City of Sacramento City Council - 2PM Report 915 I Street Sacramento, CA 95814

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File ID: 2025-01166 6/24/2025

Contract Supplement No. 3: FY26 Replacement Fire Apparatus [Published for 10-Day Review 06/12/2025]

File ID: 2025-01166

Location: Citywide

Recommendation: Pass a **Motion** authorizing the Interim City Manager or designee to execute Supplemental No. 3 to Contract No. 2023-0956 with Golden State Fire Apparatus, Inc. for the purchase of two replacement units for the Fire Department. One (1) 107' Velocity Ascendant Ladder Truck for a not to exceed \$1,719,798 and one (1) Pierce Type 1 Enforcer Fire Engine for a not to exceed \$1,052,355. The current contract amount of \$10,699,618 accommodates these purchases.

Contact: Stacey Chatman, Program Specialist, (916) 808-6711, schatman@cityofsacramento.org; Alison Kerstetter, Fleet Manager, (916) 808-1163, akerstetter@cityofsacramento.org; Department of Public Works

Presenter: None

Attachments:

1 - Description/Analysis

2 - Supplemental Agreement No. 3

Description/Analysis

Issue Detail: The Department of Public Works, Fleet Management Division is responsible for purchasing replacement vehicles for departments as the need arises. The Fire Department has a need for the upcoming fiscal year (FY2025/26) to purchase two replacements for their fire apparatus. This is because two units have reached the end of their useful life and are no longer reliable for emergency services. Fire is seeking to replace unit 11317 with one (1) Pierce Velocity Ascendant Ladder Truck and unit 12302 with one (1) Pierce Type 1 Enforcer Engine. To ensure timely ordering due to extensive production times (46 to 53 months), Fleet Management is requesting approval now. This will ensure they are ready to order on July 1, 2026, when the FY2025/26 budget is adopted.

Policy Considerations: The recommendations in this report are in accordance with Sacramento City Code Chapter 3.56 and Sacramento City Council Rules of Procedure, Chapter 7, Section E.2.d, which requires additional posting time for labor agreements and agreements greater than \$1 million.

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This item was published for 10-day review on June 12, 2025, in compliance with the City Code.

Economic Impacts: None.

Environmental Considerations: California Environmental Quality Act (CEQA): No environmental review is necessary because the recommendations in this report involve the purchase of vehicles and are not considered to be a project in accordance with Section 15378(b)(2) of the California Environmental Quality Act guidelines.

Sustainability: The recommended purchases are consistent with the updated Fleet Sustainability Policy adopted by City Council on December 12, 2017 (Resolution No. 2017-0478) and California Air Resource Board (CARB) regulations as there is no comparable zero emission model available for replacement.

Commission/Committee Action: None.

Rationale for Recommendation: The Fleet Management Division has determined that the Sourcewell cooperative purchase contract with Oshkosh Corporation through local dealer, Golden State Fire Apparatus, Inc., is the most advantageous strategy for purchasing the Ladder Truck and Type 1 Fire Engine. This contract has been competitively bid nationally and offers greater discounts due to higher purchase volumes.

In an ongoing effort to maximize cost savings and staff resources, many government agencies share contracting efforts through cooperative purchasing. This method increases pricing competitiveness and lowers capital costs through volume buying. When comparing the administrative costs of procurement, staff considers product research, source selection, specifications, advertising, staff reports, awarding, protest, and administration of the contract.

The City uses both regional and national cooperative purchase agreements to complement its own initiatives. This enables departments to evaluate a broader range of opportunities and share resources with other jurisdictions, maximizing cost savings.

Financial Considerations: The recommended purchases for replacement total an amount not to exceed \$2,772,153 and will be made from the Department of Public Works Fiscal Year (FY) 2025/26 operating budget (Fleet Fund, Fund 6501), subsequently charged out to the Fire Apparatus Equipment Project (F12000300). Sufficient funding will exist in the Department of Public Works FY2025/26 operating budget and the Fire Apparatus Equipment Project (F12000300) after the FY2025/26 budget is approved to support the recommended purchases.

Local Business Enterprise (LBE): Golden State Fire Apparatus, Inc. is a Local Business Enterprise.



CONTRACT ROUTING SHEET

Contract Cover/Routing Form: Must Accompany ALL Contracts; however, it is NOT part of the contract.

General Information (Required)	
Original Contract # (supplements only): 2023-0956	Supplement/Addendum #: 03
Assessor's Parcel Number(s):	
Contract Effective Date: 06/20/2023	Contract Expiration Date (if applicable): 06/19/2028
\$ Amount (Not to Exceed): \$\frac{\$10,699,618.00}{}	Adjusted \$ Amount (+/-): \$ 0.00
Other Party: Golden State Fire Apparatus, Inc.	
Project Title: Replacement Fire Apparatus	
Project #:	Bid/RFQ/RFP #:
City Council Approval: YES if YES, Council	File ID#: 2024-0193
Contract Processing Contacts	
Department: Public Works	Project Manager: Stacey Chatman
Contract Coordinator: Stacey Chatman	Email: schatman@cityofsacramento.org
Department Review and Routing	
Accounting:	
(Signature)	(Date)
Supervisor:	(0.1.)
(Signature)	(Date)
Division Manager:(Signature)	(Date)
Other:	(Date)
(Signature)	(Date)
Special Instruction/Comments (i.e. recording requ	ested, other agency signatures required, etc.)
Recording Requested	Other Party Signature Required
	LV DO NOT WRITE BELOW THE LINE

SUPPLEMENTAL CONTRACT

AMENDMENT TO SCOPE

Project Title and Job Number: Replacement Fire Apparatus

Purchase Order #:

Date: 05/21/2025

Supplemental Contract No.: 03

The City of Sacramento ("City") and Golden State Fire Apparatus ("Contractor"), as parties to that certain Goods Agreement designated as Contract Number 2023-0956, including any and all prior supplemental contracts modifying the contract (the contract and all supplemental contracts are hereafter collectively referred to as the "Contract"), hereby supplement and modify the Contract as follows:

- 1. The scope of Services specified in A of the Agreement is amended as follows:
 - Adding two (2) additional units: One (1) Pierce Manufacturing 107' Velocity Ascent Ladder Truck and One (1) Pierce Manufacturing Enforcer 1500 GPM Type 1 Fire Engine.
- 2. The term of the Agreement is not changed.
- 3. The maximum not-to-exceed amount that is specified in Exhibit B of the Agreement is not changed. Contractor agrees that the not-to-exceed amount specified in Exhibit B of the Agreement shall constitute full compensation for the services provided under the Agreement.
- 4. Contractor warrants and represents that the person or persons executing this supplemental contract on behalf of Contractor has or have been duly authorized by Contractor to sign this supplemental contract and bind Contractor to the terms hereof.
- 5. Except as specifically revised herein, all terms and conditions of the Contract shall remain in full force and effect, and Contractor shall perform all of the services, duties, obligations, and conditions required under the Contract, as supplemented and modified by this supplemental contract.

SUPPLEMENTAL CONTRACT

Approval Recommended By:	Approved As To Form By:		
	Paul A. Gale		
Project Manager	City Attorney		
Approved By:	Attest:		
- fylhidl			
Contractor	City Clerk		
Approved By:			
Ryan Moore, Assistant City Manager			
City of Sacramento			



PREPARED ESPECIALLY FOR:

CITY OF SACRAMENTO

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







PRODUCT PROPOSAL





PRODUCT PROPOSAL FOR:

City of Sacramento

5770 Freeport Blvd, Suite 2 Sacramento, CA 95822

Sales Consultant

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

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
05/07/2025	06/30/2025	10507-25A	979	Pierce Manufacturing Inc.	Sourcewell #113021- OKC, ID #236, Member #18730

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

ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing Inc. 107' Velocity Ascendant Ladder Truck	1,899,816.00
В	Fire Fighting Equipment Mounting Allowance	28,000.00
C	Discount for Sourcewell contract #113021-OKC, ID #236	(74,694.00)
D	Discount for 100% Payment at Time of Order (the "Prepayment Discount")	(275,538.00)
E	SUBTOTAL	1,577,584.00
F	8.75% State Sales Tax	138,038.60
G	California Tire Fee	10.50
Н	100% Performance Bond	4,164.00
I	GRAND TOTAL PURCHASE PRICE	1,719,797.10

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

<u>MANUFACTURER</u> – 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



EDTED AND ACREED TO BY CUCTOMER



Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

<u>PRODUCT COMPLETION</u> – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately <u>46 to 49 MONTHS</u> after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

<u>PREDELIVERY SERVICE</u> – 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 <u>1.5 to 2.5 MONTH(S)</u> 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.

<u>PROPOSAL EXPIRATION</u> – 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.

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

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

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

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal <u>dated 05/07/2025</u>, <u>GSFA Proposal Number 10507-25A</u> to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY COSTOMER	ACCEPTED AND AGREED TO BY GSFA
Signature of Authorized Customer Representative	Signature of Authorized GSFA Representative
Print Name	Print Name
Title	Title
Date	 Date



2 STANDARD TERMS AND CONDITIONS

Exhibit "A"

STANDARD TERMS AND CONDITIONS

1. Definitions.

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

2. Purchase and Payment.

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

- c. <u>Prepayment Discount</u>. If GSFA has granted Customer a Prepayment Discount, Customer must provide each associated prepayment (each, a "**Prepayment**") within the time frame specified in the Product Proposal in order to receive such discount. Customer's failure to timely make such Prepayment may result in: (i) GSFA's termination of the Agreement; and/or (ii) Customer's loss of the Prepayment Discount for the portion of the Grand Total Purchase Price represented by such outstanding Prepayment and the application of a late fee as set forth in Section 6, in each case in GSFA's sole discretion.
- d. <u>State Sales Tax</u>. Customer shall be responsible for the cost of state sales tax associated with, or attributable to, the Product. The taxes stated in the Product Proposal are subject to adjustment for the applicable state sales tax rate in effect at the time of delivery. Therefore, the sales tax set forth on the Product Proposal is only an estimate of such taxes and will be increased or decreased at the time of delivery if a change in the applicable sales tax rate has occurred, in which case Customer shall pay GSFA (or be refunded by GSFA) the difference in the applicable sales tax.
- 3. <u>Product Completion Date</u>. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the "**Executed Date**"), GSFA shall submit to Customer a tentative Product completion date (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available.
- 4. 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. <u>Multiple Unit Purchase</u>. If the Grand Total Purchase Price includes pricing for multiple Products, the Product price stated in the Product Proposal shall only be valid if the quantity of Products being proposed are purchased at the same time, pursuant to the same Agreement. GSFA shall have no obligation to offer the same price for any Product if purchased by Customer pursuant to a later purchase agreement.
- 6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or (ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer's possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. <u>Delivery</u>; <u>Inspection and Acceptance</u>.

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

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

8. Changes to Agreement Terms.

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

b. Additional Changes.

i. <u>Component Price Volatility</u>. GSFA shall not be responsible for 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) 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) 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.

- ii. <u>New Legal Standards</u>. In the event the Product design, materials or specifications require an alteration arising from new regulations issued by any governmental entity or trade association, including, but not limited to, the NFPA, DOT, and EPA, and such alteration increases the cost of the Product to GSFA, Customer shall be responsible for changes to the Grand Total Purchase Price arising from such alteration. GSFA shall promptly notify Customer when it becomes aware of any potential or required change in regulations occurring prior to delivery that would impact the Product purchased.
- iii. <u>Change Orders</u>. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by <u>Sections 8.b.i and 8.b.ii</u> above (which shall, to the extent practicable, itemize any increases in the Grant Total Purchase Price and specify a commercially reasonable date by which Customer must pay such increase), unless Customer instead elects to terminate the applicable Product order under the Agreement within fifteen (15) calendar days of Customer's receipt of such Change Order and in accordance with <u>Section 9</u>. Absent such a termination, failure to execute a Change Order does not alter Customer's obligations under this <u>Section 8.b</u>.
- c. <u>Changes in Commercial Specifications</u>. Specifications for all components of the Product manufactured by companies other than the Manufacturer are subject to change without notice. Specifications for such components will be as available at the time of manufacture of the Product. GSFA shall not be liable for any deviations in such specifications arising from a substitution of components or changes in the design of any component by their original manufacturer.

