or pressure) Pressure or RPM setting On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions - High battery voltage Low battery voltage/engine off Low battery voltage/engine running High water pump temperature Low fuel Low engine oil pressure High engine coolant temperature Water tank out of water (visual alarm only) No engine response (visual alarm only) The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu. The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.
0072153		Primer, Trident, Air Prime, Air Operated	PRIMING PUMP The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of applicable NFPA standards. All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer.
0044552		Line, 0.50" Recirculating w/Check Valve	RECIRCULATING LINE WITH CHECK VALVE A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.
0821872		Modification, Increase Pump Discharge Capacity, 375 GPM	

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.
0602512	Plumbing, Stainless Steel and Hose, Single Stage Pump, Control Zone	PLUMBING, STAINLESS STEEL AND HOSE All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness. Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings. Plumbing manifold bodies will be ductile cast iron or stainless steel. All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame. All water carrying gauge lines will be of flexible polypropylene tubing. All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.
0795135	Plumbing, Stainless Steel, w/Foam System	FOAM SYSTEM PLUMBING All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.
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.
0014650	Pump Suction Tube(s), Short, All	SHORT SUCTION TUBE(S) The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.
0820184	Cap, Main Pump Inlet, Provided by Fire Department, NFPA 2024	MAIN PUMP INLET CAP PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 13.6.8 requires all intakes to be provided with caps or closures capable of withstanding a hydrostatic gauge pressure of 500 psi (3400 kPa). The caps are not on the apparatus as manufactured. The fire department will provide both caps for the main pump inlets.
0743394	Valves, Full Flow Waterous, Akron/Elkhart Aux Inlet Valves	VALVES There will be Four (4) Waterous 2.50" full flow valves. The valves will be used No. 1 left side discharge, No. 2 left side discharge, No. 3 right side discharge and No. 4 right side discharge . The Waterous full flow valve will have a 2.50" chromium plated bronze ball forming a hard, durable surface. There will be a hydraulically balanced floating seal assembly that will be self adjusting for wear. If Waterous valves are desired for outlets 3.00" and larger, that valve will be picked within the specific outlet category. All remaining discharge valves and auxiliary inlets will be Akron Unibody valves with a stainless-steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve. If an outlet location chosen from above uses a valve smaller than 2.50", that valve will be substituted with a Waterous 2.50" full flow valve. This option will supersede any specific outlet category option that requires a valve smaller than 2.50".
0016158	Valve, Inlet(s) Recessed, Side Cntrl, "Control Zone"	The location of the valve for the two (2) inlets will be recessed 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.
0092569	No Rear Inlet (Large Dia) Requested	
0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
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.
0014751	Tank to Pump, (1) 3.00" Valve, 3.00" Plumbing, Reverse Linkage	TANK TO PUMP The booster tank will be connected to the intake side of the pump with heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. The tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. The control on the pump panel will be "in" when the valve is open and "out" when the valve is closed. 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.
0062133	Control, Outlets, Manual, Pierce HW 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. If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel. Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.
0004940	Outlet, Left Side, 2.50"	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.
0065091	Elbow, Left Side Outlets, 30 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, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
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 Two (2) discharge outlets with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

0085096	Elbow, Right Side Outlets, 30 Degree, 2.5" FNST x 2.5" 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, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0816625	Outlet, Large Diameter, Right Side, Akron Valve	LARGE DIAMETER DISCHARGE OUTLET There will be an Akron 8800 4.00" flat ball valve with 5.00" plumbing terminating with a 5.00" MNST chrome adapter on the right side pump panel. The valve will be controlled with a(n) Akron 9335 with pressure located at the pump operator's panel.
0005099	Elbow, Large Dia Outlet, 30 Deg, 5.00" FNST x 5.00" Storz	LARGE DIAMETER OUTLET ELBOWS The 5.00" outlet will be furnished with a 5.00" (F) National Standard hose thread x 5.00" Storz elbow adapter with Storz cap.
0649939	Outlet, Front, 1.50" w/2" Plumbing	FRONT DISCHARGE OUTLET There will be one (1) 1.50" discharge outlet piped to the front of the apparatus and located in the center bumper tray. Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball 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 1.50" 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 Two (2) discharge outlets piped to the rear of the hose bed, two (2) on the left 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.
0040286	Elbow, Rear Outlets, 30 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, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092574	Not Required, Outlet, Rear, Additional	
0085695	Not Required, Elbow, Rear Outlets, Large, Additional	
0092573	Not Required, Outlet, Hose Bed/Running Board Tray	
0752096	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Vinyl Covered Cable	DISCHARGECAPS/ INLET PLUGS Chrome plated, rocker lug, caps with vinyl covered cables will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets. Chrome plated, rocker lug, plugs with vinyl covered cables will be furnished for all auxiliary inlets 1.00" thru 3.00" in size. The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.

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 six (6) adapters with 2.50" FNST x 1.50" MNST threads and a 1.50" chrome plated cap installed on (2) 2.50" LS discharges, (2) 2.50" RS discharges and (2) 2.50" rear discharges.
0736172	SP Outlet, 3.00" Deluge w/Dual Ctrl, SM HW On Pnl, LG HW Up Top, Akr Vlv	DELUGE RISER, w/DUAL CONTROL Three (3) inch deluge riser plumbing shall be installed and routed above the pump in such a manner that a monitor can be mounted and used effectively. The riser plumbing shall be gated and controlled at the pump operator's panel by a small handwheel control with position indicator. A second large handwheel control without position indicator shall be provided above the pump adjacent to the outlet. Plumbing shall consist of 3.00" piping and a 3.00" valve. Piping shall be installed securely so no movement develops when the line is charged.
0095958	Deluge Outlet, Special Height/Location	DELUGE OUTLET SPECIAL INSTRUCTIONS The deluge gun outlet will be located 11.25' from top of cargo flange to top of deluge outlet flange. From the left of pumphouse to center of deluge outlet will be 31". From front of cargo area to the center of deluge outlet will be 11".
0770359	No Monitor Requested, Customer/Dealer Furnished and Installed	MONITOR A customer/dealer supplied and installed make and model Akron 3433 Hi Rise monitor will be properly installed on the deluge riser.
0029304	No Nozzle Req'd	
0005072	Deluge Mount, 3" ANSI 4 Bolt Flange	The deluge riser will have a 3.00" four (4)-bolt flange 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	
0029216	Crosslay, (1) 1.50", Spl. Cap/Arrangement	CROSSLAY HOSE BED, 1.50" One (1) crosslay with 1.50" outlets will be provided. The bed to be capable of carrying 150' x 1.75" rubber liner, polyester outer jacket hose, 2 STACKS WIDE with Akron Turbojet Style 1765 (with Pistol Grip) nozzle and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve. Outlet to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus. The crosslay control will be at the pump operator's panel. Vertical scuffplates, constructed of stainless steel, will be provided at the front and rear ends of the bed on each side of vehicle. Crosslay bed flooring will consist of removable perforated brushed aluminum.

0558463	Crosslay, 2.50", Special Cap or Single Stack	CROSSLAY HOSE BEDS One (1) crosslay with 2.50" outlets will be provided. Each bed to be capable of carrying Rear Crosslay: 200'x2.50" rubber liner, polyester outer jacket hose, SINGLE STACK w/ Akron Turbojet 1736 Pistol Grip nozzle and will be plumbed with 2.50" i.d. pipe and gated with a 2.50" quarter turn ball valve. Outlets to be equipped with a 2.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus. The crosslay controls will be at the pump operator's panel. The center crosslay dividers will be fabricated of 0.25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish. The remainder of the crosslay bed will be painted job color. Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). Bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate. Crosslay bed flooring will consist of removable perforated brushed aluminum.
0500535	Not Required, Hose Restraint, Crosslay	
0029260	Not Required, Speedlays	
0750536	Hose Restr, Spdly, Not Required, No Spdly	
0729046	SP Hose Restraint, Crosslay/Deadlay,Alum Treadplate,Butterfly Latch Bolted,Top Only	CROSSLAY/DEADLAY HOSE RESTRAINT An aluminum treadplate cover, hinged at the front will be installed over the top of the crosslay/deadlay(s). It will include a butterfly latch, bolted, at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface. The cover will be provided with no stay arm device hold open device.
0514280	SP Crosslays, 9.00" Lowered Than Standard - Control Zone with Raised PH	CROSSLAY 9.00" LOWERED The crosslays will be lowered 9.00" from standard.
0092844	Deadlay(s), Special Cap.	DEADLAY HOSE BED One (1) deadlay bed without plumbing, will be provided above the pump compartment capable of carrying Mid-Deadlay: 300'x1.75" rubber liner, polyester outer jacket hose, 2 STACKS WIDE w/ Akron Turbojet 1765 Pistol Grip nozzle.. Stainless steel vertical scuffplates will be provided at hose bed ends (each side of vehicle). The bottom of hose bed ends (each side) will also be equipped with a stainless steel scuffplate. Center trough between the Forward 1.75" Crosslay and the rear 2.5" Crosslay. Deadlay bed flooring will consist of removable perforated brushed aluminum.
0500415	SP Flap, Crosslay Ends, Strap W/ Footman Loops, Velcro Bottom and Quarter Turn Top	CROSSLAY COVER A red vinyl cover with two web straps with velcro and footman loops along the bottom edge and quarter turn fasteners at the top corners will be provided over the ends of the crosslay hose beds.
0025210	Notch, Crosslay Dividers, For Nozzle	NOTCH, CROSSLAY DIVIDER The crosslay dividers will be notched to allow room for a nozzle in each crosslay bed. The notch will be two (2) each at 22.00" wide x 10.00" high. each notch to be spaced 5.00" from the front and rear edge of divider. Match Job #36221 and located Center Crosslay divider with (2) cutouts in each of the crosslay dividers.
0699910	SP Crosslays Special Reinforcement Of Front Crosslay Divider	CROSSLAYS The front crosslay divider will be reinforced with 3/16" aluminum treadplate so that it does not move and allows the latches to latch. The treadplate will span from the top edge of the front crosslay divider down the front of the body as far as practical.
0015216	Reel, Booster, Aluminum - Over Pump, Right Side	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 reel will be fabricated of aluminum and have highly polished end discs. 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.
0028172	SP Switches, Reel Rewind - 1-Stirrup & 1 Reel motor will be protected from overload with a 50 amp automatic reset circuit breaker. -Push Button DS, 1 Reel	One (1) foot actuated, stirrup type, electric rewind control (switch) will be installed below the running board on the reel side of the truck and one (1) push-button switch will be installed at the driver's 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.
0017858	Capacity, Hose Reel 150' of 1"	Capacity of the hose reel will be 150 feet of 1.00" booster hose.
0007428	Nozzle for Booster Reel Not Req'd	
0515688	Gauge, Hose Reel, (Match Panel Gauges)	PRESSURE GAUGE There will be a pressure gauge provided for one (1) hose reel(s). The gauge will be located per previous units. The gauge will match the discharge outlet gauges.
0021954	Cutout for Reel Access, One, w/ S/S Trim	HOSE REEL ACCESS A cutout will be provided in the side sheet next to the booster hose reel. This cutout will allow access to the hose and provide a window to view the reel. Stainless steel trim will be mounted horizontally and vertically around the cutout.
0622237	Roller Assembly, Additional	There will be one (1) additional polished stainless steel roller and guide assembly mounted left side.
0007827	Foam Sys, FoamPro 2002 (Single Agent)	FOAM CONCENTRATE PROPORTIONING SYSTEM A Hypro FoamPro®, Model 2002, foam system will be provided as the means for the proportioning of foam concentrate into the water stream. The FoamPro is an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system. This system will be a single agent system capable of handling Class A foam concentrates, as well as most Class B foam concentrates. The foam system will be plumbed to six (6) discharges. The discharges capable of dispensing foam will be No. 1 crosslay, front discharge, driver rear outboard discharge, reel discharge, No. 2 PS 2.50" Discharge, No. 1 DS 2.50" discharge. The foam proportioning system operation will be based on a direct measurement of water flows, and remain consistent within the specified flow and pressure. The system will be equipped with a digital electronic control display on the pump panel. Incorporated within the control display will be a microprocessor, which receives input from the system flow meter while also monitoring the foam concentrate pump output. The microprocessor will compare the values of the water flow versus the foam flow, to ensure the proportion rate is accurate. One (1) paddle wheel will be installed to monitor all foam discharges. Push button control for the foam proportioning rate will allow a ratio from .1 percent to 3 percent in .1 percent increments. The rated capacity of this system will be 166 gpm at 3 percent and 1000 gpm at .5 percent. A 5 gpm positive displacement foam pump will be powered by a 12 vdc electric motor. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump. The check valve will be approved by the foam system manufacturer.
0012126	Not Required, CAF Compressor	
0896193	SP Foam Refill, Single Tank, Pump, Sacramento	FOAM REFILL PUMP A 12v pump with a 2.5 gpm minimum capacity will be permanently mounted in the pump compartment. A male quick disconnect fitting will be provided on the pump panel and a pick-up wand with a 6' tube and mating female fitting will be provided loose. The control switch for the pump will be located on the pump panel adjacent to the quick disconnect fitting. The pump will be plumbed to the foam tank allowing the user to refill the foam tank from the ground. A swing handle valve will be supplied for a shut off valve.
0722183	SP Special Location, Foam Pump	LOCATION FOR FOAM PUMP The foam pump will be located Pump to be mounted below Pumphouse, easily accessible for servicing and replacements. On previous job Final #37403 we located a position next to air tank between tank and frame rail. Needs to be secured and protected as best as possible..
0037782	Valve, Additional Foam Shutoff	ADDITIONAL FOAM SHUTOFF An additional foam shutoff valve will be provided at the foam tank sump. The valve will be installed and located as close to the foam tank sump as possible.
0031896	Demonstration, Foam System, Dealer Provided	

