



GOLDEN STATE

FIRE APPARATUS

PREPARED ESPECIALLY FOR:

SACRAMENTO METROPOLITAN FIRE DISTRICT

One (1) Pierce Manufacturing, Inc.
107' Velocity Ascendant HD Ladder Truck



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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
(\$276,684.50) 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 | 10717-24AT | 935 | Pierce Manufacturing Inc. | HGAC Contract FS12-23, Model 23A-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 | UNIT PRICE |
|----------|---|---------------------|
| A | One (1) Pierce Manufacturing, Inc. 107' Velocity Ascendant HD Ladder Truck | 1,699,700.00 |
| B | Pre-Payment Discount for 100% Payment at Time of Order (the "Prepayment Discount") | (256,200.00) |
| C | SUBTOTAL | 1,443,500.00 |
| D | 7.75% State Sales Tax | 111,871.25 |
| E | California Tire Fee | 17.50 |
| F | 100% Performance Bond | 3,747.00 |
| G | GRAND TOTAL PURCHASE PRICE | 1,559,135.75 |

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 **44.5 to 47.5 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 10717-24AT to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

Signature of Authorized Customer Representative

Print Name

Title

Date**ACCEPTED AND AGREED TO BY GSFA**

Signature of Authorized GSFA Representative

Print Name

Title

Date

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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| 07/17/2024 | 07/31/2024 | 10717-24BT | 935 | Pierce Manufacturing Inc. | HGAC Contract FS12-23, Model 23A-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 | UNIT PRICE |
|----------|--|---------------------|
| A | One (1) Pierce Manufacturing, Inc. 107' Velocity Ascendant HD Ladder Truck | 1,699,700.00 |
| B | 7.75% State Sales Tax | 131,726.75 |
| C | California Tire Fee | 17.50 |
| D | 100% Performance Bond | 4,376.00 |
| E | GRAND TOTAL PURCHASE PRICE | 1,835,820.25 |

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 **44.5 to 47.5 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 10717-24BT 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:** 935
Representative Hansen, Brad **Job Number:**
Requirements Manager: **Organization:** Golden State Fire Apparatus, Inc
Description: SMFD 107' (Duplicate #37404)
Chassis: Velocity Chassis, Aerials, Tandem Axle, Ascendant/LSL, (Big Block), 2010
Body: Aerial, HD Ladder 107' ASL Tandem, No Pump, Alum Body

| OptionCode | Type | Option | ProposalText |
|------------|------|--|--|
| 0766639 | | Boiler Plates, Aerial 107' ASL, w/o Pump | <p>Golden State Fire Apparatus Inc is pleased to submit a proposal to Sacramento Metropolitan Fire District for Pierce®107' Heavy Duty Aerial Ladder per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.</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 insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.</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 insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</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 operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff 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 polices be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

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

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

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

Each Occurrence \$1,000,000

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

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

UMBRELLA/EXCESS LIABILITY INSURANCE

The manufacturer will, during the performance of the contract and for three (3) years

following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Each Occurrence: \$25,000,000

Aggregate: \$25,000,000

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

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

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

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

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

| | | |
|---------|--|---|
| 0018180 | Single Source Compliance, Aerials | SINGLE SOURCE MANUFACTURER Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pump house (including the sheet metal enclosure, valve controls, piping and operators panel) body and aerial device will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality. |
| 0584456 | Manufacture Location, Appleton, Wisconsin | Your apparatus will be manufactured in Appleton, Wisconsin. |
| 0584452 | RFP Location: Appleton, Wisconsin | |
| 0588609 | Vehicle Destination, US | |
| 0028079 | Match Not Required | |
| 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. |
| 0533349 | Aerial Fire Apparatus | |
| 0588613 | Vehicle Certification, Aerial w/o Pump | |

0681279

Agency, Apparatus Certification,
Aerial w/o Pump, 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".

INSPECTION CERTIFICATE

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

Visual structural inspections will be performed on all welds on both aluminum and steel ladders. On critical weld areas, or on any suspected defective area, the following tests will be conducted: Magnetic particle inspection will be conducted on steel aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. Magnets will be placed on each side of the weld while iron powder is placed on the weld itself. The powder will detect any crack that may exist. This test will conform to ASTM E709 and be performed prior to assembly of the aerial device.

A liquid penetrant test will be conducted on aluminum aerials to assure the integrity of the weldments and to detect any flaws or weaknesses. This test will conform to ASTM E165 and be performed prior to assembly of the aerial device.

Ultrasonic inspection will be conducted on all aerials to detect any flaws in pins, bolts and other critical mounting components.

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

GENERATOR TEST

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

BREATHING AIR TEST

If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and certify that the air quality meets the requirements of NFPA 1989, *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.

0799172

FLEET CUSTOMER

0092138

Highly Customized Product (HCP)

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

0535579

Not Required, Unit of Measure, (no
pump, no tank)

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.

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|---------|--|--|
| 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. |
| 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. |
| 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. |
| 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. |
| 0786878 | Velocity Chassis, Aerials, Tandem Axle, Ascendant/LSL, (Big Block), 2010 | VELOCITY CHASSIS The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab. |
| 0021007 | Maximum Overall Height | MAXIMUM OVERALL HEIGHT The maximum overall height of the apparatus will be 141.00" (11'-9.00"). |
| 0000110 | Wheelbase | WHEELBASE The wheelbase of the vehicle will be 248.50". |
| 0000070 | GVW Rating | GVW RATING The gross vehicle weight rating will be 70,800 lbs. |

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| 0000203 | Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF | FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges. |
| 0889469 | Frame Liner, "C/Inv L" 12.50" x 3.00" x .25", AXT/Vel/Imp/Enf, 56" QVal | FRAME REINFORCEMENT In addition, a mainframe internal liner will be provided. The liner will be an internal "C" design that steps to an internal "L" design over the rear axle. It will be heat-treated steel measuring 12.50" x 3.00" x 0.25" through the front portion of the liner, stepping to 9.38" x 3.00" x 0.25" through the rear portion of the liner. Each liner will have a section modulus of 13.58 cubic inches, yield strength of 110,000 psi, and rbm of 1,494,042 in-lb. Total rbm at wheelbase center will be 4,391,869 in-lb. The frame liner will be mounted inside of the chassis frame rail and extend the full length of the frame. |
| 0508849 | Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel | FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 lb. Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron. The center cross members and side plates will be constructed out of 80,000-psi yield strength steel. Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations. There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension. The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be 0 degrees for optimum tire life. The ball joint bearing will be of low friction design and be maintenance free. Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided. The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle. The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase. The axle will have a turning angle of up to 45 degrees. |
| 0010427 | Suspension, Front TAK-4, 22,800 lb, Qtm/AXT/Imp/Vel/Enf/SFR | FRONT SUSPENSION Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment. Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side. The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving. |
| 0087572 | Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf | FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension. |
| 0000322 | Oil Seals, Front Axle | FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle. |
| 0899438 | Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply | FRONT TIRES Front tires will be Goodyear 425/65R22.50 radials, 20 ply Armor Max MSA, rated for 22,800 lb maximum axle load and 68 mph maximum speed. |
| 0019611 | Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot | The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle. |

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| 0530478 | Axle, Rear, Meritor RT46-160, 48,000 lb, Imp/Vel/DCF | REAR AXLE The rear axle will be a Meritor™, Model RT-46-160, tandem axle assembly with a capacity of 48,000 lb. An inter-axle differential, which divides torque evenly between axles, will be provided on the rear axle with an indicator light mounted on the cab instrument panel. |
| 0561775 | SP Axle Ratio, Gear For 68 mph, Programmed For 60 mph | AXLE RATIO OF VEHICLE The rear axle will be geared for a top speed of 68 mph. The engine will be electronically limited to a top speed of 60 mph. |
| 0555353 | Suspen, Rear, Hendrickson FMX 482 EX, Air Ride, 48,000 lb | REAR SUSPENSION Rear suspension will be a Hendrickson, Model FMX 482 EX, air ride with a ground rating of 48,000 lb. The suspension will have the following features: Outboard vertical mounted heavy-duty shock absorbers Utilizes track bars and torque rods to restrict lateral axle movement and maintain constant pinion angles Super heavy-duty transverse beam to help reduce axle stress while increasing roll stability or resistance to lean Low spring rate air springs for excellent ride quality Dual height control valves to maintain level vehicle from side to side |
| 0000485 | Oil Seals, Rear Axle | REAR OIL SEALS Oil seals will be provided on the rear axle(s). |
| 0782551 | Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Tandem | REAR TIRES Rear tires will be eight (8) Goodyear 12R22.50 radials, load range H, Endurance RSA, highway tread, rated for 54,240 lb maximum axle load and 75 mph maximum speed. |
| 0019639 | Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Tandem | The tires will be mounted on Alcoa© 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle. |
| 0568081 | Tire Balancing, Counteract Beads | TIRE BALANCE All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights. |
| 0620569 | Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Tandem Axle | TIRE PRESSURE MANAGEMENT There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of 10 tires. The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi. Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash. |
| 0003245 | Axle Hub Covers w/center hole, S/S, Front Axle | FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided. |
| 0013241 | Axle Hub Covers, Rear, S/S High Hat (Tandem) | REAR HUB COVERS Stainless steel, high hat, hub covers will be provided on the rear axle hubs. |
| 0012045 | Mud Flap, Rear, Pierce Logo | MUD FLAPS Mud flaps with a Pierce logo will be installed behind the rear wheels. |
| 0601010 | Chocks, Wheel, SAC-44-E, Folding, Aerials | WHEEL CHOCKS There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided. |
| 0601009 | Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal, Aerials | Wheel Chock Brackets There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire. |

0593759

ESC/ABS/ATC Wabco Brake System, Tandem Rear Axle

ELECTRONIC STABILITY CONTROL

A vehicle control system will be provided as an integral part of the ABS brake system from Meritor Wabco.

The system will monitor and update the lateral acceleration of the vehicle and compare it to a critical threshold where a side roll event may occur. If the critical threshold is met, the vehicle control system will automatically reduce engine RPM, engage the engine retarder (if equipped), and selectively apply brakes to the individual wheel ends of the front and rear axles to reduce the possibility of a side roll event.

The system will monitor directional stability through a lateral accelerometer, steer angle sensor and yaw rate sensor. If spinout or drift out is detected, the vehicle control system will selectively apply brakes to the individual wheel ends of the front and rear axles to bring the vehicle back to its intended direction.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with a Wabco 6S6M, anti-lock braking system. The ABS will provide a six (6) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

AUTOMATIC TRACTION CONTROL

An anti-slip feature will be included with the ABS. The Automatic Traction Control will be used for traction in poor road and weather conditions. The Automatic Traction Control will act as an electronic differential lock that will not allow a driving wheel to spin, thereby supplying traction at all times. The ABS electronic control unit (ECU) will work with the engine ECU, sharing information concerning wheel slip. Engine ECU will use information to control engine speed, allowing only as much throttle application as required for the available traction, regardless of how much the driver is asking for. An "off road traction" switch will be provided on the instrument panel. Activation of the switch will allow additional tire slip to let the truck climb out and get on top of deep snow or mud.

0030185

Brakes, Knorr/Bendix 17", Disc, Front, TAK-4

BRAKES

The service brake system will be full air type.

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

The brake system will be certified, third party inspected, for improved stopping distance.

0000730

Brakes, Meritor, Cam, Rear, 16.50 x 7.00"

The rear brakes will be Meritor™ 16.50" x 7.00" cam operated with automatic slack adjusters. Dust shields will be provided.

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.

0000789

Brake Reservoirs, Five

BRAKE SYSTEM

The brake system will include:

Bendix dual brake treadle valve

Heated automatic moisture ejector on air dryer

Total air system capacity of 6,653 cubic inches

Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi

Spring set parking brake system

Parking brake operated by a push-pull style control valve

A parking "brake on" indicator light on instrument panel

Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, will be provided with an automatic spring brake application at 40 psi

A pressure protection valve will be provided to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa).

Quarter 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.

0568012

Air Dryer, Wabco System Saver 1200, Heater, 2010

BRAKE SYSTEM AIR DRYER

The air dryer will be WABCO System Saver 1200 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.

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| 0729902 | SP | Inlet/Outlet, Air, w/Disconnect Fitting, 1/4" NPT | AIR INLET/OUTLET One (1) air inlet/outlet will be installed with the female coupling located in the driver's side cab step area. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve. A mating male fitting will be provided with the loose equipment. The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure. The male and female couplings will have .250" NPT thread. |
| 0690889 | | All Wheel Lockup (Aerial/Tanker Chassis), Aerial Master Activation | ALL WHEEL LOCK-UP An additional all wheel lock-up system will be installed which applies air to the front brakes only. The standard spring brake control valve system will be used for the rear. The all wheel lock-up system will be activated automatically when the aerial master switch is activated. |
| 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. |
| 0012034 | | Moisture Ejector, Manual, Remote Mounted | MANUAL MOISTURE EJECTOR(S) Six (6) manual moisture ejectors will be installed in the brake system. The moisture ejector will be remote mounted on the driver side of vehicle, as close to the edge of vehicle as possible. A loop will be provided at the moisture ejector, to allow for ease of pulling the drain. Each moisture ejector will have a label directly under the ejector, stating air tank drain. Air lines will be routed from the air tank to the moisture ejector. The moisture ejector(s) will be provided on the each tank. Pull cables to be located at the area rearward of the wheel chocks on the drivers side reservoir(s). |
| 0612549 | | Fittings, Compression Type, Entire Apparatus, Tandem Rear Axle | COMPRESSION FITTINGS Any nylon tube on the apparatus that is pneumatic will be plumbed with compression type fittings where applicable. |
| 0808504 | | Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027, Velocity | ENGINE The chassis will be powered by an electronically controlled engine as described below: Make: Cummins® Model: X15 Power: 605 hp at 1800 rpm Torque: 1850 lb-ft at 1000 rpm Governed Speed: 2100 rpm Emissions Level: EPA 2027 Fuel: Diesel Cylinders: Six (6) Displacement: 912 cubic inches (14.9L) Starter: Delco 39MT+™ Fuel Filters: Frame mounted spin-on style filter from Cummins®. The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected. The engine will be filled with FA-4 10W30 oil as required by Cummins. |
| 0000000 | STF | Engine Contingency Adjustment | |
| 0730808 | | Filters, Remote Mounted, Oil, Fuel, X15, VEL/AXT/Enf | REMOTE MOUNTED ENGINE FILTERS The engine fuel and oil filters will be remote mounted for ease of maintenance. |

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| 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." |
| 0030889 | Retarder, Telma Inline-Driveline, w/Jacobs Engine Brake, Tandem Axle | DRIVELINE RETARDER A Telma inline-driveline retarder will be provided. The retarder will be the electro-magnetic type automatically actuated with application of the brake pedal. It will be activated with an on/off switch located on the cab dash board. 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. The Telma inline-driveline retarder will be installed in such a manner that when it is engaged the brake lights will be activated. The ABS system will automatically disengage the auxiliary braking device, when required. ENGINE BRAKE A Jacobs engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver. The driver will be able to turn the engine brake system on/off and have a high and low setting. The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated. The ABS system will automatically disengage the auxiliary braking device, when required. |
| 0552334 | Clutch, Fan, Air Actuated, Horton Drive Master | CLUTCH FAN A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position. |
| 0123135 | Air Intake, w/Ember separator, Imp/Vel | ENGINE AIR INTAKE An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of the apparatus, on the passenger side of the engine. The ember separator will be mounted in the air intake with flame retardant, roto-molded polyethylene housing. It will be easily accessible by the hinged access panel at the front of the vehicle. |
| 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. |
| 0787999 | Radiator, Impel/Velocity | 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 core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy will be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions. There will be a full steel frame around the entire radiator core assembly. The radiator core assembly will be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators. The radiator assembly will include an integral de-aeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system. A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator. |

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| 0722487 | Cooling Hoses, Gates Silicone and Rubber Combination, Velocity | COOLANT LINES Gates® silicone or a combination of silicone and rubber hoses will be used for the radiator and cab heater hoses installed by the chassis manufacturer. The chassis manufacturer will also use Gates® brand hose on other heater and auxiliary coolant circuits. There will be some areas in which an appropriate Gates product is not available. In those instances a comparable silicone hose from another manufacturer will be used. Rubber hoses will be used for the overhead defrost/heater system only in the drain tubes of the cab. Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose. |
| 0770792 | Fuel Tank, 65 Gallon, Left Side Fill, Common Air Bottle Door | FUEL TANK A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A 0.75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be provided and marked "Ultra Low Sulfur - Diesel Fuel Only." The fill inlet will be located adjacent to the air bottle storage behind a common door on the left hand side of the vehicle. A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume. |
| 0001129 | Lines, Fuel | All fuel lines will be provided as recommended by the engine manufacturer. |
| 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. |
| 0638739 | Gauge, DEF, Remote Mounted for Chassis DEF, Location | DEF GAUGE, ADDITIONAL An additional DEF gauge will be provided behind the door where the DEF fill neck is (customer wants to be able to view this gauge when filling the tank however the gauge is not to be visible from outside the vehicle) for indication of the chassis DEF level. Since the DEF level signal is broadcast by the engine ECU, the gauge position will be delayed several minutes after the fluid level changes in the tank. The gauge will be rated for both interior and exterior applications. |
| 0578959 | Fuel/Water Separator, Racor Inline | FUEL SEPARATOR The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters. |
| 0801891 | Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Vel/Qtm | TRANSMISSION An Allison 6th generation, model EVS 4500P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with amber light and buzzer will be installed on the cab instrument panel. |

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| 0512762 | Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf | TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00. |
| 0684459 | Transmission Oil Cooler, Modine, External | TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature. |
| 0522824 | Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 6 speed | DOWNSHIFT MODE (w/engine brake) The transmission will be provided with an aggressive downshift mode. This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance. |
| 0801876 | Fluid, 4000 Series Trans, Allison Approved TES-668 Synthetic, IPOS, Custom | TRANSMISSION FLUID The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid. |
| 0001375 | Driveline, Spicer 1810 | DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent. |
| 0669988 | Steering, Sheppard M110 w/Tilt, TAK- STEERING 4, Eaton Pump, w/Cooler | STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations. |
| 0001544 | Not Required, Steering Assist Cylinder on Front Axle | |
| 0509230 | Steering Wheel, 4 Spoke without Controls | 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 |
| 0123628 | Bumper, Non-Extended, Imp/Vel | BUMPER A one (1) piece, ten (10) gauge 304-2B polished stainless steel bumper, minimum of 10.00" high, will be attached to the front of the chassis frame. A 9.00" formed steel channel will be mounted directly behind bumper for additional strength. Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. |
| 0822503 | Lift & Tow Package, Non-Extended Bumper, Imp/Vel | LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame. |
| 0522573 | Tow Hooks Not Required, Due to Lift and Tow Package | TOW HOOKS No tow hooks are to be provided. This truck will be equipped with a lift and tow package with integral tow eyes. |

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.

0668314

Cab, Velocity FR, 7010 Raised Roof
w/Notch**CAB**

The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

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

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

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

The 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 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The raised roof section of the crew cab will have a 58.00" wide x 10.00" high square notch in the center section of the roof. This will allow the aerial device to be bedded in the same location as a non-raised roof.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 52.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

FENDER LINERS

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

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

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| 0724207 | Engine Tunnel, X12-15, MX13, Foil Insulation w/Mech Fasteners, Velocity FR | ENGINE TUNNEL To provide structural strength, the engine tunnel sidewalls will be constructed of 0.50" aluminum plate that is welded to both the 0.25" firewall and 0.38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered. The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Farenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards. |
| 0887600 | Cab Insulation, Impel/Velocity FR | INTERIOR CAB INSULATION The cab will include 1.50" insulation in the ceiling, 3.00" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation. |
| 0677478 | Rear Wall, Exterior, Cab, Aluminum Treadplate | 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. |
| 0199683 | Cab Lift, Elec/Hyd, w/Manual Override, Unlocked Ind Light, Imp/Vel | CAB LIFT A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure. The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2' (coiled) to 6' (extended). The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered. Cab Lift Interlock The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled. |
| 0123176 | Grille, Bright Finished, Front of Cab, Velocity | GRILLE A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator. |
| 0751883 | Scuffplate, S/S, Top, Cabinet Door(s), Each | DOOR FRAME SCUFFPLATE There will be two (2)polished stainless steel scuffplate(s) provided for the top edge of the exterior door frame located LS8, RS8. Each scuffplate will be stainless steel with a .38" lip down. |
| 0752555 | Scuffplate, S/S, Striker Side, Cabinet Door(s), Each | DOOR FRAME SCUFFPLATE There will be two (2)polished stainless steel scuffplate(s) provided for the latch side of the door frame located LS8, RS8. Each scuffplate will be stainless steel with a .38" lip down. |
| 0794201 | Scuffplate, Aluminum Treadplate, Outboard Vertical Floor Risers,Crew Cab,SFR/Enf | STEP RISER SCUFFPLATE Aluminum treadplate scuffplates will be provided on the vertical surface between the crew cab steps and floor in the crew cab. |
| 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. |

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| 0509756 | Bright Finished Housing, Headlights & Front Directional, Velocity | FRONT CAB TRIM Bright finished wrap-around housings will be provided on each side of the front cab face for mounting of the headlights and front directional lights. The housings will mate up to the side edge of the forward grille, and then extend around the front corners of the cab rearward, providing for a streamlined automotive appearance. |
| 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. |
| 0667921 | Door, Half-Height, Velocity FR 4-Door Cab, Raised Roof | CAB DOORS The forward cab and crew cab doors will be the half-height style door. To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 64.71" high. The crew cab doors will measure a minimum of 37.87" wide x 73.75" high. The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility. A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The 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 and crew cab door. A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted. The cab steps at each cab door location will be located below the cab doors and will be exposed to the exterior of the cab. |
| 0655511 | Door Panel, Brushed Stainless Steel, Impel/Velocit 4-Door Cab | Door Panels The inner cab door panels will be constructed out of brushed stainless steel. The cab door panels will be removable. |
| 0667905 | Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocit FR | RECESSED POCKET WITH ELASTIC COVER To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console. |
| 0667902 | Controls, Electric Windows, All Cab Doors, Impel/Velocit FR | ELECTRIC WINDOW CONTROLS Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door. The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position. |
| 0555485 | Steps, 4-Door Full Tilt Cab, Imp/Vel | CAB STEPS The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps. |

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| 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. |
| 0892637 | Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step | STEP LIGHTS There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The light(s) will have a chrome housing. The lights will be activated when the adjacent door is opened. |
| 0002140 | Fenders, S/S on Cab | FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings. |
| 0592071 | No Windows, Side of Crew Cab, Vel/Imp | |
| 0568605 | Not Required, Interior Trim, No Cab Side Windows | |
| 0012090 | Not Required, Windows, Front/Side of raised roof | |
| 0509286 | Not Required, Windows Rear of Crew Cab, Imp/Vel | |
| 0558334 | Not Required, Trim, Cab Rear Windows, No Rear Windows | |
| 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. |
| 0764717 | Compt, Storage, 10.71 W x 30 H x 14 D, (1) Ea Side C/C, Dbl Pan, Imp/Vel | STORAGE COMPARTMENTS Provided on each side of the cab, to the rear of the crew cab access doors, will be a storage compartment. The compartments will be approximately 10.71" wide x 30.00" high x 14.00" deep. There will be two (2) double pan doors painted to match the cab exterior with a non-locking, black finish D-Ring latch, one (1) on each side of the cab. A web strap for each exterior door will be used as a door stop. The compartment interior will be painted to match the cab interior. Compartment Light There will be four (4) white Amdor, LED strip lights provided, one (1) each side of compartment door openings. The lights will be controlled by an automatic door switch. |
| 0509902 | Roof, Aluminum Treadplate, Imp/Vel, Aerial | CAB ROOF COVERING Horizontal cab roof surfaces, on each side of the aerial device, will be covered with bright aluminum treadplate. The aluminum treadplate will be bonded to the cab. Edges will be properly caulked to prevent water from leaking under the aluminum. No front or side warning lights, or any other auxiliary options, will be mounted on top of the treadplate. The treadplate will extend and terminate next to all objects mounted on the roof. |

0199285

Visor, Exterior, Vel/Imp

EXTERIOR VISOR

The exterior sun visor will be a painted composite to match the job color. The five (5) forward facing marker lights will be mounted to the visor.

0123686

Drip Rail, Cab Roof,
Impel/Velocity/Velocity SLT**CAB ROOF DRIP RAIL**

For enhanced protection from inclement weather, a drip rail will be furnished on the sides of the cab. The drip rail will be constructed of bright polished extruded aluminum, and be bonded to the sides of the cab. The drip rail will extend the full length of the cab roof.

0731390

SP Holder, Cup, 4" Diameter x 4" High x
1" Slit on Side, Matting, Alum, Each,
Color**CUP HOLDER**

There will be four (4) cup holder(s) provided. Each cup holder will be 4.00" in diameter x 4.00" high. An approximate 1.00" wide recess in the cup holder will allow it to hold beverage containers with handles.

Black rubber matting will be provided on the bottom of each cup holder.