9. Termination.

a. 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 preconstruction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer's termination of the Product order ("Manufacturer Termination Fees"), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation, as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

Customer may terminate the Agreement for an Event of Default by GSFA after providing GSFA with written notice in accordance with <u>Section 16</u> (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA

has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

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

Notwithstanding any other provision of this Agreement, if Customer terminates a Product order in accordance with 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. <u>Based on Discontinuation or Cancellation by Manufacturer</u>. In the event that Manufacturer cancels a Product order (provided that such cancellation is not the result of an act by Customer in violation of the Agreement) or discontinues the manufacture of a Product prior to its completion and delivery: (i) if such Product is the only Product contemplated under the Agreement, then the Agreement shall terminate; or (ii) if additional Products are contemplated under the Agreement, then only the Product order for the applicable cancelled or discontinued Product shall be terminated. Such Agreement termination or Product termination, as applicable, shall be effective upon GSFA's written notice to Customer of such cancellation or discontinuance in accordance with <u>Section 16</u> 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 <u>Section 9.a</u> hereof shall not apply in the event of a termination pursuant to this <u>Section 9.c</u>.
- 10. <u>Customer's Obligations</u>. Customer shall provide its timely and best efforts to cooperate with GSFA and Manufacturer during the Product manufacturing process. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to any requests from Manufacturer or GSFA and the participation of Customer's authorized representatives in traveling to Manufacturer's facility for inspections and approval of the Product, including a final approval before the Product leaves Manufacturer's facility.
- 11. 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. <u>Standard Warranty</u>. All applicable Manufacturer warranties are contained in the Product Warranties. Any additional warranties must be expressly approved in a writing signed by GSFA, and Customer acknowledges and agrees that Manufacturer will not be liable for any such additional warranties.
- a. <u>Disclaimer</u>. OTHER THAN AS EXPRESSLY SET FORTH IN THE AGREEMENT, GSFA, ITS AFFILIATES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES, DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT (WHETHER RELATING TO THE CONDITION OR QUALITY OF THE PRODUCT, OR OTHERWISE) PROVIDED HEREUNDER OR OTHERWISE REGARDING THE AGREEMENT (INCLUDING, WITHOUT LIMITATION, WITH RESPECT TO ANY APPLICABLE DEALER PREPARATION), WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, THE

IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE ARE EXPRESSLY EXCLUDED AND DISCLAIMED. STATEMENTS MADE BY SALES CONSULTANTS OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

- b. 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. <u>Default</u>. The occurrence of one or more of the following events (each, an "Event of Default") shall constitute a default under the Agreement: (a) Customer's failure to pay any amounts due or to perform any of its obligations under the Agreement; (b) GSFA's failure to perform any of its obligations under the Agreement; (c) either Party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either Party under the Agreement which is false in any material respect; (e) any action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity during the term of the Agreement; (f) any other material breach of the terms of the Agreement by a Party; or (g) a default or breach by Customer under any other agreement with GSFA or its affiliates.
- 14. <u>Indemnification of GSFA</u>. Customer shall indemnify, defend, and hold harmless GSFA, its agents, servants, successors and assigns from and against all losses, damages, injuries, claims, demands and expenses, including attorneys' fees and other legal expenses, of whatever nature ("**Damages**"), to the extent Damages arise out of or in connection with: (i) Customer's breach of the Agreement, or (ii) Customer's use, storage, or operation of the Product following delivery, regardless of where, how, and by whom operated (excluding any negligent operation by GSFA). The indemnification and assumptions of liability and obligation herein provided shall continue in full force and effect notwithstanding the termination of the Agreement, whether by expiration of time, by operation of law or otherwise. This provision is not intended to and shall not constitute the exclusive remedy of the Parties under the Agreement; the Parties may seek indemnity from one another under other legal principles, whether based in equity or law, so long as they do not nullify or cancel the effects of this paragraph.
- 15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.
- 16. <u>Notice</u>. Any notices, requests, consents, claims, demands, waivers and other communications required or permitted to be given hereunder must be given in writing at the address of each Party set forth below, or to such other address as either Party may substitute by written notice to the other in accordance with this <u>Section 16</u>, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

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

CUSTOMER:

To the address listed in the Product Proposal

- 17. <u>Contradictions</u>. In the event of a conflict between the Agreement and any Change Order, or between Change Orders, the terms of the latest executed Change Order shall control.
- 18. <u>Manufacturer's Statement of Origin</u>. It is agreed that the manufacturer's statement of origin ("**MSO**") for the Product covered by the Agreement, if applicable, shall be retained and remain in the possession of GSFA per California Department of Vehicles (DMV) directives. Notwithstanding the foregoing, GSFA shall provide Customer with the original MSO if the Customer is self-registering, and Customer shall comply with all good-faith Process of Duty and other DMV requirements applicable to the Product and retain its own MSO.
- 19. <u>Assignment</u>. The relationship of the Parties established under the Agreement is that of independent contractors and neither Party is a partner, employee, agent, or joint venturer of or with the other. Neither Party may assign its rights and obligations under the Agreement unless it has obtained the prior written approval of the other Party.
- 20. <u>Governing Law; Jurisdiction; Disputes</u>. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with an agreed upon mediator. If the Parties cannot agree upon a mediator within thirty (30) calendar days of the submission of written notice of a dispute in accordance with <u>Section 16</u> hereof, if any disputed matter remain unresolved within thirty (30) calendar days of the commencement of discussions, or if any party refuses to meet, then either party may submit any remaining disputes concerning and/or claim regarding the Agreement and/or the terms and conditions herein to the Superior Court, County of Sacramento (and the parties expressly consent to exclusive personal jurisdiction and venue before such court).
- 21. 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

Bid Number: 979

City of Sacramento Fire Customer:

Department

Hansen, Brad

Representative Job Number:

Requirements Manager: **Organization:** Golden State Fire Apparatus, Inc.

Description: SFD 107' Tandem HD Ladder Tr

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**

Boiler Plates, Aerial 107' ASL, w/o 0766639

Pump

Golden State Fire Apparatus Inc is pleased to submit a proposal to City of Sacramento for a 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.

PIERCE MANUFACTURING was founded in 1913. Since then, we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of applicable NFPA standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality. Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal. In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least twenty five (25) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

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

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

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Golden State Emergency Vehicle Service Inc by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within 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.

LIABILÍTY

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

INSURANCE PROVIDED BY BIDDER

Commercial General Liability Insurance

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

Each Occurrence:

\$1,000,000

Products/Completed Operations Aggregate:

\$1,000,000

Personal and Advertising Injury:

\$1,000,000

General Aggregate:

\$2,000,000

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

Commercial Automobile Liability Insurance

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

Each Accident Combined Single Limit:

\$1,000,000

Umbrella/Excess Liability Insurance

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

Aggregate:

\$3,000,000

Each Occurrence:

\$3,000,000

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

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

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

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

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

INSURANČE 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

0670275

Unit to be Similar in some Aspects, Excluding Pump Panel

SPECIAL INSTRUCTIONS

The apparatus being proposed will be designed and built to match the 38132. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.

0816491

Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions

NFPA 2024 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

0533349

Aerial Fire Apparatus

0588613

Vehicle Certification, Aerial w/o Pump

0681279	Agency, Apparatus Certification, Aerial w/o Pump, U.L.

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA".

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.

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 NFPA 1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

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.

0766110 Consortium, Sourcewell

0535579 Not Required, Unit of Measure, (no

pump, no tank)

0030006 Bid Bond Not Requested

BID BOND NOT REQUESTED

provision will prevail.

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

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.

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 68,050 lbs.

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 flances.

Bid #: 979 5

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.
0777891	SP	Axle, Front, Oshkosh TAK-4, Non Drive, 20,050 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 20,050 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.

0802633

Tires, Front, Goodyear, Armor Max
MSA, 385/65R22.50, 18 ply, Fire Ser.
Load Rtg
FRONT TIRES
Front tires will be Goodyear 385/65R22.5 radials, 18 ply Armor Max MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.

0019611 Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot

The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.

0609365 Axle, Rear, Oshkosh TAK-4 T3, 48,000 lb, Rear Steer, 2 Axle, AXT/Imp/Vel/DCF

REAR AXLE

The rear axle will be a tandem axle assembly, of the Oshkosh TAK-4® T3, Tight Turning Technology, independent suspension design, with the ability to support a mechanical rear axle steering system. Tandem rear axles will have a ground rating of 48,000 lb.

The rear axles will be designed for specific use of the independent suspension.

The rear independent suspension driving axles will be equipped with a carrier reduction of 1.69 to 1.00 with a planetary wheel end reduction of 3.55 to 1.00. Driving torque will be transmitted from the center differential to the planetary wheel drive by means of a half shaft.

Oil fills and level checks will be required at the center differential and the planet wheel end

An inter-axle differential, which divides torque evenly between axles, will be provided with an indicator light mounted on the cab instrument panel.

REAR AXLE STEERING

The tandem rear axle assembly will include a mechanical rear steering system. The mechanical rear steering system will be applied to both rear axles.

The steering geometry will be designed to minimize tire scrub of the rear tandem axle tires while reducing the overall turning diameter of the apparatus.

The mechanical rear steering system will not use electronic controls and will not have a means to be disengaged. Coordinated steering is the only steering mode supported by the mechanical steering system.

Rear steering system is actuated by a mechanical means of connecting the front master/slave steering gear system to a rear axle master/slave steering gear system.

0818721 Top Speed of Vehicle, 68 MPH/109 KPH, Non-NFPA/ULC 2024

TOP SPEED OF VEHICLE

NFPA 1900 and ULC 515, 2024 edition requires limits on the top speed of vehicles. NFPA 7.16.1 requires that the maximum top speed of fire apparatus with a GVWR over 33,000 lb will not exceed either 68 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. NFPA 7.16.2 requires that if the combined water tank and foam agent tank on the fire apparatus exceed 1250 gallons or the GVWR of the vehicle is over 50,000 lb, the maximum top speed of the apparatus will not exceed either 60 mph or the manufacturer's maximum fire service speed rating for the tires installed on the apparatus, whichever is lower. It is the intention of the standard to improve safety by limiting the speed of all apparatus to 68 mph, and tankers or heavy apparatus to 60 mph. By requesting an exception to this requirement, the purchasing authority is consciously choosing to operate their apparatus at speeds above the limits designated as safe speeds by the NFPA Technical Committee on Fire Department Apparatus.

The top speed of the apparatus as manufactured exceeds the NFPA requirements. Per fire department specification of a top speed that exceeds NFPA requirements, the apparatus will be non-compliant to NFPA 1900 and ULC 515 standards at time of contract execution. The rear tires being specified have a top speed limit of 68 mph / 109 kph from the tire manufacturer.

0639331

Suspen, Rear, Oshkosh TAK-4, Independent, 48,000 lb

REAR SUSPENSION

The rear suspension will be an Oshkosh TAK-4® independent type with a minimum ground rating

The independent suspension will be configured with upper and lower control arms with a spring seat for a coil spring mounted to the lower control arm. The spring tower will be integrated into the suspension frame mount. Each control arm has elastomeric bushings at the inner pivot locations with a ball joint bearing at the outer pivot location. All suspension pivot joints will be of a maintenance free design.

The rear independent suspension will be provided with steering toe links providing tow adjustments and maintaining wheel control throughout the range of wheel travel.

The independent suspension will be designed to provide maximum ride quality when traveling at highway speeds over improved roads or a moderate speeds over secondary road surfaces with minimal transfer of shock and vibration to the apparatus.

Each independent suspension will utilize a coil type of spring. The design will allow for removal of the spring without the use of any spring compression.

The rear suspension will provide a minimum wheel travel of 10.00", 6.00" jounce and 4.00" of rebound

0000485

Oil Seals, Rear Axle

REAR OIL SEALS

Oil seals will be provided on the rear axle(s).

0802654

Tires, Rear, Goodvear, Armor Max MSA, 445/65R22.5, 20 ply, (AWS/IRS), Tandem

REAR TIRES

Rear tires will be four (4) Goodyear radials 445/65R22.50, 20 ply all-position Armor Max MSA tread, rated for 49,200 lb maximum axle load and 68 mph maximum speed.

0826900

Hub Pilot, Tandem, AWS/IRS

Wheels, Rear, 22.50" x 13.00", Steel, The tires will be mounted on 22.50" x 13.00" steel disc type 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.
0801909	Lug Nut, Covers, Chrome	CHROME LUG NUT COVERS Chrome lug nut covers will be supplied on front and rear wheels.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
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.
0821337	ABS Wabco Brake System, Tandem Rear Axle, Tak-4, NFPA 1900/ULC	ANTI-LOCK BRAKE SYSTEM The vehicle will be equipped with a Wabco 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels (rear axle of tandems). A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel sensor will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.
0652082	Brakes, Meritor, EX225, 17", Disc Plus, TAK-4	BRAKES The service brake system will be full air type. The front brake calipers will be Meritor® DiscPlus™ EX225 air disc type. The brake rotors will be 17.00" ventilated.
0581433	Brakes, Bendix, Cam, Rear, 16.50 x 7.00"	The rear brakes will be Bendix®, Model ES1657D, 16.50" x 7.00" cam operated with automatic slack adjusters.
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 painted same as frame color. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0587034	Air Dryer, Bendix, AD-IP w/Heat, 2010	BRAKE SYSTEM AIR DRYER The air dryer will be a Bendix AD-IP, with coalescing filter and heater.

0042009		blake Lilles, Wile blaided	Wire braided reinforced rubber brake lines will be provided for the chassis air brake system. This also includes the brake lines between the frame and brake chambers. The brake lines will not be painted. Coupler fittings for chassis brake lines will be installed forward of the front axle. They will be a separation point for those air lines going to the cab. The air lines going into the cab will be nylon wrapped in loom.
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.
0070810		All Wheel Lockup (Aerial/Tanker Chassis)	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.
0541937		Switch, Locking, Front Wheel Lock Control	A locking switch will be provided to help prevent accidental activation of the front wheel lock control.
0012034		Moisture Ejector, Manual, Remote Mounted	MANUAL MOISTURE EJECTOR(S) Five (5) 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 forward of the wheel chocks on the drivers side See photo #32. reservoir(s).
0808495		Engine, Cummins X15, 525 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: 525 hp at 1500 rpm Torque: 1850 lb-ft at 950 rpm Governed Speed: 2000 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.

BRAKE LINES

Brake Lines, Wire Braided

0542809

0001244	High Idle w/Electronic Engine, Custom	HIGH IDLE A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation. The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	ENGINE BRAKE A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver. The driver will be able to turn the engine brake system on/off and have a high, medium and low setting. The engine brake will activate when the system is on and the throttle is released. The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine. The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated. The ABS system will automatically disengage the auxiliary braking device, when required.
0552334	Clutch, Fan, Air Actuated, Horton Drive Master	CLUTCH FAN A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.
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, rotomolded 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 a stainless steel exhaust diffuser reduced to 5.00" in the center to accommodate the fire department's air recovery system with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.
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.

0511425 Cooling Hoses, Rubber

COOLANT LINES

Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by the chassis manufacturer.

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.

0794888		Fuel Tank, 65 Gallon, Left Side Fill, Door Finish Feature	FUEL TANK A 65 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A 0.75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, painted job color door that is marked "Ultra Low Sulfur - Diesel Fuel Only." A 0.50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.
0001129		Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.
0764563		DEF Tank, 8.0 Gallon, LS Fill, Forward of Rear Axle	DIESEL EXHAUST FLUID TANK An 8.0 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 behind a, painted 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.
0708787	SP	Holder, Fuel Cap, No Chain	A fuel cap holder will be provided on the fuel fill door. Chain will not be provided.
0011125		Door, Fuel Fill Painted Job Color	FUEL FILL DOOR Fuel fill door will be painted job color.
0578959		Fuel/Water Separator, Racor Inline	FUEL SEPARATOR The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.
0801890		Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	TRANSMISSION An Allison 6th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with amber light and buzzer will be installed on the cab instrument panel.
0512762		Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf	TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.
0684459		Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0522824		Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 6 speed	DOWNSHIFT MODE (w/engine brake) The transmission will be provided with an aggressive downshift mode. This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.