0085446	Foam Cell, 25 Gallon, Not Reduce Water	FOAM TANK The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 25 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.
0091036	Drain, 1.00" Foam Tank #1	FOAM TANK DRAIN The foam tank drain will be a 1.00" drain valve located inside the pump compartment accessible through a door on the right side pump panel.
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0738111	Approval Dwg, All Pump Panel(s), Includes Color And Label Tags, FLEET	<p>The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made to match 34278 01-03 similar Pierce job number.</p> <p>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.</p> <p>The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents.</p> <p>Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p>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.</p> <p>The finalized and signed customer approved pump panel drawing(s) will become part of the contract documents.</p> <p>Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p>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.</p> <p>The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.</p> <p>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 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.</p> <p>The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.</p>
0032479	Pump Panel Configuration, Control Zone	PUMP PANEL CONFIGURATION The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.
0629224	Material, Pump Panels, Side Control Black UL-LX	PUMP AND GAUGE PANEL The pump and gauge panels will be constructed of stainless steel with a black UL-LX spray-on polyurethane/polyurea material finish. A polished aluminum trim molding will be provided around each panel.
0708935	SP Panel, Pump Access - Right Side and Front, Extra Latches	The right side pump panel shall be removable and fastened with swell type fasteners. There shall be a sufficient amount of swell type fasteners provided to prevent any type of rattling or movement of the right side pump panel. On the front of the pump house structure, provisions shall be provided for access to the pump.

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.
0586438	Gauges, Engine - Pump Panel, IAT Pressure Controller	PUMP PANEL GAUGES AND CONTROLS The following will be provided on the pump and gauge panels in a neat and orderly fashion. These gauges will be in addition to what is provided with the pressure controller. <ul style="list-style-type: none"> - Engine Oil Pressure Gauge: With visual and audible warning - Engine Water Temperature Gauge: With visual and audible warning - Tachometer: Electric - Master Pump Drain Control - Voltmeter - Fuel
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.
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.
0568684	Access, Drain Valves, Grouped Together, Located on a Removable Panel	PUMP PANEL ACCESS DRAIN VALVES All the drain valves will be installed and grouped together. The drain valves will be located on a removable panel. PER JOB 32428 01-04.
0708954	SP Garnish Rings, Pump Panel, Brushed S/S IPOS	GARNISH RINGS All of the garnish rings on the pump panels shall be brushed stainless steel in place of the standard polished stainless steel.
0763096	Fittings, Compression IPO PTC, All Pump Panel Gauges	COMPRESSION FITTINGS All of the pump panel gauges will have brass compression fittings installed in place of the push to connect fittings.
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.
0708936	SP Cover, 4-way, Elec Valve Controller In COVER Cargo Area	COVER An aluminum 4-way cover with hinge shall be provided over the electric valve controller in the cargo area for the deluge outlet.
0514231	Pump Panel Trim Rings, Oversized for Valve Removal, LS, Only	OUTLET TRIM RINGS The left 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.
0673431	Switch w/Ind, Pump Panel for Warning Light, 12 VDC	There will be a switch at the pump operators panel that can deactivate the warning light in that vicinity. This switch will only be active when the parking brake is applied and the pump is shifted into gear.
0556650	Switch Panel, Pump Panel, Layout Info	TOP TO BOTTOM: #1 Panel Light Switch, #2 Pump Engaged Light, #3 DS Scene, #4 PS Scene, #5 Rear Scene, #6 Reel Rewind.

0005690	Gauges, 6.00" Master, Class 1, 30"-0 -600psi	VACUUM AND PRESSURE GAUGES The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©. The gauges will be a minimum of 6.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#. The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel. Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They will be marked with a label.
0038070	Gauge, 2.50" 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©. They will be a minimum of 2.50" in diameter and will have white faces with black lettering. Gauges will be compound type with a vacuum/pressure range of 30.00"-0-400#. The individual pressure gauge will be installed as close to the outlet control as practical.
0766826	Gauge, Flowmeter / Pressure, Akron 9335 Elec Controller IAT	DISCHARGE OUTLET FLOWMETER AND PRESSURE DISPLAY There will be one (1) discharge(s) that have Akron 9335 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option. In addition to valve position, the following discharges will include flow and pressure in the display Deluge.
0750526	Gauge, Water Level, Pierce, In pressure Controller, Lt Driver	WATER LEVEL GAUGE An electric water level gauge will be incorporated in the pressure controller that registers water level by means of nine (9) LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight and have a full 180-degree of clear viewing. To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25 percent. The gauge will have down chasing LEDs when the tank is almost empty. The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell. There will be a light driver module with this installation to power additional water level gauge(s) included on the apparatus.
0750438	Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level	WATER LEVEL GAUGE There will be two (2) additional water level indicator(s), Whelen®, Model PSTANK 2, LED module with chrome trim, installed one (1) each side rearward of crew cab doors, locate appropriately off of the rear wall. This light module(s) will include four (4) colored levels, and function similar to the water level indicator located at the operators panel: First green module indicates a full water level Second blue module indicates a water level above 3/4 full Third amber module indicates a water level above 1/2 full Last red module indicates a water level above 1/4 full and empty Above 1/4 this light will be steady burning At empty this light will be flashing The flash rate will be determined by the main water level tank sensor. This module will be activated when the pump is in gear.
0604354	Gauge, Foam Level, FRC, Tank Vision Pro, WLA 360-A00, Class "A"	CLASS "A" FOAM LEVEL GAUGE A Fire Research TankVision Pro model WLA360-A00 cell/tank level indicator kit will be installed on the pump operators panel. The kit will include an electronic indicator module, a pressure sensor, a 10' sensor cable and a tank vent. The indicator will show the volume of Class "A" foam concentrate in the cell/tank on nine (9) easy to see super bright RGB LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The indicator case will be waterproof, manufactured of Polycarbonate/Nylon material and have a distinctive green label. The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display cell/tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low foam level warnings will include flashing LEDs at 1/4 cell/tank and down chasing LEDs when the cell/tank is almost empty. The indicator will receive an input signal from an electronic pressure sensor. The sensor will be mounted from the outside of the foam cell/tank near the bottom. No probe will be placed on the interior of the cell/tank. Wiring will be weather resistant and have automotive type plug-in connectors.

0665336	Light Shield/Step 8", 4-FRC Firefly LED115-Q01, P25 LED Step Lt	STEP/LIGHT SHIELD 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 panel. There will be four (4) Fire Research Firefly, part number LED115-Q01, 12 volt DC LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house. One (1) pump panel light will come on when the pump is in ok to pump mode. There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel. There will be one (1) white LED step light provided above this step. In order to ensure exceptional illumination, each step light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The step light will be activated by the pump panel light switch.
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. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The lights will be operated from a switch on the pump panel.
0745615	SP Light Shield, S/S, DS, Under Xlays, (2) FRC Firefly, LED	ADDITIONAL LIGHT SHIELD An additional light shield will be installed at the driver side pump panel below the crosslays. The forward pump panel area will be illuminated by two (2) Fire Research, Firefly LED lights installed under an stainless steel light shield. 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.
0606835	Location, Air Horns, Bumper, Each Side, Outside Frame, Outboard (Pos #1 & #7)	Air Horn Location The air horns will be located on each side of the bumper, towards the outside.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0743360	Control, Air Horn, Ft Sw, LS, Location Fet	Left side foot switch will be mounted outboard and forward as far as possible to get away from brake pedal..
0723391	Control, Air Horn, Chrome Push Button Sw, RS	Right side chrome push button switch
0533071	Siren, WIn 295SLSC1, 100 or 200 Watt, w/Plug-in/Detachable Microphone Cord	ELECTRONIC SIREN A Whelen, Model: 295SLSC1, electronic siren with a plug-in, detachable noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on.
0510206	Location, Elect Siren, Recessed Overhead In Console	Electronic siren head will be recessed in the driver side inside switch panel.
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.
0601306	Speaker, (1) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	SPEAKER There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.
0601552	Location, Speaker, Frt Bumper, Recessed, Right Side, Outside Frame, Inbrd (Pos 2)	The speaker will be recessed in the right side of the front bumper, just outside of the frame rail.