The cup holder(s) will be constructed of aluminum and painted black, vinyl texture paint and located Mount at Final or Ship Loose.

0722946

SP Work Surface, 3/16" Alum, Frt Engine
Tunnel to Cabinet, Flange Sides,
Vel/Imp FR**WORK SURFACE**

There will be a work surface provided on the engine tunnel. The work surface will be constructed of 0.188" aluminum to allow the mounting of equipment. The work surface will start next to the officer seat and extend to the storage cabinet mounted on the rear of the engine tunnel. The work surface will be flat. It will not contour to the engine tunnel. The sides of the work surface will flange down to enclose the area underneath. The work surface will be painted to match the cab interior.

0748671

Cab Interior, Vinyl, Velocity FR,
CARE**CAB INTERIOR**

With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.

The center console will be a high impact ABS polymer and will be easily removable.

The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.

To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.

To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.

To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by a leather grain vinyl that is resistant to oil, grease, and mildev.

The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.

The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz black vinyl. All cab interior materials will meet FMVSS 302 (flammability of interior materials).

0667943

Cab Interior, Paint Color,
Impel/Velocity FR**CAB INTERIOR PAINT**

The following metal surfaces will be painted black, vinyl textured paint:

Modesty panel in front of driver

Vertical surface of dash in front of the officer (not applicable for recessed dash)

Glove box in front of the officer (if applicable)

Power distribution in front of the officer

Rear heater vent panels

The remaining cab interior metal surfaces will be painted black, vinyl texture paint.

0509532

Floor, Rubber Padded Cab & Crew
Cab, Imp/Vel, Dash CF**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.

0741239

HVAC, Heavy-Duty, Impel/Velocity
FR, 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 will be directed towards the left side cab window

One (1) adjustable will be directed towards the right side cab window

Six (6) fixed outlets will be directed at the windshield

The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

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 19.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes.

The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the forward plenum cover per the following:

Four (4) will be directed towards the seating position on the left side of the cab

Four (4) will be directed towards the seating position on the right side of the cab

Adjustable air outlets will be strategically located on the evaporator cover per the following:

Five (5) will be directed towards crew cab area

A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be hinged with two (2) thumb latches.

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

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.

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.

The drain tubes will terminate under the cab, on the inboard side of the front wheelwells.

0627910

Sun Visor, Vinyl/Fabric, Imp/Vel

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 black plastic thumb latch provided to help secure each sun visor in the stowed position.

0548173

Grab Handles, Driver and Passenger
Door Post, Imp/Vel

GRAB HANDLE

A black rubber covered grab handle will be mounted on the door post of the driver side and passenger side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.

0002526

Light, Engine Compt, All Custom
Chassis

ENGINE COMPARTMENT LIGHT

An engine compartment light will be installed under the engine tunnel, of which the switch is an integral part. Light will have a 0.125" diameter hole in its lens to prevent moisture retention.

0122516

Fluid Check Access, Imp/Vel

ACCESS TO ENGINE DIPSTICKS

For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be flush with the wall of the engine tunnel.

The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil.

The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.

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| 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. Match #30980. 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 | <p>CAB SAFETY SYSTEM</p> <p>The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following:</p> <p>A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event.</p> <p>A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions.</p> <p>A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system.</p> <p>A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt.</p> <p>A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt.</p> <p>Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall.</p> <p>Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event.</p> <p>Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.</p> <p>Frontal Impact Protection</p> <p>The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected.</p> <p>The SRS system will deploy the following components in the event of a frontal or oblique impact event:</p> <p>Driver side front air bag 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</p> <p>Side Roll Protection</p> <p>The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.</p> <p>The SRS system will deploy the following components in the event of a side roll:</p> <p>Air curtains mounted in the outboard bolster of outboard seat backs Suspension seats will be retracted to the lowest travel position Seat belts will be pre-tensioned to firmly hold the occupant in place</p> |
| 0622618 | | Seating Capacity, 5 Seats | SEATING CAPACITY The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5). |

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| 0764478 | Seat, Driver, USSC, Valor, P1A, Air Ride, I-Back, Safety, PRIMARY | DRIVER SEAT A USSC, Model P1A, air suspension seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the height (2.50" travel) and horizontal position (6.00" travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 90 degrees to 45 degrees rearward. To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled. The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position. A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position. The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. Shipped loose with the seat will be no additional contaminant mitigation vinyl covers. |
| 0620293 | Seat, Officer, Bostrom 450, Fixed, SCBA, Safety, PRIMARY, Imp/Vel | OFFICER SEAT A H.O. Bostrom, Tanker 450, 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. 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 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. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. |
| 0510037 | Radio Compartment, Below Officer Seat, Imp/Vel | RADIO COMPARTMENT A compartment for the radio amplifier will be located under the front passenger's seat. The size of the compartment will be approximately 16.00" wide x 7.50" high x 16.50" deep. A drop-down door with a chrome plated, 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. |
| 0761585 | SP Cabinet, Rear Facing, LS, 25 W x 30 H x 24 D, Ext Acc Only, Sp Mtg, Imp/Vel | 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 25.00" wide x 30.00" high x 24.00" deep. The cabinet will include no adjustable shelves or trayspainted to match the cab interior. The cabinet will include no louvers. The cabinet will provide access from outside the cab only with one (1) double pan door painted to match the cab exterior with a non-locking D-ring latch. The clear door opening will be 19.75" wide x 27.75" high. The door will be located on the side of the cab over the wheelwell and include a web strap as a door stop. The exterior access will be provided with a polished 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 lights will be controlled by an automatic door switch. |
| 0102783 | Not Required, Seat, Rr Facing C/C, Center | |
| 0761599 | SP Cabinet, Rear Facing, RS, 25 W x 30 H x 21.5 D, Ext Acc Only, Sp Mtg, Imp/Vel | 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. The cabinet will be 25.00" wide x 30.00" high x 21.50" deep. The cabinet will provide access from outside the cab only with one (1) double pan door painted to match the cab exterior with a non-locking D-ring latch. The clear door opening will be 19.75" wide x 27.75" high. The door will be located on the side of the cab over the wheelwell and include a web strap as a door stop. The cabinet will include no adjustable shelves or trayspainted to match the cab interior. The cabinet will include no louvers. The exterior access will be provided with a polished 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 lights will be controlled by an automatic door switch. |

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| 0722721 | SP | Seat, Fwd Fcng C/C, LS Otbrd, Bostrom 400CT, SCBA, Foldup, 17" Btm, Safety, SECONDARY | FORWARD FACING DRIVER SIDE OUTBOARD SEAT There will be one (1) forward facing, HO Bostrom Tanker 400CT fold up SCBA 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. 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 back will be an SCBA back style with a 90 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 be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. |
| 0612863 | SP | Seat, Fwd Fcng C/C, Ctr, (1) Bostrom 450, SCBA, Safety, SECONDARY | FORWARD FACING CENTER SEAT There will be one (1) forward facing, HO Bostrom Tanker 450 SCBA seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. 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 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: 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. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. |
| 0722724 | SP | Seat, Fwd Fcng C/C, RS Otbrd, Bostrom 400CT, SCBA, Foldup, 17", Safety, SECONDARY | FORWARD FACING PASSENGER SIDE OUTBOARD SEAT There will be one (1) forward facing, HO Bostrom Tanker 400CT foldup SCBA seat provided at the passenger 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. 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 back will be an SCBA back style with a 90 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 be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. |
| 0803254 | SP | Cabinet, Rr Fcng, Top Eng Tnl, 34 W x 19 H x 18 D, 2 Lap Doors, Tray, Imp/Vel FR | REAR FACING CENTER CABINET A rear facing cabinet will be provided on the top rear of the engine tunnel. The cabinet will be 34.00" wide x 19.00" high x 18.00" deep. There will also be two (2) lap doors hinged on the inboard side, painted to match the cab interior with locking D-ring latches with #751 keys. The doors will be hinged on a center pillar and located on the front of the cabinet, facing the crew cab. The cabinet will include louvers provided on the right side of the cabinet for ventilation, louvers provided on the left side of the cabinet for ventilation and louvers provided on the back side of the cabinet for ventilation. 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 on the right side of the interior cabinet door opening and one (1) white Amdor LED strip light installed on the left side of the interior cabinet door opening. The lighting will be controlled by an automatic door switch. |
| 0651182 | | Scuffplate, Cabinet, Interior Door Pan, Cab | DOOR PAN SCUFFPLATE There will be a brushed stainless steel scuffplate on the interior door pan of two (2) cabinet door(s) located for the exterior EMS cabinet doors, one (1) each side. |
| 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 EMS cabinets. The matting will be 0.13" thick with corrugated top ribs. |

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| 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 three (3) cabinets(s) provided with the lip Top of both LS/RS rear facing EMS cabinets and top of rear facing cabinet top of Engine Tunnel.. |
| 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. |
| 0612938 | Compt, Storage, (2) Rear Facing, Overhead, 9 W x 10 H x 20 D, Imp/Vel FR Notch | 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 aerial notch. The compartments will be approximately 9.00" wide x 10.00" high x 20.00" deep at the bottom. Each compartment will include one (1) lift up compartment door. Non-locking latch, paddle handle, and gas operated stay arms will be provided. The 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 LED strip light installed horizontally above each compartment door opening. |
| 0825070 | SP Upholstery, Seats In Cab, USSC, VALORTechXD (Cordura), Bostrom Durawear | SEAT UPHOLSTERY The VALORTechXD anti-microbial material seat upholstery will be black, sewn with red stitching,. The Dura-Wear waterproof fabric seat upholstery will be black. |
| 0677039 | Bracket, Air Bottle, Bostrom "SecureAll", Cab Seats, Bostrom Only | AIR BOTTLE HOLDERS There will be three (3) SCBA type seats in the cab with Bostrom SecureAll SCBA locking holder brackets installed directly into the Bostrom seats. The brackets will be compliant with the current edition of applicable NFPA standards. |
| 0004431 | Inserts, Back Rest For Bostrom SCBA Seats | BACK REST INSERTS Provided with the Bostrom 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 four (4) inserts covers will be provided. |
| 0603867 | Seat Belt, ReadyReach | SEAT BELTS All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only. |
| 0604864 | Seat Belt Height Adjustment, 5 Seats, Imp/Vel, Dash CF | SHOULDER HARNESS HEIGHT ADJUSTMENT All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. A total of five (5) seating positions will have the adjustable shoulder harness. |
| 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 door switches and the lens switch. The color LED's will be controlled by 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. |

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| 0631779 | Light, Map, Overhead, Round Halogen, AXT/Imp/Vel | OVERHEAD MAP LIGHTS There will be two (2) white halogen, round adjustable map lights installed in the cab: One (1) overhead in front of the driving position. One (1) overhead in front of the passenger's position. Each light will include a switch on the light housing. The light switches will be connected directly to the battery switched power. |
| 0626097 | Light, Map, Sunnex HS76*-00 Series, Swivel Joint, Clear Lens, Ceiling Mount | MAP LIGHT There will be one (1) Sunnex®, HS76*-00, halogen map light(s) with swivel joint base provided in the cab and located on the ceiling to the left of the officer - match 37403. Each map light will have a square base with an on/off switch. The light(s) will also be provided with no additional accessory. The light switch(es) will be connected directly to the battery switched power. |
| 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 mount one (1) above each side rear facing EMS cabinet per photo in job efolder. THERE ARE 2 Additional lights mounted below outboard FF crew cab seats, per Job #30980. 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, mount one (1) each outboard of driver and officer seat per photo in job efolder and one (1) on the INSIDE of each side rear facing EMS cabinet inboard per photo in job efolder, reference job #30980. This flashlight shall be wired to a battery direct circuit. |
| 0568369 | Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010 | CAB INSTRUMENTATION The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership. Gauges The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance: Voltmeter gauge (Volts) Low volts (11.8 VDC) Amber indicator on gauge assembly with alarm High volts (15 VDC) Amber indicator on gauge assembly with alarm Very low volts (11.3 VDC) Amber indicator on gauge assembly with alarm Very high volts (16 VDC) Amber indicator on gauge assembly with alarm Tachometer (RPM) Speedometer (Primary (outside) MPH, Secondary (inside) Km/H) Fuel level gauge (Empty - Full in fractions) Low fuel (1/8 full) Amber indicator on gauge assembly with alarm Very low fuel (1/32) fuel Amber indicator on gauge assembly with alarm Engine oil pressure gauge (PSI) Low oil pressure to activate engine warning lights and alarms Red indicator on gauge assembly with alarm Front air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Rear air pressure gauge (PSI) Low air pressure to activate warning lights and alarm Red indicator on gauge assembly with alarm Transmission oil temperature gauge (Fahrenheit) High transmission oil temperature activates warning lights and alarm Amber indicator on gauge assembly with alarm Engine coolant temperature gauge (Fahrenheit) High engine temperature activates an engine warning light and alarm Red indicator on gauge assembly with alarm Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions) Low fluid (1/8 full) Amber indicator on gauge assembly with alarm All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance. Indicator Lamps To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols. |

The following amber telltale lamps will be present:

Low coolant
Trac cntl (traction control) (where applicable)
Check engine
Check trans (check transmission)
Aux brake overheat (Auxiliary brake overheat)
Air rest (air restriction)
Caution (triangle symbol)
Water in fuel
DPF (engine diesel particulate filter regeneration)
Trailer ABS (where applicable)
Wait to start (where applicable)
HET (engine high exhaust temperature) (where applicable)
ABS (antilock brake system)
MIL (engine emissions system malfunction indicator lamp) (where applicable)
SRS (supplemental restraint system) fault (where applicable)
DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

Warning (stop sign symbol)

Seat belt

Parking brake

Stop engine

Rack down

The following green telltale lamps will be provided:

Left turn

Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

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

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be provided whenever a caution message is present without a warning message being present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for 3 to 5 seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Prove-Out

Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

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

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

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

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for 3 to 5 seconds. A green indicator lamp will be activated with vehicle ignition.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield

wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided. **Chassis horn control:** Activation of the chassis horn control will be provided through the center of the steering wheel.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

Diagnostic Panel

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

The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

SRS diagnostic port (where applicable)

Command Zone USB diagnostic port

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

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

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

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

Odometer

Trip mileage

PTO hours

Fuel consumption

Engine hours

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

0509511

Air Restriction Indicator, Imp/Vel,
AXT, Dash CF, Enf MUX

AIR RESTRICTION INDICATOR

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

0543751

Light, Do Not Move Apparatus

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.

0509042

Messages, Open Dr/DNMT, Color
Dsply,

DO NOT MOVE TRUCK MESSAGES

Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).

The following messages will be displayed (where applicable):

Do Not Move Truck

DS Cab Door Open (Driver Side Cab Door Open)

PS Cab Door Open (Passenger's Side Cab Door Open)

DS Crew Cab Door Open (Driver Side Crew Cab Door Open)

PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open)

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.

| | | |
|---------|--|---|
| 0611681 | Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT 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. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout. The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions. |
| 0555915 | Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity | WIPER CONTROL For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use. |
| 0731813 | Hour Meter, Aerial, Included in Information Centers, ASL, AAT, ASP | HOURMETER - AERIAL DEVICE The following aerial hour meter messages will be included in the information centers: Aerial Hours, that keeps track of the time the aerial device is in motion. Aerial PTO Hours, that keeps track of the time the aerial master switch is on and the aerial PTO is engaged. |
| 0002615 | Switch, Aerial 12V Master | AERIAL MASTER There will be a master switch for the aerial operating electrical system provided. |
| 0002617 | PTO switch, w/light - aerial | AERIAL PTO SWITCH A PTO switch for the aerial with indicator light will be provided. |
| 0692770 | SP Switch, On/Off/On Double Pole/Double Throw | ON/OFF/ON SWITCH There will be one (1) double pole double throw on/off/on switch(es) located in the cab location #9 far right side to read: 800/OFF/VHF. No wiring will be provided. |
| 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. 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. |
| 0820904 | Wiring, Spare, 15 A 12V DC 1st NFPA1900 | SPARE CIRCUIT There will be two (2) 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 Wires will be protected to 15 amps at 12 volts DC Power and ground will terminate Backside of instrument panel match #37404 Termination will be with 15 amp, power point plug with rubber cover Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set. |
| 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 battery 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. |

| | | |
|---------|--|---|
| 0820919 | Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 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 ignition 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 EMS compartment on the top horizontal surface at the rear most inboard corner with plugs facing rear seats. Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied. |
| 0820920 | Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 2nd 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 (1) each forward corner of Cabinet on Engine tunnel, in the outer most forward corner with plugs facing the rear. Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is applied. |
| 0821191 | Wiring, Spare, 20 A 12V DC, Batt Dir, 1st NFPA1900 | SPARE CIRCUIT There shall be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires shall have the following features: The positive wire shall be connected directly to the battery power The negative wire shall be connected to ground Wires shall be protected to 20 amps at 12 volts DC Power and ground shall terminate in the recess area on the officer side per job 30980 Termination shall be with heat shrinkable butt splicing Wires shall be sized to 125 percent of the protection Battery direct loads cannot be Load Managed |
| 0821194 | Wiring, Spare, 20 A 12V DC, Batt Dir, 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 battery 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 30980 Termination will be with heat shrinkable butt splicing Wires will be sized to 125 percent of the protection Battery direct loads cannot be Load Managed |
| 0821230 | Wiring, Spare, 20 A 12V DC, 6 CKT FB, Blue Sea 5025 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 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 LS4 when looking into compartment in right upper corner. leave with 24" coiled wire and final location TBD at Final.. Termination will be to a Blue Sea System, Model 5025, 6 circuit with negative bus bar. The terminal block will include a cover with circuit labels. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set. |
| 0821232 | Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025 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 battery 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 RS4 when looking into compartment in right upper corner. leave with 24" coiled wire and final location TBD at Final.. Termination will be to a Blue Sea System, Model 5025, 6 circuit with negative bus bar. The terminal block will include a cover with circuit labels. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set. |

| | | |
|---------|---|--|
| 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 (1) on lower center console rearward and (1) in location #14. 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. |
| 0821564 | Wiring, Spare, 50 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 battery switched power. The negative wire will be connected to ground. Wires will be protected to 50 amps at 12 volts DC. Power and ground will terminate INSIDE compartment on top rear of the engine tunnel. Termination will be with 3/8" studs and plastic covers. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set. |
| 0566101 | Recess, Dash Panel, Officer Side, Vel/Imp | DASH PANEL RECESS The dash panel across from the officer will be recessed to accommodate the mounting of miscellaneous items. The recess will be 7.25" down x 7.81" back and 20.88" wide. |
| 0623639 | SP Bracket, Wedge, (2) PTT Switch Panel, 30 Deg, VEL/IMP | PUSH TO TALK SWITCH MOUNTING BRACKET A wedge bracket will be provided ship loose, the customer will mount these for the mounting of two (2) push to talk switches. The switches will be mounted on the slanted portion of the bracket and labeled "800 MHZ" and "VHF" for easy identification. The bracket will be fabricated from smooth aluminum and painted to match the cab interior color. |
| 0814201 | Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714 | <p>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</p> <p>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.</p> <p>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</p> <p>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)</p> |

Foam Level (if equipped)
Foam Concentration (if equipped)
Water Flow Rate (if equipped)
Water Used (if equipped)

Active Alarms

Virtual Buttons

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

Page Screen

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

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

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

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

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

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped)

Foam (if equipped)

Aerial (if equipped)

Setup

Clock Setup

Date & Time

12 or 24 hour format

Set time and date

Backlight

Daytime

Night time

Sensitivity

Unit Selection

Home Screen

Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated

Driver Side Cab Door

Passenger's Side Cab Door

Driver Side Crew Cab Door

Passenger's Side Crew Cab Door

Driver Side Body Doors

Passenger's Side Body Doors

Rear Body Door(s)

Ladder Rack (if applicable)

Deck Gun (if applicable)

Light Tower (if applicable)

Hatch Door (if applicable)

Stabilizers (if applicable)

Steps (if applicable)

Notifications

View Active Alarms

Shows a list of all active alarms including date and time of the occurrence is shown with each alarm

Silence Alarms - All alarms are silenced

Timer Screen

HVAC (if equipped)

Tire Information (if equipped)

Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

0816633

Collision Mitigation, HAAS Alert (R2V), HA7

COLLISION MITIGATION

There will be a HAAS Alert®, Model HA7 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA7 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 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 and crew cab roof with minimum 18" between mounts on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to compartment on top rear of the engine tunnel . 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 right of the steering column.

The following components will be included:

One (1) SV-CW134639CAI 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.

0511071

Guard, 4-Way, Rear Vision Camera

VEHICLE CAMERA GUARD

There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located over camera centered above the traffic directing light per job 30980.

0896458

Pierce Command Zone, Advanced Electronics & Control System, Vel 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/VDX™ specifications providing a lower cost of ownership.

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

Green LED indicator light for module power

Red LED indicator light for network communication stability status

Control system self test at activation and continually throughout vehicle operation

No moving parts due to transistor logic

Software logic control for NFPA mandated safety interlocks and indicators

Integrated electrical system load management without additional components

Integrated electrical load sequencing system without additional components

Customized control software to the vehicle's configuration

Factory and field programmable to accommodate changes to the vehicle's operating parameters

To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:

Module circuit board will meet SAE J771 specifications

Operating temperature from -40C to +70C

Storage temperature from -40C to +70C

Vibration to 50g

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

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

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

Circuit Protection and Control Diagram

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

On-Board Electrical System Diagnostics

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

Text description of active warning or caution alarms
Simplified warning indicators
Amber caution indication with intermittent alarm
Red warning indication with steady tone alarm
Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

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

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

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

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

Indicator Light and Alarm 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.

0730603

Electrical System, Velocity ESP,
Cummins, Paccar

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.

0123174

Battery Compartment, Imp/Vel

BATTERY COMPARTMENTS

The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.

JUMPER STUDS

One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.

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.

0814942

Location, Cab, Ind/Remote, Driver's Seat with Bracket

The battery charger indicator will be located near the driver's seat riser with special bracketry.

0814874

Location, Cab, Inverter/Battery Charger, Behind Driver Seat

The inverter/battery charger will be located in the cab behind the driver seat.

0016857

Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super

AUTO EJECT FOR SHORELINE

There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include red weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to the battery charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

Line Voltage

Current Rating (amps)

Phase

Frequency

0052548

SP Shoreline Bdy Loc, Body, Location Feature

The shoreline receptacle will be located on the body, on the passenger's side, just in front of the center air bottle compartment (match 30980).

0803454

SP Access Panel, Inner Wheelwell, Shoreline

WHEELWELL ACCESS PANEL, SHORELINE INLET

A removable access panel will be provided in the wheelwell located RS forward rear axle Inner fender well. Painted to match lower body color . This panel will be held in place with threaded fasteners. It will provide access to the shoreline inlet.

0647728

Alternator, 430 amp, Delco Remy 55SI

ALTERNATOR

A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.

0042767

No Auxiliary Power Supply Req'd, Aerial Device Only

0669209

Fan, Electrical Component Cooling 12 V, Switched Battery Thermostat

FAN, ELECTRICAL COOLING

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.

The fan will be activated through the thermostat when the battery switch is on.

ELECTRONIC LOAD MANAGER

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

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

The load manager system will be activated when the battery switch is on, the parking brake is applied and a switch in the cab on the switch panel is on.

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.

Eight available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to activate 30 seconds after engine start up and activate "Load Man Hi-Idle On" label on the information center where applicable, before any electric loads are deactivated.

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 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 individually switched emergency light groups 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)

8630 Evolution, Polycarbonate Lens, Vel/Imp

There will be four (4) JW Speaker Evolution, Model 8630, 5.75" round LED lights with polycarbonate lenses mounted in the front chrome trim housing on each side of the cab grille: One (1) part number 0549941, low and high beam installed in the outside position on the driver's side. One (1) part number 0549941, low and high beam installed in the inside position on the driver's side. One (1) part number 0549941, low and high beam installed in the inside position on the passenger's side. One (1) part number 0549941, low and high beam installed in the outside position on the passenger's side.

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600® series, LED combination directional/marker lights provided. The lights will be located on the outside cab corners, next to the headlights. The color of the lenses will be the same color as the LED's.

INTERMEDIATE LIGHT

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

CAB CLEARANCE/MARKER/ID LIGHTS

There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.

Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.

Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

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| 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. |
| 0602938 | Light, Marker End Outline, Rubber Arm, LED Marker Lamp, Rear Body | MARKER LIGHTS There will be one (1) pair of amber and red LED marker lights with rubber arm, located at the rear most lower corner of the body. The amber lens will face the front and the red lens will face the rear of the truck. These lights will be activated with the running lights of the vehicle. |
| 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. |
| 0578264 | Flash Pattern, California Title13, LED Warning Lights | WARNING LIGHT FLASH PATTERN The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern. |

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| 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. |
| 0768765 | Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2Lts, Turntable Access | BODY PERIMETER SCENE LIGHTS There will be two (2) Amdor, Model AY-LB12HW020, 350 lumens, 20.00" long, with white LED's, 12 volt lights provided. The lights will be mounted in the following locations: One (1) light under the driver's side turntable access steps One (1) light under the passenger's side turntable access steps The perimeter scene lights will be activated when the battery switch is on and a switch within reach of the driver is activated and the parking brake is applied. |
| 0769567 | Lights, Perimeter, Amdor AY-LB-12HW012 12", Brkt | ADDITIONAL PERIMETER LIGHTS There will be two (2) lights Amdor®, Model AY-LB-12HW012, 190 lumens each, 12.00" white LED perimeter light(s) provided one (1) light under compartment D6 and one (1) light under compartment P6. These lights will be activated the same as the body perimeter lights. |
| 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. |
| 0554206 | Lights, Step, Aerial w/o Pump | STEP LIGHTS All steps on the apparatus will be illuminated per the current edition of applicable NFPA standards and will match the turn table access step lights. |
| 0756434 | Guard, Aluminum Treadplate, Whelen LIGHT GUARD Summit Light bar, Location | LIGHT GUARD There will be four (4) aluminum treadplate guard(s), provided to protect the Whelen Summit light bar(s), Summit bars mounted above LS3/LS6 & RS3/RS6 . |
| 0803591 | SP Light, Visor, HiViz, FT-B-72-* LED, Spcl Tap Cnt, Under Visor | 12 VOLT LIGHTING There will be one (1) HiViz Model FT-B-72-* , 2.56" high x 72.69" long x 3.31" deep 21,067 effective lumens 12 volt DC light with white LEDs provided on brackets in front of the cab roof centered under the visor. The painted parts of the light housing and brackets to be white. The light(s) will be controlled by a switch at the driver's side switch panel when the battery switch is on. The switches will control the tap feature to cycle through different scene light modes: Tapping the switch the first time will activate the 10 degree spot light Tapping the switch a second time will activate the 25-40 degree flood light and keep the 10 degree spot light on Tapping the switch a third time will activate the 60-90 degree scene light, keep the 25-40 degree flood light on and the 10 degree spot light on Tapping the switch a fourth time will deactivate all lights The light(s) may be load managed when the parking brake is applied. |
| 0748793 | Lights, WIn, S44M** 44" 12VDC, RS Body | 12 VOLT LIGHTING There will be two (2) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the right side of the body located, RS centered over RS3 & RS6. The painted parts of this light assembly to be white. The light(s) will include the following: 10 scene light modules with white LEDs Three (3) amber LEDs as marker lights Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs. The lights will be activated per the following: The amber marker lights not activated. The scene LEDs will be controlled by the same control that has been selected for the passenger's side scene light(s). There will be a switch in the cab on the switch panel to control the flashing warning LED modules when selected. The light(s) may be load managed when the parking brake is applied. |

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| 0748795 | Lights, WIn, S44M** 44" 12VDC, LS Body | 12 VOLT LIGHTING There will be two (2) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the left side of the body located, LS centered over LS3 & LS6. The painted parts of this light assembly to be white. The light(s) will include the following: 10 scene light modules with white LEDs Three (3) amber LEDs as marker lights Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs. The lights will be activated per the following: The amber marker lights not activated. The scene LEDs will be controlled by the same control that has been selected for the driver's side scene light(s). There will be a switch in the cab on the switch panel to control the flashing warning LED modules when selected. The light(s) may be load managed when the parking brake is applied. |
| 0672327 | Lights, Deck, WIn (2) MPBW Micro Pioneer LED Rear Flood Lights | DECK LIGHTS There will be two (2) Whelen®, Model MPBW, white 12 volt DC LED floodlights with stud bail mount provided at the rear of the hose bed, one (1) each side. The lights will be activated by a control from a switch at the rear of the truck and a switch located at the driver side switch panel. |
| 0645681 | Lights, Not Required, Rear Work, Deck Lights At Rear | |
| 0763248 | Lights, Walk Surf, Amdor AY-LB-12HW0**, LED, Cargo Areas | WALKING SURFACE LIGHTS There will be Two (2) Amdor®, Model AY-LB-12HW0**, white 12 volt DC LED strip light(s) provided in the cargo area(s) to illuminate the interior surface of the cargo area(s). Light(s) will be Cargo area walking surfaces. Reference Job #30980 as this is duplicate truck. The light will be activated when the body step lights are on. |
| 0788427 | Aerial, HD Ladder 107' ASL Tandem, No Pump, Alum Body | |
| 0554269 | Body Skirt Height, 18" | |
| 0553847 | Not Required, Restraint, No Water Tank, Aerial/Rescue w/ Water Tank, Export | |
| 0073475 | Cargo Area, Alum, IPO Hose Bed, Ascend TA, PAL | CARGO AREA The cargo area will be fabricated of .125" 5052 aluminum with a tensile strength range of 31,000 to 38,000 psi. The sides will not form any portion of the fender compartments. The upper and rear edges of the side panels will have a double break for rigidity. The cargo area will be located ahead of the ladder turntable. Flooring of the cargo area will be aluminum treadplate. |
| 0723547 | Painted Hose Bed/Cargo Area | The hose bed/cargo area interior will be painted to match the lower body color. |
| 0825167 | SP T/T Steps-Morton,Swg Dn,Lit,Ascend TA,PAL,PAP,Hndhld,48.50"Rr Wall Ht,LS/RS,Flip | TURNTABLE STEPS Steps to access the turntable from the left side and right side will be provided just behind the compartmentation. There will be a bottom flip down, stirrup step provided on each side. The step height for the bottom step (the distance from the top surface of the step to the ground) will not exceed 24.00" with the step in its extended position. No step height (the distance between the top surfaces of any two (2) adjacent steps) will be greater than 14.00". All steps will be designed to match the 48.50" special height of the rear wall. The bottom edge of the rear wall has been raised from standard to increase the angle of departure. The steps will be a swing-down design, with the stepping area made of Morton Tread-Grip® channel. The stepwell will be lined with bright aluminum treadplate to act as scuffplates. A Hansen illuminated knurled aluminum handrail will be provided on each side of the access steps. The handrails to the rear of the access steps will consist of one (1) vertical handrail on the body and one (1) horizontal handrail on the top of the body. The end stanchions will be provided by Hansen. The lights will be activated by the same means as the cab perimeter scene lights. The light will be white. The steps will be connected to the "Do Not Move Truck" indicator. A hand hold will be provided in the left and right side of each set of access steps. |

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| 0892656 | Lights, Step (6), P25 LED, Each Side | STEP LIGHTS There will be three (3) white LED step lights with chrome housing provided for each set of aerial turntable access steps. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The step lights will be activated when the aerial master switch is activated. |
| 0690023 | Wall, Rear, Smooth Aluminum | SMOOTH ALUMINUM REAR WALL The rear wall will be smooth aluminum. |
| 0029503 | Tow Eyes (2), Painted Lower Job Color, Aerial | TOW EYES Two (2) rear painted tow eyes will be located at the rear of the apparatus and will be mounted directly to the torque box. The inner and outer edges of the tow eyes will be radiused. Each tow eye will be rated for 9000lb and painted to match the lower job color. |
| 0098825 | SP Rear Substructure Raised 5", Ascend TA, 105', 100' HAL, 100' RMAP/PAP | REAR SUBSTRUCTURE RAISED The rear substructure will be raised 5". This will allow for a greater angle of departure. |
| 0013641 | Construction, Compt, Alum, Ascendant Tandem, PAL | COMPARTMENTATION Compartmentation will be fabricated of 0.125" 5052 aluminum. The side compartments are an integral assembly with the rear fenders. Fully enclosed rear wheel housings will be provided to prevent rust pockets and for ease of maintenance. Due to the severe loading requirements of this aerial, a method of compartment body support suitable for the intended load will be provided. The backbone of the support system will be the chassis frame rail, which is the strongest component of the chassis and is designed for sustaining maximum loads. A support system will be used which will incorporate a floating substructure by using Neoprene Elastomer isolators to allow the body to remain rigid while the chassis goes through its natural flex. The isolators will have a broad range of proven viability in vehicular applications, be of a fail safe design, and allow for all necessary movement in three (3) transitional and rotational modes. This will result in a 500 lb equipment rating for each lower compartment of the body. The compartmentation in front of the rear axle will include a 3.00" steel support assemblies which are bolted to the chassis frame rails. A steel framework will be mounted to the body above these support assemblies connected to the support assemblies with isolators. There will be one (1) support assembly mounted to each chassis frame rail. The compartmentation behind the rear axle will include 3.00" steel support assemblies which are bolted to the chassis frame rails and extend underneath to the outside edge of the body. The support assembly will be coated to isolate the dissimilar metals before it is bolted to the body. There will be one (1) support assembly mounted to each chassis frame rail. Compartment flooring will be of the sweep out design with the floor higher than the compartment door lip. The compartment door openings are framed by flanging the edges in 1.75" and bending out again 0.75" to form an angle. Drip protection is provided over all door openings by means of bright aluminum extrusion or formed bright aluminum treadplate. Side compartment tops will be covered with bright aluminum treadplate with a 1.00" rolled over edge on the front, rear and outward side. The covers are fabricated in one (1) piece and have the corners welded. A bright aluminum treadplate cover will be provided on the front wall of each side compartment. All screws and bolts which protrude into a compartment will have acorn nuts at the ends to prevent injury. The body design has been fully tested. Proven engineering and test techniques such as finite element analysis, model analysis, stress coating and strain gauging have been performed with special attention given to fatigue life and structural integrity of the compartment body and substructure. AGGRESSIVE WALKING SURFACE All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards. LOUVERS All body compartments will have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate. |
| 0527622 | SP Compt w/No Pump, 60" Wide w/Rollup Door, Special Hgt | COMPARTMENT IN PLACE OF PUMP A roll-up door compartment will be installed in place of the pump and pump panel. It will be approximately 54.25" wide x 75.50" high x 24.50" deep in the lower area and transversed in the top portion of the compartment. The door opening will be approximately 51.25" wide x 67.88" high. The transverse portion of the compartment will vary depending on chassis and engine combination. |

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| 0789983 | SP | Compt,LS F/H F/D,Roll,11.50" Rsd w/Full Notch,Spcl Stab Dr,Ascend TA,105',100'HA | DRIVER SIDE COMPARTMENTATION A full height roll-up door compartment ahead of the rear wheels will be 41.75" wide x 64.00" high x 24.25" deep inside with a clear door opening of 38.75" wide x 67.88" high. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. One (1) roll-up door compartment above the fender compartments and over the rear axles will be provided. The compartment will be 72.13" wide x 33.25" high x 24.25" deep inside with an approximate clear door opening of 63.75" wide x 37.00" high. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 34.50" high x 18.00" wide x 24.25" deep with a door opening of 28.75" high x 12.00" wide. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. The door will be vertically hinged on the left side and include a D-ring latch. |
| 0063727 | | Compt, LS Turntable, F/H F/D, Roll Dr & Lift Dr, Ascendant Tandem, 105' | A full height roll-up door compartment behind the rear wheels will be 43.75" wide x 49.25" high x 21.25" deep. The clear door opening will be 40.75" wide x 41.62" high. One (1) lift-up door compartment below the turntable will be provided. The compartment will be 39.38" wide x 18.38" high x 21.25" deep inside with a door opening of 35.00" wide x 14.88" high. |
| 0023672 | | Compt, IPO Stairs, Not Required, LS | |
| 0789980 | SP | Compt,RS F/H F/D,Roll,11.50" Rsd w/Full Notch,Spcl Stab Dr,Ascend TA,105',100'HA | PASSENGER SIDE COMPARTMENTATION A full height roll-up door compartment ahead of the rear wheels will be 41.75" wide x 64.00" high x 24.25" deep inside with a clear door opening of 38.75" wide x 67.88" high. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. One (1) roll-up door compartment will be provided above the fender compartments and over the rear axles. The compartment will be 72.13" wide x 33.25" high x 24.25" deep inside with a clear door opening of 63.75" wide x 37.00" high. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. A compartment with a single pan stainless steel door will be located above the front stabilizer. The compartment will be 18.00" wide x 34.50" high x 24.25" deep with a door opening of 12.00" wide x 28.75" high. The additional top 11.50" of compartment height is designed to match the cab height. This additional 11.50" from the standard height will be approximately 14.00" deep. The door will be vertically hinged on the right side and include a D-ring latch. |
| 0063734 | | Compt, RS Turntable, F/H F/D, Roll Dr & Lift Dr, Ascendant Tandem, 105' | A full height, roll-up door compartment, behind the rear wheels, will be 43.75" wide x 49.25" high x 21.25" deep. The clear door opening will be 40.75" wide x 41.62" high. One (1) lift-up door compartment below the turntable will be provided. The compartment will be 39.38" wide x 18.38" high x 21.25" deep inside with a door opening of 35.00" wide x 14.88" high. |
| 0023673 | | Compt, IPO Stairs, Not Required, RS | |

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| 0601969 | Doors, Gortite Rollup/Lap, Aluminum, Side Compartments, 105'HDL/Ascendant Tandem | SIDE COMPARTMENT ROLLUP DOORS There will be eight (8) compartment doors installed on the side compartments. The Gortite doors will be double faced aluminum construction and painted one (1) color to match the lower portion of the body. Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door. Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from plus 180 to minus 40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene. All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from plus 300 to minus 40 degrees Fahrenheit. A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door. Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside. To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter. 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. |
| 0552955 | Blister, Compts in Front of Rear Axle, To Clear Firemaax Suspension | CARPARTMENT BLISTER A blister in the compartment ahead of the rear wheels will be provided to clear the front bracket of the Firemaax suspension. This blister will take away some of the interior area of the compartment. |
| 0629837 | Not Required, Bumper, Aerial, Ascendant Tandem, 105' HDL, 100' PAP, 100' HAL | |
| 0778676 | SP Scuffplate, S/S, Lower Rear Wall, Full SCUFFPLATE Width, Aerial | A brushed stainless steel scuffplate will be provided on the lower rear wall to match previous Job 30980. |
| 0062742 | Compartment Door(s), Open Past 90 Degrees | CARPARTMENT DOOR MODIFICATION There will be two (2) compartment doors that will be provided with the capability to open past 90 degrees. The door(s) to receive this modification are located LS2, RS2. |
| 0045159 | Guard, Drip Pan, S/S, L-Shape, Cover Bottom and Rear of Rollup Door Roll | DOOR GUARD Eight (8) compartment doors will include an L-shaped guard designed to protect the bottom and interior side of the roll-up door from damage when in the retracted position and contain any water spray while the door is being opened. The guard will be fabricated from stainless steel and installed LS1, LS3, LS4, LS6, RS1, RS3, RS4, RS6. |
| 0732709 | Pull Strap for Rollup Doors, Special Length | ROLLUP DOOR PULL STRAPS Six (6) compartment doors will be provided with pull straps. The pull straps will be 12.00" long and black in color. The straps will be installed directly to the inside of the rollup door. The rollup door compartments to have these straps will be LS3, LS4, LS6, RS3, RS4, RS6. |
| 0074012 | Scuffplate, Brushed S/S, Inside Compartment Door | SCUFFPLATE, INTERIOR OF COMPARTMENT DOOR There will be four (4) compartment doors that have a brushed stainless steel scuffplate. The scuffplate will cover the entire width and height on the inside panel of the door pan. The compartment door(s) that will receive the scuffplate will be for the LS2, RS2, B1 (2) compartment(s). |

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| 0631623 | SP | Scuffplate, Polished S/S, Door Frame, (1) Vertical Side | DOOR FRAME SCUFFPLATE Two (2) scuffplates will be provided for the LS5, RS5 vertical side of the door frame of latching side of door. Each scuffplate will be polished stainless steel with a .38" lip down. |
| 0061163 | | Stop, Intermediate, For Gortite Doors | STOP, INTERMEDIATE, ROLL-UP DOOR The Gortite roll-up door will be provided with an intermediate stop. The additional stops will be installed on LS3, LS4, LS6, RS3, RS4, RS6 in what would be the normal position on a standard body A quantity of The additional stops will be installed on LS3, LS4, LS6, RS3, RS4, RS6 in what would be the normal position on a standard body compartments will have roll-up doors with intermediate stops. |
| 0659353 | | Lights, Compt, Amdor AY-9220 LED, Dual Lt Strip | COMPARTMENT LIGHTING There will be twelve (12) 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. |
| 0667431 | | Lights, Compt, Amdor, AY-9220-31, LED, 30.58", Additional | ADDITIONAL COMPARTMENT LIGHTING There will be one (1) Amdor, Model AY9220-31, 30.58" long white 12 volt DC LED light stick(s) provided. These light will be installed in B1 upper header near doors. The lights will be mounted with mechanical fasteners. Opening the compartment door(s) will automatically turn the compartment lighting on. These lights may be load managed when the parking brake is applied. |
| 0687135 | | Shelf Tracks, Unpainted | MOUNTING TRACKS There will be nine (9) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, LS4, LS6, RS1, RS3, RS4 and RS6. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be unpainted with a natural finish. |
| 0625835 | | Shelves, Adjustable, 500 lb Capacity, Full Width/Depth, Special Side Height | ADJUSTABLE SHELVES There will be six (6) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted nightspots. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location will be (3) in LS4, (1) in RS1 and (2) in RS4. The side height of the shelf/shelves will be as follows: Front: 2.00" high Rear: 2.00" high Left & Right Sides: 2.00" high |
| 0600289 | | Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations, Aerial | ADJUSTABLE SHELVES There will be one (1) shelf 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 LS2 centered between the floor and ceiling. |
| 0808146 | | Shelf, Adjustable, Std Depth, .38" Plate, Flat Top | FLAT TOP ADJUSTABLE SHELF A flat top adjustable shelf will be provided. The shelf will be constructed of 0.38" thick aluminum. The shelf will be provided painted nightspots. The shelf will be as deep as possible for a standard depth compartment, and as wide as possible for the specified mounting location. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. A capacity rating will not be available on this shelf due to a reduced side height being less than 2.00". A total of two (2) shelves will be provided LS6, RS6 from the frame rail to create a floor for the 3 toolbars. Match previous job #37403. |
| 0015364 | | Tray, 500 lb, Slide-out, 2-Way, Utility, Adj Height, 3" Sides, Full Trans | TWO (2) WAY SLIDE-OUT UTILITY TRAY There will be one (1) slide-out tray provided. Each tray will be rated for up to 500 lb in the extended position. The tray(s) will be constructed of .19" thick aluminum for the tray bottom and special aluminum extrusions for the tray sides, ends and tracks. The corners will be welded. The tray will have 3.00" high sides, will span the full depth of the transverse compartment and will be as wide as possible for the compartment. The tray will be supported with a minimum of six (6) ball bearing rollers. The tray will slide out two thirds (2/3) of its length to either side of the apparatus. Automatic locks will be provided for both the in and out positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. The vertical location of the tray within the compartment will be adjustable. The tray(s) will be located LS3/RS3 in the transverse area over the torque box, painted nightspots to match remaining shelves and trays. |

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| 0709690 | Tray, 250 lb Slide-out, 2" Sides - Adj. Height, Predefined Locations | SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be four (4) slide-out trays provided. Each tray will have 2.00" high sides and a minimum capacity rating of 250 lb in the extended position. Each tray will be constructed of aluminum painted nightspots. Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location. An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand. The location(s) will be in RS4 centered between the floor and the ceiling, in RS1 in the lower third, in RS4 in the lower third and in LS1 centered between the floor and ceiling |
| 0627831 | Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, Low/Special Sides, 2G | SLIDE-OUT FLOOR MOUNTED TRAY There will be one (1) floor mounted slide-out tray(s) provided RS1. A capacity rating will not be available on this tray due to a reduced side height being less than 2.00". The tray(s) will be constructed of a minimum .13" aluminum with welded corners. The finish will be painted to match compartment interior. The tray(s) will be designed for maximum compartment width and depth. The side height of the tray(s) will be as follows: Front: no lip Rear: 2.00" high Left and Right Sides: 2.00" high There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2. To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117. To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. |
| 0647045 | Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, 500lb, 2.00" Sides, 2G | SLIDE-OUT FLOOR MOUNTED TRAY There will be three (3) floor mounted slide-out tray(s) with 2.00" sides provided (1) in LS1, (1) in LS4 and (1) in RS4. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of a minimum .13" aluminum. The finish will be painted nightspots. The trays will be designed for maximum compartment width and depth. There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2. To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117. To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. |
| 0804713 | SP Toolboard, Slide-out, 2-Way, 7020 Pac Trac, 85" Long, w/Tray, HD Stops | TRANSVERSE TWO (2) WAY SLIDE-OUT TOOLBOARD A slide-out aluminum toolboard will be provided. It will be a minimum of 0.188" with Pac Trac 7020 provided on both sides. A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the toolboard. The toolboard will be 85.00" long and centered in a 3.00" high utility style slide-out tray. The tray will be as wide and tall as possible for the mounting location specified. The bottom of the tray will be constructed of 0.19" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends and tracks. The corners will be welded. The tray and toolboard frame will be provided painted nightspots. The tray will be supported with a minimum of six (6) ball bearing rollers. The toolboard and tray will slide out two thirds (2/3) of its length to either side of the apparatus. Positive locks will be provided for toolboard in both the stowed and extended positions. Heavy duty stops will be provided for the slide-out tracks. The toolboard will be rated for a maximum of 500 lb in the extended position. A total of Three (3) toolboard(s) will be provided. The toolboard(s) will be located (3) in LS6/RS6, Painted Nightspots to match rest of shelves/trays etc. Size to match #30980. |
| 0013293 | Blister, for External Waterway | BLISTER FOR EXTERNAL WATERWAY A blister will be provided in the driver side rear compartment for the external waterway. |
| 0542387 | Compt, IPO Chute, Rear Access, Tandem Axle, Smooth Alum Door | COMPARTMENT IPO HOSE CHUTE There will be one (1) compartment(s) located on the right side of the body at the rear, in place of the hose chute. Each compartment will be approximately 10.00" wide x 46.00" deep. The rear 22.50" of length will be 16.00" high. The remaining forward length will be 14.00" high. Each compartment will have a smooth aluminum lift up door with a lift and turn latch. |

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| 0013909 | Compt, Transverse Over Torque Box, PAL/PAP | TRANSVERSE COMPARTMENT OVER TORQUE BOX one (1) upper forward body compartments will be transverse over the torque box, to the opposite side of the body. The transverse area will be as large as possible. The D3/P4 will include this transverse option. |
| 0630598 | SP Polypropylene, .50", Floor of Compartment | POLYPROPYLENE FLOOR A sheet of smooth .50" black polypropylene will be installed on the floor of LS1 in floor tray, LS4 in floor tray, LS6 below floor extension, RS1 in floor tray, RS4 in floor tray and RS6 below floor extension. A total quantity of six (6) 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 six (6) compartments on the compartment floor. The locations are, LS2,LS3,LS5,RS2,RS3,RS5. 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 13 shelves. The locations are, all adjustable shelves and all slide-out trays THAT DON'T HAVE POLY IN THEM The color of the Turtle Tile will be black. |
| 0083945 | Shelf, Trans Compt, Full Width | SHELF, ADJUSTABLE, TRANSVERSE A full width shelf will be installed LS6/RS6 above the toolboards, painted Nightspots to match compartment. The shelf construction will consist of .125" pan-shaped aluminum, with 2.00" sides. The shelf will be infinitely adjustable by means of a threaded tightener, which slides in a track. |
| 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. |
| 0802978 | Fender Crowns, Rear, S/S, w/Removable Fender Liner, Aerial, 2G, Two Pair | 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 fasteners (screws) 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. |
| 0609286 | Handrail, Extra - 15-20" Long, Hansen Tubing, Knurled Aluminum LED Backlit | ADDITIONAL HANDRAIL Four (4) handrails, will be mounted one (1) on catwalk above LS3 per print and one (1) on catwalk above RS3 per print and one (1) vertical each side of the body near the slideout platform steps below LS6 and RS6. 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. |
| 0802986 | Compt, Air Bottle, Between Tandems, Four (4) Bottles, w/ Straps, Bolt-In, Aerial | FOUR AIR BOTTLE STORAGE COMPARTMENT A total of two (2) air bottle compartments will be provided and located on the left side and the right side, centered between the tandem rear wheels. The air bottle compartment will consist of individual bins each designed to hold an air bottle with a maximum diameter of 7.63" and a maximum depth of 26.00". Each compartment will hold a total of four (4) air bottles. The compartment will accommodate three (3) bottles across the top and one (1) centered below. The bottom air bottle will be accessible only when the top center bottle is removed and the hinged partition over the bottom bottle is lifted up. Each bottle will be separated by a partition. A drop down door with support cables with pair of flush lift & turn latches will be provided for each compartment. The door will be polished stainless steel. The door will be flanged on all non-hinged sides. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment there will be a drain hole and black rubber matting. AIR BOTTLE COMPARTMENT STRAP Straps will be provided in the air bottle compartment(s) to help contain the top three (3) air bottles. The straps will wrap around the neck of each bottle and attach to the wall of the compartment. |