0559012	Program, Transmission, Shift To Neutral, With Prk Brk	TRANSMISSION PROGRAM The transmission will shift to neutral when parking brake is set.
0801876	Fluid, 4000 Series Trans, Allison Approved TES-668 Synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid.
0001375	Driveline, Spicer 1810	DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
0669988	Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
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.
0550144	Logo/Emblem, on Horn Button	LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON The steering wheel 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: CITY The second row of text will be: OF 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.

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 overall height (from the cab roof to the ground) will be approximately 102.00". 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 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 58.75" 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).

0894910

Engine Tunnel, Foil Insulation w/Mech Fasteners, Imp/Vel FR, w/T3 Rear Axle

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 hood will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.

0007000		Cab insulation, impervelocity in	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.
0550343		Special Circuit, Cab Tilt w/o Ignition Switch	CAB TILT CIRCUIT The cab tilt mechanism will be operational with the battery switch on and with parking brake set.
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.
0648912		Scuffplates, S/S At Cab Door Jambs and Handrails	DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb and include the area behind the cab door handrails.
0817874		Seal, Caulk Top Edge, Exterior Cab Rear Wall	CAULK TOP EDGE OF REAR WALL SCUFFPLATE The top edge of the scuffplate on the back wall of the cab will be caulked to prevent water from leaking behind it.
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.
0015440		No Chrome Molding, On side of cab	
0591874	SP	Mirrors, Velvac, 2025, Heated/Remote, w/Heated/Remote convex, w/LED Directional	MIRRORS Velvac®, Model 2025, low mount chrome mirrors will be mounted, one (1) on each of the cab doors. The mirror will include a replaceable 62 square inch flat glass and a 30 square inch convex glass. Overall mirror dimensions will be 8.50" wide x 13.75" high. Mirror head will have a highly polished chrome finish. Both flat mirror heads will be adjustable by an electric remote control switch inside the cab within easy reach of the driver. Convex mirror heads will be adjustable by an electric remote control

INTERIOR CAB INSULATION

0887600

Cab Insulation, Impel/Velocity FR

Bid #: 979

easy reach of the driver. Convex mirror heads will be adjustable by an electric remote control

switch inside the cab within easy reach of the driver.

The mirror heads will also be heated with the control within easy reach of the driver.

Each mirror will be provided with Signal Mirror glass (LED directional in the glass).

The Velvac two (2)-year warranty on material and workmanship and two (2)-year warranty on chrome finish will be provided.

0651321

Door, Full Height, Velocity FR 4-Door CAB DOORS Cab, Level Roof

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 76.46" 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 1041. 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 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 inside the cab doors to protect the steps from weather elements.

0655511

Door Panel, Brushed Stainless Steel, Door Panels Impel/Velocity 4-Door Cab

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

0795698

Storage Pockets w/ Elastic Cover, Recessed, Locations, Impel/Velocity

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 and 6.24". The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed #14, as indicated on the instrument panel layout.

0667902

Controls, Electric Windows, All Cab Doors, Impel/Velocity 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.

0662776

Electric Door Locks, Cab Doors, Conceal Switch Feature, Imp/Vel

ELECTRIC CAB DOOR LOCKS

The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.

There will be one (1) concealed switch located under DS front bumper.

The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.

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.

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 red LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.

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 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 **FENDER CROWNS** Fenders, S/S on Cab 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 Not Required, Windows Rear of Crew 0509286 Cab, Imp/Vel 0558334 Not Required, Trim, Cab Rear Windows, No Rear Windows RIGHT SIDE ROLLUP CREW CAB DOOR WINDOW TINT 0786279 Window Tint, Crew Cab Door, Right Side, Privacy Dark Gray The rollup window in the right side crew cab door will be tinted privacy dark gray. LEFT SIDE ROLLUP CREW CAB DOOR WINDOW TINT 0786290 Window Tint, Crew Cab Door, Left Side, Privacy Dark Gray The rollup window in the left side crew cab door will be tinted privacy dark gray. 0887710 Window Coatings, Solar Film, WINDOW COATINGS Cab/Crew Cab All cab and crew cab windows will have solar window film applied. The solar film will block UV rays and excess heat while not impacting the visibility or clarity of the window. Compt, Saddle, Transverse C/C, Dbl STORAGE COMPARTMENT 0898680 Pan, 70/90" Vel/Imp Provided under the forward facing crew cab seats will be a transverse compartment. The compartment will be open top to bottom, with the cab floor removed. The upper section will be 10.71" wide x 13.12" high x 24.25" deep (left side) and 22.00" deep (right side). The top 7.38" of the upper section will be full width (transverse) of the crew cab. The lower section on both sides will be 10.00" wide x 16.50" high x 20.00" deep There will be two (2) double pan doors painted to match the cab exterior with a locking D-Ring latch with #1250 key, one (1) on each side of the cab with a web strap for each exterior door provided as a door stop. The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame. There will be one (1) drop down door, painted to match the cab interior with two (2) non-locking flush lift and turn latches with no louvers on the forward face of the seat riser. The exterior of the compartment will be painted to match the cab interior color. The interior of the compartment will be painted spatter gray. Compartment Light There will be two (2) red Amdor LED strip lights, one (1) horizontally mounted above each exterior compartment door opening. The lighting will be controlled by an automatic door switch. 0816708 SP Tubes, Alum, Pike Pole Storage PIKE POLE STORAGE Aluminum tubing will be used for the storage of four (4) pike pole(s) with 1.38" notch, to accommodate a New York style pike pole. The tubing will be located in Transverse Aux Cab Compartment, mounted from the ceiling of compartment. The tubing will be accessed from the (2) to exit RS of apparatus to be towards rear of compartment, LS to be forward of RS notches to be set 2 per side. The size and brand of the pike poles stored will be FHU NY hook. 0798178 Matting, Turtle Tile, Auxiliary **MATTING IN AUXILIARY COMPARTMENT** Compartment Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compartments. Tile color will be black (no ramp). The matting will be 0.75" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.

STEP LIGHTS

There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab

0892637

Lights, Cab & Crw Cab Acs Stps,

P25, LED w/Bezel, 1Lt Per Step

0745808		Scuffplate, Inner Door Pan, Aux Cab Compts, Pair	SCUFFPLATE A full height brushed stainless steel scuffplate will be installed on the inside of each of the auxiliary cab compartment door pans.
0604171		Scuffplate, Brushed S/S, Bottom of Door Frame, Each	DOOR FRAME SCUFFPLATE There will be two (2) scuffplate(s) provided for the bottom of the door frame of compt over stabilizers, each side. Each scuffplate will be brushed stainless steel with a 0.38" lip down.
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.
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.
0898549		Cab Air Filtration, TFT CrewProtect 100, 12v DC, Loc, CARE	CAB AIR FILTRATION The vehicle will be equipped with a CrewProtect™ air filtration system to provide purification of the interior air of the cab and crew cab. The multi-stage filtration system will remove particulates, violate organic compounds, aerosol carrying viruses and bacteria from the air. System Construction The housing will be constructed of powder coated stainless steel and will be 12.00" wide x 4.50" high x 20.00" long. The angled surface will be provided with an additional 2.00" of clearance for air flow. The unit will be mounted on a mounting plate, vertically, to the rear of the driver seat. There will be one (1) filter installed in the unit. The expected filter life will be no less than 1,800 active hours of usage (6 months). There will be no additional replacement filters shipped loose with the unit. The filter will be designed to neutralize harmful chemical contaminants and is safe to discard as normal trash with no special handling requirements. System Operating Conditions CrewProtect will automatically run when the truck is operating. And will not be required to turn on or off or adjust the flow rate. The fan will operate at 100 CFMs and only 60.2 decibels. Electrical Wiring/Function The system will be ignition powered from the 12 VDC vehicle power supply. The system will draw a maximum of 2 amps and have a 5-amp integrated fuse in the wire harness.
0644019		Holder, Cup, 4" Diameter x 4" High x 1" Slit on Side, Matting, Alum, Each	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 painted to match the cab interior and located TBD at Final.
0722514	SP	Work Surface, 1/4" Alum, Frt Engine Tunnel to Cabinet, Vel/Imp FR	WORK SURFACE There will be a work surface provided on the engine tunnel. The work surface will be constructed of 0.25" aluminum to allow the mounting of equipment. The work surface will start next to the

There will be a work surface provided on the engine tunnel. The work surface will be constructed of 0.25" 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 work surface will be open on the sides to allow for equipment to be mounted underneath it and follow the width of the tunnel. The work surface will be painted to match the cab interior.

0748671

Cab Interior, Vinyl, Velocity FR, CARF

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 mildew.

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.

0728537

Floor, Lonseal, Loncoin II Flecks, Cab & Crew Cab, Custom Chassis,

CAB FLOOR

The cab and crew cab floor areas will be covered with easy to clean, anti-microbial Lonseal®, Loncoin® II Flecks, Black Flecks vinyl flooring. The durable top surface material will have an embossed coin pattern to provide slip resistance. All seams and edges will be sealed to be impermeable to moisture.

Additionally, the material has a 0.25" thick closed cell foam (no water absorption) under lament which offers a sound dampening material for reducing sound levels.

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 riser with a dual scroll blower. An aluminum plenum incorporated into the cab structure to be 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.

0642860 Guard, Lower, Vented, Air Conditioning Condenser, Aerial

AIR CONDITIONING CONDENSER LOWER GUARD

A guard will be provided below the lower portion of the air conditioning condenser that hangs over the edge of the cab. The guard will be constructed of aluminum and painted to match the condenser cover. The guard will be provided with 1.00" x 2.00" knockouts to allow for adequate airflow.

0639675 Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

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

0548173 Grab Handles, Driver and Passenger GRAB HANDLE

Door Post, Imp/Vel

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.

0583938 Lights, Engine Compt, Custom, Auto Sw, Wln 3SC0CDCR, 3" LED, Trim

ENGINE COMPARTMENT LIGHTS

There will be two (2) Whelen, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Whelen, Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination.

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These light(s) will be activated automatically when the cab is raised.

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.
0530840		Box, Storage, Aluminum, Latex Gloves	STORAGE BOX There will be two (2) storage box(es) designed to hold and dispense boxes of latex gloves provided. Each box will be constructed of aluminum and located one on each side of the forward facing crew cab seat riser - horizontal with opening on top. Each storage box will be 10.00" wide x 5.00" high x 3.50" deep and painted to match the cab interior. A slot will be provided on the top of each box to dispense the gloves.
0002508		Map Box, 3 Bin/30 deg Slant, Custom Chassis	MAP BOX There will be one (1) map box(es) with three (3) bins, open at top. The map box(es) will be installed at final inspection. The map box(es) will be divided into three (3) bins, each being 12.50" wide x 3.00" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box(es) will be constructed of 0.125" aluminum and will be painted to match the cab interior.
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.
0583039		Not Required, Side Roll and Frontal Impact Protection	
0622618		Seating Capacity, 5 Belted Seats	SEATING CAPACITY The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5).
0764121	SP	Seat, Driver, Bostrom, Pacifica, Air Ride, High Back, PRIMARY	DRIVER SEAT A H.O. Bostrom, Pacifica, air suspension high back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel) and vertical position (3.00" of travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 45 degrees forward. A deluxe contoured 20.00" cushion and an adjustable lumbar support will be provided. 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 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.
0620271		Seat, Officer, Bostrom Sierra, Fixed, High Back, PRIMARY, Imp/Vel	OFFICER SEAT A H.O. Bostrom, Sierra, fixed seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high back style with 9 degree fixed recline angle. 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 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

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.

0764199

SP

SP

Cabinet, Rear Facing, LS, 25 W x 34 REAR FACING LEFT SIDE CABINET H x 24 D, Ext Acc Only, Sp Mtg, Imp/Vel

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

The cabinet will be 25.00" wide x 34.00" high x 24.00" 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 locking D-ring latch with #1250 key. The clear door opening will be 19.75" wide x 31.75" high. The door will be located on the side of the cab over the wheelwell and include a pneumatic stay arm as a door stop.

The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted 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) red Amdor LED strip light installed on the right side of the exterior cabinet door opening and one (1) red Amdor LED strip light installed on the left side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.

0102783

Not Required, Seat, Rr Facing C/C, Center

0819124

H x 21.5 D, Ext Acc Only, Sp Mtg, Imp/Vel

Cabinet, Rear Facing, RS, 25 W x 34 REAR FACING RIGHT SIDE CABINET

A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be mounted off the edge of the seat riser so that it is even with the crew cab door

The cabinet will be 25.00" wide x 34.00" high x 21.50" deep.

The cabinet will include one (1) infinitely adjustable shelf with a 0.75" up-turned lippainted to match the cab interior.

The cabinet will include no louvers.

The cabinet will only provide access from outside the cab with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #1250 key. A pneumatic stay arm will be provided as a door stop. The exterior clear door opening will be 19.75" wide x 31.75" high. The door will be located on the side of the cab over the wheelwell.

The exterior access will be provided with a polished stainless steel scuffplate on the lower door

The cabinet will be constructed of smooth aluminum and painted to match the cab interior.

Cabinet Light

There will be one (1) red Amdor LED strip light installed on the right side of the exterior cabinet door opening and one (1) red Amdor LED strip light installed on the left side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.

0678415

Seat, Fwd Fcng C/C, LS Otbrd, Bostrom Sierra, Hi-Back, SECONDARY

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle. 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 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.

0678288

Seat, Fwd Fcng C/C, Ctr, (1) Bostrom FORWARD FACING CENTER SEAT Sierra, Hi-Back, SECONDARY

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle. 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 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.

0678400

Seat, Fwd Fcng C/C, RS Otbrd, Bostrom Sierra, Hi-Back, SECONDARY

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle. 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 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.