0895310	Siren, Federal Q2B	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.
0006097	Location of Siren, Recessed in Bumper	The mechanical siren will be recessed in the front bumper on the left side. The siren will be properly supported using the bumper framework.
0748305	Control, Mech Siren, Multi Select	MECHANICAL SIREN CONTROL The mechanical siren will be activated by the following:
0748279	Control Mech Siren, Push Button Sw, Right side push button switch. RS	
0890124	Control Mech Siren, Ft Sw LS, Loc	Left side foot switch Mounted next to the right side of the Air Horn floor sw, to get away from the brake pedal.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0736158	Sw, Siren Brake, Momentary, Lower Sw Pnl	A momentary switch will be included in the lower switch panel to activate the siren brake.
0693597	Microphone Extension, WIn Model CCMICX20, 20'	SIREN MICROPHONE EXTENSION There will be a Whelen®, Model CCMICX20, 20 foot microphone extension provided.
0746353	Not Required, Warning Lights Intensity	
0600960	Lightbar, WIn, Freedom IV-D, 81", RRRRRWRRROptRRRWRRRRR	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 driver's side rear corner position. One (1) red flashing LED module in the driver's side end position. One (1) red flashing LED module in the driver's side front corner position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side second front position. One (1) white flashing LED module in the driver's side third front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side fifth front position. One (1) red flashing LED module in the driver's side sixth front position. One (1) 795 LED traffic light controller set to national standard high priority in the center position. One (1) red flashing LED module in the passenger's side sixth front position. One (1) red flashing LED module in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) white flashing LED module in the passenger's side third front position. One (1) red flashing LED module in the passenger's side second front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side front corner position. One (1) red flashing LED module in the passenger's side end position. One (1) red flashing LED module in the passenger's side rear corner position. There will be clear lenses included on the lightbar. The following switches may be installed in the cab on the switch panel to control the lightbar: a switch to control the flashing LED modules the traffic light controller will be by a cab switch with emergency master control there will be no momentary switch to activate the traffic light controller The two (2) white flashing LED modules and the traffic light controller will be deactivated when the parking brake is applied. The ten (10) red flashing LED modules in the front positions and two (2) red flashing LED modules in the rear corner positions may be load managed when the parking brake is applied.
0016380	No Additional Lights Req'd, Side Zone Upper	

0899300	Lights, Front Zone, WIn M6** M6RS M6RS M6**, Inside Steady Burn, 4lts Q Bez	FRONT ZONE LOWER LIGHTS There will be four (4) Whelen®, 4.31" high x 6.75" wide x 1.37" deep lights installed on the cab face above the headlights, in a common bezel matching the one for the headlamps per the following. One (1) Model M6** flashing light installed in the left side outside position. The left side outside warning light to include red LEDs. One (1) Model M6RS steady burning light installed in the left side inside position. The light will include red LEDs. One (1) Model M6RS steady burning light installed in the right side inside position. The light will include red LEDs. One (1) Model M6** flashing light installed in the right side outside position. The right side outside warning light to include red LEDs. The lens color(s) to be the same as the LEDs. The housing to be polished and the trim shall be chrome. There will be a switch in the cab on the switch panel to control the lights.
0653937	Flasher, Headlight Alternating	HEADLIGHT FLASHER The high beam headlights will flash alternately between the left and right side. There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on. The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.
0747228	Lights, Side Zone Lower, WIn M6**, M6**, M6**, 6Lts	SIDE ZONE LOWER LIGHTING There will be six (6) 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 of cab rearward of crew cab doors. The driver's side, side middle light to include red warning LEDs and the passenger's side, side middle 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.
0743910	Lights, Side, WIn M6** LED, Trm Fet 1st	SIDE 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, one (1) each side aft of crew cab door, up high. The light(s) to include red flashing 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. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.
0564654	Lights, Rear Zn Lwr, WIn 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.
0541116	Lights, Rear/Side Up Zone, WIn M6* LED, Colored Lens 4lts	WARNING LIGHTS (Rear and Side upper zones) Four (4) Whelen, model M6* LED flashing warning lights will be provided at the rear of the apparatus with Whelen, 6EFLANGE chrome flanges. The side rear upper light(s) on the driver's side to be red. The rear upper light(s) on the driver's side to be red. The rear upper light(s) on the passenger's side to be red. The side rear upper light(s) on the passenger's side to be red. These lights will include a lens that is the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0026813	No Hose Bed Warn Light Brackets Required, Lights Mounted on Hatch Compts, Pumper	

0791493	Light, Traffic Directing, WIn TAM65 36" Long LED	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen® Model TAM65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen Model TACTL5 control head will be included with this installation. The control head will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0551728	Location, TDL, Recessed with S/S Trim	This traffic directing light will be recessed with a stainless steel trim plate at the rear of the apparatus as high as practical.
0530280	Location, Traf Dir Lt Controller, Overhead Switch Panel DS Center	The traffic directing light control head will be located in the driver side overhead switch panel in the center panel position.
0519934	Not Required, Brand, Hydraulic Tool System	
0649753	Not Required, PTO Driven Hydraulic Tool System	
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 2024, Provided by Fire Department	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 will be provided by the fire department: One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i> , and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. 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. NFPA Loose Equipment That Shall be Considered: The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) 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. One (1) handline nozzle, 200 gpm (750 L/min) minimum. Two (2) handline nozzles, 95 gpm (360 L/min) minimum. One (1) smooth bore or combination nozzle with shutoff and with 2.50" (65 mm) inlet that flows a minimum of 250 gpm (950 L/min). Four (4) SCBA apparatus Four (4) SCBA spare cylinders One (1) first aid kit. Four (4) combination spanner wrenches. Two (2) hydrant wrenches. One (1) double female 2.50" (65 mm) adapter with national hose (NH) threads. One (1) double male 2.50" (65 mm) adapter with national hose (NH) threads. One (1) rubber mallet, for use on suction hose connections. Two (2) salvage covers each a minimum size of 12 ft x 18 ft (3.7 m x 5.5 m). One (1) automatic external defibrillator (AED).
0816941	Soft Suction Hose, Provided by Fire Department, NFPA 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.
0027023	No Strainer Required	
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 2024, Provided by Fire Department	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.
0741569	Paint Process / Environmental Requirements, Appleton	<p>PAINT PROCESS</p> <p>The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows:</p> <p><u>Manual Surface Preparation</u> - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.</p> <p><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.</p> <p><u>Surfacer Primer</u> - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.</p> <p><u>Finish Sanding</u> - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.</p> <p><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.</p> <p><u>Basecoat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.</p> <p><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.</p> <p>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.</p> <p>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.</p> <p>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 manufacturer's written paint standards will be available upon request.</p> <p>Environmental Impact</p> <p>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:</p> <p>Topcoats and primers will be chrome and lead free.</p> <p>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.</p> <p>Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor.</p> <p>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</p> <p>Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.</p> <p>Paint wastes are disposed of in an environmentally safe manner.</p> <p>Empty metal paint containers will be recycled to recover the metal.</p> <p>Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.</p> <p>Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.</p>
0709566	Paint, Two-Tone Color, Enforcer	<p>TWO-TONE CAB PAINT</p> <p>The cab will be painted two-tone with the upper section painted #10 white and the lower section painted #181 Red. There will be a standard two-tone cab paint break provided.</p> <p>There will be no cab shield provided.</p>

0709845	Paint, Single Color, Body	BODY PAINT The body will be painted to match the lower section of the cab.
0646897	Paint Chassis Frame Assy, 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 treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Components that are included with the chassis frame assembly that will be painted not e-coated are: Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Steel fuel tank Castings Individual piece parts used in chassis and body assembly 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.
0639088	Compartment Paint, 909017, Nightspots	COMPARTMENT INTERIOR PAINT Interior of compartments will be painted 909017, Nightspots.
0756506	SP Reflective Band, 6" Oralite (Not Warranted)	REFLECTIVE BAND A 6.00" white V82 oralite reflective band will be provided across the front of the vehicle and along the sides of the body. There will be no warranty provided for this material.
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.
0087342	Jog, "Z"-Shaped, In Reflective Stripe	"Z" JOG IN REFLECTIVE STRIPE There will be one (1) "Z"-shaped jog(s) provided in the reflective stripe design.
0017359	Stripe, Black Outline, Vinyl on Reflective Band	REFLECTIVE STRIPE OUTLINE A black outline will be applied on the top and the bottom of the reflective band. There will be two (2) set of outline stripes required.
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 NFPA 1901 requirement.
0663270	SP Stripe, 1", Gold Vinyl, Avery Brand	ADDITIONAL 1.00" VINYL STRIPING A 1.00" gold, Avery brand 3715-M, non-reflective vinyl stripe will be provided per jobs 24013 01-02 and 24014 01-20.

0027286	Not Required, Lettering Specs	
0007472	[Lettering not Requested]	
0684206	Emblem, Maltese Cross, Gold Leaf, 21"-23", Pair	<p>MALTESE CROSS INSTALLATION</p> <p>There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed one (1) each side front cab door.</p>
0666414	Emblem, Freedom Flag, Each	<p>EMBLEM</p> <p>There will be two (2) emblem(s), approximately 15.00" - 17.00" wide in size, installed between cab & crew cab door windows. The emblem will feature a "Flying American Flag" and an "Eagle Head".</p>
0769753	Emblem, American Flag Painted on Cab Grille, All Custom Chassis	<p>CAB GRILLE DESIGN</p> <p>An American flag design will be painted on the cab grille.</p>
0772003	Manual, Fire Apparatus Parts, USB Flash Drive, Custom	<p>FIRE APPARATUS PARTS MANUAL</p> <p>There will be one (1) custom parts manual(s) in USB flash drive format for the complete fire apparatus provided.</p> <p>The manual(s) will contain the following:</p> <ul style="list-style-type: none"> 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 <p>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.</p> <p>Service Parts Internet Site</p> <p>The service parts information included in these manuals are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.</p>
0772037	Manual, Chassis Service, USB Flash Drive, Custom	<p>CHASSIS SERVICE MANUALS</p> <p>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.</p> <p>The manual will contain the following sections:</p> <ul style="list-style-type: none"> Job number Table of contents Troubleshooting Front Axle/Suspension Brakes Engine Tires Wheels Cab Electrical, DC Air Systems Plumbing Appendix <p>The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.</p>
0773381	Manual, Chassis Operation, (1) USB Flash Drive, Custom	<p>CHASSIS OPERATION MANUAL</p> <p>The chassis operation manual will be provided on one (1) USB flash drive.</p>
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	<p>ONE (1) YEAR MATERIAL AND WORKMANSHIP</p> <p>A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.</p>
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	<p>ENGINE WARRANTY</p> <p>A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.</p>
0684952	Warranty, Steering Gear, TRW Ross TAS, 1 Year WA0202	<p>STEERING GEAR WARRANTY</p> <p>A TRW one (1) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.</p>