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| 0806235 | Compt, Air Bottle, Single, Round, Fender, Tri Door w/DEF, Bolt-In, Tandem Aerials | SINGLE AIR BOTTLE STORAGE COMPARTMENT A quantity of one (1) air bottle compartment, 7.75" in diameter x 26.00" deep, will be provided on the left side forward of the rear wheels. The triangular door to cover the air bottle opening and the DEF tank access. A polished stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided. |
| 0804429 | Compt, Air Bottle, Single, Round, Fender, Tri Door, Bolt-In, Tandem Aerials | SINGLE AIR BOTTLE STORAGE COMPARTMENT A quantity of one (1) air bottle compartment, 7.75" in diameter x 26.00" deep, will be provided on the left side forward of the rear wheels. A polished triangular shaped, stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided. |
| 0804448 | Compt, Extinguisher, Fender, 9.00" Square, Bolt-In, Tandem Aerials | EXTINGUISHER STORAGE A quantity of two (2) extinguisher compartments will be provided on the right side forward of the rear wheels and on the right side rearward of the rear wheels. The extinguisher compartment will be in the form of a 9.00" square tube and of adequate depth to accommodate different size extinguishers. A polished stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the extinguisher. A dielectric barrier will be provided between the door hinge, hinge fasteners, and the body sheet metal. Inside the compartment, black rubber matting will be provided. There will also be a drain hole for each compartment. |
| 0004218 | Ladder, 35' Duo-Safety 1200A 2-Sect | EXTENSION LADDER There will be one (1) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided. |
| 0064226 | Ladder, 24', Duo-Safety 900A 2-Section | ADDED EXTENSION LADDER There will be one (1) 24', two (2) section, aluminum, Duo-Safety Series 900A extension ladder provided. |
| 0010406 | Ladder, 28' Duo-Safety 1200A 2-Section | AERIAL EXTENSION LADDERS There will be one (1) 28' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided and located in the aerial torque box. |
| 0024232 | Ladder, 16' Duo-Safety 875A Roof | ROOF LADDER There will be two (2) 16' aluminum Duo-Safety Series 875-A roof ladder(s) provided. |
| 0654698 | Ladder, 12' Duo-Safety 775A Roof, 16.00" Width, Non-NFPA Compliant | ADDED ROOF LADDER There will be one (1) 12' aluminum roof ladder, Series 775-A provided. The ladder(s) will have a special outside width of 16.00". This ladder is non compliant to NFPA 1931, Chapter 4.2.2, "Standard for Manufacturer's Design of Fire Department Ground Ladders". Per Fire Department specification request of this ladder, the apparatus will be non compliant to the current edition of applicable NFPA standards at time of contract execution. |
| 0014232 | Ladder, 20' Duo-Safety 875A Roof | ADDED ROOF LADDER There will be one (1) 20' roof, aluminum, Series 875-A provided. |
| 0521218 | Not Required, Attic Extension Ladder | |
| 0054244 | Ladder, 12' Duo-Safety Folding, 585A | AERIAL FOLDING LADDER There will be one (1) 12' aluminum Duo-Safety Series 585-A folding ladder(s) provided. |
| 0663135 | SP Ladders Stored in Torque Bx, Vertically Hinged Lap Doors, Ascendant, PAL, PAP | GROUND LADDER STORAGE The ground ladders will be stored within the torque box and will be removable from the rear. Ladders will be enclosed to prevent road dirt and debris from fouling or damaging the ladders. The ladders rest in full length stainless steel slides and are arranged in such a manner that any one ladder can be removed without having to move or remove any other ladder. Vertically hinged double lap doors will be provided at the rear to close the ladder compartment. Doors will be of double pan aluminum construction. Single sheet aluminum doors will not be considered. The lock door will be latched with Eberhard latches with "D" ring handles. A heavy-duty magnetic switch will be used for control of open compartment door warning lights. |

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| 0602100 | Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts | LADDER STORAGE LIGHTING There will be 21.00" white 12 volt DC LED strip lights in the torque box ladder storage compartment. One (1) light will be provided on each side of the ladder storage area. The lights will be activated when the ladder storage compartment door is opened. |
| 0777289 | Poly Hinge Guard, White, Torque Box Ladder Storage | LADDER RETAINER HINGE GUARD There will be a white polyethylene high density strip provided at the rear ladder retainer hinge to protect and allow easy access for the ground ladders. It will be full width of the ladder retainer hinge. The strip will be attached with countersunk screws and the edges will be chamfered. |
| 0004249 | Slides, Dura-Surf, Ground Ladder Storage, Horizontal Surfaces, Ascendant,PAL,PAP | DURA-SURF LADDER SLIDES Black Dura-Surf friction reducing material will be added to the stainless steel slides, on the bottom horizontal surfaces, of the ladder storage rack. |
| 0069338 | Pike Pole, 8' Nupla, Vent Hook, RH-8DA, w/D Handle | 8' PIKE POLE There will be 8' Nupla RH-8DA aluminum pike pole(s) provided with D-grip handles and roof/vent rubbish hooks. Two (2) pike poles will be provided. The pike pole(s) will be located in the torque box. |
| 0013950 | Pike Pole, 10' Nupla, Fiberglass, Featherlight, YPD-10 | PIKE POLE, 10' Two (2) pike poles, 10' long with a Nupla Featherlight fiberglass handle will be provided and located in the torque box. |
| 0084317 | Not Required, Pole, Pike, 12' | |
| 0024337 | Pike Pole, 8' Nupla, Featherlight, Aerial | PIKE POLES two (2) Eight foot Nupla Pike Pole(s): "Featherlite" handles |
| 0549137 | Not Required, Pike Pole, 6' | |
| 0548410 | Not Required, Pole, Pike, 3' | |
| 0770464 | Trough, S/S, Torque Box/Ladder Storage, D-Handled Pike Pole/Trash Hooks | PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE There will be a total of two (2) stainless steel trough(s) provided in the torque box/ladder storage area. The trough(s) will accommodate a Nupla fiberglass 8' roof vent/trash hook with D handle. |
| 0770572 | Pike Pole Tubes, in Torque Box/Ladder Storage, Alum, Special Notch, NY Style | PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE There will be aluminum tubing provided in the torque box/ladder storage area for a total of four (4) pike poles. The pike pole tube(s) will be notched to allow a New York style pike pole to fit in the tube. If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided. |
| 0532882 | Label, "NO STEP" | WARNING LABEL(S) There will be four (4) label(s), indicating "NO STEP", provided one on each side of the front visor, one on top of the back-up camera at the rear and one on the A/C on cab roof. |
| 0024388 | No Steps Required, Front Of Body | |
| 0000458 | Platform, Slide Out, 500 lb Capacity, Alum 4-Way | SLIDE-OUT PLATFORM Two (2) slideout platforms will be provided one (1) below LS6 and one (1) below RS6. The capacity rating will be 500 lbs in the extended position. Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand. There will be an Amdor Model AY-LB42HW0** white 12 volt DC LED light provided to illuminate the ground area. |
| 0753687 | SP Step, Folding - Extra, Body Only, w/LED, Signature 4 | Two (2) additional folding steps will be located on the rear bulkhead of LS3 and RS3 (match 30980). The step(s) will be bright finished non-skid. 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. |

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| 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. |
| 0606832 | Location, Air Horns, Bumper, Left Side, Outside Frame, Same Side (Pos #6 & #7) | Air Horn Location The air horns will be located on the left side of the bumper, outside of the frame rail. |
| 0757092 | Control, Air Horn, Multi Select | Air Horn Control The air horn(s) will be activated by the following: |
| 0757081 | Control, Air Horn, Ft Sw, LS | Left side foot switch |
| 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 right 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 | |
| 0748282 | Control Mech Siren, Ft Sw LS | Left side foot switch. |
| 0740391 | Sw, Siren Brake, Momentary Chrome Push Button, RS | A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake. |
| 0736649 | Sw, Siren Brake, Momentary Red, Center Console Sw Pnl | A momentary red switch will be included on the center console switch panel to activate the siren brake. |

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| 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 | |
| 0791893 | SP Lightbar, WIn, Freedom IV-Q, 2-21.5", RRRRR RRsrRR | FRONT ZONE UPPER WARNING LIGHTS There will be two (2) 21.50" Whelen® Freedom™ IV lightbars mounted on the cab roof, one (1) on each side, above the driver's and passenger's door, facing forward. The driver's side lightbar will include the following: One (1) red flashing LED module in the outside end position. One (1) red flashing LED module in the outside front corner position. One (1) red flashing LED module in the outside front position. One (1) red flashing LED module in the inside front position. One (1) red flashing LED module in the inside front corner position. The passenger's side lightbar will include the following: One (1) red flashing LED module in the inside front corner position. One (1) red flashing LED module in the inside front position. One (1) steady red LED module in the outside front position. One (1) red flashing LED module in the outside front corner position. One (1) red flashing LED module in the outside end position. There will be clear lenses included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars. |
| 0691599 | Light, GTT, 792* Strobe Opticom Emitter, Remote Mounted on Cab Roof | TRAFFIC LIGHT CONTROLLER There will be a GTT, Model 792* strobe Opticom traffic light controller with national standard high priority remote mounted on the front edge of the cab on the driver's side of the aerial. The Opticom traffic light controller will be activated by a cab switch with emergency master control. The Opticom traffic light controller will have no momentary activation switch. The Opticom traffic light controller will be disabled when the parking brake is applied. |
| 0558293 | SP Light, Front Zone, WIn 4-Super 500 LED, Stacked, 2-Flash, 2-Steady | WARNING LIGHTS (Cab Face) Two (2) pair of Whelen Super 500, Model 50*0Z*R, TIR6 LED lights will be installed above the headlights. These lights will be stacked, one (1) on top of the other. The upper lights will be required to meet or exceed the NFPA front lower zone optical warning light requirements. The color of the upper lights will be will be both red Super LED/red lens. The color of the lower lights will be will be both red Super LED/red lens. There will be a switch located in the cab, on the switch panel, to control both sets of 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. |
| 0895940 | Lights, Side Zone Lower, WIn, Separated into Front, Middle, Rear | |
| 0895907 | Lights, Side Zone Lower Front, WIn M6** | SIDE ZONE LOWER FRONT WARNING There will be two (2) 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: There will be one (1) each side on the front custom cab corner. The left side, side front light to include red warning LEDs. The right side, side front light to include red warning LEDs. The warning light lens colors to be the same as the LEDs. The lights will be activated with a switch in the cab on the switch panel. |
| 0895781 | Lights, Side Zone Lower Middle, WIn M6* | SIDE ZONE LOWER MIDDLE WARNING There will be two (2) 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: There will be one (1) each side of cab rearward of crew cab doors. The left side, side middle light to include red warning LEDs. The right side, side middle light to include red warning LEDs. The warning light lens colors to be the same as the LEDs. The lights will be activated with a switch in the cab on the switch panel. |

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| 0895777 | Lights, Side Zone Lower Rear, WIn M6** | SIDE ZONE LOWER REAR WARNING There will be two (2) 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: There will be one (1) each side located between the tandems. The left side, side rear light to include red warning LEDs. The right side, side rear light to include red warning LEDs. The warning light lens colors to be the same as the LEDs . The lights will be activated with a switch in the cab on the switch panel. |
| 0622791 | Lights, Side, WIn M9V2** 2nd | SIDE WARNING LIGHTS There will be one (1) Whelen Model M9V2**, 6.50" high x 10.38" long x 2.63" deep flashing warning light(s) with white LED's as scene lights and chrome trim on the passenger's side of the cab, centered above the exterior access EMS door as high as possible. The color of the flashing warning LED's will be red. The flashing warning LED's will include a lens that is clear. The scene LED's will include a clear lens. The flashing warning LED's will be controlled with the side warning switch. The scene LED's will be activated when the battery switch is on, by a switch at the driver's side switch panel. The warning and scene LED's may be load managed when the parking brake is applied. |
| 0622914 | Lights, Side, WIn M9V2** 1st | SIDE WARNING LIGHTS There will be one (1) Whelen®, Model M9V2**, 6.50" high x 10.38" long x 2.63" deep flashing warning light(s) with white LED's as scene lights and chrome trim on the driver's side of the cab, centered above the exterior access EMS door as high as possible. The color of the flashing warning LED's will be red. The flashing warning LED's will include a lens that is clear. The scene LED's will include a clear lens. The flashing warning LED's will be controlled with the side warning switch. The scene LED's will be activated when the battery switch is on by a switch at the driver's side switch panel. The warning and scene LED's may be load managed when the parking brake is applied. |
| 0587935 | Lights, Side, WIn RS*02ZCR, Horizontally Mntd/Rec in Rub Rail, 1st | WARNING LIGHTS (Side) There will be six (6) Whelen LIN3 Super LED lights, Model RS*02ZCR, provided and located in the body rub rails one (1) centered below each of the following compartments: LS1,LS4, LS6, RS1, RS4, RS6. The color of each light will be red LED with clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch. |
| 0894842 | Lights, Rear Zn Lwr, WIn M6*, For Tail Lt Housings | REAR ZONE LOWER WARNING LIGHTS There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights located in the rear tail light housings of the apparatus per the following: The driver's side rear light to be red. The passenger's side rear light to be red. The lens color(s) to be the same as the LEDs. There will be a switch located in the cab on the switch panel to control the lights. |
| 0686562 | Light, Rear Zone Up, WIn MCFLED2* LED | REAR UPPER ZONE WARNING LIGHTS There will be two (2) Whelen, Model MCFLED2* LED warning beacons provided at the rear of the truck, one (1) each side. The color of the lights will be: The rear upper light(s) on the driver's side to be red. The rear upper light(s) on the passenger's side to be red. All lenses will be clear. There will be a switch located in the cab on the switch panel to control the beacons. |
| 0006551 | Not Required, Lights, Rear Upper Zone Blocking | |
| 0822835 | Bracket, 8" Ledge, Full Width Rear of Body, Tapered Corners, Ascend TA, PAL/PAP | REAR BODY LIGHT MOUNTING BRACKET There will be an 8.00" deep, full width, aluminum treadplate bracket(s) provided at the rear of the body above the ladder storage area. The rear outside corners of the bracket will be tapered to provide additional clearance. The bracket(s) will be provided to mount lights, cameras, or other accessories. The brackets will include a removable panel to protect the wire connections. |
| 0791501 | Light, Traffic Directing, WIn TAL65, 36" Long LED, Aerials | TRAFFIC DIRECTING LIGHT There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen, Model TACTL5, control head will be included with this installation. The controller will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on. |

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| 0530074 | Location, TDL, On Top of Body Below Turntable w/Treadplate Box | This traffic directing light will be mounted on top of the body below the turntable with a treadplate box at the rear of the apparatus. |
| 0530288 | Location, Traf Dir Lt Controller, Overhead Recessed Console, above Eng Tnl DS | The traffic directing light controller will be located within the overhead recessed console above the engine tunnel on the driver's side. |
| 0780368 | Receptacle Strip, 20A 120V 6-Place, Sentrex M620BZLS 15.37", Surge Prot, Int Cab | <p>POWER OUTLET STRIP</p> <p>There will be one (1) Sentrex Model M620BZLS 18.00" long x 2.00" wide x 1.75" thick, surge protected receptacle strip(s) with six (6) 20 amp 120 volt AC straight blade receptacles provided. Mounted on top in the center of the Rear Facing Center cabinet on engine tunnel. Strip to be centered and closest to front edge as possible.</p> <p>The strip(s) selected will be powered from shoreline inlet through a receptacle located adjacent to the strip(s).</p> <p>There will be a label installed near the strip(s) that state the following:</p> <p>Line Voltage Current Rating (amps) Phase Frequency</p> |
| 0781579 | Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Cab | <p>120 VOLT RECEPTACLE</p> <p>There will be one (1), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with interior stainless steel wall plate(s), installed behind officer seat PER JOB #30980. The NEMA configuration for the receptacle(s) will be 5-20R.</p> <p>The receptacle(s) will be powered from the shoreline inlet.</p> <p>There will be a label installed near the receptacle(s) that state the following:</p> <p>Line Voltage Current Rating (amps) Phase Frequency</p> |
| 0779701 | Receptacle, 15/20A 120V 3-Pr 3-Wr SB Dup, 4 place, Interior Body | <p>120 VOLT RECEPTACLE</p> <p>There will be five (5), 4-place receptacle box(es) with four (4) 15/20 amp 120 volt AC three (3) wire straight blade receptacles with interior stainless steel wall plate(s) installed LS1/LS2/RS1/RS2 in the right rear upper corner when looking into compartment LS4 Upper Left corner when looking into compartment All receptacles to have 24" coiled wire and final location TBD at Final . The NEMA configuration for the receptacles will be 5-20R.</p> <p>The receptacle(s) will be powered from the shoreline inlet.</p> <p>There will be a label installed near the receptacle(s) that state the following:</p> <p>Line Voltage Current Rating (amps) Phase Frequency</p> |
| 0519934 | Not Required, Brand, Hydraulic Tool System | |
| 0649753 | Not Required, PTO Driven Hydraulic Tool System | |
| 0755095 | Aerial, 107' ASL Tandem, 750/500 Tip, 50 MPH | <p>FOUR (4)-SECTION 107 FOOT AERIAL LADDER CONSTRUCTION STANDARDS</p> <p>The ladder will be constructed to meet all of the requirements as described in the current edition of applicable NFPA standards.</p> <p>The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.</p> <p>These capabilities will be established in an unsupported configuration.</p> <p>All structural load supporting elements of the aerial device that are made of a ductile material will have a design stress of not more than 50 percent of the minimum yield strength of the material based on the combination of the live load and the dead load. This 2:1 structural safety factor meets the current NFPA standard.</p> <p>All structural load supporting elements of the aerial device that are made of non-ductile material will have a design stress of not more than 20 percent of the minimum ultimate strength of the material, based on the combination of the rated capacity and the dead load. This 5:1 safety factor meets the current NFPA standard.</p> <p>Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall. The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire core for increased flexibility. The wire rope will be galvanized to reduce corrosion.</p> <p>The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication.</p> <p>The aerial device will be capable of sustaining a static load one and one-half times its rated tip load capacity (live load) in every position in which the aerial device can be placed when the vehicle is on a firm level surface.</p> <p>The aerial device will be capable of sustaining a static load one and one-third times its rated tip load capacity (live load) in every position the aerial device can be placed when the vehicle is on a slope of five degrees downward in the direction most likely to cause overturning.</p> |

With the aerial device out of the cradle and in the fully extended position at zero degrees elevation, a test load will be applied in a horizontal direction normal to the centerline of the ladder. The turntable will not rotate and the ladder will not deflect beyond what the product specification allows.

All welding of aerial components, including the aerial ladder sections, turntable, pedestal, and outriggers, will be in compliance with the American Welding Society standards. All welding personnel will be certified, as qualified under AWS welding codes.

The aerial device will be capable of operating in conditions of wind up to 50 mph and icing conditions of up to a 0.25" coating over the aerial structure.

All of the design criteria must be supported by the following test data:

Strain gage testing of the complete aerial device

Analysis of deflection data taken while the aerial device was under test load

The following standards for materials are to be used in the design of the aerial device:

Materials are to be certified by the mill that manufactured the material

Material testing that is performed after the mill test will be for verification only and not with the intent of changing the classification

All welded structural components for the ladder will be traceable to their mill lots.

LADDER CONSTRUCTION

The ladder is comprised of four (4) sections.

The ladder will have the capability to support a minimum of 750 lb at the tip in the unsupported configuration, based upon 360 degree rotation, up to full extension and from -10 degrees to +77 degrees.

The ladder (handrails, baserails, trusses, K-braces and rungs) will be constructed of high strength low alloy steel, minimum 100,000 pounds per square inch yield, with full traceability on all structural members.

Each section will be trussed diagonally, vertically and horizontally using welded steel tubing.

All ladder rungs are round and welded to each section utilizing "K" bracing for lateral and torsional rigidity.

The inside width dimensions of the ladder will be:

Base Section:

41.87"

Lower Mid Section:

34.88"

Upper Mid Section:

27.87"

Fly Section:

21.63"

The height of the handrails above the centerline of the rungs will be:

Base Section:

26.28"

Lower Mid Section:

22.68"

Upper Mid Section:

20.06"

Fly Section:

17.32"

The ladder will be designed to provide continuous egress for firefighters and civilians from an elevated position to the ground.

The egress section will be designed to maintain the rated load of the aerial device. It will be bolted on for easy replacement. There will be a lift eye welded on to each side of the egress.

VERTICAL HEIGHT

The ladder will extend to a minimum height of 107' above the ground at full extension and elevation. The measurement of height will be consistent with NFPA standards.

HORIZONTAL REACH

The rated horizontal reach will be 100'. The measurement of horizontal reach will be consistent with NFPA standards.

TURNTABLE

The upper turntable assembly will connect the aerial ladder to the turntable bearing. The steel structure will have a mounting position for the aerial elevation cylinders, ladder connecting pins, and upper turntable operator's position.

The turntable will be coated with a non-skid, chemical resistant material in the walking areas. The stepping surfaces will meet the skid-resistance requirements of the current NFPA standard.

The turntable handrails will be a minimum 42.00" high and will not increase the overall travel height of the vehicle. The handrails will be constructed from aluminum and have a slip resistant knurled surface. The turntable vertical handrail spacing will be designed with a 44.00" wide x 27.00" high opening to allow for equipment to pass through from the ground to the aerial ladder. The opening will be located at the center, rear of the turntable.

ELEVATION SYSTEM

Dual 5.50" diameter elevating cylinders will be mounted on the underside of the base section of the ladder, one (1) on each side. One (1) 2.25" diameter stainless steel pin will fasten each cylinder to the ladder and one (1) 2.50" diameter stainless steel pin will fasten each cylinder to the turntable. The pins will have 125,000 psi minimum yield strength and will be secured with 0.50" Grade 8 bolts with castle nut and cotter pin. The bolts are to ensure that the pins do not walk out of the mounting brackets on the turntable and base section.

The elevating cylinders will be mounted utilizing maintenance-free spherical bearings on both ends of the cylinders. The aerial base pivot bearings will be maintenance-free type bearings with no external lubrication required. **The cylinders will function only to elevate the ladder and not as a structural member to stabilize the ladder side movement. The elevating cylinders will be provided with pilot-operated check valves on the barrel and rod side of the piston to prevent movement of the ladder in case of a loss of hydraulic pressure.**

The operation envelope will be 10 degrees below horizontal to 77 degrees above horizontal.

The elevation system will be designed following NFPA standards. The elevation hydraulic cylinders will incorporate cushions on the upper limit of travel.

The lift cylinders will be equipped with integral holding valves located in the cylinder to prevent the unit from descending should the charged lines be severed, at any point within the hydraulic system and to maintain the ladder in the bedded position during road travel. The integral holding valves will NOT be located in the transfer tubes.

The elevation system will be controlled by the microprocessor. Linear transducers will measure the extension of the elevation cylinder. The microprocessor will provide the following features:

Collision avoidance of the elevation system to prevent accidental body damage

Automatic deceleration when the aerial device is lowered into the cradle

Automatic deceleration at the end of stroke, in maximum raise and lower positions

Deceleration of the aerial device at the limits of travel.

EXTENSION/RETRACTION SYSTEM

A hydraulically powered, extension and retraction system will be provided through dual hydraulic cylinders and wire ropes. Each set will be capable of operating the ladder in the event of a failure, of the other. The extension cylinder rod will be chrome plated to provide smooth operation of the aerial device and reduce seal wear. The extension/retraction cylinders will be equipped, with integral holding valves, to prevent the unit from retracting should the charged line be severed, at any point within the hydraulic system. The integral holding valves will NOT be located in the transfer tubes.

Wire ropes and attaching systems used to extend and retract the fly sections will have a 5:1 safety factor based on the ultimate strength under all operating conditions. The factor of safety for the wire rope will remain above 2:1 during any extension or retraction stall.

The minimum ratio of the diameter of wire rope used to the diameter of the sheave used will be 1:12. Wire ropes will be constructed of seven (7) strands over an inner wire for increased flexibility. The wire rope will be galvanized to reduce corrosion.

The extension/retraction system will be controlled by the microprocessor. Linear transducers will measure the ladder extension. The microprocessor will provide the following features:

Automatic deceleration at the end of stroke, in maximum extend and retract positions

All sheaves will require lubrication. They will have bronze bushings and grease zerks.

MANUAL OVERRIDE CONTROLS

Manual override controls will be provided for all aerial and stabilizer functions.

LADDER SLIDE MECHANISM

UHMW polyethylene wear pads will be used between the telescoping ladder sections, to provide greater bearing surface area for load transfer. Adjustable slide pads will be used to control side play between the ladder sections.

ROTATION SYSTEM

The aerial will be supplied with a powered rotation system as outlined in NFPA standards. The hydraulic rotation motor will provide continuous rotation under all rated conditions and be supplied with a brake to prevent unintentional rotation. One (1) hydraulically driven, planetary gear box with drive speed reducers will be used to provide infinite and minute rotation control throughout the entire rotational travel. One (1) spring applied, hydraulically released disc type swing brake will be furnished to provide positive braking of the turntable assembly. Provisions will be made for emergency operation of the rotation system should complete loss of normal hydraulic power occur. The hydraulic system will be equipped with pressure relief valves which will limit the rotational torque to a nondestructive power. The gearbox will have a minimum continuous torque rating of 80,000 in. lbs. and a minimum intermittent rating of 160,000 in. lbs. The turntable bearing, ring gear teeth, pinion gear, planetary gearbox, and output shaft will be certified by the manufacturer of the components for the application.