0893962	SP	Cabinet, Rear Facing, Top Eng Tnl, 44 W x 16 H x 14 D, Lap,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 44.00" wide x 16.00" high x 14.00" deep with one (1) drop down door, painted to match the cab interior with two (2) locking flush lift and turn latches with #751 keys facing the crew cab. Gas cylinders will be provided to hold the door in the open position. The cabinet will include louvers provided on the door 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 horizontally above 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 external EMS doors.
0617401		Matting, Turtle Tile, No Trim, EMS Compt	MATTING IN EMS COMPARTMENT Vinyl grating will be provided in two (2) EMS compartments, one in each rear facing EMS compartment. Tile color will be black. The vinyl grating will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration. The trim edge will not be installed at the edge of the tile.
0617410		Matting, Turtle Tile, EMS Compt, Shelving, 0.75" Thick	MATTING IN EMS COMPARTMENT Turtle Tile vinyl matting will be provided in two (2) EMS compartment shelves, one in each rear facing EMS compartment. Tile color will be black.
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 one (1) cabinets(s) provided with the lip Top of rear facing center cabinet.
0820412		Fasteners, Mechanical, Strip Lighting Cab Compartments	BRACKETS/CLAMPS FOR COMPARTMENT LIGHTS Metal clamps will be used to retain the strip lighting in all cab compartments.
0042359		Upholstery, Seats In Cab, All Vinyl, Bostrom, CARE	SEAT UPHOLSTERY All seat upholstery will be leather grain black vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have five (5) seating positions.
0511471		No SCBA Brackets Required In Cab Seats, Imp/Vel, AXT 2010, Qtm 2010,Saber FR/Enf	
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.
0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

0647638 Lights, Dome, Weldon Dual LED 4 **CAB DOME LIGHTS**

There will be four (4) Weldon, 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will

be installed and located, one (1) on each side of the crew cab.

The color of the LED's will be red and white.

The white LED's will be controlled by the lens switch.

The color LED's will be controlled by the door switches and the lens switch.

Enhanced Software for Cab and 0896451

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

0631776 Not Required, Overhead Map Lights

0816997 Portable Hand Light, Provided by Fire PORTABLE HAND LIGHTS PROVIDED BY FIRE DEPARTMENT

Dept, NFPA/ULC 2024

The hand lights are not on the apparatus as manufactured. The fire department will provide and

mount these hand lights.

0774457 Handlight, Streamlight, Vulcan 180,

44315, 12v, Orange

ADDITIONAL HAND HELD LIGHT

There will be two (2) lights additional 12v Streamlight, Model #44315, Vulcan 180 LED light(s) will be provided and mounted Mounted on top of Rear Facing Center Cabinet on Engine Tunnel, (1) each side on outer edge with lighthead facing forward. Match 37009 Engine job. Each light will be provided with a 12 volt direct wire vehicle mounting rack and quick release shoulder strap.

Each light housing will be orange in color.

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.

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: Á 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.

0668061 Light, Do Not Move Apparatus, Wln VTX609R Red LED

"DO NOT MOVE APPARATUS" INDICATOR

There will be a Whelen, Model VTX609R, red LED indicator light with chrome trim located in the driving compartment. This light 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.

0551600	Switching, Cab, Rocker MUX, Impel/Velocity, AXT MUX, Dash CF	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 up to six (6) rocker-type switches each rated for two hundred thousand (200,000) cycles. Panels with less than six (6) switches will include indicators or blanks. The switch panel(s) will be located in the "overhead" position above the windshield on the driver side overhead to allow for easy access. The switches will be rocker-type and include an integral indicator light. For quick, visual indication the switch will be illuminated whenever the switch is active. A 2-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed below the switches. The label will allow light to pass through the letters for improved visibility in low light conditions. Switches and light source are integral to the switch panel assembly.
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.
0821298	Wiring, Spare,12V DC, USB-A, USB-C AlfredDireck Batt Dir 1st NFPA1900/ULC	SPARE CIRCUIT There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Power and ground will terminate in the switch panel one to the left of the officer below the chrome push buttons and one DS switch panel 8. Termination will be a AlfredDireck QC4.0 PD & QC3.0 with the 60W PD USB-C port and 36W Quick Charge 3.0 USB-A port. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed
0821302	Wiring, Spare,12V DC, USB-A & C, Kussmaul 091-264 Cab Batt Dir 1st NFPA1900/ULC	SPARE CIRCUIT There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 6 amps. Power and ground will terminate in the cab/crewcab one (1) each side rear facing cabinet, one rear vertical surface (edge closest to crew cab seating positions) in the lower outboard corner 3.00" up from heater/defroster box (SEE PHOTO TITLED "FIRE FIGHTER DUAL USB"). Termination will be a Kussmaul part number 091-264 switch panel dual USB-A, 18 watt and USB-C, 45 watt SVR, charger socket. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed
0821498	Wiring, Spare, 5 A 12V DC 1st Batt Dir NFPA1900/ULC	SPARE CIRCUIT There will be four (4) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 5 amps. Power and ground will terminate (1) outboard of the driver's seat, (1) outboard of the officer's seat and (1) in each rear facing EMS compartment in the cab. Termination will be with heat shrinkable butt splicing. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery Direct loads cannot be Load Managed

SPARE CIRCUIT 0821564 Wiring, Spare, 50 A 12V DC 1st NFPA1900/ULC There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground. Wires will be capable of carrying 50 amps.

Power and ground will terminate from the passenger's side battery, terminating behind the Captain's seat with at least 6-8 feet of slack wire coiled and capped. See photo in stage7 efolder for behind officer. TO BE GROUNDED TO FRAME (NOT BATTERY). Termination will be with heat shrinkable butt splicing. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. This circuit(s) may be load managed when the parking brake is set. 0824961 SP Wiring, Spare, 60A 12V DC SPARE CIRCUIT Sacramento Fire Department, 6 Ga. There will be one (1) pair of 6 gauge wires, including a positive and a negative, installed on the apparatus originating at the right side batteries. Radio NFPA1900/ULC The wires will include the following: with 60 amp fuse. batteries, the same location as the right side batteries are grounded to the frame. The positive power wire and the negative wire will run uninterrupted to the radio compartment butt splices. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be load managed. 0566101 Recess, Dash Panel, Officer Side, **DASH PANEL RECESS** The dash panel across from the officer will be recessed to accommodate the mounting of Vel/Imp miscellaneous items. The recess will be 7.25" down x 7.81" back and 20.88" wide. 0798604 SP Wiring Protection, Secure Seat **SECURE SEAT WIRING** Cushion and Buckle Wiring All wiring going to seat cushion and seat belt buckle will be in loom and secure to the seat area. Radio, Jensen, AM/FM/WB, STEREO RADIO Bluetooth There will be one heavy duty AM/FM / Weatherband / Bluetooth stereo radio. The radio will be roof-mounted rubber antenna located in an open space, on the cab roof. The following Jensen features will be included:

installed within reach of the driver. There will be 5.25" speakers installed one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab. The antenna will be a

180 watts max power (45W x 4); 100 watts RMS (25W x 4)

Bluetooth® streaming audio (A2DP/AVRCP)

Weatherband

AM/FM tuner with 30 presets

Audio settings (volume/bass/treble/balance/fade)

Toggle switch between day and night display

Daylight-readable, segmented LCD

Two-wire power with non-volatile memory and clock support

Low battery alert

0814201 Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714

INFORMATION CENTER

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

The information center will have the following specifications:

Operate in temperatures from -40 to 158 degrees Fahrenheit

LCD optically bonded to hardened AR glass lens Five weather resistant user interface switches

Grey with black accents Sunlight Readable

Linux operating system

Minimum of 1000nits rated display

Display can be changed to an available foreign language

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

Programmed to read US Customary

General Screen Design

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

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

An amber background/text color will indicate a caution condition

A red background/text color will indicate a warning condition

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

Bid #: 979 27

The 6 gauge positive wire will be connected directly to one of the positive power terminals on the right side battery bank. The wire will be protected by a Blue Sea part number 5006100 fuse block

The 6 gauge negative wire will be connected to the frame ground closest to the right side

located, Routed up from behind Officer seat into the Rear Facing Radio compartment mounted on top of the the rear engine tunnel.. The wires will terminate with a 6' pigtail and heat shrinkable

0819994

each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

Vehicle Mitigation (if equipped)

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

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

Seat Belt Monitoring Screen

Tire Pressure Monitoring (if equipped)

Digital Speedometer

Active Alarms

On Scene Screen

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

Battery Voltage

Fuel

Oil Pressure

Coolant Temperature

RPM

Water Level (if equipped)

Foam Level (if equipped)

Foam Concentration (if equipped)

Water Flow Rate (if equipped)

Water Used (if equipped)

Active Alarms

Virtual Buttons

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

Page Screen

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

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

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

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

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

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped) Foam (if equipped)

Aerial (if equipped)

Setup

Clock Setup

Date & Time

12 or 24 hour format

Set time and date

Backlight

Daytime

Night time Sensitivity

Unit Selection

Home Screen Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

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

28

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

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

FAULT = Blue LED indicator illuminated

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.

0889070 SP Intercom, David Clark, 5-Pos, 2-Dual INTERCOM SYSTEM Radio, (D,O, 2RPTT 1st R), 3C, 800/VHF.3805 0637058 David Clark Universal Radio

A five (5) position David Clark, Model U3800, intercom system with dual radio interface capability at the driver and officer positions. Three (3) crew cab positions at three (3) forward facing seats will have radio listen / intercom only. There will be a Remote Push To Talk (RPTT) switch provided for the driver, mounted at Per IP Layout Loc 8 match 38132, connected to the drivers side of the U3816 module for Radio #1. There will be a (RPTT) switch provided for the officer, connected to the officers side of the U3816 module for Radio #1 and routed to the back of the Officer seat, coiled, and secured. The Customer will mount final.

Radio #1 C3821 (Radio interface cable) Connect to the U3805 in the Input as shown in Customer Diagram. "Edit Labeling to include "DRÍVER". ran along driver's side raceway behind seatbelt and

terminating into the Comm compartment - end of cable labeled 800
Radio #2 C3821 (Radio interface cable) Connect to U3805 input as shown on Customer supplied diagram. Edit Labeling to show "DRIVER". ran along driver's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled VHF.

Radio #1 C3821 (Radio interface cable) Connect to PRIMARY INPUT, as shown on Customer Supplied Diagram. Edit Labeling to show "OFFICER". ran along officer's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled 800 Radio #2 C3821 (Radio interface cable) Connect to PRIMARY INPUT, as shown on Customer Supplied Diagram. Edit Labeling to show "OFFICER". ran along officer's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled VHF.

The following components will be supplied with this system:

Two (2) U3816 Radio Interface Modules (Driver, Officer)

Two (2) U3805 Radio Cord Junction Module One (1) RPPT kit for the left side radio #1 One (1) RPPT kit for the right side radio #1

One (1) U3800 Intercom Unit (2 Crew)

One (1) C3820 Power Cable

One (1) U3801 Remote Headset Station (1 Crew) All necessary station cables and connectors

Interfaces Included with Single/Dual

RADIO / INTERCOM INTERFACE INCLUDED

All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to Motorola APX6500 7/800 MHZ, Radio #2 Bendix King .

Headset, David Clark, H3442 Under 0597914 Helmet, Flex Mic

UNDER THE HELMET HEADSET

There will be five (5) under the helmet, headset(s) provided driver, officer and 3 crew.

Each David Clark, Model H3442, headset will feature:

M-7A noise canceling electret microphone

Hybrid wire/flex boom assembly, 280Â rotating, for perfect microphone placement on left or right

side

Dynamic earphone elements

Advanced Undercut Gel Ear Seals for superior comfort

Microphone on/off switch 6 ft. extended coil cord

Adjustable overhead support assembly

Carbon steel nape-band spring, black finish, rotates for left or right side mic positioning

Independently Certified NRR: 23dB

0819255 Hangers For Headsets, NFPA/ULC 2024. Each

HEADSET HANGERS

There will be five (5) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat, passenger's side outboard forward facing seat and rear, center, forward facing seat. The hanger(s) will meet the current edition of applicable NFPA and ULC standards for equipment mounting.

Special CZIII WiFi Antenna Location, 0808699 SP Sacramento, 107

SPECIAL WIFI ANTENNA MOUNT LOCATION

The Command Zone advanced electronics WiFi-GPS antenna will be located on the right side of the cab roof between the forward and rear lightbars

SP 0752681 Antenna, Panorama, 5-in-1, MiMo,2G/3G/4G, MiMo WiFi, GPS

COMBO ANTENNA

There will be one (1) Panorama, LP-IN-1958-* bolt on, low profile 5-in-1 antenna(s) installed on the cab roof. The antenna(s) will be white. The 5 meter 16.00' cables will be routed within the cab to inside the center rear facing "radio cabinet" (option 0756860). NOTE THE ANTENNA IS TO BE FORWARD OF THE PS CREW CAB LIGHTBAR (SEE PHOTÓ FOR SPECIFIC LOCATION). There will be two (2) cellular cables with SMA connectors, there will be two (2) WiFi cables with reverse SMA connectors and one (1) GPS cable with a SMA connector.

Antenna Mount, Custom Chassis, Fill RADIO ANTENNA MOUNT 0660489 in Blank Mounting and Cable Locations

There will be three (3) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed (1) PS forward of side lightbar, (1) PS towards the rear and (1) DS rearward of forward lightbar per 31138 01-02 (SEE PHOTOS). IMPORTANT:All cabling should be loosely run with minimal bending, and encased in protective loom in areas of abrasive objects on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to route from up behind Officer seat into the Rear facing cabinet on top of rear engine tunnel . A weatherproof cap will be installed on the mount.

0771345	SP	Camera, Pierce, LS Mux, RS, R Cameras, Loc	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,RS Officer door just below mirror mount, see AD pointing rearward, displayed automatically with the right 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 located behind the driver seat . The following components will be included: One (1) SV-CW134639CAI Camera One (1) CS134404CI Side camera 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.
0725970	SP	Guard, 4-Way, Stabilizer Cameras	VEHICLE CAMERA GUARD There will be two (2) aluminum treadplate guard(s) fastened over the vehicle stabilizer 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 centered at the rear.
0896458		Pierce Command Zone, Advanced	ELECTRICAL POWER CONTROL SYSTEM

Electronics & Control System, Vel WiFi CZT

The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible. Distribution centers located throughout the vehicle will contain battery powered studs for

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

Solid-State Control System

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include a see through housing, a power indicator, a status indicator and circuit indicators located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices. The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.