0596017	Warranty, Frame, 50 Year, Custom Chassis, WA0013	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame limited warranty certificate, WA0013, is included with this proposal.
0811389	Warranty, Axle, Steertek, 2 Year WA0398	FRONT AXLE TWO (2) YEAR 250,000 MILE A 2 year 250,000 mile Hendrickson Steertek warranty will be provided.
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, Custom Cab, WA0012	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) month warranty will be provided for the camera system.
0708760	Warranty, Not Applicable, LED Strip Lights	COMPARTMENT LIGHT WARRANTY The compartment lights will not offer an extended warranty.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
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.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years. A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
0734463	Warranty, Pump, Waterous, 7 Year Parts, WA0382	PUMP WARRANTY The Waterous pump will be provided with a seven (7) year material and workmanship limited warranty. A copy of the warranty certificate will be included with this proposal.
0648675	Warranty, 10 Year S/S Plumbing, 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.
0593921	Not Required, Warranty, No Lettering	
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.
0808582	Certification, Engine Installation, Saber FR/Enf, Cummins X10, 2027	ENGINE INSTALLATION CERTIFICATION The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.
0686786	Certification, Power Steering, CD0098	POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.
0892691	Certification, Cab Integrity, Saber FR/Enforcer, CD0189	CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks. Side Impact The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident. Frontal Impact The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420. Additional Frontal Impact The same cab will withstand a frontal impact of 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) Roof Crush The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons. Additional Roof Crush The same cab will be subjected to a roof crush force of 110,000 lbs. (Four and a half times the load criteria of ECE 29) The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area. There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.
0631973	Certification, Cab Door Durability, Saber FR/Enforcer, CD0137	CAB DOOR DURABILITY CERTIFICATION Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.
0631978	Certification, Windshield Wiper Durability, Saber FR/Enforcer, CD0132	WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i> . The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

0631974	Certification, Electric Window Durability, Saber FR/Enforcer, CD0133	ELECTRIC WINDOW DURABILITY CERTIFICATION Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.
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. <i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i> Cab Auxiliary Heater <i>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</i>
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	
0046395	EVS 3000 Series TRANSMISSION	
0020011	WATEROUS PUMP	

0020009 POLY TANK

0028048 FOAM SYSTEM

0020006 SIDE CONTROL

0020007 AKRON VALVES

0020015 ABS SYSTEM

0658751 PUMPER BASE



Electrical Analysis

5/30/2024

Bid #:	791	Job #:	
Desc:	Sac Metro Enforcer Engines Duplicate (#39344)	Sales Rep:	Hansen, Brad
Customer:	Sacramento Metropolitan Fire District	Organization:	Golden State Fire Apparatus, Inc
Option:	Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	Type:	Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	0.00
0007827	Foam Sys, FoamPro 2002 (Single Agent)		0.00	60.00	0.00
0015216	Reel, Booster, Aluminum - Over Pump, Right Side		0.00	36.00	0.00
0072153	Primer, Trident, Air Prime, Air Operated		0.00	0.00	0.00
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0583824	Light, Pump Compt, WIn 3SC0CDCR LED White		0.00	0.36	0.00
0589669	Handlts, (4) Pelican, 9410L, 12v DC, Shoulder Strap		0.00	0.00	3.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0604354	Gauge, Foam Level, FRC, Tank Vision Pro, WLA 360-A00, Class		0.00	0.00	1.23
0626449	Light, WIn, 12V NP6B* Nano Pioneer Series LED, Bail Mount 2nd		0.00	0.00	1.50
0626453	Light, WIn, 12V NP6B* Nano Pioneer Series LED, Bail Mount 1st		0.00	0.00	1.50
0630636	Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber		0.00	26.00	0.00
0639726	Cab Lift, Elec/Hyd, Manual Override, Unlocked Ind Light, Saber		0.00	180.00	0.00
0653519	Camera, Pierce, LS Mux, RS, LS, R, Cameras, SD		0.00	1.20	0.00
0669209	Fan, Electrical Component Cooling 12 V, Switched Battery		0.00	2.00	0.00
0693439	Lights, Engine Compt, Custom, Auto Sw, w/Fld Chk Dr WIn		0.00	0.38	0.00
0696870	Lights, Side Scene, TecNiq, E960 LED, Stainless 1st Pr		0.00	0.00	1.20
0708954	Garnish Rings, Pump Panel, Brushed S/S IPOS		0.00	0.00	0.00
0743910	Lights, Side, WIn M6** LED, Trm Fet 1st		0.00	2.70	1.80
0745615	Light Shield, S/S, DS, Under Xlays, (2) FRC Firefly, LED		0.00	0.00	1.00
0763096	Fittings, Compression IPO PTC, All Pump Panel Gauges		0.00	0.16	0.00
0766905	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 2nd		0.00	0.00	6.00
0766906	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 1st		0.00	0.00	6.00
0768062	Lights, WIn, PCPSM1* Pioneer, 12 VDC, 2nd		0.00	0.00	6.00
0768064	Lights, WIn, PCPSM1* Pioneer, 12 VDC, 1st		0.00	0.00	6.00
0776761	Retarder, Telma Driveline, Focal Mount, Single Axle, 1st/2nd		0.00	225.00	0.00
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0811478	Batteries, (5) Odyssey, ODX-AGM31, 1150 CCA, (1) Iso Bat		0.00	3.00	0.00
0820509	ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA		0.00	6.00	0.00
0820906	Wiring, Spare, 15 A 12V DC 2nd NFPA1900		0.00	0.00	15.00
0820921	Wiring, Spare, 4.8 A 12V DC, USB Term, Blue Sea 1045, Batt Dir,		0.00	0.00	9.60
0821312	Wiring, Spare, 30 A 12V DC Batt Dir 1st NFPA1900		0.00	0.00	30.00
0821470	Wiring, Spare, 4.8 A 12V DC, USB Termination 1st NFPA1900		0.00	0.00	9.60
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0897511	Light, Do Not Move Apparatus, WIn 3SR00FRR LED, Floyd Bell		0.00	0.30	0.00
0685120	Handlight, Pelican, 8060 LED 12V DC Rechargeable Flashlight,	Load Managed	0.00	0.00	12.00
0722696	HVAC, Standard-Duty, Enforcer, CARE	Load Managed	0.00	0.00	100.00
0763739	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 3rd	Load Managed	0.00	0.00	12.00
0799941	Compt, Storage, (2) Rear Facing, Overhead, 21 W x 9 H x 34 D,	Load Managed	0.00	0.00	7.20
0821192	Wiring, Spare, 20 A 12V DC 1st NFPA1900	Load Managed	0.00	0.00	20.00
0825135	Wiring, Spare, 100A 12V DC, Manual Reset Brkr, DS Bat Box,	Load Managed	0.00	0.00	100.00
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0080647	Compt, Flush Rear, Rollup, 30.75" FF, 41.88" D	NFPA	0.90	0.00	0.90
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00
0511569	Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts	NFPA	0.50	0.00	0.00
0522730	Light, Over Passenger Side Pump Panel, P25 LED Stp Lt	NFPA	0.50	0.00	0.00
0533071	Siren, WIn 295SLSC1, 100 or 200 Watt, w/Plug-in/Detachable	NFPA	0.80	7.20	0.00

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



Electrical Analysis

5/30/2024

Bid #:	791	Job #:	
Desc:	Sac Metro Enforcer Engines Duplicate (#39344)	Sales Rep:	Hansen, Brad
Customer:	Sacramento Metropolitan Fire District	Organization:	Golden State Fire Apparatus, Inc
Option:	Pierce Command Zone, Advanced Electronics & Control System, Enforcer, WiFi CZT	Type:	Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0541116	Lights, Rear/Side Up Zone, WIn M6* LED, Colored Lens 4Lts	NFPA	4.00	0.00	0.00
0564654	Lights, Rear Zn Lwr, WIn M6*, Colored Lens, For Tail Light	NFPA	1.80	2.70	0.00
0566799	Lights, Step, P25 LED 4Lts, Ign, Prk Brk Activated	NFPA	1.00	0.00	0.00
0586438	Gauges, Engine - Pump Panel, IAT Pressure Controller	NFPA	0.30	0.00	0.00
0590517	LS 145" Rollup, Full Height Front & Rear, FDLER, 5" Longer than	NFPA	4.50	0.00	4.50
0595591	RS 145" Rollup, Full Height Front & Rear, 5" Longer than	NFPA	4.50	0.00	4.50
0600960	Lightbar, WIn, Freedom IV-D, 81",	NFPA	6.48	2.68	17.20
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	NFPA	1.00	0.00	0.00
0611614	Handrails, 10", Below Cab Windshield, Hansen Knurled Alum,	NFPA	0.20	0.00	0.00
0618791	DEF Tank, 4.5 Gallon, LS Fill, Forward of Axle, Common Air Bottle	NFPA	0.60	11.40	0.00
0620054	Light, Directional/Marker, Intermediate, Weldon 9186-8580-29	NFPA	0.10	0.90	0.00
0622803	Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX	NFPA	1.26	0.00	0.00
0625953	Light, Directional, WIn 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts,	NFPA	0.70	0.70	0.00
0625966	Handrail, Rear, Below Hose Bed, Full Width, Hansen, Knurled	NFPA	0.50	0.50	1.00
0625975	Handrails, Beavertail, Hansen Tubing, Knurled Aluminum, LED	NFPA	1.00	1.00	2.00
0630489	Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber	NFPA	7.81	0.00	0.00
0647638	Lights, Dome, Weldon Dual LED 4 Lts	NFPA	0.80	0.80	0.00
0648332	Cab, Enforcer, 7010	NFPA	6.80	10.20	0.00
0653937	Flasher, Headlight Alternating	NFPA	0.08	0.00	0.00
0665336	Light Shield/Step 8", 4-FRC Firefly LED115-Q01, P25 LED Step Lt	NFPA	5.00	0.00	0.00
0721609	Controller, Pressure, Pierce LCD, Custom Chassis	NFPA	1.70	0.00	0.00
0722593	Lights, Hatch Compt, 42", LED, Light Strips, 2-Sides 4 Dr, Inboard	NFPA	0.84	0.84	0.00
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor	NFPA	0.49	0.00	0.00
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.10	0.00	0.00
0739915	Hatch, (2) Liftup, Pumper	NFPA	1.80	0.00	1.80
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	NFPA	0.10	0.00	0.00
0747151	Lights, Hose Bed, Below Alum Cvr, Amdor AY-LB-12HW040, 40",	NFPA	1.20	0.00	0.00
0747228	Lights, Side Zone Lower, WIn M6**, M6**, M6**, 6Lts	NFPA	5.40	8.10	0.00
0750438	Water Level Gauge, WIn PSTANK2, LED 1-Light, 4-Level	NFPA	1.60	0.00	0.00
0750526	Gauge, Water Level, Pierce, In pressure Controller, Lt Driver	NFPA	1.23	0.00	0.00
0751894	Handrails, Exterior, 13" Long, Hansen Knurled Alum, LED, Backlit,	NFPA	0.40	0.00	0.00
0763613	Cabinet, Rear Facing, Top Eng Tnl, 39 W x 18 H x 9.75 D, 3	NFPA	0.20	0.20	0.00
0769559	Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2Lts	NFPA	0.36	0.00	0.00
0769560	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2Lts, Rear	NFPA	0.36	0.00	0.00
0769569	Lights, Perimeter Cab, Amdor AY-LB-12HW012 LED 4Dr	NFPA	0.72	0.00	0.00
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door	NFPA	0.80	0.00	0.00
0774476	Light, Roof Mt, HiViz, FT-B-80-ML-*, Cnt Feature	NFPA	1.17	0.00	24.83
0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	NFPA	4.20	4.20	0.00
0786144	Lights, Marker, Cab Front Side, Truck-Lite 19036YLED, Enf,	NFPA	0.12	0.00	0.00
0791493	Light, Traffic Directing, WIn TAM65 36" Long LED	NFPA	1.26	2.52	0.00
0804514	Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0808535	Engine, Cummins X10, 450 hp, 1250 lb-ft, W/OBD, EPA 2027,	NFPA	1.00	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
0824220	Cabinet, Rear Facing, RS, 22 W x 28 H x 22.75 D, Lap, Ext Acc,	NFPA	0.56	0.56	0.00
0824479	Cabinet, Rear Facing, LS, 23 W x 28 H x 22.75 D, Lap, Ext Acc,	NFPA	0.56	0.56	0.00
0887559	Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics,	NFPA	2.00	2.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00