The rotation system will be controlled by the microprocessor. The microprocessor will provide the following features:

Collision avoidance to prevent accidental body damage

Prevent the aerial from being rotated into an unstable condition.

ROTATION INTERLOCK

The microprocessor will be used to prevent the rotation of the aerial device to the side in which the stabilizers have not been fully deployed (short-jacked). The microprocessor will allow full and unrestricted use of the aerial, in the 180 degree area, on the side(s) where the stabilizers have been fully deployed. The system will also have a manual override to comply with the current edition of applicable NFPA standards.

LADDER CRADLE INTERLOCK SYSTEM

A ladder cradle interlock system will be provided through the microprocessor to prevent the lifting of the aerial device from the nested position until the operator places all the stabilizers in a load supporting configuration. A switch will be installed at the boom support to prevent operation of the stabilizers once the aerial has been elevated from the nested position..

AERIAL TORQUE BOX/PEDESTAL

The pedestal assembly will be a welded assembly made of high strength 0.25" plate. The vertical member will be a 0.375" reinforced wall cylinder with a 28.00" outside diameter and will connect the rotation bearing mounting plate to the lower substructure.

The pedestal assembly will be bolted to the chassis frame with 0.88" diameter Grade 8 bolts, and will be utilized to mount the outrigger jacks and reservoir for the aerial hydraulic system.

There will be a 5/8" gap between the torque box and the frame rails to promote drying of the surfaces and reduce the effect of corrosion.

LOAD CAPACITIES

The following load capacities will be established with the stabilizers at full horizontal extension and placed in the down position to level the truck and to relieve the weight from the tires and axles. Capacities will be based upon full extension and 360 degree rotation. A load chart, visible at the operator's station, will be provided. The load chart will show the recommended safe load at any condition of the aerial device's elevation and extension.

50 MPH WIND CONDITIONS/WATERWAY DRY

Degrees of Elevation

-10 to 9

10 to 19

20 to 29

30 to 39

40 to 49

50 to 59

60 to 69

70 to 77

Egress

750

750

750

750

750

750

Fly

-

-

-

-

250

500

750

Upper Mid

-

-

-

250

500

1000

1000

Lower Mid

-

-

-

500

750

1000

1000

Base

-

-

500

500

1000

1000

1000

50 MPH WIND CONDITIONS/WATERWAY CHARGED

Degrees of Elevation

-10 to 9

10 to 19

20 to 29

30 to 39

40 to 49

50 to 59

60 to 69

70 to 77

Egress

500

500

500

500

500

500

Fly

-

-

-

-

250

500

500

Upper Mid

-

-

-

250

500

750

1000

Lower Mid

-

-

250

500

750
1000
1000
Base
 -
 -
250
500
750
1000
1000
1000

Reduced loads at the tip can be redistributed in 250 lb increments to the fly, mid, or base sections as needed.

The tip capacity will be reduced to zero when flowing water with the nozzle above the waterway centerline.

Side to side monitor travel will be reduced with a 50 mph wind rating on the device.

BOOM SUPPORT

A heavy-duty boom support will be provided for support of the ladder in the travel position. On the base section of the ladder, a stainless steel scuffplate will be provided where the ladder comes into contact with the boom support.

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| 0000038 | Boom Support, Recessed in Compt IPO Pump | The boom support will be located just to the rear of the chassis cab, recessed into the transverse compartment in place of pump. |
| 0762413 | Light, Boom Support, Amdor AY-LB-12HW012, 12" LED | AERIAL BOOM SUPPORT LIGHT There will be one (1) Amdor®, Model AY-LB-12HW012, 190 lumen, 12" long, white LED strip light mounted on the boom support cradle. This light will be activated when the aerial master switch is activated. |
| 0666382 | Hydraulic Tank, Special Location | HYDRAULIC TANK SPECIAL LOCATION The hydraulic tank will be located on top of the torque box at the front. |
| 0647962 | SP Modification,T-Box,Rr Body,w/Raised Rr Struct,AscendTA,105',100'HAL,100'R MAP/PAP | MODIFICATION, TORQUE BOX The torque box will be modified to accommodate the raised rear substructure. |
| 0680821 | Boom Panel, Pair | AERIAL BOOM PANEL There will be one boom panel provided on each side of the aerial ladder base section. The boom panel will be painted #181 red. The boom panels will be designed so no mounting bolts are in the face of the panel. This will keep the lettering surface free of holes. |
| 0526885 | Indicator, Extension, Inside and Outside Handrails, Every 10' | EXTENSION INDICATOR Extension markings and corresponding numerical indicators will be provided along each inside and outside top rail of the base section of the aerial every 10'. They will indicate various positions of extension up to full. Markings and indicators will be clearly visible to the console operator. To aid in visibility during hours of darkness, the markings and numerical indicators will be red reflective material. |
| 0723719 | Steps, Folding, Four, Aerial Device, Trident | FOLDING STEPS One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding steps will be provided at the base of the fly section. The steps will be bright finished with a black tread coating on the stepping surface. Each step will have an integrated LED to illuminate the stepping surface. |
| 0688232 | Rung Covers, Aerial Device | AERIAL DEVICE RUNG COVERS Each rung will be covered with a secure, heavy-duty, fiberglass pultrusion that incorporates an aggressive, no-slip coating. The rung covers will be glued to each rung and will be easily replaceable should the rung cover become damaged. The center portion of each rung cover will be black and the outside 2.00" edge at each side will be safety yellow. Under no circumstances will the rung covers be fastened to the rungs using screws or rivets. The rung covers will have a 10-year, limited warranty. |
| 0674963 | Scabbard, Temporary Vent Saw Storage, No Depth Gauge, Aerial Ladder | TEMPORARY SCABBARD AT END OF AERIAL There will be a total of two (2) vent saw scabbard(s) provided. The scabbard(s) will be mounted on each side of the aerial egress. The scabbard(s) will be DA finished. |

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| 0678539 | Brackets Only, Roof/Wall Ladder, Aerial Fly Section | LADDER STORAGE MOUNTING BRACKETS There will be brackets that are DA finished provided near the end of the fly section of the aerial for mounting a roof ladder. The mounting brackets will accommodate a 12' Duo-Safety 775-A, 16.00" wide roof/wall ladder as determined by the type of aerial device and the available space. |
| 0680785 | Limited Retraction, Aerial | LIMITED RETRACTION The aerial device will have limited retraction. |
| 0601972 | Lights, Turntable Walkway, P25, LED | LIGHTS FOR TURNTABLE WALKWAY There will be white LED lights provided at the aerial turntable. The lights will be located to illuminate the entire walking surface of the turntable including the area around the turntable console. These lights will be activated by the aerial master switch. |
| 0762396 | Light, Turntable Console, Amdor AY-LB-12HW012, LED Strip Light | TURNTABLE CONSOLE LIGHTING There will be one (1), Amdor®, Model AY-LB-12HW012, 190 lumen, 12" long, white LED light strip mounted in the turntable console cover to illuminate the controls located on both the upper and lower portion of the turntable control station. These lights will be activated by the aerial master switch. |
| 0814217 | Control Stations, ASL Tandem Axle, MUX, Color Display, CL714 | <p>INFORMATION CENTER There will be an information center provided. The information center will operate in temperatures from -40 to 158 degrees Fahrenheit. The information center will employ a Linux operating system and a 7.00" (diagonal measurement) LCD display. The LCD will have a minimum 1000nits rated, color display. The LCD will be sunlight readable. The LCD display will be encased in an ABS, gray plastic housing with a Pierce decal. There will be five (5), weather-resistant user interface switches provided. The LCD display can be changed to an available foreign language.</p> <p>OPERATION The information center will be designed for easy operation in everyday use. There will be a page button to cycle from one screen to the next screen in a rotating fashion. A video button will allow an NTSC signal into the information center to be displayed on the LCD. If any button is pressed while viewing a video feed, the information center will return to the vehicle information screens. There will be a menu button to provide access to maintenance, setup, and diagnostic screens. All other button labels will be specific to the information being viewed.</p> <p>GENERAL SCREEN DESIGN Where possible, background colors will be used to provide vehicle information <i>At A Glance</i>. If the information provided on a screen is within acceptable limits, a green background color will be used. If the information provided on a screen is not within acceptable limits, an amber background color will indicate a caution condition and a red background color will indicate a warning condition. Every screen in the information center will include the aerial tip temperature, the time (12- or 24-hour mode) and a text Alert Center. The time will be synchronized between all Command Zone color displays located on the vehicle. The Alert Center will display text messages for audible alarms. The text messages will identify any items causing the audible alarm to sound. If more than one (1) audible alarm is activated, the text message for each alarm will cycle every second until the problems have been resolved. The background for the Alert Center will change to indicate the severity of the warning message. Amber will indicate a caution condition and red will indicate a warning condition. If a warning and a caution condition occur simultaneously, the red background color will be shown for all Alert Center messages. A label will be provided for each button. The label will indicate the function for each active button for each screen. If the button is not utilized on specific screens, it will have a button label with no text. Symbols will accurately depict the aerial device type the information pertains to such as rear mount ladder, rear mount platform, mid-mount ladder or mid-mount platform.</p> <p>PAGE SCREENS The Information center will include the following pages: The Aerial Main and Load Chart page will indicate the following information:<ul style="list-style-type: none">- Rungs Aligned and Rungs Not Aligned will be indicated with text and respective green or red colored ladder symbols.- Ladder Elevation will be indicated via a fire apparatus vehicle with ladder symbol with the degree of elevation indicated between the vehicle and ladder.- Water Flow (if applicable) will be indicated via a water nozzle symbol and text indicating flow / time.- Breathing Air Levels will be indicated via an air bottle symbol and text indicating the percent (%) of air remaining. A green bar graphs shown inside the bottle will indicate oxygen levels above 20%. A red bar graph will indicate oxygen levels at or below 20%. When oxygen levels are at or below 10% the red bar graph will flash.- The Aerial Load Chart will indicate the load limit on each section of the ladder based on actual ladder position and water flow (if applicable).- <i>At A Glance</i> color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.The Aerial Reach and Hydraulic Systems page will indicate the following information:<ul style="list-style-type: none">- Aerial Hydraulic Oil Temperature will be indicated with symbol and text. At a glance features will be utilized.- Aerial Hydraulic Oil Pressure will be indicated with a symbol and text. At a glance features will be utilized.- The following calculations will be indicated on a representative vehicle symbol:<ul style="list-style-type: none">- Aerial Device Extension length.- Aerial Height indicating the height of the aerial device tip from the ground.</p> |

- Aerial Device Reach indicating the horizontal distance the aerial reaches from the turntable.
- Aerial Device Angle indicating the angle from the vehicle which the device is at.
- At A Glance color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

The Level Vehicle page will indicate the following information:

- The grade of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of grade shown in text format. The symbol will tilt dependent on the vehicle grade.
- The slope of the vehicle will be indicated via a fire apparatus vehicle symbol with the degree of slope shown in text format. The symbol will tilt dependent on the vehicle slope.
- Outriggers status will be indicated via a colored symbol for each outrigger present. Each outrigger status will be defined as one of the following:
 - Outrigger stowed indicated with a silver pan located close to the vehicle
 - Outrigger fully extended indicated with a fully deployed green outrigger
 - Outrigger short-jacked indicated by a yellow outrigger partially deployed
 - Outrigger not set indicated by a red outrigger that is not set on the ground
- A text box located on the vehicle symbol will be utilized to identify the overall status of the outrigger leveling system. The following status will be indicated in the text box:
 - Deployed status will indicate all outriggers are properly set on the ground at full extension
 - Shortjacked status will indicate one or more outriggers are set on the ground but not fully extended.
 - Not Set status will indicate one or more outriggers is not properly set on the ground.
 - Stowed status will indicate all outriggers are stowed for vehicle travel.
- A bedding assist alert will indicate that the aerial device is being aligned by the Command Zone system as the operator lowers the aerial device into the cradle with the joystick.
- At A Glance color features will be utilized on this screen. Caution type conditions will be indicated via a yellow background. Warning type conditions will be indicated via a red background. Conditions operating within acceptable limits will be indicated via a green background.

MENU SCREENS

The following screens will be available through the Menu button:

The View System Information screen will display aerial device hours, aerial PTO hours, ladder aligned for stowing, aerial rotation angle, total water flow (if applicable), and aerial waterway valve status (if applicable).

The Set Display Brightness screen will allow brightness increase and decrease and include a default setting button.

The Configure Video Mode screen will allow setting of video contrast, video color and video tint.

The Set Startup screen allows setting of the screen that will be active at vehicle power-up.

The Set Date and Time screen has a 12- or 24-hour format, and allows setting of the time and date.

The View Active Alarms screen shows a list of all active alarms including the date and time of each alarm occurrence and shows all alarms that are silenced.

The System Diagnostics screen allows the user to view system status for each module and its respective inputs and outputs. Viewable data will include the module type and ID number; the module version; and module diagnostics information including input or output number, the circuit number connected to that input or output, the circuit name (item connected to the circuit), status of the input or output, and other module diagnostic information.

Aerial calibrations screen indicates items that may be calibrated by the user and instructions to follow for proper calibration of the aerial device.

Button functions and button labels may change with each screen.

LOWER CONTROL STATION

A lower control station will be located at the rear of the apparatus in an easily accessible area. The controls and indication labels will be illuminated for nighttime operation. The following items will be furnished at the lower control station and will be clearly identified and conveniently located for ease of operation and viewing:

- Level assist switch
- Override switch to override microprocessor
- Emergency power unit switch

TURNTABLE CONTROL STATION

There will be one (1) device control station located on the left side of the turntable so the operator may easily observe the ladder tip while operating the controls. All elevation, extension and rotation controls will operate from this location. The controls will permit the operator to regulate the speed of the aerial functions, within the safe limits, as determined by the manufacturer and NFPA standards. Each control will be equipped, with a positive lock to hold the control in a neutral position, preventing accidental activation. In addition to the neutral lock, a console cover will be provided at the turntable control station. The controls will be so designed to allow the turntable control station to immediately override the tip controls, if equipped, even if the ladder is being operated by the tip controls.

The following items will also be provided at the turntable control station, clearly identified, lighted for nighttime operation and conveniently located for ease of operation and viewing:

- Intercom controls
- Tip tracking light switch
- Emergency stop switch
- Emergency power unit switch
- Operator's load chart
- Two (2) position switch for selecting aerial operational speed

HIGH IDLE

The high idle will be controlled by the microprocessor. The microprocessor will automatically adjust the engine rpm to compensate for the amount of load placed upon the system. The system will include a safety device that allows activation of the high idle, only when the parking brake is set and the transmission is placed in neutral.

REMOTE AERIAL CONTROL

A remote control will be provided whereby all ladder movements can be controlled at the ladder tip, in addition to the control console.

The three (3) ladder functions (extension, rotation, elevation) will be controlled individually by means of spring loaded, return to center 12-volt proportional controls.

A momentary switch at the turntable control station will enable the controls at the ladder tip.

The turntable control console ladder controls will override the ladder tip controls.

The remote control aerial speed will be set in accordance with the current edition of applicable NFPA standards.

Stabilizers, Ascendant Tandem, Rear
Mount Steel, 16' Spread, 18" Pen,
MUX

STABILIZERS

The vehicle will come equipped with a stabilization system consisting of four (4) hydraulically operated stabilizers. The front two (2) will be out and down style, the rear two (2) will be down only. This system will meet or exceed all requirements of the NFPA specifications related to stabilization and setup on sloped surfaces.

The stabilizer/leveling jacks will have a maximum spread of 16' measured from the centerline of the jack footpads when the beams are fully extended. The beams will be 6.88" wide x 9.00" high with 3/4" thick top and bottom plates and 1/2" thick sides of 100,000-PSI minimum yield strength steel. The cylinders will have pilot-operated check valves with thermal relief designed to insure that the beams will not drift out of the stowed position during travel. Wear pads will guide the stabilizers.

The horizontal extension cylinders will be totally enclosed within the beams and will incorporate telescoping hydraulic tubing to supply the jack cylinder hydraulic power. Stabilizer hydraulic hoses will remain stationary during operation of the stabilizers to prevent hose wear and potential failure. The cylinders will be equipped with decelerators to reduce the speed of extension and retraction when the beams are near the fully retracted and extended positions. The stabilizer extension hydraulic cylinders will have the following dimensions: 2.25" bore, 1.38" rod, and 39.25" stroke.

The vertical jack cylinders will be capable of 18.00" ground penetration. The cylinders will be supplied with pilot operated check valves on each jack cylinder to hold the cylinder in the stowed or working position, should a charged line be severed at any point in the hydraulic system. For safety, the integral holding valves will be located in the cylinder base, NOT in the transfer tube. Vertical jack cylinder rods will be fully enclosed by a telescoping inner box to protect the cylinder rods from damage. The stabilizer jack hydraulic cylinders will have the following dimensions: 4.25" bore, 3.00" rod, and 28.88" stroke.

Each stabilizer jack will have a pan that will be a maximum of 14.00" wide so as to allow the extension of the stabilizer between parked cars or other obstacles. This pan will serve as a protective guard and a mounting surface for warning lights. The top, forward, and rear edges will be flanged back 90 degrees for added strength.

STABILIZER PADS

The stabilizer footpad will be 12.00" in diameter. The footpad will be attached to the jack cylinder rod by means of a machined ball at the end of the jack cylinder rod which mates to a socket machined into the footpad. The footpad will have the ability to pivot 20 degrees from horizontal in any direction to allow setup on uneven terrain.

AUXILIARY STABILIZER PADS

An auxiliary ground pad will be supplied for each stabilizer to provide additional load distribution on soft surfaces. The pads will be 31" x 26" and made from lightweight composite material. The ground pressure will not exceed 75 pounds per square inch when the ground pads are used and the apparatus is fully loaded and the aerial device is carrying its rated capacity in any position. The pads will be stored in a double stacked configuration, two (2) behind each rear tandem axle in a single bracket.

STABILIZER CONTROLS

A portable stabilizer control box will be provided. The control box will be weatherproof and oil resistant. Each function and indicator light will be labeled on a metal photo panel. The control box can be taken as far away as 15' from the vehicle with an extension cable.

The stabilizer control box will include the following:

- One (1) green power indicator light for stabilizer control that will be illuminated when the aerial master and "PTO" switches in the cab are activated.
- Four (4) electric toggle switches for stabilizers: each toggle switch will control the extend/retract (front only) and raise/lower of its respective stabilizer to allow vehicle set up in restricted areas and/or on uneven surfaces.
- Auto leveling assist switch: The outrigger control system will incorporate a computerized self leveling system in addition to the standard outrigger controls. The operator will have the option to manually or automatically level the truck. The computerized system will ensure full outrigger extension, proper jack penetration, and will level the vehicle within 1/2 a degree of level for safe operation of the aerial device.
- One (1) electric toggle switch for the engaging the emergency power unit.
- One (1) red "stabilizer not stowed" indicator light: this light will illuminate when the stabilizers are not in the fully stowed position.
- Two (2) fully extended beams green indicator lights: these lights will be illuminated when each of the respective stabilizer beams are fully extended.
- Four (4) firm on ground green indicator lights: each light will be illuminated when its respective stabilizer shoe is in the load supporting condition.

Each toggle switch will activate the engine fast idle automatically.

Manual override will be supplied for each stabilizer control valve.

A stabilizer deployment audible warning alarm will be provided and activated by the stabilizer movement.

A "Stabilizers Not Stowed" indicator will be provided in the driver's compartment. It will illuminate automatically whenever the stabilizers are not fully stowed to prevent damage to the apparatus if moved. The stabilizer system will also be wired to the "Do Not Move Indicator Light", which will flash whenever the apparatus parking brake is not fully engaged and the stabilizers are not fully stowed.

CRADLE INTERLOCK SYSTEM

A cradle interlock system will be provided, to prevent the lifting of the aerial from the nested position, until the operator has positioned all the stabilizers in a load supporting configuration. A switch will be installed at the cradle, to prevent operation of the stabilizers once the aerial has been elevated from the nested position.

Stabilizer Pan and Trim Material

STABILIZER PAN AND TRIM MATERIAL

The aerial stabilizer pans will be polished stainless steel and the aerial stabilizer trim will be polished stainless steel.

| | | | |
|---------|----|---|---|
| 0899693 | SP | Door,Stabilizer Control Box,Aerial MUX,Hinged Outboard,Sealed,Latch,Smooth Alum | STABILIZER CONTROL BOX ALUMINUM DOOR A vertically hinged smooth aluminum door will be provided over the stabilizer control box. The door will be hinged outboard. There will be a paddle latch provided on the door. All four (4) sides of the door will include a seal on the inside to help with any water intrusion. |
| 0778727 | SP | Door, Stabilizer Manual Override, Stainless Steel Paddle Latch | DOOR FOR STABILIZER MANUAL OVERRIDE CONTROLS The rear access door for the stabilizer manual override controls will be furnished with a stainless steel paddle latch. |
| 0793039 | | Hydraulic System, Ascendant Tandem Axle | <p>HYDRAULIC SYSTEM</p> <p>All hose assemblies will be assembled and crimped by the hose manufacturers certified technician.</p> <p>All manufacturing employees responsible for the installation of hydraulic components will be properly trained. Training will include: proper handling, installation, torque requirements, cleanliness and quality control procedures for hydraulic components.</p> <p>Hoses used in the aerial hydraulic system will be of a premium quality hose with a high abrasion resistant cover. All pressure hoses will have a working pressure of 4000 psi and a burst pressure rating of 16,000 psi.</p> <p>All hydraulic fittings and tubing will be plated to minimize corrosion.</p> <p>The fitting will use an O-ring seal where possible to minimize hydraulic leaks.</p> <p>An interlock will be provided that prevents activation of the hydraulic pump until the transmission is placed in neutral and the parking brake is set as outlined in the current NFPA 1901 standard.</p> <p>The system will meet the performance requirement of the current NFPA 1901 standard, which requires adequate cooling less than 2.5 hours of operations.</p> <p>All hydraulic components that are non-sealing whose failure could result in the movement of the aerial will comply with current NFPA 1901 standards and have burst strength of 4:1.</p> <p>Dynamic sealing components whose failure could cause aerial movement will have a margin of 2:1 on maximum operating pressure per the current NFPA 1901 standard.</p> <p>All hydraulic hoses, tubes, and connections will have a minimum burst strength of 4:1 per the current NFPA 1901 standard.</p> <p>A chassis mounted positive displacement piston pump for consistent pressure and rapid responses will supply hydraulic power for all aerial operations. The positive displacement pump will provide 3,150psi. The hydraulic pump will be solely dedicated to aerial operations.</p> <p>Each aerial will be evaluated as to the region and climate where it will be used to determine the optimum viscosity and proper oil grade. Oil viscosity will be based on an optimum range of 80 to 1000 SUS during normal aerial use. Before shipment of the unit, an oil sample will be taken and analyzed to confirm the oil is within the allowable ISO grade tolerance.</p> <p>The aerial hydraulic system will have a minimum oil cleanliness level of ISO 18/15/13 based on the ISO 4406:1999 cleanliness standard. Each customer will receive a certificate of actual cleanliness test results and an explanation of the rating system.</p> <p>Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.</p> <p>Ball valves will be provided in the hydraulic suction lines to permit component servicing without draining the oil reservoir.</p> <p>The aerial will incorporate the use of trombone steel tubes inside the stabilizer beams to eliminate hydraulic hose wear and leaks.</p> <p>Hydraulic power to the ladder will be transferred from the pedestal by a hydraulic swivel. The system hydraulic pressure will be displayed on the turntable display.</p> <p>The hydraulic system will be additionally protected from excessive pressure by a secondary pressure relief valve set at 3,150 psi. In the event the main hydraulic pump compensator malfunctions, the secondary relief will prevent system damage.</p> <p>HYDRAULIC CYLINDERS</p> <p>All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.</p> <p>Each cylinder will include integral safety holding cartridges.</p> <p>Each cylinder will be designed to a minimum safety factor of 4:1 to failure.</p> <p>All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.</p> <p>POWER TAKEOFF/HYDRAULIC PUMP</p> <p>The apparatus will be equipped with a power takeoff driven by the chassis transmission and actuated by an electric shift, located inside the cab. The power takeoff which drives the hydraulic pump will meet all the requirements for the aerial unit operations.</p> <p>An amber indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.</p> <p>An interlock will be provided that allows operation of aerial power only after the chassis spring brake has been set and the chassis transmission has either been placed in the neutral position or drive position after the driveline has been disengaged from the rear axle.</p> <p>The hydraulic system will be supplied by a variable displacement load and pressure compensating piston pump. The pump will meet the demands of all three simultaneous aerial functions. The pump will provide proper flow for single aerial function with the engine at idle speed. A switch will be provided on the control console to increase the engine speed for multiple function operation.</p> <p>EMERGENCY PUMP</p> <p>The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of the current NFPA 1901 standard.</p> <p>The aerial will be equipped with an emergency hydraulic pump, electrically driven from the truck batteries. The pump will be capable of running for 30 minutes for limited aerial functions to stow the unit in case of a main pump or truck system failure. A momentary switch will be located at the stabilizer and aerial control locations to activate the emergency pump.</p> <p>AERIAL CONTROL VALVE</p> <p>The aerial hydraulic control valve will be designed with special spool flows, limiting the oil flow for the designed function speed. The valve will be electrically controlled and be located in the control console with the handles oriented downward for manual operation. The activation handles will be spaced a minimum of 3.50" for ease of operation. The valve spools will be designed to bleed off</p> |

downstream pressure, in the neutral position and allow proper sealing of any cylinder holding cartridge.