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

Green LED indicator light for module power

Red LED indicator light for network communication stability status

Control system self test at activation and continually throughout vehicle operation

No moving parts due to transistor logic

Software logic control for NFPA mandated safety interlocks and indicators

Integrated electrical system load management without additional components

Integrated electrical load sequencing system without additional components

Customized control software to the vehicle's configuration

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

Module circuit board will meet SAE J771 specifications

Operating temperature from -40C to +70C

Storage temperature from -40C to +70C

Vibration to 50g

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

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

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

Circuit Protection and Control Diagram

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

information.

On-Board Electrical System Diagnostics

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

Text description of active warning or caution alarms

Simplified warning indicators

Amber caution indication with intermittent alarm

Red warning indication with steady tone alarm

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

TCU Module with WiFi

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

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

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

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

Indicator Light and Alarm Prove-Out System

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

Voltage Monitor System

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

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

Dedicated Radio Equipment Connection Points

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

12-volt 40-amp battery switched power

12-volt 60-amp ignition switched power

12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

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

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

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

0896456 Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

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

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

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

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.

0079211

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

BATTERY SYSTEM

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

950 CCA, cold cranking amps

190 amp reserve capacity

High cycle Group 31

Rating of 5700 CCA at 0 degrees Fahrenheit

1140 minutes of reserve capacity

Threaded stainless steel studs

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

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

0008621

Battery System, Single Start, All Custom Chassis

BATTERY SYSTEM

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

MASTER BATTERY SWITCH

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

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

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.

0812586

Charger, Sngl Sys, Kussmaul, Chief 091-266-12-60, 60 Amp

BATTERY CHARGER

There will be a Kussmaul™, Chief Series Smart Charger 6012, product code 091-266-12-60, 60 amp battery charger with build-in touch screen display provided.

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

0814935

Location, Cab, Charger, EMS Compt, Battery charger will be located in the cab, on the vertical wall of the left side EMS compartment. Vertical Wall, LS

0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.
0814945	Location, Cab, Ind/Remote, Driver's Step Area	The battery charger indicator will be located in the driver's step area.
0811952	Not Required, Indicator/Remote Status	
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	AUTO EJECT FOR SHORELINE There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline inlet(s) will include red weatherproof flip up cover(s). There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting. The shoreline(s) will be connected to battery charger & compartment receptacles. There will be a matting connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Ratting (amps) Phase Frequency
0026800	Shoreline Location	The shoreline receptacle will be located on the driver side of cab, to the front of cab door.
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	
0550970	Fan, 12v, Electrical Component Cooling	ELECTRICAL COOLING FAN There will be three (3) 12v electrical cooling fan to be located rear vertical wall of the center rear facing cabinet utilized as radio compartment. (1) one each in the upper corner and (1) one centered – all up as high as possible). The fan will vent the heat outward. Fan to be wired to the battery switch.

Load Manager/Sequencer, MUX

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

The system will include the following features:

System voltage monitoring.

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

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to not be controlled by the load manager.

If enabled:

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

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

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

The information center indicates system voltage.

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

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

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

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

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

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

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

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

Cab Heater and Air Conditioning Crew Cab Heater (if applicable) Crew Cab Air Conditioning (if applicable) Exhaust Fans (if applicable)

Third Evaporator (if applicable)

0613546

Headlights, Round LED, JW Speaker, HEADLIGHTS 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

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.

0648425 Light, Directional, Wln 600 Cmb, Cab DIRECTIONAL LIGHTS Crn, Wrp Bzl Out HD Lts,

Imp/Vel/AXT/Qtm

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.

0620054 Light, Directional/Marker,

Intermediate, Weldon 9186-8580-29 LED 2lts

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.

0736083 Lights, Clearance/Marker, Side, P25

LED 2 Lts, Others With Visor Lt

CAB CLEARANCE/MARKER/ID LIGHTS

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

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

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

0090155 REAR CLEARANCE/MARKER/ID LIGHTING Lights, Clearance/Marker/ID, Rear, Truck-Lite 35200R LED 7Lts There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height There will be two (2) Truck-Lite, Model 35200R, 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) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above 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 around Per FMVSS 108 and CMVSS 108 requirements. 0602938 Light, Marker End Outline, Rubber **MARKER LIGHTS** There will be one (1) pair of amber and red LED marker lights with rubber arm, located at the rear Arm, LED Marker Lamp, Rear Body 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, Wln M62BTT* Red REAR FMVSS LIGHTING Stop/Tail & M62T* Amber Dir Arw For The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Hsg Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red I FDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be the same as the LEDs. 0806466 Lights, Backup, Wln M62BU, LED, There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing. For Tail Lt Housing 0889577 Bracket, License Plate & Light, P25 LICENSE PLATE BRACKET LED. Stainless Brkt One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear. 0556842 Bezels, Wln, (2) M6 Chrome Pierce, LIGHTING BEZEL For mtg (4) Wln M6 lights There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights. 0589905 **BACK-UP ALARM** Alarm, Back-up Warning, PRECO A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck 1040 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.

0049818 Guard, Alum Treadplate Over Lights

PROTECTIVE COVER FOR LIGHTS

There will be two (2) aluminum treadplate cover(s) installed above the light(s) located Whelen Summit lights on top of transverse compt one (1) each side to protect them from damage.

0578264 Flash Pattern, California Title13, LED WARNING LIGHT FLASH PATTERN

Warning Lights

The flash pattern of all the exterior warning lights will be set to meet the certified California, Title
XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change
to the certified flash pattern.

Lights, Perimeter Cab, Amdor AY-LB- CAB PERIMETER SCENE LIGHTS 0769420 12HW020 LED 4Dr There will be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door. These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights. 0765941 Lights, Perimeter Body, Amdor AY-**BODY PERIMETER SCENE LIGHTS** LB-12HW012 LED 2lts, Turntable There will be two (2) Amdor®, Model AY-LB-12HW012, 190 lumen, 12.00" long, 12 volt DC white LED lights provided. Access 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 a switch within reach of the driver is activated and the parking brake is applied. 0896454 Enhanced Software for Perimeter Lts ENHANCED SOFTWARE FOR PERIMETER LIGHTS All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed. 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. 0626449 Light, Wln, 12V NP6B* Nano Pioneer 12 VOLT LIGHTING There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail Series LED, Bail Mount 2nd The painted parts of this light assembly to be white. The light(s) selected above will be controlled by the following: from the same switches provided to activate other scene lights. no additional switch location. no additional switch location. no additional switch location. These light(s) may be load managed when the parking brake is applied.

bracket to be located passenger side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per Folsom job 31183.

0626453 Light, Wln, 12V NP6B* Nano Pioneer 12 VOLT LIGHTING Series LED, Bail Mount 1st

There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail bracket to be located driver side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per Folsom job 31183.

The painted parts of this light assembly to be white.

The light(s) selected above will be controlled by the following: from the same switches provided to activate other scene lights.

no additional switch location. no additional switch location. no additional switch location.

These light(s) may be load managed when the parking brake is applied.

0749399 Light, Visor Mt, Wln S72M**, 72" Cnt 12 VOLT LIGHTING

Feature

There will be a Whelen® Model S72M**, 72.00" long 32,400 lumens DC powered light provided on visor bracket(s) hanging off the front of the cab roof over the windshield. The painted parts of this light assembly to be white.

The light will include the following:

White scene LEDs

Two (2) amber LED modules as clearance lights

Three (3) amber LED modules as identification lights

Four (4) additional LED modules. The additional additional modules to be four (4) scene light

modules with white LFDs

The clearance and identification LEDs will be activated with the headlight switch.

The scene LEDs will be activated when the battery switch is on and by a switch at the driver's side switch panel is on.

There will be a switch in the cab on the switch panel to control the flashing or spot LED modules.

Amber flashing LED modules will be deactivated when the parking brake is released. The white scene and flashing LED modules may be load managed when the parking brake is

applied.

0889662 Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 2nd

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model S16*M*, 6,480 lumens, 2.48" high x 16.37" wide x 2.15" deep 12 volt DC light(s) with white, amber LEDs and flood optics provided on the cab located, RS Cab below side emergency lightbar, above EMS compartment. The light(s) to be installed with extended horizontal mounts.

The painted parts of this light assembly to be white.

The scene LEDs will be controlled by a switch at the driver's side switch panel, by the same control that has been selected for the passenger's side scene light(s) and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The marker lights included in this light housing shall not be energized. These light(s) may be load managed when the parking brake is applied.

0889664

Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 1st

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model S16*M*, 6,480 lumens, 2.48" high x 16.37" wide x 2.15" deep 12 volt DC light(s) with white, amber LEDs and flood optics provided on the cab located, LS Cab below side emergency lightbar, above EMS compartment. The light(s) to be installed with extended horizontal mounts.

The painted parts of this light assembly to be white.

The scene LEDs will be controlled by a switch at the driver's side switch panel, by the same control that has been selected for the driver's side scene light(s) and by the same switching that has been selected for the other side scene light(s) on the apparatus.

The marker lights included in this light housing shall not be energized. These light(s) may be load managed when the parking brake is applied.

0748793

Lights, Wln, S44M** 44" 12VDC, RS Body

12 VOLT LIGHTING

There will be one (1) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the right side of the body located, centered over RS6, Match #32604.

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 a switch at the driver's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

There will be a switch in the cab on the switch panel to control the flashing warning LED modules when selected.

The light(s) may be load managed when the parking brake is applied.

0748795

Lights, Wln, S44M** 44" 12VDC, LS Body

12 VOLT LIGHTING

There will be one (1) Whelen® Model S44M**, 19,440 lumens 44.00" 12 volt DC light(s) with white LEDs provided on the left side of the body located, Centered over LS6, Match #32604. 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 a switch at the driver's side switch panel and by the same switching that has been selected for the other side scene light(s) on the apparatus.

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.

0721094

Lights, Hose Bed, Not Required, No Hose Bed/Cargo Area

0827069

Lights, Rear Scene, Wln, MPB* Micro REAR SCENE LIGHTS

Pioneer LED, 2Lts

There will be two (2) Whelen®, Model MPB*, 12 volt DC LED lights with stud bail mount provided at the rear of the apparatus. The painted parts to be white.

The lights will be controlled by a switch at the driver's side switch panel and by a cup switch at the driver's side rear bulkhead.

0709438

Lights, Walk Surf, FRP Flood, LED

WALKING SURFACE LIGHT

There will be Model FRP, 4.00" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) 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.
0590684	SP	Cover, Cargo Area Above Torque Box, Alum Treadplate	CARGO AREA COVER A two (2) section cargo area cover, constructed of .125" bright aluminum treadplate will be furnished over the cargo area under the aerial device and between the upper body compartments. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down. The cover will be reinforced so that it can support the weight of a man walking on the cover. Chrome grab handles and four (4) gas filled cylinders will be provided to assist in opening and closing the cover. This cover will be included in the "Do Not Move Truck" circuit to provide an alert when open.
0735733		Turntable Steps-Morton Cass, Swing Down,LS/RS,Ascend TA,PAL,PAP,Handhld Cut Outs	TURNTABLE STEPS Steps to access the turntable from the left and right side will be provided just behind the compartmentation. No bottom flip step to be provided. The bottom step will have a step height not exceeding 24.00" from the ground to the top surface of the step at any time. All steps will have a height no greater than 14.00" from top surface to top surface. 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. The steps will be connected to the "Do Not Move Truck" indicator. A knurled aluminum handrail will be provided on each side of the access steps. A hand hold will be provided in the left and right side of each set of access steps.
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 parking brake is applied.
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.

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.

SP 0527622

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.

0891800

Compt, LS F/H F/D, Roll Drs, Ascend LEFT SIDE COMPARTMENTATION TA, 105', 100 HAL, No Pump No Tank

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 an clear door opening of 38.75" wide x 56.38" high.

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 a clear door opening of 63.75" wide x 25.50" high.

A compartment with a single pan polished stainless steel door will be located above the front stabilizer. The door will be hinged on the top with pnuematic cylinder(s) with a SouthCo C2 chrome raised trigger lever latch. The compartment will be approximately 18.00" wide x 23.00" high x 24.25" deep with a door opening of approximately 12.00" wide x 15.75" high.

0063703

Compt, LS Turntable, F/H F/D, Roll Drs, Ascendant Tandem, 105 HDL

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.

There will be one (1) compartment below the turntable with a roll-up door. The compartment will be 39.38" wide x 18.38" high x 21.25" deep with a door opening of 33.75" wide x 10.75" high.

0023672 Compt, IPO Stairs, Not Required, LS

0063735

Compt, RS F/H F/D, Roll Drs, w/o HAL

RIGHT SIDE COMPARTMENTATION

Chute, Ascendant Tandem, 105', 100 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 56.38" high.

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 25.50" high.

A compartment with a single pan polished stainless steel door will be located above the front stabilizer. The door will be hinged on the top with pnuematic cylinder(s) with a SouthCo C2 chrome raised trigger lever latch. The compartment will be approximately 18.00" wide x 23.00" high x 24.25" deep with a door opening of approximately 12.00" wide x 15.75" high.