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



Electrical Analysis

5/30/2024

Bid #: 791 **Job #:**

Desc: Sac Metro Enforcer Engines Duplicate (#39344) **Sales Rep:** Hansen, Brad

Customer: Sacramento Metropolitan Fire District **Organization:** Golden State Fire Apparatus, Inc

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

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
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
0899300	Lights, Front Zone, WIn M6** M6RS M6RS M6**, Inside Steady	NFPA	3.60	5.40	0.00
0625793	Alternator, 350 amp, Leece-Neville BLP4004H	S	0.00	0.00	0.00
Load Totals:			93.24	713.86	407.36

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

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

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

Alternator Output at Idle: 212.00

Minimum Continuous Load	
Supply:	212.00
Demand:	93.24
Variance:	118.76

Alternator Output at Governed Speed: 296.00

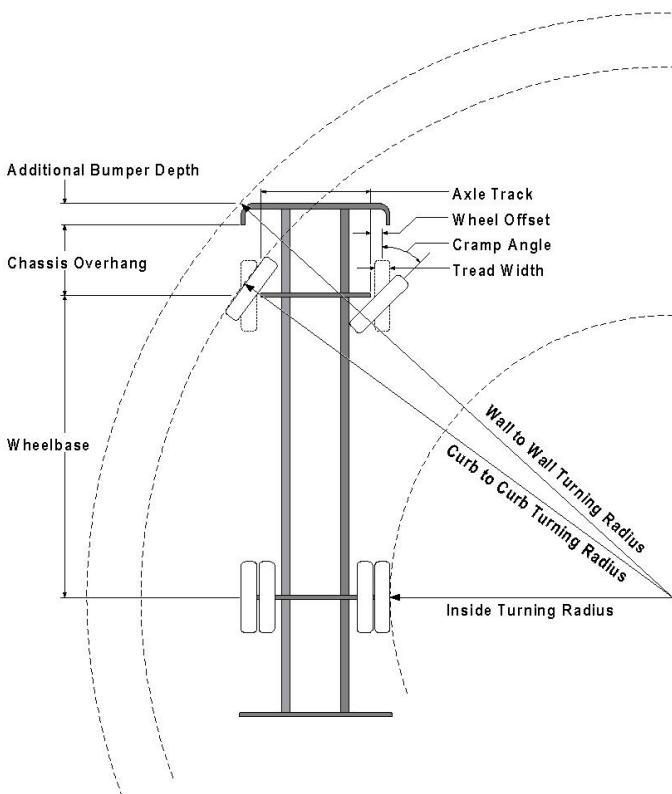
Total Connected Load	
Supply:	296.00
Demand:	249.40
Variance:	46.60

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

Bid Number: 791

Department: Sacramento Metropolitan Fire District

Chassis: Enforcer Chassis

Body: Pumper, Short, Aluminum, 2nd Gen

Parameters:

*Inside Cramp Angle:	45°
Axle Track:	85.86 in.
Wheel Offset:	4.68 in.
Tread Width:	15.9 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	13 in.
Front Overhang:	78.95 in.
Wheelbase:	180.5 in.

Calculated Turning Radii:

Inside Turn:	13 ft. 0 in.
Curb to curb:	27 ft. 10 in.
Wall to wall:	31 ft. 9 in.

Category	Option	Description
Axle, Front, Custom	0821543	Axle, Front, Hendrickson Steertek, 18,000 lb, Saber FR/Enforcer
Tires, Front	0802633	Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg
Bumpers	0606557	Bumper, 13" Extended, Saber FR/Enforcer
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot

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

4 PRODUCT WARRANTIES

Exhibit “C”



Fire and Rescue Apparatus

One (1) Year Material and Workmanship Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Twelve (12) months.
Conditions and Exclusions:	No specific exclusions apply
See Also Paragraphs 2 thru 4	

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

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

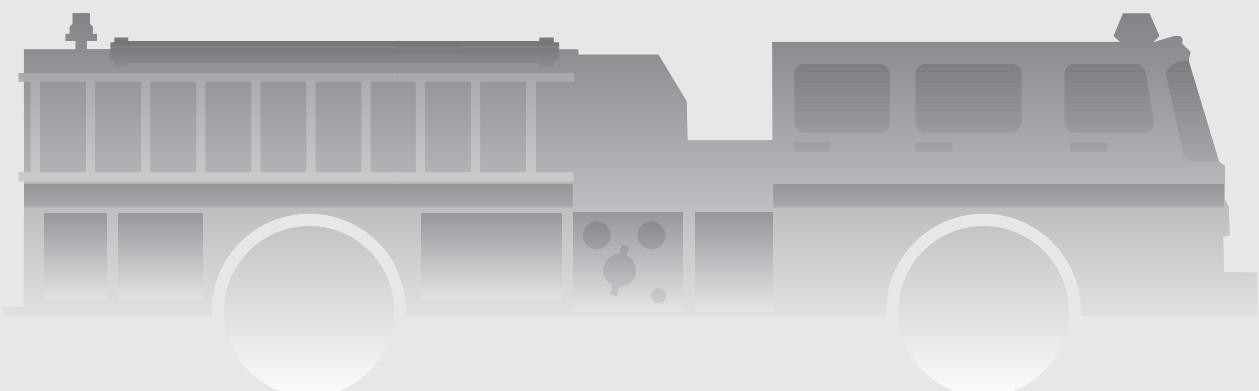
Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT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

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



Cummins Warranty

Worldwide
Fire Apparatus/Crash Trucks



Coverage

Products Warranted

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

Base Engine Warranty

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

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

Additional Coverage is outlined in the Emission Warranty section.

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

Cummins Responsibilities

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

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

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

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

Owner Responsibilities

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

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

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

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

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

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

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

Limitations

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

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

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



exhaust fluid.

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

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

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

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

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

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

CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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

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

Emission Warranty

Products Warranted

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

Coverage

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

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

Limitations

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

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

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

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

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

**CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL
OR CONSEQUENTIAL DAMAGES.**

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

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



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

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TRW COMMERCIAL STEERING SYSTEMS
800 HEATH STREET
LAFAYETTE, INDIANA 47904



PRODUCT WARRANTY

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



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity Custom Chassis Frame

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



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:	Hendrickson Steertek axle and intergrated suspnsion.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Two (2) Years or 250,000 miles.
Conditions and Exclusions:	See attached See Also Paragraphs 2 thru 4

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss 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.



- Front Frame Hanger Assemblies
- Rear Frame Hanger Assemblies
- Rear Shock Absorber Brackets
- Leaf Spring Assemblies
- Jounce Stop Assemblies
- Clamp Group Assemblies

limited to:

The integrated suspension components covered under this warranty to Pierce are strictly limited to:

This warranty to Pierce covers 100% of the cost of applicable repair/replacement parts and labor allowances as may be authorized by Hendrickson, and is subject to the conditions, exclusions and limitations herein.

Hendrickson warrants to Pierce that the applicable integrated suspension components shall be free from defects in material and workmanship during the Hendrickson Warranty Period for such

The Hendrickson Warranty Period for the applicable integrated suspension components begins when the vehicle is put into service and ends in two (2) years or two hundred fifty thousand (250,000) miles thereafter, whichever occurs first.

Further details regarding the warranty to Pierce for the above-referenced integrated suspension components are set forth below.

Integrated Suspension Components Warranty

Limited Warranty Statement, Literature No. 45745-271, Revision F (as attached in Appendix A). Further details regarding the warranty for the above-referenced STEERTEK NXT / STEERTEK Axle capacity of 16,000 to 24,000 pounds) are set forth in Hendrickson's STEERTEK NXT / STEERTEK Axle

STEERTEK NXT Axles Warranty

This Hendrickson Truck Commercial Vehicle Systems ("Hendrickson") warranty to Pierce describes in all applicable Hendrickson and Pierce publications and instructions. Approved applications in the United States and/or Canada and within the rated capacities as described in all applicable Hendrickson and Pierce publications and instructions, and (iii) used in recommended or applicable Hendrickson and Pierce publications and instructions, and (ii) properly maintained in compliance with all Pierce on new production fire/rescue vehicles, (ii) properly installed and assembled by Pierce fire/rescue vehicles built on or after May 1, 2023, when (i) properly installed and assembled by Pierce fire/rescue vehicles built on or after May 1, 2023, when (i) properly installed and assembled 24,000 pounds) and (2) applicable integrated suspension components equipped on approved 24,000 pounds) covers (1) STEERTEK NXT axles (with rated capacity of 16,000 to 24,000 pounds).