OIL RESERVOIR

The oil reservoir will have a minimum capacity of 38 gallons. The oil fill location will be easily accessible and be labeled "Hydraulic Oil Only" and also indicate the grade of oil that is installed in the reservoir. The fill will have a desiccant breather filter with a water capacity of 4 fluid ounces and a 5 micron rating. A drain hose will be included and will terminate with a quarter turn ball valve.

Two suction ports will be provided, one for the main hydraulic pump and one for the emergency pump. The main suction will be slightly elevated off the bottom of the reservoir and include a 100 mesh suction strainer. The emergency suction port will be closer to the bottom of the reservoir to provide some reserve oil for emergency operation.

A six (6) disc type magnetic drain will also be provided to collect any ferrous contaminants. A float type sending unit in the reservoir will provide an indication of oil level on an electronic display. A temperature sending unit in the reservoir will provide indication of the oil temperature on an electronic display.

The hydraulic oil reservoir will be labeled per the current edition of NFPA 1901 standard.

RETURN FILTER

The low pressure oil return filter will be integrated with the hydraulic manifold and designed to prevent oil loss during filter change. A 50 psi bypass will be included to protect the element and hydraulic system during lower than normal operating temperatures. The system will incorporate the following filter to provide dependable service:
return filter: beta 200 at 6 micron

0793037

Swivels, D-Series w/Encoder, ASL-Tandem/Tiller, MUX (28 Collector Rings)

HYDRAULIC SWIVEL

The aerial ladder will be equipped with a three (3) port, high pressure hydraulic swivel which will connect the hydraulic lines from the hydraulic pump and reservoir through the rotation point to the aerial control bank. The hydraulic swivel will allow for 360 degree continuous rotation of the aerial.

ELECTRIC SWIVEL

The ladder will be equipped with an electric swivel to allow 360 degrees rotation of the aerial while connecting all electrical circuits through the rotation point. A minimum of 28 collector rings will be provided that are capable of supplying 30 amp continuous service. All collector rings will be enclosed and protected with desiccant plugs against condensation and corrosion. No oil or silicone will be used.

12-BIT ABSOLUTE ENCODER

The aerial ladder will be equipped with a 12-Bit Absolute Encoder which provides 4096 counts per shaft turn for position and direction reference.

The 12-Bit Absolute Encoder will provide a unique binary word to reference each position and direction for all 360 degrees of rotation.

If the power is interrupted for any reason, the 12-Bit Absolute Encoder will allow power to be returned to the system without having to re-zero the settings.

The 12-Bit Absolute Encoder will be an integral part of a micro-processor based control system.

0805186

Electrical System, ASL Tandem Axle,
MUX, 10/8 Cable**ELECTRICAL SYSTEM**

The standard 8 conductor cable to the tip contains 10 AWG conductors.

The 107' heavy duty ladder will utilize a microprocessor-based control system. The system will consist of the following components:

A tethered stabilizer control will be provided. The tethered control will be weatherproof and oil resistant. A Super Bright LED indicator light will be labeled on a metal photo panel for each function. The electrical connection at the tethered control will be permanently attached by a strained relieved coil cord that will allow the operator to move 14' away from the electrical connection for operation.

Remote Stabilizer Controls

Weatherproof and oil resistant

One (1) green "power" indicator light

One (1) red "stabilizer not stowed" indicator light

One (1) electric toggle switch for auto level assist

One (1) electric toggle switch for the emergency power unit

One (1) electric toggle switch for each stabilizer to control:

Extend/retract function (front only)

Raise/lower function

One (1) green "stabilizer fully extended" indicator light for each front stabilizer

One (1) green "firm on ground" indicator light for each stabilizer

Control System Modules

Each of the control system modules will be configured as follows:

Sealed to a NEMA 4 rating

Operating range from -40 degrees F to 185 degrees F (-40 degrees C to 85 degrees C)

Communicate using J1939 data link

Two (2) diagnostic LED light

One (1) green light that illuminates when module has power (B+) and ground

One (1) red light that flashes to indicate the module is capable of communicating via the data link

Ground matrix identification system

The following control system modules will be used:

Control Module

Main controller for the system

USB connection allows for computer diagnostics

Power Module

Built-in fault sensing

Eight (8) digital outputs

Pulse width modulating (PWM) capable

10A continuous per output

Circuit protection based on actual current draw (not affected by heat)

Constant Current Module

Built-in fault sensing

Three (3) analog inputs

Eight (8) digital outputs

Pulse width modulating (PWM) capable

3A continuous per output

Circuit protection based on actual current draw (not affected by heat)

Closed Loop System**Input Module**

16 software selectable (digital or analog) inputs

Output Module

16 digital outputs

Input/Output Module

Eight (8) software selectable (digital or analog) inputs

Eight (8) digital outputs

0804781

Aerial Scene Lts Separated into
Aerial Tip Category and Aerial
Tracking Category

0820601

SP Lights, Tip, WIn MP** LED, 4lts

TIP LIGHT

There will be four (4) Whelen® Model MP**, 5,695 lumens 12 volt DC LED lights installed at the tip of the aerial device.

One (1) light on the left side high. The left side tip light to include wide flood optics.

One (1) light on the left side low. The left side lower tip light to include narrow flood optics.

One (1) light on the right side low. The right side lower tip light to include narrow flood optics.

One (1) light on the right side high. The right side tip light to include wide flood optics.

The light(s) to be installed on adjustable bail bracket(s).

The painted parts of this light assembly to be white

The lights will be controlled with the tracking lights.

0802753

Lights, Tracking, WIn MP** LED, 2lts

TRACKING LIGHTS

There will be two (2) Whelen® MP**, 5,695 lumens 12 volt DC LED lights installed on the base section of the aerial device below the hand rails per the following:

One (1) will be located on the left side with left side tracking light to include wide flood optics.

One (1) will be located on the right side with right side tracking light to include wide flood optics.

The light(s) to be installed on adjustable bail bracket(s).

The painted parts of this light assembly to be white.

The tracking lights will be controlled by a switch located at the platform/tip and turntable.

| | | |
|---------|---|--|
| 0653677 | Lighting, Rung, LED, TecNiq, 4 Section, Base, Lower/Upper Mid, Fly | LIGHTING ON AERIAL LADDER There will be TecNiq, Model D02 LED rung lighting provided on both sides of the aerial ladder base, lower and upper mid, and fly sections. The lighting will be located adjacent to the ladder rungs along the lower rail of the ladder sections and will run the length of the ladder section. The color of the sections will be: The base section of the ladder to be blue. The lower mid section of the ladder to be blue. The upper mid section of the ladder to be blue. The fly section of the ladder to be blue. The LED rung lighting will be activated when a switch at the turntable operator's panel is activated through the aerial master. The lights may be load managed when the parking brake is applied. |
| 0653817 | Light, Locator, WIn VTX609*, Flashing LED, at Tip, PAL/PAP, 2lts | AERIAL LOCATOR LIGHT There will be two (2) Whelen Model VTX609*, 1.00" high x 2.25" in diameter flashing LED modules with chrome flanges installed at the aerial tip for the purpose of locating the aerial device while in operation. Both modules will be activated whenever the aerial is raised from the cradle. The color of the locator light will be amber. The lens color will be clear. |
| 0540746 | Lights, Stabilizer Warn (2) Sets, WIn M6* LED, Colored Lens | STABILIZER WARNING LIGHTS There will be four (4) Whelen®, Model M6*, LED flashing warning lights with Whelen, Model M6FC, chrome flanges installed, one (1) on each stabilizer cover panel. The front stabilizer pan lights will be red LED with a lens color the same as the LEDs The rear stabilizer pan lights will be red LED with a lens color the same as the LEDs These warning lights will be activated by the same switch as the side warning lights. |
| 0068703 | Lights, Grote Supernova LED, Stabilizer Beam, (1) Set | STABILIZER BEAM WARNING LIGHTS Two (2) 4.00" diameter red LED flashing lights will be mounted on each stabilizer, one (1) facing forward and one (1) facing rearward. The lights will be Grote Supernova 40 series LED lights. The lights will be recessed in the horizontal beam of the stabilizer. These warning lights will be activated with the aerial master switch. |
| 0762388 | Lights, Stabilizer Scene, (2) sets, Amdor AY-LB-12HW012, LED | STABILIZER SCENE LIGHTS There will be one (1) Amdor®, Model AY-LB-12HW012, 190 lumen, 12" long, white LED strip light installed under each stabilizer beam to illuminate the surrounding area. A total of four (4) lights will be installed. The lights will be activated by the aerial master switch. |
| 0783034 | DC Power To Aerial Tip, 13.92 Amps @ 12 Volt DC, ASL | DC POWER CABLE to TIP There will be a cable installed in the aerial device to provide 13.92 amps @ 12 volts DC to the tip of the aerial device. |
| 0737181 | Intercom, 2-Way Fire Research ICA910 Hands Free | 2-WAY AERIAL COMMUNICATION SYSTEM There will be a Fire Research, Model ICA910, two-way intercom system provided. The control module with an LED volume display and push-button volume control will be located on the turntable operator console. A hands free module will be located at the aerial tip or platform and constantly transmit to the other module unless the control module push-to-talk button is pressed. Each intercom unit will be weatherproof. |
| 0540895 | Not Required, Breathing Air to Tip, Aerial Ladder | |
| 0024742 | Not Required, Mask, Breathing Air To Tip | |
| 0126600 | Raised Pedestal, 3.00", Rear Mount Aerials, AXT, Velocity, Impel, Enf | RAISED AERIAL PEDESTAL The aerial pedestal will be raised to accommodate the height of the cab. |
| 0604457 | Lifting Eye Assembly, Rope Rescue Attachment, ASL, LSL | LIFTING EYE ASSEMBLY - ROPE RESCUE ATTACHMENT A lifting eye assembly will be provided that is designed to evenly distribute load at the tip of the aerial. The lift eye assembly is retained by two (2) locking pins, one (1) at each end outboard side of the egress. Leveling is maintained by the lifting eye assembly rotating within the egress mounting. The lifting eye assembly rating will match the capacity rating of the aerial device. |

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| 0645472 | Rope Tie Bar At Base Section, for Lyfe Pulley, Painted Box, Ascendant, 105' Tiller | ROPE TIE BAR AT BASE SECTION, RESCUE LIFTING SYSTEM A removable bracket will be supplied at the rear of the base section, attached between the left hand and right hand rear hand rails. The bracket will provide Lyfe Pulley rope tie off and/or guide points spaced 5.75" apart, centered between the rear hand rails. The bracket will be designed to be easily removable and not interfere with a fully retracted ladder assembly when attached to the base section. A storage box for the bracket will be provided on the outside rear of the base section. The storage box and bracket will be painted to match the aerial device. |
| 0808215 | LyfePulley, Rescue System | RESCUE LIFTING SYSTEM A rescue lifting attachment will be provided. The lifting attachment will mount to the aerial egress and will consist of a pair of nylatron pulleys mounted to a stainless steel shaft. The pulleys will be adjustable from side to side and will have a total lifting capacity of 750lb, regardless of whether one (1) or both pulleys are being utilized. |
| 0791128 | Hitch Receiver, 10,000 lb, LS/RS, Under Body Sides, Ascendant TA, PAP/PAL | HITCH, WINCH MOUNT A hitch receiver will be supplied at the left and right side of the vehicle aft of the rear wheels. The hitch will not interfere with the angle of departure and will be tied directly to the frame rails. The hitch will be capable of up to a 10,000 lb direct pull. Receiver plugs will be provided for the receiver when it is not in use. |
| 0766875 | SP Hitch, Receiver, Extension | HITCH RECEIVER EXTENSION A hitch receiver extension provided. The hitch extension will consist of a heavy duty tube assembly that is designed to fit a standard 2.00" receiver and used with 2.00" hitch-mounted accessories. The extension will provide approximately 8" of extension of additional clearance. There will be a total of two (2) hitch extension(s) provided with the ship loose equipment. |
| 0530828 | Turntable Access, Chains | AERIAL TURNTABLE CHAIN A chain will be installed at the aerial turntable. |
| 0624672 | Waterway, High Flow, 1500 GPM, ASL | WATER SYSTEM A waterway system will be provided consisting of the following components and features: A 5.00" pipe will be connected to the water supply on one end and to a 5.00" internal diameter water swivel at the rotation point of the turntable. The water swivel will permit 360 degree continuous rotation of the aerial device. The 5.00" waterway swivel is to be routed through the rotation point up to the heel pin swivel. The heel pin swivel will allow the water to flow to the ladder pipe while elevating the aerial ladder from -10 degrees to 77 degrees. The heel pivot pin is not integral with the waterway swivel at any point. The design of the waterway will allow complete servicing of the waterway swivel without disturbing the heel pivot pin. The integral telescopic water system will consist of a 4.50" diameter tube in the base section, a 4.00" diameter tube in the inner mid-section, a 3.50" diameter tube in the outer mid-section, and a 3.00" diameter tube in the fly section. The telescopic waterway will be constructed of anodized aluminum pipe. The aerial will be capable of discharging up to 1000 gpm at 100 psi parallel to the ladder and 90 degrees to each side of center while maintaining the rated tip load. The aerial will be capable of discharging between 1001 and up to 1500 gallons per minute at 100 psi parallel to the ladder and 40 degrees to each side of center while maintaining the rated tip load. The master stream will be capable of flow up to 30 degrees above horizontal. An adjustable pressure relief valve will be furnished to protect the aerial waterway from a pressure surge. A 1.50" drain valve will be located at the lowest point of the waterway system. WATERWAY SEALS The waterway seals will be of type-B PolyPak design, composed of nitroxile seal and a nitrile wiper, which together offer maximum stability and extrusion resistance on the waterway. The seal will be capable of withstanding pressures up to 2000 psi, temperatures in excess of 250 degrees Fahrenheit and have resistance to all foam generating solutions. The seals will be internally lubricated. The waterway seals will have automatic centering guides constructed of synthetic thermalpolymer. The guides will provide positive centering of the extendible sections within each other and the base section to insure longer service life and smoother operation. |
| 0632855 | Monitor, Akron 3480 StreamMaster II Electric w/Extended Vertical Travel | AERIAL MONITOR An Akron Model 3480 monitor with stow and deploy will be provided at the tip with a Akron 1500 gpm Model 5178. This monitor will allow for an additional 30 degrees of travel above horizontal at the aerial tip. The monitor's functions will be controlled electrically from two (2) separate locations. One (1) control will be located at the control console and the other at the ladder tip. There will be a courtesy light at the tip of the aerial to illuminate the controls. If the aerial has a quick-lock waterway, a limit switch will be provided to disable the extended vertical travel when the monitor is locked to the lower ladder section. |
| 0010758 | Flow Meter, Waterway, PAL, 110' Ascendant, MUX | AERIAL WATERWAY FLOW METER Waterway flow, including total water flowed, will be monitored by the microprocessor. An LCD display will be located at the turntable control station. |

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| 0014719 | SP | Inlet, 5.00" at Rear, High on Left Side, REAR INLET w/o Pump, Outside Torque Box, PAL | A 5.00" NST inlet to the torque box area will be provided at the rear of the apparatus. The pipe size reduces to 4.00" as it enters the torque box to connect to the 4.00" aerial water way swivel at the aerial base. It will be furnished with a 5.00" chrome plated adapter and a 5.00" chrome plated, long handle cap. The outlet will be located to the left side of the torque box, high on the rear wall. |
| 0673128 | | Quick-Lock Waterway Locking System, 100' HDL, 105' HDL, ASL | <p>WATERWAY LOCKING SYSTEM</p> <p>The aerial ladder waterway monitor will be capable of being positioned at either the fly section or at the next lower section of the ladder.</p> <p>The monitor location will be changeable by the use of a single handle, located at the side of the ladder.</p> <p>The handle, attached to a cam bracket, will simply be moved forward to lock the monitor at the fly section and back to lock it to the previous section.</p> <p>There will be no pins to remove and reinstall.</p> <p>The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.</p> |
| 0630760 | SP | Label Pinnable Waterway Lock, Rescue/Fly | <p>QUICK-LOCK WATER WAY LOCK LABELING</p> <p>The Quick-Lock, waterway locking mechanism will be labeled "RESCUE/FLY". The label will be installed so that it indicates "FLY" when the quick lock is pinned to the fly and "RESCUE" when the quick lock is pinned to the upper mid.</p> |
| 0047901 | | Not Required, Tools, Aerial, PAL/PAP | |
| 0668583 | | Manuals and Training, 4 Consecutive Days, Ascendant Ladder, PAL | <p>MANUALS</p> <p>Two (2) operator maintenance manuals and two (2) wiring diagrams pertaining to the aerial device will be provided with the apparatus at time of pick-up.</p> <p>INITIAL INSTRUCTION</p> <p>On initial delivery of the fire apparatus, the contractor will supply a qualified representative to demonstrate the apparatus and provide initial instruction to the fire department regarding the operation, care, and maintenance of the apparatus for a period of four (4) consecutive days.</p> |
| 0007150 | | Bag of Nuts and Bolts | <p>LOOSE EQUIPMENT</p> <p>The following equipment will be furnished with the completed unit:</p> <p>One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.</p> |

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| 0816498 | NFPA Required Loose Equipment, Aerial, 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 107, <i>American National Standard for High-Visibility Safety Apparel and Accessories</i> , and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. 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. Four (4) ladder belts meeting the requirements of NFPA 2500. 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: Two (2) 3 ft - 4 ft plaster hooks with D handles mounted in brackets fastened to the apparatus. Two (2) crowbars. Two (2) claw tools. Two (2) 12 lb (5 kg) sledgehammers. Four (4) SCBA apparatus Four (4) SCBA spare cylinders One (1) first aid kit. Six (6) salvage covers, each a minimum size of 12 ft x 18 ft (3.6 m x 5.5 m). Four (4) combination spanner wrenches. Two (2) scoop shovels. One (1) pair of bolt cutters, 24.00" (0.6 m) minimum. One (1) 150 ft (45 m) light-use life safety rope meeting the requirements of NFPA 2500. One (1) 150 ft (45 m) general-use life safety rope meeting the requirements of NFPA 2500. One (1) 150 ft (45 m) utility ropes having a breaking strength of at least 5000 lb (2300 kg). One (1) box of tools to include the following: one (1) hacksaw with three (3) blades one (1) keyhole saw one (1) 12" (.3 m) pipe wrench one (1) 24" (.6 m) pipe wrench one (1) ballpeen hammer one (1) pair of tin snips one (1) pair of pliers one (1) pair of lineman's pliers assorted types and sizes of screwdrivers assorted adjustable wrenches assorted combination wrenches One (1) automatic external defibrillator (AED). |
| 0519913 | Not Required, Soft Suction Hose | SOFT SUCTION HOSE There will be no soft suction hose provided. |
| 0816940 | Extinguisher, Dry Chemical, NFPA 2024, Provided by Dealer | DRY CHEMICAL EXTINGUISHER PROVIDED BY DEALER The extinguisher is not on the apparatus as manufactured. The dealer 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. |
| 0007482 | Not Required, Crowbars | |
| 0007484 | Not Required, Claw Tools | |
| 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. |
| 0007494 | Not Required, Sledgehammers | |

PAINT PROCESS

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

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

Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion.

Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.

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

Sealer Primer - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated.

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

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

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

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

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides

and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacturer's written paint standards will be available upon request.

Environmental Impact

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

Topcoats and primers will be chrome and lead free.

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

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

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

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

Paint wastes are disposed of in an environmentally safe manner.

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

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

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

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.

There will be no cab shield provided.

BODY PAINT

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

0646901

Paint Chassis Frame Assy, With
Liner, E-Coat, Standard

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.

Components that are included with the chassis frame assembly that will be painted are:

- Frame rails
- Frame liners
- Cross members
- Axles
- Suspensions
- Steering gear
- Battery boxes
- Bumper extension weldment
- Frame extensions
- Body mounting angles
- Rear Body support substructure (front and rear)
- Pump house substructure
- Steel fuel tank
- Castings
- Individual piece parts used in chassis and body assembly

Components treated with epoxy E-coat protection prior to paint:

- Two (2) C-channel frame rails
- Two (2) frame liners

The E-coat process will meet the technical properties shown.

0693797

No Paint Required, Aluminum Front
Wheels

0693792

No Paint Required, Aluminum Rear
Wheels

0733739

Paint, Axle Hubs

AXLE HUB PAINT

All axle hubs will be painted to match lower job color.

0581434

Transit Coating, Carwell, Corrosion
Protection, Including Underside

TRANSIT COATING

All non-painted metal surfaces on the exterior of the vehicle will be sprayed with a corrosion protective coating provided by Carwell. The coating can be removed with soap and water. The coating is made of a linseed oil base and is biodegradable. The underside non-painted metal surfaces will also be coated with a corrosion protective coating.

0639088

Compartment Paint, 909017,
Nightspots

COMPARTMENT INTERIOR PAINT

Interior of compartments will be painted 909017, Nightspots.

0782203

Aerial Ladder Paint, ASL-Tandem,
LSL, E-Coat

AERIAL DEVICE PAINT COLOR

The aerial device paint procedure will consist of a six (6) step finishing process as follows:

1. Manual Surface Preparation - All exposed metal surfaces on the aerial device structural components above the rotation point will be thoroughly cleaned and mechanically shot-blasted to remove metal impurities and prepare the aerial for painting.
2. Primer/Surfacer Coats - A two (2) component urethane primer/surfacer will be applied to the mechanically shot-blasted metal surfaces to provide a strong corrosion protective base coat and to smooth out the surface. All seams will be caulked with a two (2) component epoxy caulk before painting.
3. Hand Sanding - The primer/surfacer coat of the outer surfaces of the hand rails and base rails will be lightly sanded to a smooth finish.
4. Sealer Primer Coat - A two (2) component sealer primer coat will be applied over the sanded primer.
5. Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.
6. Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied. Surfaces that will not be painted include all chrome plated, polished stainless steel, anodized aluminum and bright aluminum treadplate.

All buy out components, such as monitor, nozzle, gauges, etc. will be supplied as received from the vendor.

Removable items such as brackets will be removed and painted separately to ensure paint coverage behind all mounted items.

The stabilizer beams and torque box will be treated with E-coat prior to painting to help provide resistance to corrosion and chemicals. The stabilizers and torque box will be painted black. The aerial device components will be painted as follows using the aforementioned six (6) step finishing process:

- Aerial device ladder sections and extension cylinders: white 10
- Aerial egress: 181 red (will be contrasting color to the aerial device ladder)
- Aerial turntable: white 10
- Aerial control console: white 10
- Aerial lift cylinders: white 10
- Aerial boom support: gloss black primer

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| 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. |
| 0510041 | | Reflective across Cab Face, Imp/Vel | The reflective band provided on the cab face will be below the headlights on the fiberglass. |
| 0583454 | | Stripe, Chevron, Rear, Diamond Grade, Aerial | REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces will include the rear wall and aluminum doors. Rear compartment doors, stainless steel access doors, and the rear bumper will not be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping. |
| 0598754 | | Stripe, Reflective/Diamond Grade, 4.00" on Stabilizers | REFLECTIVE STRIPE ON STABILIZERS There will be a 4.00" wide fluorescent yellow green diamond grade reflective stripe provided on the forward and rear facing side of all aerial stabilizers. |
| 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 | MALTESE CROSS INSTALLATION There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed one (1) each side front cab door. |
| 0666414 | | Emblem, Freedom Flag, Each | EMBLEM There will be two (2) emblem(s), approximately 15.00" - 17.00" wide in size, installed Located between cab & crew cab door windows.. The emblem will feature a "Flying American Flag" and an "Eagle Head". |
| 0769765 | | Lettering, Numerals, Grille, Painted w/ Outline (2) | LETTERING/NUMERALS ON CAB GRILLE Two (2) painted letters/numerals with outline, as determined by the fire department, will be provided on the cab grille. |

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| 0031972 | Manuals, Two (2), Fire Apparatus Parts, Custom Chassis | MANUAL, FIRE APPARATUS PARTS Two (2) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit. The manual will contain the following: <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 a part The manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies. |
| 0002905 | Manuals, (2) Chassis Service, Custom | MANUALS, CHASSIS SERVICE Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit. The manuals will contain the following sections: <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 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. |
| 0032433 | Manuals, Two (2) Chassis Operation, Custom | MANUALS, CHASSIS OPERATION Two (2) chassis operation manuals will be provided. |
| 0030008 | Warranty, Basic, 1 Year, Apparatus, WA0008 | ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal. |
| 0595239 | (No Pick Required) | |
| 0696698 | Warranty, Engine, Cummins, 5 Year, WA0181 | ENGINE WARRANTY A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal. |
| 0684953 | Warranty, Steering Gear, Sheppard M110, 3 Year WA0201 | STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal. |
| 0595767 | Warranty, Frame, 50 Year, Velocity/Impel, WA0038 | FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal. |
| 0595698 | Warranty, Axle, 3 Year, TAK-4, WA0050 | FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal. |
| 0733305 | Warranty, Tandem Axle, 5 Year, Meritor, General Service, WA0384 | TDM REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided. |
| 0652758 | Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232 | ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal. |

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| 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. |
| 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. |
| 0693127 | Warranty, Gortite, Roll-up Door, 6 Year, WA0190 | ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A six (6) year limited warranty will be provided on painted and satin roll up doors. The limited warranty certificate, WA0190, is included with this proposal. |
| 0006999 | Warranty, Structure, 20 Year, Aerial Device, WA0052 | TWENTY (20) YEAR AERIAL DEVICE STRUCTURAL INTEGRITY WARRANTY The Pierce device limited warranty certificate, WA0052, is included with this proposal. |
| 0687388 | Warranty, Swivels, 5 Year, Aerial Device, WA0197 | AERIAL SWIVEL WARRANTY An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be included with this proposal. |
| 0685727 | Warranty, Hydraulic System and Components, 3 Year/5 Year, WA0200 | HYDRAULIC SYSTEM COMPONENTS WARRANTY Aerial hydraulic system components will be provided with a five (5) year material and workmanship limited warranty. HYDRAULIC SEAL WARRANTY Aerial hydraulic seals will be provided with a three (3) year material and workmanship limited warranty. A copy of the warranty certificates is included with this proposal. |
| 0687327 | Warranty, Waterway, 10 Year, Aerial Device, WA0198 | AERIAL WATERWAY WARRANTY An Amity ten (10) year limited waterway warranty will be provided. A copy of the warranty certificate is included with this proposal. |
| 0595860 | Warranty, Paint, 4 Year, Aerial Device, Pro-Rated, WA0047 | FOUR (4) YEAR PRO-RATED PAINT AND CORROSION A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal. |
| 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. |

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.