0063739		Compt, RS Turntable, F/H F/D, Roll Drs, Ascendant Tandem, 105 HDL	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. There will be a compartment, below the turntable, with a roll-up door. The compartment will be 39.38 " wide x 18.38 " high x 21.25 " deep with a door opening of 33.75 " wide x 10.75 " high.
0023673		Compt, IPO Stairs, Not Required, RS	S
0594012		Doors, Amdor, Rollup, Side Compartments	SIDE COMPARTMENT ROLL-UP DOORS There will be ten (10) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand roll-up doors. Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement. Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression. The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials. Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands. A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 1250 for all compartment doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancey and to avoid false door ajar signals. All injection molded roll-up door wear components will be constructed of Type 6 nylon. Each roll-up door will have a 3.00 inch diameter balancer/tensioner drum to assist in
0556162		Not Req'd, Compt Blister in Front of Rear Axle	
0018820		Bumper, Rear, 5" w/Treadplate Cover, Ascendant Tandem, PAP, PAL, RMAP	REAR BUMPER A 5.00" rear bumper will be furnished. Bumper will be constructed of steel framework and will be covered with polished aluminum treadplate. The bumper will be 4.00" deep x 5.00" high and will be spaced away from the body approximately 1.00". It will extend the full width of the body.
0650792		Scuffplate, S/S Around Air Bottle Compt Openings, Qty	SCUFFPLATE Four (4) scuffplates will be furnished around the opening for the air bottle compartment(s). The scuffplate(s) will be constructed of polished stainless steel and provided for the (1) LS -Air Pak between axles (1) RS - Air Bottle between axles (2) RS - (1) ea compartment Forward and Aft both axles air bottle compartment(s).
0603711		Guard, Drip Pan, S/S, Rollup Door, Aerial	DOOR GUARD There will be nine (9) compartment doors that will include a guard/drip pan designed to protect the rollup door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed on the left side rearward compartment, left side forward over the wheel compartment, left side forward compartment, right side rearward compartment, right side forward over the wheel compartment, right side forward compartment and rear compartment.
0891633	SP	Door Stop, Reduced in Height, Amdor Rollup Door, Each	REDUCED HEIGHT RUBBER DOOR STOPS The black rubber stops provided above the horizontal door ledge on the roll up doors located on a total of 11 compartment door(s) located All roll up doors on body will be trimmed so that the door can be opened as much as possible.
0795390		Pull Strap for Rollup Doors, Amdor Flex-HD	ROLLUP DOOR PULL STRAP There will be two (2) compartment doors provided with Amdor Flex-HD pull straps. The compartment door(s) to be provided with a pull strap will be LS5 & RS5
0021603		Scuffplate, Brushed S/S Bottom of Door Frame	DOOR FRAME SCUFFPLATE Two (2) scuffplates will be provided for the lower door frame(s) LS5.RS5. Each scuffplate will be brushed stainless steel with a .38" lip down.

0742323 SP Lights, Compt, Amdor AY-9280 Wht COMPARTMENT LIGHTING Rd LED, Dual Lt Strips, Each Side of Door

There will be eleven (11) compartment(s) with two (2) Amdor®, Model AY-9280-**, 12 volt DC LED compartment light strips mounted with mechanical fasteners. Each light strip will include both red and white LEDs.

The dual light strips will be centered vertically along each side of the door framing.

The dual light strips will be in all body compartment(s).

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

Control will be with a separate switch in cab to control when the white LED lights are activated and when the red LED lights are activated. In the first switch position, the white LED lights will be activated. In the second position, the red LED lights will be activated.

Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model:

79384 light. Each light will have a number 1076 one filament, two wire bulb.

0603420 Shelf Tracks, Painted, Aerial

MOUNTING TRACKS

There will be eight (8) sets of tracks for mounting shelf(s) in LS1, LS3, LS4, LS5, RS1, RS2, RS4 and RS5. These tracks will be installed vertically to support the adjustable shelf(s) and will be full height of the compartment. The tracks will be painted to match the compartment interior.

0625835

Shelves, Adjustable, 500 lb Capacity, ADJUSTABLE SHELVES

Full Width/Depth, Special Side Height There will be six (6) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray. 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 (1) LS1, (1) LS3, (1) LS4, (1) RS1, (1) RS3 and (1) 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

0099146

Height, 1/2 Trans

Tray, 500 lb Slide-Out, 2" Sides - Adj. SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There will be four (4) slide-out trays provided.

Each tray will have 2.00" high sides and will be half (1/2) the depth of the transverse compartment. The capacity rating of the tray will be 500 b in the extended position.

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

An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand.

The tray(s) will be located two in compartment LS5, and two in compartment RS5. These trays are to be located to the rear of the partition. Per Photo #29 & 68...

0709690

Tray, 250 lb Slide-out, 2" Sides - Adj. Height, Predefined Locations

SLIDE-OUT ADJUSTABLE HEIGHT TRAY

There will be two (2) slide-out trays provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 250 lb in the extended

Each tray will be constructed of aluminum painted spatter gray.

Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting

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 and in LS4 centered

between the floor and ceiling

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) LS4, (1) RS1 and (1) 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 spatter gray.

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.

0726429		Partition, Vertical Compt, Transverse Compt, Aerials/HDRs	PARTITION IN TRANSVERSE COMPARTMENT One (1) partition will be bolted in in compartment LS5/RS5 this partition will be up as tight as possible against the existing tool board that is tight against the cradle notch at the front of the compartment Per 29, 67 & 68 Each partition will be the full vertical height of the compartment.
0808849	SP	Compt,Top of Compt,Hatch Style,Alum Tread,Spec Door Spacing,Extra Handles,Aerial	STORAGE COMPARTMENT(S) There will be two (2) storage compartment(s) provided on top of the left and right side compartment(s). There will be two (2) horizontally hinged, equally sized lift-up doors with chains on each end of each door with a pair of socket and plunger latches with chrome grab handles on each door. All doors will be hinged on the outside of the apparatus. The door(s) shall be the maximum length and width The doors will be specially spaced, allowing for approximately 21.75" of top catwalk at the rear. There will also be an extra handle on each cover, one (1) in each corner of the door. These handles will match the standard handle and be oriented to match. The size of each compartment will be approximately 132.50" long x 9.00" high x 24.50" wide and will be constructed of aluminum treadplate and properly reinforced to sustain the weight of a firefighter. Each box will be bolted to the top of the body compartment. There will be a white LED strip light installed on the inside edge of the compartment that runs the full length of the compartment.
0788899	SP	Box, Poly Tool, Special Size, w/ Divider	TOOL BOX A black poly tool box will be furnished. The size will be 7.50" wide x 15.50" long x 12.50" deep. There shall be a minimum clear opening of 6.50" wide x 14.50" long x 11.5" deep. There shall be one (1) divider that runs the length (15.50") of the poly box. There will be one (1) divider that runs the length of the poly box. Construction will be of .50" polypropylene plastic with joints and seams nitrogen welded. A cut out carrying handle will be provided on each end. Each tool box will be held in place with plastic angles. There will be one (1) provided. It will be located shipped loose.
0539811		Box, Poly Tool	TOOL BOX A tool box will be furnished. The outside size will be 21.00" long x 10.00" wide x 9.00" deep. The tool box will be black in color. Construction will be of .50" polypropylene plastic with joints and seams nitrogen welded. A cut out carrying handle will be provided on each end. There will be five (5) provided. It will be located shipped loose.
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 RS, Match job #32604 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 Southco C2 chrome raised trigger lever latch.
0028026		Matting, Turtle Tile, Compartment Shelving Only	MATTING, COMPARTMENT SHELVING Turtle Tile compartment matting will be provided in 17 shelves. The locations are, all adjustable shelves (9 total) and all slide-out trays (6 total). The color of the Turtle Tile will be black.
0659383		Matting, Turtle Tile w/Ramp, Compartment Floors	MATTING, COMPARTMENT FLOOR Turtle Tile compartment matting will be provided in seven (7) compartments on the compartment floor. The locations are, LS2, LS3, LS5 below floor extension, RS2, RS3, RS5 below floor extension and rear RS hose chute. The Turtle Tile will be black and the leading edge of the matting will include the beveled edge. The beveled edge will be black.
0796215		Floor Extension, Compartment, 1.00" Upturned Lip	FLOOR EXTENSION There will be a compartment floor extension provided. The floor extension will extend from the area over the frame rails to within an inch of the compartment door. The floor extension will have a 1.00" vertical upturned lip and no return flange. A total of two (2) will be provided and located (1) LS6 and (1) RS6. DIMENSION FROM THE TOP OF THE FLOOR (NOT THE TURTLE TILE) TO THE BOTTOM SIDE OF THE FLOOR EXTENSION TO BE 15" PER 31138 01-02 - NO EXCEPTIONS.
0083945		Shelf, Trans Compt, Full Width	SHELF, ADJUSTABLE, TRANSVERSE A full width shelf will be installed in compartment LS6/RS6 this shelf will be above the two slide out trays, which are to the rear of the partition. The inside dimension will be 85". 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.

0670781	SP	Scuffplate, Brushed S/S, Entire Compartment Floor	COMPARTMENT FLOOR SCUFFPLATE The compartment floor of the compartment(s) LS1 will be lined with brushed stainless steel. There will be a total of one (1) compartment floors covered by the scuffplate.
0069435	SP	Toolboard, .188 Alum, 2-way Slideout, Adj., 60", Mounted to Utility Tray	SLIDE-OUT TOOL BOARD A slide-out aluminum tool board will be provided. The tool board will be a minimum of .18" thick with .20" diameter holes in a pegboard pattern, on 1.00" centers. The board dimensions will be approx. 60.00" long x as high as possible. A 1.19" flange will be formed along the bottom with the top and sides of the board framed with 1" square tubing. The corners of the flanges will be welded to provide a rigid assembly. The board will be mounted on a small sliding tray. The construction of the tray will consist of 6061-T6 aluminum extrusions for the sides with a .18" thick aluminum floor. The corners will be welded to form a rigid unit. The capacity rating will be 500 pounds minimum in the extended position. The slide assemblies will be manufactured with 6061-T6 aluminum extrusions. The tray will be supported by a minimum of eight (8) roller bearings each rated for a 500 pound load. The board will slide-out of the compartment in both directions two thirds of its length. Positive locks for the stowed and extended position will be provided. The board will be mounted in the sliding tray. The tray will be mounted on aluminum track to allow sideways adjustment of the tool board and tray. There will be a total of one (1) provided in transverse compartment LS5/RS5. Toolboard is to be located from the driver's side framerail to the door opening of RS5, and as far forward in the compartment as possible. Must pull out both directions but not the same amount. Per 29 & 68
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 aluminum painted to match the lower body color fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.
0505105		Handle, Grab, Chrome, Each	CHROME GRAB HANDLE Eight (8) handrails, chrome plated grab handle, will be mounted install 2 on each hatch door - 1 each inboard corner at a 45 degree angle (SEE MARKED UP APPROVAL PRINT).
0802986		Compt, Air Bottle, Between Tandems, Four (4) Bottles, w/ Straps, Bolt-In, Aerial	FOUR AIR BOTTLE STORAGE COMPARTMENT A total of one (1) air bottle compartment will be provided and located on 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 Southco raised trigger C2 chrome lever latches will be revived for each compartment. The door will be noticed to match the lower body.

will be provided for each compartment. The door will be painted to match the lower body 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.

SP Compt, Equipment/Air Pack, Between EQUIPMENT STORAGE 0804997

Aerial

Tandems, Vert Hinge Doors, Bolt-In, A total of one (1) compartment(s) will be provided and located on the left side, centered between the tandem rear wheels. The compartment(s) will be approximately 16.00" wide at the top x 8.00" wide at the bottom with tapered sides. The compartment(s) will be approximately 12.00" high x

A vertically hinged door along the forward edge and Southco raised trigger C2 chrome lever latch will be provided for each compartment. The door will be painted to match the lower body stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, a drain hole and black Dura-Surf friction reducing material will be provided.

0804248		Compt, Air Pack Fender Panel Corner, Bolt-In, Tandem Aerials	AIR PACK STORAGE IN FENDER PANEL CORNER An air pack compartment will be provided in the upper corner of a total of two (2) fender located on the right side forward of the rear wheels and on the right side rearward of the rear wheels. The air pack compartment(s) will be tapered to match the profile of the space available in the fender. The compartment(s) will be approximately 15.50" wide at the top and 4.50" wide at the bottom for the wheel cutout. The compartment(s) will be 14.50" tall at the body side compartment and 5.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole. Inside the compartment, there will be black Dura-Surf friction reducing material. A vertically hinged door with tapered corners and a Southco raised trigger C2 chrome lever latch will be provided for each compartment. The door will be painted to match the lower body stainless steel. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.
0804647	SP	Latch Slots, Covered/Sealed, Air Bottle/Extinguisher Compts, Each	AIR BOTTLE/EXTINGUISHER COMPARTMENT LATCH SLOT COVERS There will be a total of three (3) air bottle/extinguisher compartment(s) located (1) LS between axles compartment (2) RS Air Pak compartments that will have the any latch slot covered from the back side to help prevent road debris from getting in the compartment through the slot. Any gaps that may exist due to compartment design will also be sealed to help provide additional protection.
0814191	SP	Drain Hole, w/Drain Tube, Air Pack Compt, Each	AIR BOTTLE COMPARTMENT DRAINS A drain hole will be provided in three (3) air pack compartment/s located (1) LS between axles, RS (2) forward of and aft of axles. Each drain hole will have a drain tube attached to it to allow water to flow out of the compartment while limiting snow and slush from getting into the compartment.
0004218		Ladder, 35' Duo-Safety 1200A 2-Sect	EXTENSION LADDER There will be two (2) 35' two (2) section aluminum Duo-Safety Series 1200-A extension ladder(s) provided.
0004222		Ladder, 24' Duo-Safety 900A 2- Section	AERIAL EXTENSION LADDER There will be two (2) 24' two (2) section aluminum Series 900-A extension ladder(s) provided and located in the aerial torque box.
0024232		Ladder, 16' Duo-Safety 875A Roof	ROOF LADDER There will be one (1) 16' aluminum Duo-Safety Series 875-A roof ladder(s) provided.
0655286		Ladder, 14' Duo-Safety 775-DR Roof with 7/8" Hooks	ADDED ROOF LADDER There will be one (1) 14' aluminum roof ladder(s), Duo-Safety series 775-A with a pair of 7/8" hooks at each end provided.
0014233		Ladder, 18' Duo-Safety 875A Roof	ADDED ROOF LADDER There will be one (1) 18' roof, aluminum, Series 875-A provided.
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	
0015157		Ladder, 14' Duo-Safety Folding, 585A	FOLDING LADDER, AERIAL There will be a 14' aluminum, Duo-Safety, Series 585-A folding ladder provided.
0592248		Ladders Stored in Torque Box, Amdor Roll, Ascendant TA, PAL, PAP	GROUND LADDER STORAGE The ground ladders are stored within the torque box and are 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. An AMDOR rollup door will be provided at the rear, double faced, aluminum construction, satin aluminum and manufactured by AMDOR manufacturing. The latching mechanism will consist of a full length lift bar lock with latches on the outer extrusion of the door frame. A stainless plate with a two bend flange and a stainless steel hinge will be provided to secure the aerial ladder complement. The plate assembly will be mounted to the bottom of the entrance of the torque box ladder storage area. When the plate is vertical, it will secure the ladders and prevent them from migrating to the rear of the apparatus. When the plate is down and not securing the ladders, the roll-up door can not close, which will activate the "Open Door Indicator Light" within the cab. The roll-up door together with hinge friction will secure the plate in place during driving operations. A door guard will be provided to prevent tools inside the torque box from damaging the roll-up door.

door.