STEERTEK NXT HIGH CAPACITY STEER AXLE SYSTEM WITH INTEGRATED SUSPENSION
STEERTEK NXT HIGH CAPACITY STEER AXLE SYSTEM WITH INTEGRATED SUSPENSION
STEERTEK NXT HIGH CAPACITY STEER AXLE SYSTEM WITH INTEGRATED SUSPENSION

HENDRICKSON TRUCK COMMERCIAL VEHICLE SYSTEMS
HENDRICKSON *The World Rides On Us*

- Components not supplied by Hendrickson
- This warranty to Pierce excludes coverage on all other integrated suspension components and adjacent parts, including but not limited to the following:
 - In addition, Hendrickson warrants to Pierce that any brake and wheel end components installed by Hendrickson on the above-referenced STEERTEK NXT axles shall be free from defects in installation, subject to the conditions, exclusions and limitations listed below and elsewhere in this document. However, any and all other defects (including, but not limited to, those regarding material and workmanship) associated with such brake and wheel end components are the sole responsibility of the respective manufacturers of such components.
 - All non-recommended integrated suspension applications must receive written approval from Hendrickson in order to be covered under this warranty to Pierce.
- NOTE: The terms and coverages in this warranty document to Pierce APPLY ONLY to applicable integrated suspension components operated within the United States and/or Canada.
- This warranty to Pierce is also subject to the conditions, exclusions and limitations listed below and elsewhere in this document.
- The following sections of STEERTEK / STEERTEK Axle Limited Warranty Statement, Literature No. 45745-271, Revision F (as attached in Appendix A) shall also apply to the warranty to Pierce for the applicable integrated suspension components:

 - OTHER WARRANTY EXCLUSIONS
 - WARRANTY CLAIM PROCESS
 - FLING WARRANTY CLAIMS
 - WARRANTY DISCLAIMER
 - LIMITATION OF WARRANTY

This warranty to Pierce excludes coverage on all other integrated suspension components and adjacent parts, including but not limited to the following:



The World Rides On Us.

HENDRICKSON

This warranty is also subject to the conditions, exclusions and limitations listed below and elsewhere in this document.

NOTE The terms and coverages in this warranty document **APPLY ONLY** to applicable STEERTEK NXT / STEERTEK axles operated within the United States and/or Canada.

All non-recommended STEERTEK NXT / STEERTEK applications must receive written approval from Hendrickson in order to be covered under this warranty.

- Thru-tube bearings
- Kingpin wear
- The wheel ends and suspension components
- Kingpin bushings
- Tie rod and tie rod ends

This warranty excludes coverage on all other STEERTEK NXT / STEERTEK components and adjacent parts, including but not limited to the following:

- Upper and lower steering knuckle assembly
- Steering arm assembly
- Axle and kingpin assembly

The STEERTEK NXT / STEERTEK components covered under this warranty are strictly limited to:

This warranty covers 100% of the cost of applicable repair/replacement parts and labor allowances as may be authorized by Hendrickson, and is subject to the conditions, exclusions and limitations herein.

Hendrickson warranty coverage is transferable. Hendrickson will be free from defects in material and workmanship during the Hendrickson Warranty Period. This

will be free from defects in material and workmanship during the Hendrickson Warranty Period. This

Hendrickson warrants that STEERTEK NXT and STEERTEK (collectively, STEERTEK NXT / STEERTEK) axles sand (500,000) miles thereafter, whichever occurs first.

coverage begins when the vehicle is put into service and ends in five (5) years or five hundred thousand (500,000) miles thereafter, whichever occurs first.

STEERTEK NXT axles (with rated capacity of 16,000 pounds or more) — The Hendrickson warranty coverage begins when the vehicle is put into service and ends in ten (10) years or one million (1,000,000) miles thereafter, whichever occurs first.

STEERTEK NXT and STEERTEK axles (with rated capacity of up to 14,600 pounds) — The Hendrickson

warranty coverage begins when the vehicle is put into service and ends in ten (10) years or one million

(1,000,000) miles thereafter, whichever occurs first.

The Hendrickson Warranty Period for the respective groups of axles is as follows:

The Hendrickson warranty coverage begins when the vehicle is put into service and ends in ten (10) years or one million (1,000,000) miles thereafter, whichever occurs first.

described in all applicable OEM publications and instructions.

compliance with all applicable Hendrickson and vehicle OEM publications and instructions used in vehicles originally equipped manufacturer (OEM) on new production vehicles. (ii) property modified in approved vehicles built after February 1, 2017, when (i) property installed and assembled by the subject

January 1, 2010; and (2) STEERTEK NXT axles (with rated capacity of 16,000 pounds or more) equipped on

STEERTEK axles (with rated capacity of up to 14,600 pounds) — The Hendrickson warranty covers 1) STEERTEK NXT /

STEERTEK NXT / STEERTEK AXLE LIMITED WARRANTY

DATE: February 2017 REVISION: F
LTN: 45745-271

Limited Warranty Statement
STEERTEK NXT / STEERTEK Axle

H WARRANTY



- **The applicable OEM dealer or repair facility** shall be responsible for relating all warranty claims to Hendrickson upon request may result in partial or complete rejection of the warranty claim.
- Related parts and material until each warranty claim is settled. Failure to retain all warranty parts and material or return the parts and material to Hendrickson upon request may result in partial or complete rejection of the warranty claim.
- **Warranty claims must include all required information**, such as customer name, in-service date, date of alleged problem, mileage and detailed identification number. Failure to supply this information may result in partial or complete rejection of the warranty claim. (see FILING WARRANTY CLAIMS)

 Phone	1-866.755.5968 Toll-free U.S. and Canada
 e-mail	truckwarranty@hendrickson-hil.com
 mail	ATTN: Warranty Hendrickson Truck Commercial Vehicle Systems 800 South Fondage Road, Woodridge, Illinois 60517-4904
 Website	www.hendrickson-hil.com

Warranty claims regarding STEERTEK components within the time and mileage limits of the vehicle OEM's published claims regarding STEERTEK NXT / STEERTEK problems occurring beyond the OEM's warranty period, but within the above-referenced component must authorize repair and services associated with any potential warranty claims before such repairs and services are performed. Failure to obtain such prior authorization may result in partial or complete rejection of the warranty claim. For a warranty repair/service authorization number, please contact:

Hendrickson. The Hendrickson warranty department must authorize repair and services before such repairs and services are performed. Failure to obtain such prior authorization may result in partial or complete rejection of the warranty claim. The Hendrickson warranty period shall be directed to Hendrickson. The Hendrickson warranty period shall be directed to the vehicle OEM by the OEM dealer. Warranty claims regarding STEERTEK NXT / STEERTEK component alleged to have failed within the time and mileage limits of the vehicle OEM's published claims regarding STEERTEK problems occurring within the warranty period, but within the above-referenced component must authorize repair and services before such repairs and services are performed. Failure to obtain such prior authorization may result in partial or complete rejection of the warranty claim.

WARRANTY CLAIM PROCESS

- Any repairs performed by any unauthorized parties
- Any costs associated with towing, downtime, or miscellaneous shop charges
- Other applicable damages, losses or costs as listed in LIMITATION OF WARRANTY or elsewhere in this document

- Hendrickson shall not be responsible for:
 - Systems or equipment that are not manufactured or distributed by Hendrickson
 - Subjected to any damage caused by or otherwise attributed to any vehicle components,
 - Subjected to abnormal operating conditions
 - Operated with component parts, (part, replacement or otherwise) that are not manufactured, distrib-
 - Used, or authorized by Hendrickson
 - Operated with suspension system or vehicle
 - Operated beyond the rated load capacity or capability of the STEERTEK NXT / STEERTEK axle or the
 - Misused, abused or neglected
 - Involved in an accident, fire or other casualty
 - Modified without written authorization from Hendrickson
 - Impaired, installed, serviced, modified or repaired
 - Used in any application not intended by or contrary to written recommendations or specifications from
 - Hendrickson and the vehicle OEM

This warranty does not cover normal wear and deterioration or extend to any STEERTEK NXT / STEERTEK axles or Hendrickson-authorized repair or replacement of any STEERTEK component that have been:

OTHER WARRANTY EXCLUSIONS

STEERTEK NXT / STEERTEK AXLE - Limited Warranty Statement



- **REPAIR FACILITY:** Report the warranty claim and associated problem to the Hendrickson Truck Center and shipper within 60 days for timely processing of the warranty claim.
- **HENDRICKSON OR ITS VENDORS** must be labeled with the applicable REGA and/or warranty claim number.
- The warranty department will determine whether to issue a returned goods authorization (RGA) or e-mail truckwarranty@hendrickson-trucks.com and provide the information recorded in Step 2.
- **COMMERCIAL TRUCK SYSTEMS WARRANTY DEPARTMENT** free of 1.866.755.5968 (U.S. and Canada), or e-mail truckwarranty@hendrickson-trucks.com and provide the information recorded in Step 2.
- **END USERS (OWNERS):** Report the warranty claim and associated problem to the OEM dealer if the problem is not related to installation, the OEM dealer will determine whether to contact Hendrickson regarding the warranty claim.
- **Repair facility:**
- 3. Contact the appropriate party, depending upon whether you are an end user (owner), OEM dealer, or supplier:
 - Special application approval documentation (if applicable)
 - Description of the system problem and the part number(s) of the subject part(s)
 - Vehicle's in-service date
 - Approximate number of vehicle miles
 - Type of vehicle, name of vehicle manufacturer and VIN (vehicle identification number)
 - Hendrickson equipment serial number
 - Within the slated Hendrickson Warranty Period, continue with Step Two.
- 2. Locate and record the following information:
 - 1. Review the applicable Hendrickson warranty coverage for the component(s). If the component fails within the applicable Hendrickson warranty coverage for the component(s), it may be covered under "Shop Supply" reimbursement maximum. The maximum amount to be considered for miscel- laneous supply, shop supply, or job supply reimbursement is four percent (4%) of invoiced labor charges, up to a maximum of twenty dollars (\$20).
 - **System problems or parts failure** that result from improper installation are the responsibility of the installer of the suspension. These are not warranted by Hendrickson.
 - **STEERTEK NXT / STEERTEK axle.**
The remaining, unexpected portion of the original Hendrickson Warranty Period for the particular claim authorized by Hendrickson. All such genuine Hendrickson parts shall be covered under suspension systems. This warranty also applies to genuine Hendrickson parts installed under a warranty period sold through Hendrickson. Parts or parts sold through Hendrickson may be used to repair Hendrickson parts to be repaired by the Hendrickson warranty department.
 - **Only genuine Hendrickson parts**, or parts sold through Hendrickson, may be used to repair Hendrickson parts in question are subject to return to Hendrickson for evaluation. Failure to return such parts may result in partial or complete rejection of the warranty claim.
 - **DO NOT destroy the parts being considered for warranty without Hendrickson's authorization.** All returned parts are confirmed by Hendrickson to be defective or non-functional.
 - **Must be sent prepaid.** Hendrickson will reimburse the customer for the freight charges if the issued by the Hendrickson warranty department.
 - **Must be accompanied by an RGA (returned goods authorization) or the warranty claim number issued by the Hendrickson warranty department.**
 - **Parts to be returned under a warranty claim**
 - **Hendrickson has the sole discretion and authority to approve or disapprove a warranty claim.** Hendrickson has the sole discretion and authority to approve or disapprove a warranty claim, and incurred when replacement parts or materials are not acquired through Hendrickson.
 - **When utilizing Repairs or Services,** the Hendrickson warranty administrator will determine the costs and procedures. For those warranty claims li Hendrickson warranty department, Hendrickson will pay a specific labor allowance, determine by the Hendrickson warranty claims li authorizes. Hendrickson shall not be responsible for any additional costs that may be incurred when replacement parts or materials are not acquired through Hendrickson.