0808577

Certification, Engine Installation,
Velocity, Cummins X15, 2027**ENGINE INSTALLATION CERTIFICATION**

The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.

0686786

Certification, Power Steering,
CD0098**POWER STEERING CERTIFICATION**

The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification is included with this proposal.

0892701

Certification, Cab Integrity,
Impel/Velocity FR, CD0190**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.

Roof Crush

The same cab will be subjected to a roof crush force of 22,050 lb. This value meets the ECE 29 criteria and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 100,000 lb. (Four and a half times the load criteria of ECE 29)

Frontal Impact

The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area.

There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.

0548950

Certification, Cab Door Durability,
Velocity/Impel, CD0001**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.

0548967

Certification, Windshield Wiper
Durability, Impel/Velocity, CD0005**WINDSHIELD WIPER DURABILITY CERTIFICATION**

Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 *Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles*. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.

0667411

Certification, Electric Window
Durability, Velocity/Impel FR, CD0004**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.

| | | |
|---------|--|---|
| 0549273 | Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018 | 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. |
| 0735950 | Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177 | 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 | |
| 0000049 | Ascendant BODY | |
| 0000012 | PIERCE CHASSIS | |
| 0004713 | ENGINE, OTHER | |
| 0046396 | EVS 4000 Series TRANSMISSION | |
| 0020015 | ABS SYSTEM | |
| 0755453 | AERIAL BASE | |



Electrical Analysis

5/30/2024

| | | | |
|------------------|--|----------------------|----------------------------------|
| Bid #: | 935 | Job #: | |
| Desc: | SMFD 107' (Duplicate #37404) | Sales Rep: | Hansen, Brad |
| Customer: | Sacramento Metropolitan Fire District | Organization: | Golden State Fire Apparatus, Inc |
| Option: | Pierce Command Zone, Advanced Electronics & Control System, Vel 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 |
| 0002526 | Light, Engine Compt, All Custom Chassis | | 0.00 | 1.60 | 0.00 |
| 0002617 | PTO switch, w/light - aerial | | 0.00 | 0.00 | 0.08 |
| 0030889 | Retarder, Telma Inline-Driveline, w/Jacobs Engine Brake, Tandem | | 0.00 | 224.42 | 0.00 |
| 0199683 | Cab Lift, Elec/Hyd, w/Manual Override, Unlocked Ind Light, | | 0.00 | 180.00 | 0.00 |
| 0527622 | Compt w/No Pump, 60" Wide w/Rollup Door, Special Hgt | | 0.00 | 0.00 | 3.60 |
| 0543751 | Light, Do Not Move Apparatus | | 0.00 | 0.80 | 0.00 |
| 0587935 | Lights, Side, Wln RS*02ZCR, Horizontally Mntd/Rec in Rub Rail, | | 0.00 | 0.00 | 3.00 |
| 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 |
| 0593759 | ESC/ABS/ATC Wabco Brake System, Tandem Rear Axle | | 0.00 | 6.00 | 0.00 |
| 0622791 | Lights, Side, Wln M9V2** 2nd | | 0.00 | 0.60 | 1.67 |
| 0622914 | Lights, Side, Wln M9V2** 1st | | 0.00 | 0.60 | 1.67 |
| 0631779 | Light, Map, Overhead, Round Halogen, AXT/Imp/Vel | | 0.00 | 0.74 | 0.00 |
| 0653519 | Camera, Pierce, LS Mux, RS, LS, R, Cameras, SD | | 0.00 | 1.20 | 0.00 |
| 0667431 | Lights, Compt, Amdor, AY-9220-31, LED, 30.58", Additional | | 0.00 | 0.00 | 0.31 |
| 0667902 | Controls, Electric Windows, All Cab Doors, Impel/Velocity FR | | 0.00 | 26.00 | 0.00 |
| 0669209 | Fan, Electrical Component Cooling 12 V, Switched Battery | | 0.00 | 2.00 | 0.00 |
| 0685120 | Handlight, Pelican, 8060 LED 12V DC Rechargeable Flashlight, | | 0.00 | 0.00 | 12.00 |
| 0763248 | Lights, Walk Surf, Amdor AY-LB-12HW0**, LED, Cargo Areas | | 0.00 | 0.00 | 0.00 |
| 0792976 | Stabilizers, Ascendant Tandem, Rear Mount Steel, 16' Spread, 18" | | 0.00 | 4.00 | 0.00 |
| 0803591 | Light, Visor, HiViz, FT-B-72-* LED, Spcl Tap Cnt, Under Visor | | 0.00 | 0.00 | 21.09 |
| 0804781 | Aerial Scene Lts Separated into Aerial Tip Category and Aerial | | 0.00 | 0.00 | 0.00 |
| 0806466 | Lights, Backup, Wln 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 |
| 0820904 | Wiring, Spare, 15 A 12V DC 1st NFPA1900 | | 0.00 | 0.00 | 30.00 |
| 0820906 | Wiring, Spare, 15 A 12V DC 2nd NFPA1900 | | 0.00 | 0.00 | 15.00 |
| 0820919 | Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 1st | | 0.00 | 0.00 | 9.60 |
| 0820920 | Wiring, Spare, 4.8 A 12V DC, USB Termination Blue Sea 1045 2nd | | 0.00 | 0.00 | 9.60 |
| 0821230 | Wiring, Spare, 20 A 12V DC, 6 CKT FB, Blue Sea 5025 1st | | 0.00 | 0.00 | 20.00 |
| 0821232 | Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025 | | 0.00 | 0.00 | 20.00 |
| 0821470 | Wiring, Spare, 4.8 A 12V DC, USB Termination 1st NFPA1900 | | 0.00 | 0.00 | 9.60 |
| 0821564 | Wiring, Spare, 50 A 12V DC 1st NFPA1900 | | 0.00 | 0.00 | 50.00 |
| 0895310 | Siren, Federal Q2B | | 0.00 | 100.00 | 0.00 |
| 0612938 | Compt, Storage, (2) Rear Facing, Overhead, 9 W x 10 H x 20 D, | Load Managed | 0.00 | 0.00 | 7.20 |
| 0626097 | Light, Map, Sunnex HS76*-00 Series, Swivel Joint, Clear Lens, | Load Managed | 0.00 | 0.00 | 1.56 |
| 0653677 | Lighting, Rung, LED, TecNiq, 4 Section, Base, Lower/Upper Mid, | Load Managed | 0.00 | 0.00 | 7.20 |
| 0741239 | HVAC, Heavy-Duty, Impel/Velocity FR, CARE | Load Managed | 0.00 | 0.00 | 136.00 |
| 0748793 | Lights, Wln, S44M** 44" 12VDC, RS Body | Load Managed | 0.00 | 0.00 | 21.60 |
| 0748795 | Lights, Wln, S44M** 44" 12VDC, LS Body | Load Managed | 0.00 | 0.00 | 21.60 |
| 0821191 | Wiring, Spare, 20 A 12V DC, Batt Dir, 1st NFPA1900 | Load Managed | 0.00 | 0.00 | 20.00 |
| 0821194 | Wiring, Spare, 20 A 12V DC, Batt Dir, 2nd 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 |
| 0000458 | Platform, Slide Out, 500 lb Capacity, Alum 4-Way | NFPA | 3.00 | 0.00 | 0.00 |
| 0002615 | Switch, Aerial 12V Master | NFPA | 0.08 | 0.00 | 0.00 |
| 0002758 | Amp Draw, NFPA/ULC Radio Allowance | NFPA | 5.00 | 0.00 | 0.00 |
| 0010758 | Flow Meter, Waterway, PAL, 110' Ascendant, MUX | NFPA | 0.50 | 0.00 | 0.00 |

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



Electrical Analysis

5/30/2024

| | | | |
|------------------|--|----------------------|----------------------------------|
| Bid #: | 935 | Job #: | |
| Desc: | SMFD 107' (Duplicate #37404) | Sales Rep: | Hansen, Brad |
| Customer: | Sacramento Metropolitan Fire District | Organization: | Golden State Fire Apparatus, Inc |
| Option: | Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT | Type: | Multiplexed |

| Option | Description | Type* | Minimum Load | Intermittent Load | Total Connected |
|---------|---|-------|--------------|-------------------|-----------------|
| 0063727 | Compt, LS Turntable, F/H F/D, Roll Dr & Lift Dr, Ascendant | NFPA | 1.80 | 0.00 | 1.80 |
| 0063734 | Compt, RS Turntable, F/H F/D, Roll Dr & Lift Dr, Ascendant | NFPA | 1.80 | 0.00 | 1.80 |
| 0068703 | Lights, Grote Supernova LED, Stabilizer Beam, (1) Set | NFPA | 1.60 | 0.00 | 0.00 |
| 0511569 | Lights, Clearance/Marker/ID, Rear, P25 LED 7Lts | NFPA | 0.50 | 0.00 | 0.00 |
| 0533071 | Siren, Wln 295SLSC1, 100 or 200 Watt, w/Plug-in/Detachable | NFPA | 0.80 | 7.20 | 0.00 |
| 0540746 | Lights, Stabilizer Warn (2) Sets, Wln M6* LED, Colored Lens | NFPA | 3.60 | 5.40 | 0.00 |
| 0542387 | Compt, IPO Chute, Rear Access, Tandem Axle, Smooth Alum | NFPA | 0.90 | 0.00 | 0.90 |
| 0555915 | Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity | NFPA | 2.10 | 8.40 | 0.00 |
| 0558293 | Light, Front Zone, Wln 4-Super 500 LED, Stacked, 2-Flash, 2- | NFPA | 7.00 | 0.00 | 5.50 |
| 0568012 | Air Dryer, Wabco System Saver 1200, Heater, 2010 | NFPA | 7.81 | 0.00 | 0.00 |
| 0568369 | Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity | NFPA | 1.26 | 0.00 | 0.00 |
| 0601972 | Lights, Turntable Walkway, P25, LED | NFPA | 0.35 | 0.00 | 0.00 |
| 0602100 | Lights, Torque Box Ladder Storage, Pierce LED Strip Lights, 2 Lts | NFPA | 1.00 | 0.00 | 0.00 |
| 0613546 | Headlights, Round LED, JW Speaker, 8630 Evolution, | NFPA | 4.00 | 4.00 | 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 |
| 0647638 | Lights, Dome, Weldon Dual LED 4 Lts | NFPA | 0.80 | 0.80 | 0.00 |
| 0648074 | Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts | NFPA | 0.49 | 0.00 | 0.00 |
| 0648425 | Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF | NFPA | 0.70 | 0.70 | 0.00 |
| 0653817 | Light, Locator, Wln VTX609*, Flashing LED, at Tip, PAL/PAP, 2lts | NFPA | 0.60 | 0.90 | 0.00 |
| 0653937 | Flasher, Headlight Alternating | NFPA | 0.08 | 0.00 | 0.00 |
| 0668314 | Cab, Velocity FR, 7010 Raised Roof w/Notch | NFPA | 6.80 | 10.20 | 0.00 |
| 0672327 | Lights, Deck, Wln (2) MPBW Micro Pioneer LED Rear Flood Lights | NFPA | 7.00 | 0.00 | 0.00 |
| 0686562 | Light, Rear Zone Up, Wln MCFLED2* LED | NFPA | 3.00 | 0.00 | 0.00 |
| 0731813 | Hour Meter, Aerial, Included in Information Centers, ASL, AAT, | NFPA | 0.10 | 0.00 | 0.00 |
| 0737181 | Intercom, 2-Way Fire Research ICA910 Hands Free | NFPA | 0.50 | 0.00 | 0.00 |
| 0755095 | Aerial, 107' ASL Tandem, 750/500 Tip, 50 MPH | NFPA | 5.00 | 0.00 | 0.00 |
| 0761585 | Cabinet, Rear Facing, LS, 25 W x 30 H x 24 D, Ext Acc Only, Sp | NFPA | 0.28 | 0.28 | 0.00 |
| 0761599 | Cabinet, Rear Facing, RS, 25 W x 30 H x 21.5 D, Ext Acc Only, Sp | NFPA | 0.28 | 0.28 | 0.00 |
| 0762388 | Lights, Stabilizer Scene, (2) sets, Amdor AY-LB-12HW012, LED | NFPA | 0.72 | 0.00 | 0.00 |
| 0762396 | Light, Turntable Console, Amdor AY-LB-12HW012, LED Strip Light | NFPA | 0.20 | 0.00 | 0.00 |
| 0762413 | Light, Boom Support, Amdor AY-LB-12HW012, 12" LED | NFPA | 0.18 | 0.00 | 0.00 |
| 0768765 | Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, | NFPA | 0.33 | 0.00 | 0.00 |
| 0769567 | Lights, Perimeter, Amdor AY-LB-12HW012 12", Brkt | 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 |
| 0784767 | Load Manager/Sequencer, MUX | NFPA | 0.56 | 0.56 | 0.00 |
| 0789980 | Compt, RS F/H F/D, Roll, 11.50" Rsd w/Full Notch, Spcl Stab | NFPA | 2.70 | 0.00 | 2.70 |
| 0789983 | Compt, LS F/H F/D, Roll, 11.50" Rsd w/Full Notch, Spcl Stab | NFPA | 2.70 | 0.00 | 2.70 |
| 0791501 | Light, Traffic Directing, Wln TAL65, 36" Long LED, Aerials | NFPA | 0.60 | 1.20 | 0.00 |
| 0791893 | Lightbar, Wln, Freedom IV-Q, 2-21.5", RRRRR RRsrRR | NFPA | 5.24 | 0.00 | 9.76 |
| 0801891 | Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Vel/Qtm | NFPA | 2.00 | 2.00 | 0.00 |
| 0802753 | Lights, Tracking, Wln MP** LED, 2lts | NFPA | 8.00 | 0.00 | 0.00 |
| 0803254 | Cabinet, Rr Fcng, Top Eng Tnl, 34 W x 19 H x 18 D, 2 Lap | NFPA | 0.18 | 0.18 | 0.00 |
| 0804514 | Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw | NFPA | 0.83 | 2.49 | 0.00 |
| 0808504 | Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027, | NFPA | 6.00 | 0.00 | 0.00 |
| 0814201 | Vehicle Information Center, 7" Color Display, Touchscreen, MUX, | NFPA | 1.20 | 0.00 | 0.00 |
| 0814217 | Control Stations, ASL Tandem Axle, MUX, Color Display, CL714 | NFPA | 4.26 | 0.00 | 0.00 |

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



Electrical Analysis

5/30/2024

Bid #: 935
Desc: SMFD 107' (Duplicate #37404)
Customer: Sacramento Metropolitan Fire District
Option: Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT

Job #:
Sales Rep: Hansen, Brad
Organization: Golden State Fire Apparatus, Inc
Type: Multiplexed

| Option | Description | Type* | Minimum Load | Intermittent Load | Total Connected |
|---------------------|--|-------|---------------|-------------------|-----------------|
| 0816093 | ClearSky Telematics, Remote Fleet & On-scene Management, | NFPA | 1.61 | 0.00 | 0.00 |
| 0820601 | Lights, Tip, WIn MP** LED, 4lts | NFPA | 13.12 | 0.00 | 0.00 |
| 0889577 | Bracket, License Plate & Light, P25 LED, Stainless Brkt | NFPA | 0.07 | 0.00 | 0.00 |
| 0892637 | Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step | NFPA | 1.00 | 0.00 | 0.00 |
| 0892656 | Lights, Step (6), P25 LED, Each Side | NFPA | 0.30 | 0.00 | 0.00 |
| 0894842 | Lights, Rear Zn Lwr, WIn M6*, For Tail Lt Housings | NFPA | 1.80 | 2.70 | 0.00 |
| 0895777 | Lights, Side Zone Lower Rear, WIn M6** | NFPA | 1.80 | 2.70 | 0.00 |
| 0895781 | Lights, Side Zone Lower Middle, WIn M6* | NFPA | 1.80 | 2.70 | 0.00 |
| 0895907 | Lights, Side Zone Lower Front, WIn M6** | NFPA | 1.80 | 2.70 | 0.00 |
| 0647728 | Alternator, 430 amp, Delco Remy 55SI | S | 0.00 | 0.00 | 0.00 |
| Load Totals: | | | 130.31 | 623.55 | 570.54 |

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: 259.00

Alternator Output at Governed Speed: 371.00

| Minimum Continuous Load | |
|-------------------------|--------|
| Supply: | 259.00 |
| Demand: | 130.31 |
| Variance: | 128.69 |

| Total Connected Load | |
|----------------------|--------|
| Supply: | 371.00 |
| Demand: | 365.69 |
| Variance: | 5.31 |

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



Turning Performance Analysis

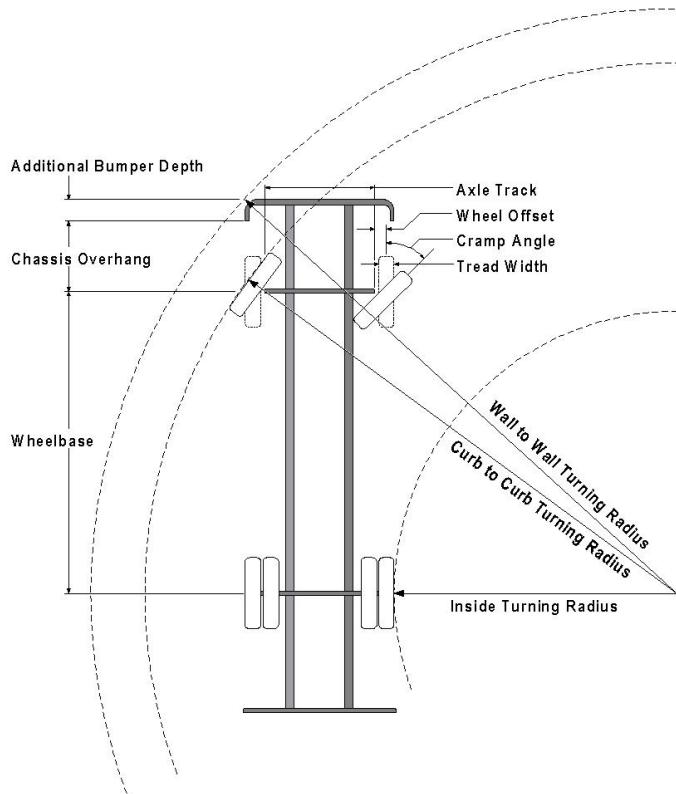
05/30/2024

Bid Number: 935

Chassis: Velocity Chassis, Aerials, Tandem Axle, Ascendant/LSL, (Big Block), 2010

Department: Sacramento Metropolitan Fire District

Body: Aerial, HD Ladder 107' ASL Tandem, No Pump, Alum Body



Parameters:

| | |
|--------------------------|-----------|
| *Inside Cramp Angle: | 45° |
| Axle Track: | 82.92 in. |
| Wheel Offset: | 4.68 in. |
| Tread Width: | 16.3 in. |
| Chassis Overhang: | 78 in. |
| Additional Bumper Depth: | 7 in. |
| Front Overhang: | 85 in. |
| Wheelbase: | 248.5 in. |

Calculated Turning Radii:

| | |
|---------------|---------------|
| Inside Turn: | 19 ft. 8 in. |
| Curb to curb: | 35 ft. 7 in. |
| Wall to wall: | 39 ft. 11 in. |

| Category | Option | Description |
|---------------------|---------|---|
| Bumpers | 0123628 | Bumper, Non-Extended, Imp/Vel |
| Aerial Devices | 0755095 | Aerial, 107' ASL Tandem, 750/500 Tip, 50 MPH |
| Axle, Front, Custom | 0508849 | Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel |
| Wheels, Front | 0019611 | Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot |
| Tires, Front | 0899438 | Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply |

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

| | |
|-----------------------------|---|
| Inside CrampAngle | Maximum turning angle of the front inside 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 vehicle's 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.

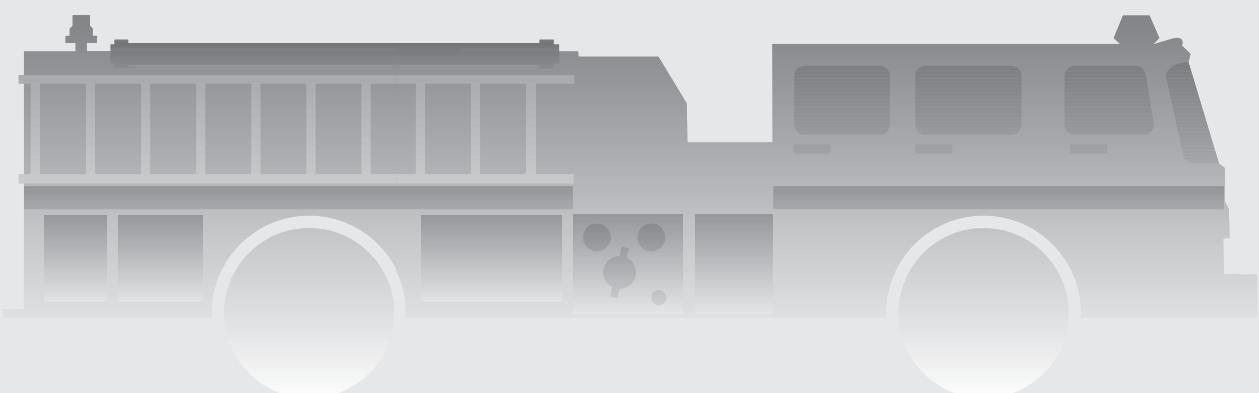
Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT 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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R. H. SHEPPARD CO., INC.

101 Philadelphia St.

Hanover, PA 17331

Pierce Manufacturing Inc.

2600 American Drive

Appleton, WI 54912

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

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

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

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

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

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

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

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

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of \$85.00 USD per hour for M110PKG1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PKG1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce's discretion.

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

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

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

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

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

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

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

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

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

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

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

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

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

R. H. SHEPPARD CO., INC.

PIERCE MANUFACTURING INC.

Authorized Signature

Authorized Signature

Title

Title



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity Chassis Frame & Crossmembers

Limited Warranty

1. LIMITED WARRANTY

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

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

Three (3) Year Material and Workmanship TAK-4 Independent Front Suspension

Limited Warranty

1. LIMITED WARRANTY

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

| | |
|--|---|
| Coverage: | The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship. |
| Warranty Begins: | The date of the original purchase invoice (issued when the product ships from the factory). |
| Warranty Period Ends After: | Three (3) Years -or- 30,000 Miles |
| Conditions and Exclusions: See Also Paragraphs 2 thru 4 | This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers. |

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

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

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

**MERITOR® COMMERCIAL
VEHICLE SYSTEMS**
WARRANTY/MODEL YEAR 2020 VEHICLES





WARRANTY INFORMATION CONTENTS

Effective Model Year 2020 Vehicles

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How to Read Warranty Coverage

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

Notice:

Models or components that are approved for use by Meritor's vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

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

Advantage Program

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).