0832344	SP	Lights, Torque Box Ladder Storage, Amdor AY-9250-024, Red 2 Lts, LED	LADDER STORAGE LIGHTING There will be two (2) Amdor Model AY-9250-024, Red 12 volt DC LED strip lights used to illuminate the torque box ladder storage compartment. One (1) each side will be located on the side wall of the torque box near the ladder storage entry area. The lights will be activated when the ladder storage compartment door is opened.
0777289		Poly Hinge Guard, White, Torque Box Ladder Storage	x 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.
0078450		Ladder Rack Banding, Moved Forward 10.00", Torque Box	LADDER RACK MODIFICATION The standard ladder rack will be modified. The rearward most bracketry will be moved forward approximately 10.00" leaving the ladder trays exposed. The ladders will deadhead in their trays prior to the last rung of the exposed ladder passing the rearward brackets.
0685402		Dura-Surf, Added	DURA-SURF MATERIAL Black Dura-Surf friction reducing material will be added to the bottom of seven (7) storage locations and located All Gound Ladder except Folding Attic Ladder to prevent damage. The Dura-Surf material will be made to fit the storage area.
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.
0792051	SP	Ladder Rack Information, Extension Ladder Fly Sections on Left	LADDER RACK DESIGN The extension ladders located in the ladder storage area will be oriented such that the fly section of the ground ladder will be on the left side when stored in the ladder rack.
0816914		Pike Pole, 12', Provided by Fire Department, NFPA/ULC 2024	12' PIKE POLE PROVIDED BY FIRE DEPARTMENT The pike poles are not on the apparatus as manufactured. The fire department will provide and mount the pike poles. There will be two (2) 12' pike pole(s) provided. The pike pole(s) will be a Nupla 12' pike pole.
0547754		Not Required, Pike, Pole, 8'	
0549137		Not Required, Pike Pole, 6'	
0548410		Not Required, Pole, Pike, 3'	
0780826		Trash Hook, 8' Fire Hooks Unlimited, TRH-8, w/D Handle, Turn 90 Degrees	ADDITIONAL PIKE POLE(S) S There will be two (2) 8' long trash hook(s), Fire Hooks Unlimited, Model TRH-8, with D handle provided and located Ladder storage. The D-handle will be turned 90 degrees from standard.
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 Fire Hooks Unlimited 8' all purpose hook with D handle.
0770578		Pike Pole Tubes, in Torque Box/Ladder Storage, ABS	PIKE POLE STORAGE IN TORQUE BOX/LADDER STORAGE There will be ABS tubing provided in the torque box/ladder storage area for a total of two (2) pike poles. If the head of a pike pole can come into contact with a painted surface, a stainless steel scuffplate will be provided.
0058193		Tubes, Alum, Pike Pole Storage, Spc Notch, NY PP Head	Aluminum tubing will be used for the storage of four (4) pike poles and will be located Transverse Aux Cab Compartment, Mounted from ceiling of compartment, (2) to exit RS of apparatus to be towards rear of compartment, LS to be forward of RS notches to be set 2 per side. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.

0600564	Bell, 12" Chrome w/Eagle, Mounted on Cab Corner, Vel/Imp	BELL A chrome plated, 12.00" bronze cast bell, complete with an eagle, will be mounted on the passenger side radiused corner of cab face. The cab will be properly reinforced to support the weight of the bell. A rope pull, for the bell, will be installed inside the cab.
0024388	No Steps Required, Front Of Body	
0512558	Platform, Slide Out, 500 lb Capacity, Alum 4-Way, Full Width	SLIDE-OUT PLATFORM Two (2) slideout platforms will be provided under LS5 and RS5. The step will be as wide as possible. The capacity rating will be 500# 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-LB-12HW0** white 12 volt DC LED light provided to illuminate the ground area.
0724154	Step, Folding - Extra, Body Only, Trident	Two (2) additional folding steps will be located on the rear bulkhead of compartment LS3, and RS3 . Reference job #32604. The step(s) will be bright finished, non-skid, with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.
0508020	Air Horn, (1) Hadley, 6" Round, eTone, In Bumper	AIR HORN SYSTEM One (1) Hadley round air horn with 6.00" bell 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.
0606839	Location, Air Horn, Bumper, Left Side, Outside Frame, Inboard (Pos #6)	Air Horn Location The air horn will be located on the left side of the bumper, just outside of the frame rail.
0757092	Control, Air Horn, Multi Select	Air Horn Control The air horn(s) will be activated by the following:
0723391	Control, Air Horn, Chrome Push Button Sw, RS	Right side chrome push button switch
0757081	Control, Air Horn, Ft Sw, LS	Left side foot switch
0533071	Siren, Wln 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 overhead console above the engine tunnel on the officer side.
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) Wln, 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.
0601555	Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame,Outbrd (Pos 7)	The speaker will be recessed in the left side of the front bumper, towards the outside.
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 in the center. 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, RS	Right side push button switch
0748282		Control Mech Siren, Ft Sw LS	Left side foot switch.
0726839		Sw, Siren Brake, Momentary Red Rocker, Location, Hardwire	A momentary red rocker switch will be included in the location 9, match 38132 to activate the siren brake.
0693597		Microphone Extension, Wln 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, Wln, 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 inside front position. One (1) red flashing LED module in the inside front position. One (1) red flashing LED module in the inside front corner position. 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) red flashing 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 front corner position. One (1) red flashing LED module in the outside end position. There will be clear lenses and colored filters included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars.
0605741		Lightbars, WIn, Freedom IV, 2-21.5", RRRR RRRR	SIDE WARNING LIGHTS There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the EMS compartment doors. Each lightbar will include the following: One (1) red flashing LED module in the outside rear corner position. One (1) red flashing LED module in the rear outside position. One (1) red flashing LED module in the front outside position. One (1) red flashing LED module in the outside front corner position. There will be clear lenses and colored filters included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars. These lights may be load managed when the parking brake is applied.
0540439		Light, Front Zone, Wln M6* LED, Colored Lens 2Lts	WARNING LIGHTS (Cab Face) Two (2) Whelen model M6* LED flashing warning lights with chrome flange will be provided on the front of the cab above the headlights. The driver's side front warning light to be red. The passenger's side front warning light to be red. Both lights will include a lens that is the same color as the LED's. There will be a switch located in the cab, on the switch panel, to control the lights.
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.

0779787	SP	Lights, Side Zone Lower, WIn M6**, WIONSMC* LED, 2pr	SIDE ZONE LOWER LIGHTING There will be four (4) Whelen®, flashing LED warning lights with chrome trim installed per the following: Two (2) Model M6**, 4.31" high x 6.75" long x 1.37" deep lights, one (1) each side on the front custom cab corner. The driver's side, side front light to include red warning LEDs and the passenger's side, side front light to include red warning LEDs. Two (2) Model WIONSMC*, 1.68" high x 5.93" long x 1.12" deep lights, one (1) each side above rear wheels. The driver's side, side rear light to include red warning LEDs and the passenger's side rear light to include red warning LEDs. The warning light lens colors of the front lights to be the same color as the LEDs and the warning light lens color of the rear lights to be clear. There will be a switch in the cab on the switch panel to control the lights.
0743902		Lights, Side, Wln M6** LED, Trm Fet 2nd	SIDE WARNING LIGHTS There will be two (2) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning light(s) with chrome trim provided, rear of crew cab doors. The light(s) to include red flashing LEDs. The warning light lens colors to be the same as the LEDs. There will be a switch in the cab on the switch panel to control the lights. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green and red LEDs may be load managed when the parking brake is applied.
0745871		Lights, Side, WIn WIONSM** LED, Trim Fet, 1st	SIDE WARNING LIGHTS There will be two (2) Whelen®, Model WIONSM**, 1.69" high x 5.94" long x 1.13" deep flashing LED warning light(s) with chrome trim located, one (1) each side above rear axle of the tandem wheels per 31138 01-02. The light(s) to include red LEDs with a clear lens. The light(s) will be activated with the side warning switch. White LEDs will be deactivated when the parking brake is applied. Amber, blue, green or red LEDs may be load managed when the parking brake is applied.
0672937		Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st	SIDE WARNING LIGHTS There will be six (6) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails one (1) each mounted in the rubrail and centered below the following compartments: LS1, LS4, LS5, RS1, RS4 and RS5. The lights will only be mounted with the rubber gasket if clearance allows it. The color of each light will be red LED with a clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch.
0564654		Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.
0088745		Light, Rear Zone Up, Wln L31HRFN LED Beacon, Red LED	REAR/SIDE ZONE UPPER WARNING LIGHTS There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons. The color of the lights will be red LEDs with both domes red.
0006551		Not Required, Lights, Rear Upper Zone Blocking	
0759138			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 bracket(s) will be provided to mount lights, cameras, or other accessories. The brackets will include a removable panel to protect the wire connections.
0762435		Light, Traffic Directing, WIn TAL85, 46.87" Long LED, Lens Feature	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The lens color will be the same color as the LED's. The control head will be included with this installation. The control head will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0530073		Location, TDL, Surface Mounted Between Handrails Treadplate Wedge and Box	This traffic directing light will be surface mounted between the handrails on a treadplate wedge bracket with a treadplate box at the rear of the apparatus.

Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.

0779722

0530282

Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Body

120 VOLT RECEPTACLE

There will be four (4), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with white receptacle(s) and stainless steel wall plate(s), installed (1) LS1 - R upper corner, (1) RS4 left middle compartment, (2) RS6 mounted in shelf track on LS of compartment. All receptacles with 36" coiled wiring extra. The NEMA configuration for the receptacle(s) will be 5-20R.

The receptacle(s) will be powered from the shoreline inlet.

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

Line Voltage

Current Ratting (amps)

Phase Frequency

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 FOUR (4)-SECTION 107 FOOT AERIAL LADDER CONSTRUCTION STANDARDS

The ladder will be constructed to meet all of the requirements as described in the current edition of applicable NFPA standards.

The aerial device will be a true ladder type device; therefore ladders attached to booms will not be considered.

These capabilities will be established in an unsupported configuration.

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.

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.

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.

The aerial base pivot bearings will be maintenance free type bearings and require no external lubrication

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

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.

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
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
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
sections as needed.
The tip capacity will be reduced to zero when flowing water with the nozzle above the
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Reduced loads at the tip can be redistributed in 250 lb increments to the fly, mid, or base

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.

IPO Pump

Boom Support, Recessed in Compt

0000038

The boom support will be located just to the rear of the chassis cab, recessed into the transverse compartment in place of pump.

Light, Boom Support, Amdor AY-LB- AERIAL BOOM SUPPORT LIGHT 12HW012, 12" LED 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. 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 #20 blue white. 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 **EXTENSION INDICATOR** Extension markings and corresponding numerical indicators will be provided along each inside Outside Handrails, Every 10' 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, **FOLDING STEPS** One (1) set of folding steps will be provided at the tip of the ladder. An additional set of folding Trident steps will be provided at the base of the fly section. The steps will be bright finished with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. Each step will 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 photoluminescent to assist in providing a light source for each rung during low light conditions. 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. 0786841 Brackets Only, Roof/Fresno Ladder, LADDER STORAGE MOUNTING BRACKETS Base Section, Inboard of Boom Panel Mounting will be provided on the right side of the aerial device while viewed from the turntable for storage of one (1) roof ladder(s). The bracket(s) will be located inboard of the boom panel at the base section. The bracket(s) will hold the boom panel as close to the base section as possible and include straps to secure the ladder. The mounting brackets will accommodate a 14' Duo-Safety 775-DR roof ladder as determined by the type of aerial device and the available space. 0680785 LIMITED RETRACTION Limited Retraction, Aerial The aerial device will have limited retraction. Lights, Turntable Walkway, P25, LED LIGHTS FOR TURNTABLE WALKWAY 0601972 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. **TURNTABLE CONSOLE LIGHTING** 0762396 Light, Turntable Console, Amdor AY-LB-12HW012, LED Strip Light 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, **INFORMATION CENTER** MUX, Color Display, CL714 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.

0762413

while viewing a video feed, the information center will return to the vehicle information screens. Bid #: 979 54

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

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.

General Screen Design

Where possible, background colors will be used to provide vehicle information At A Glance. 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 24hour 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

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.

Page Screens

The Information center will include the following pages:

The Aerial Main and Load Chart page will indicate the following information:

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 /

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 percent. A red bar graph will indicate oxygen levels at or below 20 percent. When oxygen levels are at or below 10 percent 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).

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 Aerial Reach and Hydraulic Systems page will indicate the following information:

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:

Aerial Device Extension length

Aerial Device Height indicating the height of the aerial device tip from the ground.

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

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

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 it's 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.

Bid #: 979 56

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

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"

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.

AÚXILIARY 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

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.

0729051 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.

0809974	Door, Stabilizer Control Box, MUX Aerials	STABILIZER CONTROL BOX DOOR A vertically hinged smooth aluminum door will be provided over the stabilizer control box. The door will be hinged along the outboard edge and be provided with a Southco C2 chrome raised trigger lever latch.
0615058	Stabilizer Placement, Cameras w/Command Zone Color Display, 1 Set	STABILIZER PLACEMENT There will be two (2) cameras provided and installed on the body, one (1) directly above each stabilizer. The cameras will be activated with a switch in the cab and will provide a picture to specify the fully extended stabilizer position allowing the driver the ability to position the vehicle with the proper clearance for stabilizer deployment.
0739316	Door, Stabilizer Manual Override,	DOOR FOR STABILIZER MANUAL OVERRIDE CONTROLS

0793039 Hydraulic System, Ascendant

Latch Feature

Tandem Axle

HYDRAULIC SYSTEM

C2 chrome raised trigger lever latch.

All hose assemblies will be assembled and crimped by the hose manufacturers certified technician.

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.

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.