FILING WARRANTY CLAIMS

- **"Shop Supply" reimbursement maximum.** The maximum amount to be considered for miscel- laneous supply, shop supply, or job supply reimbursement is four percent (4%) of invoiced labor charges, up to a maximum of twenty dollars (\$20).
- **STEERTEK NXT / STEERTEK axle.**
The remaining, unexpected portion of the original Hendrickson Warranty Period for the particular claim authorized by Hendrickson. All such genuine Hendrickson parts shall be covered under suspension systems. This warranty also applies to genuine Hendrickson parts installed under a warranty period sold through Hendrickson. Parts or parts sold through Hendrickson may be used to repair Hendrickson parts to be repaired by the Hendrickson warranty department.
- **Only genuine Hendrickson parts**, or parts sold through Hendrickson, may be used to repair Hendrickson parts in question are subject to return to Hendrickson for evaluation. Failure to return such parts may result in partial or complete rejection of the warranty claim.
- **DO NOT destroy the parts being considered for warranty without Hendrickson's authorization.** All returned parts are confirmed by Hendrickson to be defective or non-functional.
- **Must be sent prepaid.** Hendrickson will reimburse the customer for the freight charges if the issued by the Hendrickson warranty department.
- **Must be accompanied by an RGA (returned goods authorization) or the warranty claim number issued by the Hendrickson warranty department.**
- **Parts to be repaired or replaced under a warranty claim.** Hendrickson has the sole discretion and authority to approve or disapprove a warranty claim, and incurred when replacement parts or materials are not acquired through Hendrickson.
- **Hendrickson has the sole discretion and authority to approve or disapprove a warranty claim.** Hendrickson has the sole discretion and authority to approve or disapprove a warranty claim, and incurred when replacement parts or materials are not acquired through Hendrickson.
- **When utilizing Repairs or Services,** the Hendrickson warranty administrator will determine the costs and procedures. For those warranty claims li Hendrickson warranty department, Hendrickson will pay a specific labor allowance, determine by the Hendrickson warranty claims li authorizes. Hendrickson shall not be responsible for any additional costs that may be incurred when replacement parts or materials are not acquired through Hendrickson.

STEERTEK NXT / STEERTEK AXLE - Limited Warranty Statement



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Truck Commercial Vehicle Systems
1-866-755-5666 (Outside U.S. and Canada)
600 South Florida Road
Woodridge, IL 60517-4901 USA
Fax: 630.910.2899



www.hendrickson-ind.com

COVERED UNDER THIS WARRANTY
TO OTHER PROPERTY, OR ANY OTHER LOSSES OR COSTS RESULTING FROM A HENDRICKSON DEFECTIVE PART
PRODUCTIVITY, ECONOMIC LOSSES, LOST REVENUE, LOST PROFITS, CARGO DAMAGE, LOSSES OF USE OR DAMAGE
OR OTHER DAMAGES, INCLUDING, BUT NOT LIMITED TO, TOWING EXPENSES, DOWNTIME EXPENSES, LOST
BY ANY UNAUTHORIZED PARTIES, OR (b) ANY INCIDENTAL, SPECIAL, PUNITIVE, INDIRECT, CONSEQUENTIAL
MATERIAL OR WORKMANSHIP. HENDRICKSON SHALL NOT BE LIABLE FOR (a) ANY REPAIRS PERFORMED
OF APPLICABLE HENDRICKSON PARTS THAT ARE DETERMINED BY HENDRICKSON TO BE DEFECTIVE IN
THE LIABILITY OF HENDRICKSON UNDER THIS WARRANTY SHALL BE LIMITED SOLELY TO THE
ABOVE-REFERENCED COSTS ASSOCIATED WITH THE REPAIR OR REPLACEMENT, BY AN AUTHORIZED PARTY,

LIMITATION OF WARRANTY

IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
EXPRESED, IMPLIED OR STATUTORY, WHETHER WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, ANY
THIS WARRANTY IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES OR CONDITIONS.

WARRANTY DISCLAIMER

4. Submit a work order job description with your RGA and/or warranty claim number describing what is to be repaired or replaced. This work order job description should be as detailed and detailed as possible for prompt processing and maximum consideration.

STEERTEK NXT / STEERTEK AXLE - Limited Warranty Statement





Fire and Rescue Apparatus

SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

CUMMINS-MERITOR COMMERCIAL VEHICLE SYSTEMS WARRANTY

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

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 Hauler ¹ | ■ Doubles | ■ Grain Hauler ¹ | ■ Pipe Hauler | ■ Triples |
| ■ Bulk Hauler ¹ | ■ Flatbed | ■ Livestock Hauler | ■ Refrigerated Freight | |
| ■ Chip Hauler ^{1,2} | ■ General Freight | ■ Moving Van | ■ Tanker ¹ | |

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)
- 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.

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 – 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}	RZ-166 ²	MA-40-17H ³	MT-34-14X/P ⁴	MT-40-14X/P ⁴
RT-46-160/P ^{1,2}	RT-50-160/P ^{1,2}	RZ-188	MT-40-14T/P	MT-40-14H/E ^{3,4}
RT-46-164/P ^{1,2}	MA-40-165	MA-40-175	MT-40-14X/P 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.

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

Beam and Brackets	5/500/P, 1/100/L
TPX3000 Axle Series ²	10/Unl/P, 1/Unl/L
Wheel End Systems ³	
Standard System ⁴	1/100/P&L
AxePak ⁵	5/Unl/P&L
AxePak ⁷ ⁵	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 AxePak⁷ 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
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¹ For brake components and ABS coverage, refer to appropriate product warranties.

Trailer Mechanical Suspension Systems¹

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

MPA40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/500/P, 1/100/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/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 Suspension 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 Fastener torque coverage is limited to 2/Unl/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-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 Standard 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
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GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler
- Cross Country Coach
- 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
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Trailer
- Tour Bus
- Wrecker

General Service Typically Is:

- Typically, moderate mileage operation (less than 60,000 miles/year)
- An average of 3 to 30 miles between starts and stops
- Maximum grades of 12%
- 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; mud, or other similar surfaces)

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/Uni/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-23-162 ¹	RS-23-186	MS-26-616-SP
MS-17-14X	MS-23-17X	RC-23-165 ¹	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-52-185 ¹	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
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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

Drivelines

RPL	4/400/P, 1/Unl/P&L		
MXL	3/350/P, 1/Unl/P&L		
92N	1/Unl/P		
MPT-170	MPT-185	MPT-500	MPT-1702
MPT-180	MPT-309	MPT-518	

PTO – 1/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.

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
AxePak5	5/Unl/P&L
AxePak7 ⁶	7/Unl/P&L
AxePak10 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 AxePak7 wheel end system, coverage on Meritor Tire Inflation System (MTIS) thru-tee and stator is 7/Unl/P, 1/Unl/L.

⁷ AxePak10 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.

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
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Trailer Mechanical Suspension Systems¹

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

- 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
- Dump
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Train
- 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

¹ Commercial chassis only

Heavy Service/Specialty Vehicle Typically Is:

- Moderate mileage operation (less than 60,000 miles per year)
- On/off-road operations (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

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/Uni/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-14-124A-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-12E-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-12-124A-N	MFS-13-155	MFS-14F-142C-N	MFS-22H-193A-N
MFS-6-153B	MFS-12-132B-N	MFS-14-122	MFS-14G-142C-N	RF-16-145
MFS-6-162B	MFS-12E-132B-N	MFS-14-122B-N	MFS-14-143A-N	RF-21-160
MFS-6-162C	MFS-12-132C-N	MFS-14F-122B-N	MFS-14-144A-N	

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Front Drive Steer Axles – 2/Uni/P&L

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

Front Drive Steer Axles – 1/Uni/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/Uni/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/Uni/P&L

RND-14H	RND-16A
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Rear Drive Tandem/Tridem Axles – 2/Uni/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-52-185/380 ^{1,2}	RT-58-185/380 ^{1,2}	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/Uni/P&L

RT-40-160/P/A ³	RT-46-160/P/A ^{1,3}	RT-46-164/P ^{2,3}	RT-50-160/P/A ³	RZ-166
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¹ U.S. only. Canadian warranty = 1/Uni/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.

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/Uni/P&L

MPT-170	MPT-185	MPT-500	MPT-1702
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	3/Unl/P
Cam 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-538
MGX-423	MGX-451	MGX-479	

Transfer Cases – 1/Unl/P

MTC-2212-CV (306)	MTC-3124 (T-2119)	MTC-3312-FV (TC-270)
MTC-3106-FV (TC-137)	MTC-3203	MTC-3220-FC (TC-142)
MTC-3111 (T-2111)	MTC-3205-GV (MTC-25/RTC-25)	MTC-4206-FV (TC-38)
MTC-3112-CV (548C)	MTC-3206-FV (TC-237)	MTC-4208
MTC-3116 (T-2111 through-shaft)	MTC-3206-CS (544)	MTC-4210
MTC-3118-FV (TC-180 and TC-180-23)	MTC-3208-GV (RTC-50)	MTC-4213
MTC-3118-CV (358)	MTC-3209-GV (MTC-60/RTC-60)	
MTC-3120-FV (TC-143)	MTC-3212-CV (315 and 548B)	

Trailer Axles¹

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

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

² 9000 Series is 3/Unl/P, 1/Unl/L

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

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.