LINEHAUL WARRANTY INFORMATION

Linehaul Vehicles

- | | | | |
|------------------------|-------------------|--------------------|------------------------|
| ■ Bulk Hauler | ■ Flatbed | ■ Livestock Hauler | ■ Refrigerated Freight |
| ■ Chip Hauler (Truck)* | ■ General Freight | ■ Moving Van | ■ Tanker |
| ■ Doubles | ■ Grain Hauler | ■ Pipe Hauler | ■ Triples |

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

Linehaul Typically Is

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

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

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

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

Rear Drive Single Axles – 5/750/P&L

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

Drivelines

| | |
|------|--------------------|
| RPL | 5/500/P, 1/Uni/P&L |
| MXL | 3/350/P, 1/Uni/P&L |
| 155N | 1/Uni/P |
| 92N | 1/Uni/P |

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

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

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

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



LINEHAUL WARRANTY INFORMATION

Brake Components

| | |
|--|-----------------------------|
| Cam Q Series Trailer Brakes | 5/500/P, 1/100/L |
| Q+ Drum Brake™ | 5/500/P, 1/Unl/P&L |
| ASA | 5/500/P, 1/Unl/P&L |
| Hubs/Cast Drums and Other Wheel-end Components | 1/Unl/P |
| Hydraulic Disc Brakes | 1/Unl/P |
| All Other Brakes | 1/Unl/P |
| STEELite X30 Drum Brake™ ² | 12-Years or Wearable Life/P |
| EX+ Air Disc Brake™ | 5/500/P, 1/Unl/L |
| EX+ Air Disc Brake Extended Standard Warranty ³ | 5/500/P&L |

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

² Based on stamped wear diameter max.

³ Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXXCDXXX

Trailer Axles

| | |
|--------------------------------|------------------|
| Beam and Brackets | 5/500/P, 1/100/L |
| Wheel End Systems ¹ | |
| Standard System ² | 1/100/P&L |
| PreSet by Meritor ³ | 5/500/P&L |
| AxePak ⁴ | 5P/L |
| AxePak ⁵ | 7P/L |

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

² When installed by Meritor.

³ Requires approved hubcap stating PreSet by Meritor on hubcap face.

⁴ When specified with AxePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

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

TAG/Pusher Axles¹

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

Meritor Tire Inflation System

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

Trailer Air Suspension Systems

| | |
|---|------------------|
| MPA38/40 (Tandem Axle Parallelagram) ¹ | |
| Major Structural Components | 5/500/P, 1/100/L |
| Curbing Damage Warranty ² | 5/500/P, 1/100/L |
| Height Control Valve | 1/100/P&L |
| Shock Absorbers | 2/200/P&L |
| Air Springs | 2/200/P, 1/100/L |
| Bushings | 5/P, 3/L |
| PinLoc Air Controls | 1/100/P&L |
| PinLoc Actuator | 3/300/P&L |
| MPA20 (Single Axle Parallelogram) | |
| Major Structural Components | 5/500/P, 1/100/L |
| Height Control Valve | 1/100/P&L |
| Shock Absorbers | 2/200/P&L |
| Air Springs | 2/200/P, 1/100/L |
| Bushings | 5/P, 3/L |
| MTA (Trailing Arm) | |
| Major Structural Components | 5/500/P, 1/100/L |
| Height Control Valve | 1/100/P&L |
| Shock Absorbers | 2/200/P&L |
| Air Springs & Rebound Straps | 2/200/P, 1/100/L |
| Bushings | 5/500/P, 3/300/L |

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

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



GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

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

General Service Typically Is

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

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

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

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

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

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

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

Rear Drive Single Axles – 2/Uni/P&L

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

¹ 3/Uni/P&L if PreSet by Meritor.

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

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

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

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

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

Rear Drive Axles – 1/Uni/P&L

| | |
|-------|---------|
| 11170 | RND-14H |
| 523 | RND-16A |

Drivelines

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

Transmission – 1/Uni/P&L

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

PTO – 1/Uni/P&L

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



GENERAL SERVICE WARRANTY INFORMATION

Brake Components

| | |
|--|-----------------------------|
| Cam Q Series Trailer Brakes | 3/Unl/P, 1/Unl/L |
| Cam P ³ | 2/200/P |
| Cam | 3/Unl/P |
| Q+ Drum Brake™ | 3/Unl/P&L |
| Q+ Drum Brake™ ³ | 2/200/P&L |
| ASA | 3/Unl/P |
| ASA ³ | 2/200/P |
| Hubs/Cast Drums and Other Wheel-end Components | 1/Unl/P |
| Hydraulic Disc Brakes | 1/Unl/P |
| All Other Brakes | 1/Unl/P |
| STEELite X30 Drum Brake™ ² | 12-Years or Wearable Life/P |
| EX+ Air Disc Brake™ | 2/Unl/P&L |

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

² Based on stamped wear diameter max.

³ Applies to Tour Bus and Cross Country Coach only.

Trailer Axles

| | |
|--|------------------|
| Beam and Brackets ¹ | 5/Unl/P, 1/Unl/L |
| Wheel End Systems ² | |
| Standard System ³ | 1/Unl/P&L |
| AxePak ⁴ | 5/P&L |
| AxePak ⁷ ⁵ | 7/P&L |
| ¹ 9000 Series is 3/Unl/P, 1/Unl/L | |
| ² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage. | |
| ³ When installed by Meritor. | |
| ⁴ When specified with AxePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L. | |
| ⁵ When specified with AxePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L. | |
| (For brake components and ABS coverage, refer to appropriate product warranties.) | |

Chassis Axles (2000 Series/ChassiPak)

| | |
|--------------------------------|------------------|
| Beam & Brackets | 6/Unl/P, 1/Unl/L |
| Wheel End Systems ¹ | |
| Standard System | 1/Unl/P&L |
| AxePak7 | 7/P&L |

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

Trailer Air Suspension Systems

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

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

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

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

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

TAG/Pusher Axles

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

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

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

Meritor® Tire Inflation System

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



HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicle

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

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

- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus*
- Side Loader
- Snowplow/Snowblower

- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

*Commercial chassis only

Heavy Service/Specialty Vehicle Typically Is

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/start (up to 10 stops per mile)

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

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

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

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

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

Rear Drive Single Axles – 2/Uni/P&L

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

Rear Drive Axles – 1/Uni/P&L

| | |
|-------|---------|
| 11170 | RND-14H |
| 523 | RND-16A |

Drivelines

| | |
|-----|--------------------|
| RPL | 3/Uni/P, 1/Uni/P&L |
| 92N | 1/Uni/P&L |
| MXL | 1/Uni/P&L |

Transmission – 1/Uni/P&L

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

PTO – 1/Uni/P&L

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



HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

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

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

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

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

Brake Components

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

¹ Based on stamped wear diameter max.

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

³ Warranty for all non-Meritor ASAs supplied by Meritor for all Heavy Service vocations is 1/100/P.

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

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

¹ U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.
² Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.
³ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Meritor Tire Inflation System

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

Trailer Air Suspension Systems

| | |
|--|------------------|
| MTA (Trailing Arm) | |
| Major Structural Components ¹ | 5/Unl/P, 1/Unl/L |
| Height Control Valve | 1/Unl/P&L |
| Shock Absorbers | 2/Unl/P&L |
| Air Springs | 2/Unl/P, 1/Unl/L |
| Bushings ¹ | 5/Unl/P, 3/Unl/L |

¹ Raw wood applications 3/Unl/P, 1/Unl/L
(For axle and ABS coverage, refer to appropriate product warranties.)

Trailer Axles

| | |
|---|------------------|
| Beam and Brackets ¹ | 5/Unl/P, 1/Unl/L |
| Wheel End Systems ² | |
| Standard System ³ | 1/Unl/P&L |
| 19000 Series is 3/Unl/P, 1/Unl/L. | |
| Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage. | |

¹ When installed by Meritor.
(For brake components and ABS coverage, refer to appropriate product warranties.)

Gearboxes – 1/Unl/P&L

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

Transfer Cases – 1/Unl/P

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



FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

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

Fire and Emergency Typically Is

- Lower mileage operations (less than 20,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

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

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

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

Front Drive Steer Axles – 2/Unl/P&L

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

Rear Drive Single Axles – 5/Unl/P&L

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

¹ 3/Unl/P&L if PreSet by Meritor.

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

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

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

Brake Components

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

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

Drivelines

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

Transfer Cases – 1/Unl/P

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



TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

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

Transit Bus Typically Is

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

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

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

| | |
|---------------------|------------|
| FH-946 | MFS-12-155 |
| FH-941 ¹ | MFS-13-155 |

¹ Commuter coach only – 2/Unl/P&L

Rear Drive Single Axles – 5/300/P&L

| | | |
|-----------|------------------------|-----------|
| RS-23-160 | 79163 | RS-21-160 |
| RC-23-161 | RC-23-162 ¹ | |
| 71163 | RC-23-165 ¹ | |

¹ Commuter coach only – 2/Unl/P&L

Brake Components

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

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

Drivelines

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



OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Industrial And Off-Highway Service Vehicles

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

Industrial And Off-Highway Service Typically Is

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

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

Drivelines – 1/Uni/P

RPL MXL

Front Non-Drive Steer Axles – 1/Uni/P

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

Brake Components

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

Planetary Axles – 1/Uni/P

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

Gearboxes – 1/Unl/P&L

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

Transfer Cases – 1/Unl/P

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



TERMS AND CONDITIONS

Coverage Exclusions

Product Description

All

The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

Front Axles

King Pin Bushings.

Rear Axles

Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

ASA

Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

Cam Brake

Brake lining wear and brake shoe "rust-jacking."

Disc Brake

Pad wear, rotor wear.

Coverage Limitations

Product Description

All

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Front Axles

Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake

Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30

Wearable life is up to the discard diameter of the drum.

Disc Brake

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

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

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

Meritor Heavy Vehicle Systems, LLC warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM's vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number I and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) Designation of Vocational Use Required.

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

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

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

(3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not branded by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor's option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) Limitation of Remedies.

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.

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

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



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Fire and Rescue Apparatus

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

1. LIMITED WARRANTY

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

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



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.



Pierce Warranty Statement for Gortite Roll Up Doors Rev 2/24/2011

All mechanical components of the door shall be warranted to be free from defects in materials and workmanship for the lifetime of the vehicle. All parts covered under this warranty shall be to the original owner.

A&A manufacturing warrants that painted doors shall be free of blistering, peeling, bubbling, or any other adhesion defect caused by defective manufacturing methods or paint material selection. The time period for the coverage shall be 6 years from date of door shipment to Pierce. Satin anodized finish doors shall be warranted for 6 years against corrosion defects from date of door shipment to Pierce. Replacement of decals/Scotchlite is not covered.

The maximum amount A&A will reimburse for labor is \$60.00 per hour and the maximum amount of time allowed for repair is as follows:

| | |
|---------------------------|---------|
| Door | 1.0 Hr. |
| Slat Replacement | 1.0 Hr. |
| Pennant Plate Replacement | 1.0 Hr. |
| Roller Replacement | .5 Hr. |
| Seal Replacement | .5 Hr. |
| Switch/Magnet Replacement | 1.0 Hr. |
| Travel Time | 4.0 Hr. |



Fire and Rescue Apparatus

Twenty (20) Year Structural Integrity Pierce Aerial Device

Limited Warranty

1. LIMITED WARRANTY

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

| | |
|--|---|
| Coverage: | Each new Pierce Aerial Device shall be free from defects in material and workmanship. Aerial Device Models Covered by this warranty include: Aerial Platforms Aerial Ladders SkyBoom |
| Warranty Begins: | The date of the original purchase invoice (issued when the product ships from the factory). |
| Warranty Period Ends After: | Twenty (20) Years - or - 100,000 Miles |
| Conditions and Exclusions: See Also Paragraphs 2 thru 4 | This warranty applies only to the torque box, turntable, aerial sections and other structural components of the aerial device, as identified in the Pierce specifications for the aerial device. This warranty shall be void if, or to the extent that the aerial device is not maintained in strict compliance with NFPA Standard 1911 in effect at time of sale, including such periodic inspections and testing by qualified third parties as are required by that Standard as it may be in effect from time to time. Proof of such compliance shall accompany any claims under this warranty. Third party testing agencies known to Pierce to be qualified for such purposes may be obtained from the Pierce Customer Service Department This warranty does not apply to damage caused by corrosion. |

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.



AMITY FIRE AND SAFETY, INC.

3750 CHESTNUT ROAD
ALBURTIS, PA 18011-0451
Phone: 610-966-3115
Fax: 610-965-6313

* STANDARD FIVE YEAR WARRANTY *

(standard warranty is in effect for parts shipped after 4/15/10)

Three Function Swivel

A. PRESHIPMENT TESTING The Three Function Swivel fabricated by Amity which is exposed to pressure during normal use is subject to final inspection using the following pressure minimums:

1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.
2. Hydraulic applications will be tested to 4000 PSI. System operating pressure in application to be 3000 PSI maximum.
3. Dielectric and Continuity Test all circuits. 30 Amp max current loading.

B. THREE FUNCTION SWIVEL MAINTENANCE – Our Three Function Swivel has been fully tested at assembly. Under no circumstances is there to be any maintenance performed internally or externally to the Three Function Swivel by Purchaser or any other third party other than an authorized representative of or Amity itself. The Three Function Swivel is sealed and must remain so. The Three Function Swivel is designed for a long maintenance free life. Should any problems occur or replacement be necessary, first contact Amity. There is to be no field maintenance performed on the Three Function Swivel .

C. MOUNTING REQUIREMENTS – The following are the mounting requirements for the Three Function Swivel:

1. Mounting points and methods are to be determined at the initial design stage. All drawings and applicable documentation must be signed off by both parties and filed for future reference. No deviation to the approved mounting is allowed without approval from Amity.
2. The Three Function Swivel is to be mounted concentric to the center of the turntable bearing.
3. All inlet and outlet plumbing to conform to swivel mounting, under no circumstances is the Three Function Swivel to be positioned to match connections. This will avoid putting excessive loads on the Three Function Swivel. All tubing or piping to be supported by means other than the Three Function Swivel.

D. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED.

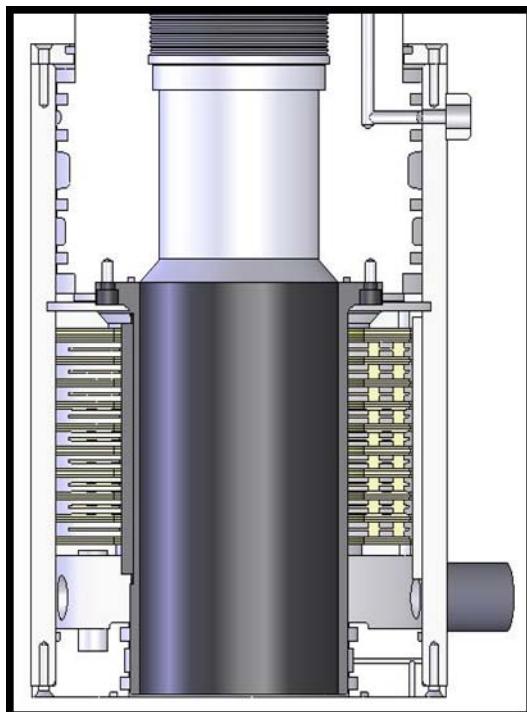
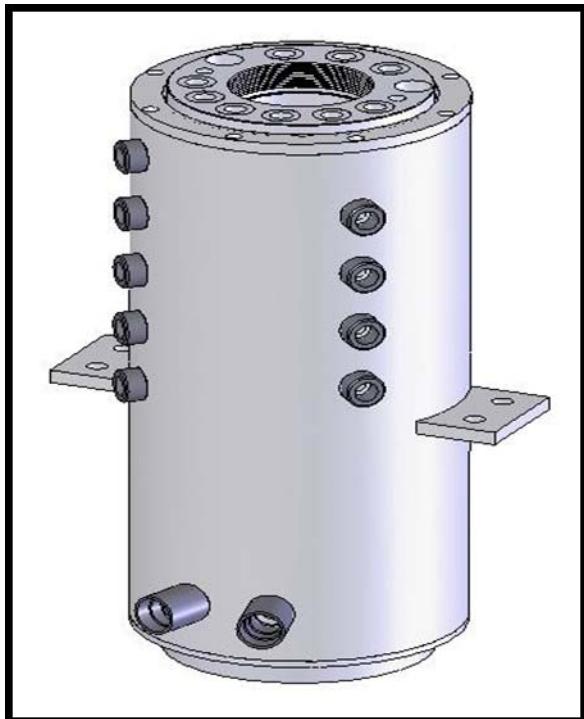
1. The Three Function Swivel is warranted to be free of defects in labor and/or materials for a period of five (5) years from the Date of Service. For purposes here, "Date of Service" shall mean the date when the Three Function Swivel, or the unit to which the Three Function Swivel is incorporated, passes final Underwriters Laboratory testing, or similarly compliant testing, and is certified for service. Evidence of such Date of Service shall be required in connection with any warranty claim by Purchaser.
2. The Three Function Swivel shall be repaired or replaced at the sole option and expense of the Amity provided the Three Function Swivel alleged to be defective was used for its intended normal use of operation and subject to the following qualifications and limitations.
3. Any alteration of the Three Function Swivel without consent from Amity is strictly forbidden and shall void warranty.
4. No welding shall be performed on finished Three Function Swivel.
5. No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water or hydraulic systems such as, but not limited to stones, sand or metal chips.
6. Amity assumes responsibility for our Three Function Swivel, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our Three Function Swivel unless it agrees in writing to assume such responsibility.
7. Unless otherwise approved in writing by the Amity all returns of defective Three Function Swivels (or allegedly defective Three Function Swivels) are at Purchaser's expense and must include a RGA number issued by the Amity.

8. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly's Amity's label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.
9. Amity will not be held liable for damage incurred during shipment.
10. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Three Function Swivel and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF FIVE YEARS IS FROM THE DATE OF SERVICE WITH THE UNDERSTANDING IT IS INSTALLED WITHIN A REASONABLE TIME PERIOD.

Dated: _____, 20____





Fire and Rescue Apparatus

Five (5) Year Material and Workmanship Aerial Hydraulic System Components

Three (3) Year Material and Workmanship Aerial Hydraulic System Seals

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 aerial hydraulic system components and seals shall be free from component or structural failures caused by defects in material and/or 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 and Three (3) Years |
| Conditions and Exclusions: | <p>Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the hydraulic lines, fittings, valves, seals, cylinders, filters, pumps, hydraulic motors, rotary actuators, or components which Pierce determines to have failed due to defective material and workmanship.</p> |
| See Also Paragraphs 2 thru 4 | <p>This warranty shall not apply unless the aerial device is inspected in accordance with NFPA 1911 Standard for Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus and the applicable Pierce Operator and Maintenance Manuals.</p> |

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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



AMITY FIRE AND SAFETY, INC.

3750 CHESTNUT ROAD
ALBURTIS, PA 18011-0451
Phone: 610-966-3115
Fax: 610-965-6313

* STANDARD TEN YEAR WARRANTY *

(standard warranty is in effect for parts shipped after 4/15/10)

Telescopic Waterways

A. PRESHIPMENT TESTING All waterways fabricated by Amity are final inspected using the following pressure minimums:

1. Hydrostatic applications will be tested to 400 PSI unless specified otherwise on approved drawings. Operating pressures on installed systems are not to exceed 250 PSI at any point in the system. Warranty will be voided and Amity will not be held liable for failure and/or damage occurring from Water Hammering or freezing of water in any system.

B. COMPONENTS DESCRIPTION AND MAINTENANCE

1. All components are thoroughly greased at assembly. Since internally lubricated seals are used, regular greasing is not required. We recommend components not be greased at installation.
2. Slip Tube Assemblies may be greased at the Amity's regularly scheduled Aerial Inspections. The seals in the Slip Tube Assemblies are self-lubricating, so greasing is not mandatory. We do recommend a visual inspection of the Slip Tube Assembly while it is fully extended after initial installation, from that point on we recommend inspection every ten hours of aerial operation. If any deposits of aluminum appear, they are to be rubbed off using a Teflon scouring pad. Slip Tube Assemblies are designed to give long maintenance free service; however, like any product, problems may occur and periodic visual inspections will aid in determining if a potential problem exists and warrants a call to us. Care must be taken to keep debris off of extended tubes. We recommend wiping tubes with light oil (10 weight) or hydraulic oil after use, if tubes appear to have contamination on them. Under no circumstance are tubes to be cleaned with lacquer thinner, or any other solvent.

C. LIMITED WARRANTY, LIMITATIONS, CONDITIONS AND PROCEDURES REQUIRED.

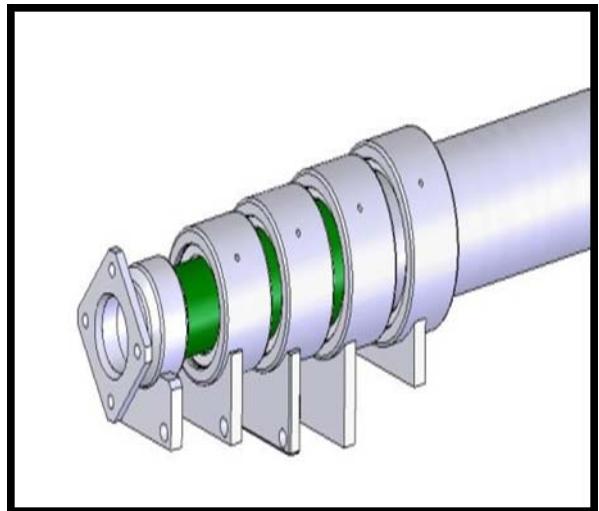
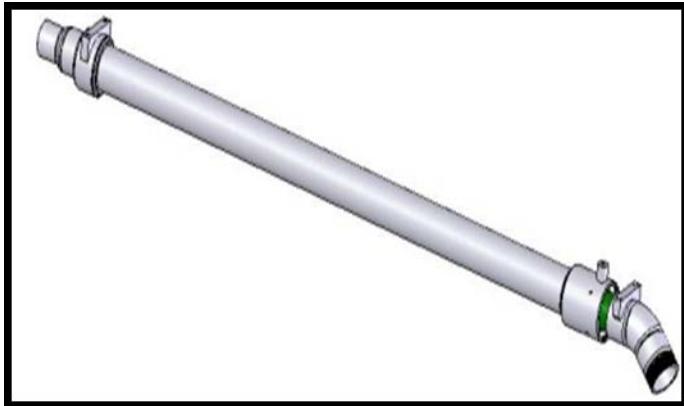
1. Products are warranted to be free of defects in labor and/or materials for a period of ten years from the date of purchase from the Amity and shall be repaired or replaced at the sole option and expense of the Amity provided the products alleged to be defective was used for its intended normal use operation and subject to the following qualifications and limitations.
2. Any alteration of product without consent from Amity is strictly forbidden and shall void warranty.
3. No welding shall be performed on finished product.
4. No responsibility is assumed for any malfunctions or damages which are occasionally caused by foreign objects which may be ingested into water system such as, but not limited to stones, sand or metal chips.
5. Amity assumes responsibility for our product, which is defective only, and therefore, it will not assume responsibility for labor to either remove or install our product unless it agrees in writing to assume such responsibility.
6. Unless otherwise approved in writing by the Amity all returns of defective (or allegedly defective products) are at Purchaser's expense and must include a RGA number issued by the Amity.
7. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly's Amity's label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated and resolved.
8. Amity will not be held liable for damage incurred during shipment.
9. No responsibility shall be assumed for misuse or improper mounting, unreasonably use or abuse of the Product and or failure to provide or use improper maintenance, failure to follow written installation and use in instruction or any use other than the customary designed use.

THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR

FITNESS FOR A PARTICULAR PURPOSE OR USE ARE LIMITED IN DURATION AS SET FORTH ABOVE. IN NO EVENT SHALL THE AMITY ASSUME OR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THE WITHIN DESCRIBED WARRANTY SHALL ONLY BE AFFORDED TO THE ORIGINAL PURCHASER OR FOR INCORPORATION INTO ANOTHER UNIT AND TO FIRST PURCHASER AS PART OF COMPLETED UNIT, HOWEVER, THE WARRANTY PERIOD OF TEN YEARS COMMENCES UPON INSTALLATION INTO FINAL ASSEMBLY WITH THE UNDERSTANDING IT IS INSTALLED WITHIN SIX MONTHS OF PURCHASE.

Dated: _____, 20____





Fire and Rescue Apparatus

Four (4) Year Pro-Rated Paint and Corrosion Aerial Device

Limited Warranty

1. LIMITED WARRANTY

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

| | |
|------------------------------|---|
| Coverage: | Aerial device shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection for exterior surfaces. |
| Warranty Begins: | The date of the original purchase invoice (issued when the product ships from the factory). |
| Warranty Period Ends After: | Four (4) 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 0-24 months 100% 25-48 months 50%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-24 months 100% 25-48 months 50%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-24 months 100% 25-48 months 50%</p> <p>Corrosion Perforation 0-24 months 100% 25-48 months 50%</p> <p>This limited warranty applies only to exterior paint.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade.</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 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 four (4) Customer representatives. The primary objective of this visit is to ensure the adherence of the apparatus to specifications and promptly identify any potential deficiencies. The final inspection trip is anticipated to span four (4) days and three (3) nights, with scheduling details collaboratively determined between GSFA and the Customer.

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

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

DELIVERY TO AUTHORIZED SERVICE FACILITY

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

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

PRE-DELIVERY SERVICE

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

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

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

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

FINAL DELIVERY (CUSTOMER LOCATION)

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

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

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

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

END OF EXHIBIT D