² Raw wood applications 3/Unl/P, 1/Unl/L

Meritor Tire Inflation System (MTIS)

MTIS Components	5/Unl/P, 1/Unl/L
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FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

- Aerial Ladder Truck
- Ambulance
- Crash Fire Rescue
- Rapid Intervention
- Aerial Platform
- Command Vehicle
- Pumper
- 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
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Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-185	RC-25-160	RS-35-185 ¹
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-52-185 ¹	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-3124 (T-2119)	MTC-3220-FC (TC-142)
MTC-3106-FV (TC-137)	MTC-3206-FV (TC-237)	MTC-4206-FV (TC-38)
MTC-3111 (T-2111 through-shaft)	MTC-3206-CS (544)	MTC-4208
MTC-3112-CV (548C)	MTC-3208-GV (RTC-50)	MTC-4210
MTC-3118-FV (TC-180 and TC-180-23)	MTC-3209-GV (MTC-60/RTC-60)	MTC-4213
MTC-3118-CV (358)	MTC-3212-CV (315 and 548B)	
MTC-3120-FV (TC-143)	MTC-3312-FV (TC-270)	

FIRE AND EMERGENCY WARRANTY INFORMATION

Brake Components

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

Drivelines

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

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-1702
MPT-180	MPT-309	MPT-518	

TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

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

Transit Bus Typically Is:

- Moderate mileage operation (less than 50,000 miles per year)
- Moderate to frequent stops/start (up to 10 stops per mile)

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 – 5/300/P&L

FH-946 FH-941¹ MFS-12-155 MFS-13-155

¹ Commuter coach only – 2/Unl/P&L

Rear Drive Single Axles – 5/300/P&L

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

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

Gearboxes – 1/Unl/P&L

MGX-450 MGX-451 MGX-538

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

Drivelines

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

OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Industrial and Off-Highway Service Vehicles

- Load-On/Load-Off
- Port Tractor
- Rail Yard Spotter
- Roll-On/Roll-Off
- Stevedoring Tractor
- Trailer Spotter
- Yard Jockey
- All and Rough Terrain Cranes
- Forestry
- Material Handling 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/Uni/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-ZO FAMILY
FF - 966	FL - 943	MFS-20-135A-N	MFS-22H-135A-N	

Rear Drive Axles – 1/Uni/P

MT-14X ¹	RS-23-380	RS-30-185	RT-145 ¹
RS-23-186	RS-24-160	RS-30-380	RT-160 ¹

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

Planetary Axles – 1/Uni/P

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

Gearboxes – 1/Uni/P&L

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

PTO – 1/Uni/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-3118-FV (TC-180 and TC-180-23)	MTC-3208-GV (RTC-50)
MTC-3106-FV (TC-137)	MTC-3118-CV (358)	MTC-3209-GV (MTC-60/RTC-60)
MTC-3111 (T-2111 through-shaft)	MTC-3120-FV (TC-143)	MTC-3220-FC (TC-142)
MTC-3112-CV (548C)	MTC-3124 (T-2119)	
MTC-3116 (T-2111)	MTC-3206-FV (TC-237)	

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/Unl/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/Unl/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.





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	<p>The exclusions listed in the attached Meritor Wabco warranty description shall apply.</p>

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

WARRANTY

MODEL YEAR 2021 VEHICLES



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

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

How to Read Warranty Coverage (Example)

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

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

WABCO

WARRANTY - MODEL YEAR 2021 VEHICLES

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

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

- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Triples
- Tour Bus
- Wrecker

LINEHAUL TYPICALLY IS

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

GENERAL SERVICE TYPICALLY IS

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

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

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

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

HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

HEAVY SERVICE TYPICALLY IS

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



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

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

WARRANTY - MODEL YEAR 2021 VEHICLES

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

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

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



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

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

TERMS AND CONDITIONS

COVERAGE EXCLUSIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

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

AIR DRYERS

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

AIR SYSTEM COMPONENTS

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

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

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

HYDRAULIC COMPONENTS

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

COVERAGE LIMITATIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Products purchased on an incomplete vehicle (glider) are limited to one year, 1/Unl/P.

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

TOOLBOX PLUS™ DIAGNOSTIC SOFTWARE

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

WARRANTY - MODEL YEAR 2021 VEHICLES

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

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

Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed previously in this publication. Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Additional diagnostic time due to use of an outdated version of TOOLBOX™, time to purchase or install latest version of TOOLBOX™ are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

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

the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.

(3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.

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

(5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.

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

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





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

About ZF Friedrichshafen AG

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

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



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity Custom Cab

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions:	<p>This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus.</p> <p>This warranty does not apply to damage caused by corrosion.</p>
See Also Paragraphs 2 thru 4	

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

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

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



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion Cab

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions:	This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.
See Also Paragraphs 2 thru 4	

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



Fire and Rescue Apparatus

54 Months Material and Workmanship Camera System

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of delivery.
Warranty Period Ends After:	Fifty - Four (54) months
Conditions and Exclusions:	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty. See Also Paragraphs 2 thru 4

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

NEW PRODUCT WARRANTY



PARTICIPATING OEM SALES DISTRIBUTOR SALES

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission's option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section "APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE."
- OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

Demonstration Service - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

APPLICABLE MODELS	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
	Months	Transmission Miles Or Kilometers	Parts	Labor
MT, MD 3000, 3200, 3500, 3700	0-24	No Limit	No Charge	No Charge
HT with Hydraulic Controls	0-24	No Limit	No Charge	No Charge
AT, 1000 Series™, 2000 Series™, 2400 Series™	0-36	No Limit	No Charge	No Charge
HT with Electronic Controls	0-60	No Limit	No Charge	No Charge
HD 1000 EVS, 2100 EVS, 2200 EVS 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS	0-60	No Limit	No Charge	No Charge

WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
 - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
 - Misuse of the vehicle;
 - Installation into unapproved applications and installations;
 - Alterations or modification of the transmission or the vehicle, and
 - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
 - Anything other than defects in Allison Transmission material or workmanship

NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).
- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR'S MANUAL** — Defects and damage caused by any of the following are not covered:
 - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
 - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator's Manual.
- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner's responsibility.
- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.
- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.
- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.
- **“DENIED PARTY” OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a “denied party” or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

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

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

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

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

OTHER TERMS APPLICABLE TO OTHER END-USERS

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

QUESTIONS

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

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



Fire and Rescue Apparatus

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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

- any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



UNITED PLASTIC FABRICATING, INC.

POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, DEFENDER™ & WETSIDE™

FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, DEFENDER™ & WETSIDE™

LIFETIME SERVICE WARRANTY

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

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

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

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

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

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

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



UNITED PLASTIC FABRICATING, INC.

WARRANTY

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

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

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

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

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

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

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

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

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



BULLETIN



TO: All Dealer Service Representatives
From: Kevin Hanegraaf
DATE: January 4, 2010
RE: UPF Tank Warranty Policy – Truck in Accident
Service Topic #292

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

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

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

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

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



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity Apparatus Body

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	The apparatus body shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions:	<p>This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus.</p> <p>This warranty does not apply to damage caused by corrosion.</p>
See Also Paragraphs 2 thru 4	

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

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

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



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

All AMDOR Inc. roll-up door products are warranted for a period of 10 years from the date of delivery (with the exception of wet paint adhesion - please see below). AMDOR Inc. liability covers the replacement or repair of any component that fails due to defects in material and / or workmanship during the coverage period. We accept no liability for claims made for damages to any part (or parts) of a vehicle and / or machine (of any type) or injury claims by a person or persons assumed or alleged to have been brought about by the use or misuse of any product supplied by AMDOR Inc. Warranty coverage does not extend to door attachments including (but not limited to) decals, emblems, stripes and adhesives.

In order to initiate the claims process please contact your authorized representative of AMDOR Inc. Warranty claims must be accompanied by a written description providing full and reasonable details as to the nature of the defect. Upon receipt of your claim arrangements will be made to inspect the defective product (if necessary). Justified warranty claims will be repaired, exchanged, or credited to the customer's account at AMDOR Inc.'s discretion. All warranty claims must be approved in writing by the Customer Service Manager for AMDOR Inc. There are no exceptions to this clause.

Limited warranty coverage includes the labor associated with the disassembly and assembly of products deemed to be defective by AMDOR Inc. Labor allowances are based on a set time schedule as determined by AMDOR Inc. The maximum allowable hourly labor rate is \$ 50. All warranty labor claims must be approved in writing by an authorized representative of AMDOR Inc. prior to commencement of work. Allowances for removal and installation:

Curtain replacement:	3/4 hour
Balancer replacement:	1 hour
Door ajar switch	3/4 hour
Bottom Panel Assembly:	1/2 hour
Slat replacement:	3/4 hour
Door removal and replacement	1 1/2 hours

Items authorized for return must be accompanied by a Return Goods Authorization (RGA) number. We will accept collect shipments of items deemed to be defective provided that they are returned via the most economical carrier. Should items be

returned by means other than the most economical carrier the difference will be charged back to the sender.

AMDOR Inc. reserves the right to reject any claim when a product has been opened, interfered with or modified. Claims may also be rejected when damage to the product (or any sub-assembly) has been brought about by accident, misuse, abuse, vandalism, incorrect installation, temperature extremes, chemical exposure or any factor other than regular operating conditions.

Limited Wet Paint Match Adhesion Warranty

AMDOR Inc. warrants wet paint finishes applied by AMDOR utilizing our approved factory paint specification. All wet paint match colors must be approved in writing by an authorized OEM representative. AMDOR Inc. will provide a color spray out for this purpose. The time required for shipping and consideration of initial color spray outs will be considered over and above stated lead times. Warranty coverage will extend for a period of not less than 5 years from the date of delivery as determined by AMDOR Inc.'s Packing Slip. AMDOR reserves the right to determine whether individual units will be replaced and / or repaired by an AMDOR approved vendor. An allowance will be made for labor associated with the disassembly and assembly of individual units at the prescribed hourly rate of \$ 50 per hour. Compensation for labor will not exceed the maximum time allowance permitted for door removal and replacement. Written approval including specified allowance for time must be obtained from AMDOR prior to initiating work. Warranty coverage will extend to the following visible paint system defects:

- 1./ Loss of mechanical adhesion as evidenced by peeling, cracking or blistering which exposes the substrate material.
- 2./ Corrosion of the substrate due to paint system failure.
- 3./ Fading which results in a substantial departure from the primary AMDOR approved body color.

Wet paint adhesion limited warranty coverage will be excluded when damages to the system are determined by AMDOR Inc. to be a result of the following:

- 1./ Damage caused through the use of attachments including (but not limited to) decals, labels, adhesives, non factory approved coatings.
- 2./ Loss of gloss, discoloration or damage due to improper maintenance (including but not limited to) mechanical wash systems, pressure washers, steam cleaners, non approved wash or polishing agents.
- 3./ Abuse, acts of nature, excessive heat / cold, chemical exposure, vandalism and / or accidents.
- 4./ Scratches, chips, abrasions, or dents from any source.

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.

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

WATEROUS



Fire and Rescue Apparatus

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

1. LIMITED WARRANTY

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

Coverage:	Stainless steel piping shall be free from structural failures caused by defects in material and workmanship, or perforation caused by corrosion.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions:	Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the stainless steel piping or components which Pierce determines to have failed due to defective material and workmanship, or perforation caused by corrosion.
See Also Paragraphs 2 thru 4	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 finished products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



Fire and Rescue Apparatus

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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

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

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



5 DEALER SUPPLIED PRODUCTS AND /OR SERVICES

Exhibit “D”

DEALER-SUPPLIED PRODUCTS AND SERVICES

Golden State Fire Apparatus Inc. (GSFA) will supply the following items and services on a "per unit" basis (unless otherwise specified) before final delivery. This ensures that all necessary components and support are in place, facilitating an efficient final delivery process. Please refer to the detailed list below for a comprehensive overview of the included products and services.

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.

FINAL INSPECTION, FACTORY VISIT

A final inspection trip to the manufacturing facility is included for six (6) 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.

*Please note that one (1) factory final inspection trip has been priced for the five (5) units being proposed.
Meaning that the cost for this inspection trip has been spread evenly over the five units.*

DELIVERY TO AUTHORIZED SERVICE FACILITY

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

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

PRE-DELIVERY SERVICE

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

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

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

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

FINAL DELIVERY (CUSTOMER LOCATION)

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

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

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

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

END OF EXHIBIT D