The rear access door for the stabilizer manual override controls will be furnished with a Southco

All hydraulic fittings and tubing will be plated to minimize corrosion.

The fitting will use an O-ring seal where possible to minimize hydraulic leaks.

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 standard.

The system will meet the performance requirement of the current NFPA standard, which requires adequate cooling less than 2.5 hours of operations.

All hydraulic components that are non-sealing whose failure could result in the movement of the aerial will comply with current NFPA standards and have burst strength of 4:1.

Dynamic sealing components whose failure could cause aerial movement will have a margin of 2:1 on maximum operating pressure per the current NFPA standard.

All hydraulic hoses, tubes, and connections will have a minimum burst strength of 4:1 per the current NFPA standard.

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.

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.

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.

Each aerial will include an oil sample port, identified with a yellow dust cap and a label, for subsequent customer testing.

Ball valves will be provided in the hydraulic suction lines to permit component servicing without draining the oil reservoir.

The aerial will incorporate the use of trombone steel tubes inside the stabilizer beams to eliminate hydraulic hose wear and leaks.

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.

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.

HYDRAULIC CYLINDERS

All cylinders used on the aerial device will be produced by a manufacturer that specializes in the manufacture of hydraulic cylinders.

Each cylinder will include integral safety holding cartridges.

Each cylinder will be designed to a minimum safety factor of 4:1 to failure.

All safety holding cartridges will be installed at the cylinder manufacturer, in a controlled clean environment to avoid possible contamination and or failure.

POWER TAKEOFF/HYDRAULIC PUMP

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.

Am amber indicator light will be installed on the cab instrument panel to notify the operator that the power takeoff is engaged.

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.

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.

EMERGENCY PUMP

The hydraulic system will be designed with an auxiliary power unit meeting the guidelines of the current NFPA standard.

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

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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.

AERIAL CONTROL VALVE

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 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 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.

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

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

0808299 SP Lights, Tip, Wln MP** LED, ASL 4lt **TIP LIGHT**

There will be four (4) Whelen® Model MPB*, 5,695 lumens 12 volt DC LED lights installed on the fly section of the aerial device below the handrail height.

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

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

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

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

The painted parts of this light assembly to be white.

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

The lights will be controlled with the tracking lights.

Lights, Tracking, Wln MP** LED, 2lts TRACKING LIGHTS 0802753

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.

0540746	Lights, Stabilizer Warn (2) Sets, Wln 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.
0601974	Lights, Stabilizer Scene, (2) sets, Truck-Lite 44042C, LED	STABILIZER SCENE LIGHTS There will be one (1) Truck-Lite, Model 44042C 4.00" LED, scene light installed under each stabilizer beam to illuminate the surrounding area. A total of four (4) lights will be installed. These 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.
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 5.25" 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 attachmentwill 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.
0530828	Turntable Access, Chains	AERIAL TURNTABLE CHAIN A chain will be installed at the aerial turntable.

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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 AERIAL MONITOR Electric w/Extended Vertical Travel

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 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.

0014719 SP Inlet, 5.00" at Rear, High on Left Side, w/o Pump, Outside Torque Box,PAL

REAR INLET

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

WATERWAY LOCKING SYSTEM

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.

The monitor location will be changeable by the use of a single handle, located at the side of the ladder.

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.

There will be no pins to remove and reinstall.

The monitor will be operational at all times, regardless of its position, without connecting or disconnecting electrical lines.

0047897 Tools, Aerial

TOOLS

The following tools will be provided for retorquing of all specified bolts as recommended by the manufacturer:

Torque Wrench

All Required Extensions, Sockets and Adapters

4-to-1 Multiplier

0668583	Manuals and Training, 4 Consecutive Days, Ascendant Ladder, PAL	MANUALS 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. INITIAL INSTRUCTION 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.
0007150	Bag of Nuts and Bolts	LOOSE EQUIPMENT The following equipment will be furnished with the completed unit: One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.
0816498	NFPA Required Loose Equipment, Aerial, NFPA/ULC 2024, Provided by Fire Dept	NFPA LOOSE EQUIPMENT NFPA Required Loose Equipment Provided by Fire Department The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department: One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 107, American National Standard for High-Visibility Safety Apparel and Accessories, 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 Should be Considered The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered: Two (2) 3 ft - 4 ft plaster hooks with D handles mounted in brackets fastened to the apparatus Two (2) claw tools Two (2) 12 lb (5 kg) sledgehammers Four (4) SCBA apparatus 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 × 18 ft (3.6 m × 5.5 m) Four (4) combination spanner wrenches Two (2) combination spanner wrenches Two (2) combination spanner wrenches Two (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) pair of tot only illustry pope shaving a breaking strength of at least 5000 lb (2300 kg) One (1) box of tools to include the following: one (1) heaving pliers assorted types and sizes of screwdrivers a
0519913	Not Required, Soft Suction Hose	SOFT SUCTION HOSE There will be no soft suction hose provided.
0816939	Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816937	Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0007482	Not Required, Crowbars	
0007484	Not Required, Claw Tools	

0816998	Axe, Flathead, Provided by Fire Department

0817000

0741569

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

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 / Environmental Requirements, Appleton

PAINT PROCESS

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

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

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

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

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

<u>Sealer Primer</u> - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated. Base<u>coat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment.

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

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

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

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.

Environmental Impact

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

Topcoats and primers will be chrome and lead free.

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

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

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

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

Paint wastes are disposed of in an environmentally safe manner.

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

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

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

0709846 **CAB TWO-TONE PAINT** Paint, Two-Tone Color, Velocity/Impel The cab will be painted two-tone, with the upper section painted #20 blue white and the lower section painted #356 Red. There will be a special two-tone cab paint break at the roof line provided. There will be no cab shield provided. 0709845 Paint, Single Color, Body **BODY PAINT** The body will be painted to match the lower section of the cab. Paint Chassis Frame Assy, With 0646901 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, Liner, E-Coat, Standard air brake lines, electrical wire harnesses, etc. Components that are included with the chassis frame assembly that will be painted (unless otherwise stated in a secondary option) are: Frame rails Frame liners Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Steel fuel tank Castings Individual piece parts used in chassis and body assembly Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Two (2) frame liners The E-coat process will meet the technical properties shown. 0693797 No Paint Required, Aluminum Front Wheels 0806169 Paint, Rear Wheels, Tandem Axle, **REAR WHEELS PAINT TAK-4 T3** All wheel surfaces, inside and outside, will be provided with paint red #356. 0733739 Paint, Axle Hubs **AXLE HUB PAINT** All axle hubs will be painted to match lower job color.

0007230

Compartment, Painted, Spatter Gray **COMPARTMENT INTERIOR PAINT**

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

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 ladder sections and extension cylinders: blue white 20 Aerial egress: red 356 (will be contrasting color to the aerial device ladder) Aerial turntable: blue white 20 Aerial turntable: blue white 20 Aerial boom support: gloss black primer
0544124	Reflective Band, 1"-4"-1"	REFLECTIVE STRIPES Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 4.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.
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.
0598714	Stripe, Reflective/Diamond Grade, Chevron Stripes, Four (4) Stabilizers	REFLECTIVE STRIPE ON STABILIZERS There will be 6.00" wide alternating fluorescent yellow green diamond grade and red diamond grade reflective chevron stripes provided on the forward and rear facing sides of all four (4) aerial stabilizers. The stripes will be angled at a 45 degree angle.
0027341	Jog, In Reflective Stripe, Single or Multiple	JOG(S) IN REFLECTIVE BAND The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.
0087349	Stripe, Reflective, 4" Inside Compt Door	REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR A 4.00"white reflective stripe will be provided inside two (2) compartment doors. inside each EMS cabinet.
0065687	Stripe, Reflective, Cab Doors Interior	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" black reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel. This stripe will meet the current edition of applicable NFPA standards.
0027285	Stripe, Gold Leaf, Side of Cab, Low and Over Fender	CAB STRIPE There will be a genuine gold leaf stripe on each side of the cab, low and over the fender.
0027372	Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.

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0686428		Lettering, Gold Leaf, 3.00", (41-60)	LETTERING Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.
0680416		Stripe, Gold Leaf, Side of Body, Over Fender Only, Tandem Axle	BODY STRIPE There will be a genuine gold leaf stripe provided on each side of the body, over the fenders.
0684058		Lettering, Vinyl, 2.00", (41-60)	LETTERING Forty-one (41) to sixty (60) non-reflective vinyl lettering, 2.00" high, with no outline or shade will be provided.
0685985		Lettering, Reflective, 12.00", Each	LETTERING There will be reflective lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.
0685991		Lettering, Reflective, 10.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 10.00" high, with outline and shade will be provided.
0685993		Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be four (4) letters provided.
0686002		Lettering, Reflective, 8.00", Each	LETTERING There will be reflective lettering, 8.00" high, with no outline or shade provided. There will be two (2) letters provided.
0686018		Lettering, Reflective, 5.00", Each	LETTERING There will be reflective lettering, 5.00" high, with outline and shade provided. There will be five (5) letters provided.
0686048		Lettering, Reflective, 1.00", Each	LETTERING There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be 15 letters provided.
0686084		Lettering, Reflective, 3.00", Each	LETTERING There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 25 letters provided.
0563768		Lettering, Reflective, "Keep Back 300 Feet"	REFLECTIVE LETTERING There will be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the R1 - NOTE THE LETTERING IS ACTUALLY TO READ "KEEP BACK 343" HOWEVER I AM TO USE THIS OPTION PER THE PIERCE RESPONSE IN THREAD NUMBER 592-EP300377-7. The lettering will be ruby red in color and 3.00" in size.
0645076		Plate, Painted Alum. for Lettering/Numerals	PAINTED PLATE(S) FOR LETTERING/NUMERALS There will be one (1) painted aluminum plate(s) provided for department lettering. They will be mounted Located at the rear on P/S at same height as the license plate. and will be Plate 6"H X 12"W painted job color red. in size.
0581425	SP	Emblem, Turntable Console, Per Quote, Sacramento	DEPT. EMBLEM There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.
0527677	SP	Emblem, Per Quote, Sacramento	DEPT. EMBLEM There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.
0000637		Emblem, Eagle Head/Flag, Color Imaged, Pair	EAGLE HEAD/FLAG EMBLEMS A pair of emblems, 13.00" or less in diameter, featuring a "Flying American Flag" and an "Eagle Head", will be installed behind crew cab door upper 5x7 Freedom Flag. The design will be color imaged.

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0022652	Emblem, Maltese Cross, Gold Leaf, 15"-17", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed on cab doors.
0755303	Artwork File, Provided on Custom USB Drive	ARTWORK ON CUSTOM USB DRIVE There will be a custom USB drive with department specific artwork files provided to the Fire Department. Stock artwork, or artwork developed exclusively by Pierce Manufacturing, and proprietary fonts will not be included on the USB drive.
0769753	Emblem, American Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN An American flag design will be painted on the cab grille.
0032773	Manuals, Two (2), Fire Apparatus Parts, & (1) CD, 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. One (1) compact disc (CD) will also be provided that will include all of the information from the above manual. The manual will contain the following: - Job number - Part numbers with full descriptions - Table of contents - Parts section sorted in functional groups reflecting a major system, component, or assembly - Parts section sorted in Alphabetical order - Instructions on how to locate parts 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. SERVICE PARTS INTERNET SITE The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.
0032421	Manuals, (2) Chassis Service, (1) CD, Custom	MANUALS, CHASSIS SERVICE Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit. One (1) compact disk (CD) will also be provided that will include all of the information from the above manual. The manuals will contain the following sections: - Job number - Table of contents - Troubleshooting - Front Axle/Suspension - Brakes - Engine - Tires - Wheels - Cab - Electrical, DC - Air Systems - Plumbing - Appendix The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.
0029551	Manuals, Two (2) Chassis Operation, & (1) Compact Disc, Custom	MANUALS, CHASSIS OPERATION Two (2) chassis operation manuals will be provided. One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.
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.
0611136	Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	ENGINE WARRANTY A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.
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.
0644874	Warranty, Axle, 3 Year, TAK-4, IRS, WA0249	REAR AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY Pierce TAK-4® independent rear suspension will be provided with a three (3) year material and workmanship limited warranty. The manufacturer's warranty will provide that the independent rear suspension be free from any defect related to material and workmanship on the portion of the apparatus built by the manufacturer that would arise under normal use and service.
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro- Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) monthwarranty will be provided for the camera system.
0647720	Warranty, Pierce LED Strip Lights, WA0203	COMPARTMENT LIGHT WARRANTY The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years. A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
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 **AERIAL SWIVEL WARRANTY** Device, WA0197 An Amity five (5) year limited swivel warranty will be provided. A copy of the warranty certificate will be included with this proposal. 0088889 Not Required, Additional Aerial Warranty 0687327 Warranty, Waterway, 10 Year, Aerial AERIAL WATERWAY WARRANTY Device, WA0198 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 FOUR (4) YEAR PRO-RATED PAINT AND CORROSION Device, Pro-Rated, WA0047 A Pierce aerial device limited pro-rated paint warranty certificate, WA0047, is included with this proposal. 0595820 Warranty, Paint, 10 Year, Body, Pro-TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal. Rate, WA0057 0595421 Warranty, Goldstar, 3 Year, THREE (3) YEAR MATERIAL AND WORKMANSHIP Apparatus, WA0018 The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is included with this proposal. VEHICLE STABILITY CERTIFICATION 0819254 Certification, Vehicle Stability, CD0196 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. **ENGINE INSTALLATION CERTIFICATION** The fire apparatus manufacturer will provide a certification, along with a letter from the engine Velocity, Cummins X15, 2027 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, POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as CD0098 installed meets the requirements of the component supplier. The certification is included with this proposal. 0892701 Certification, Cab Integrity, CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The Impel/Velocity FR, CD0190 certification will state that a specimen representing the substantial structural configuration of the 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

cab has been tested and certified by an independent third party test facility. Testing events will be 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

SEAT MOUNTING STRENGTH

Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.

0735950 Certification, Cab HVAC System Perf, PERFORMANCE CERTIFICATIONS Vel/Imp FR,

CD0166/CD0168/CD0176/CD0177

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

0545073 Amp Draw Report, NFPA Current Edition

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

Documentation of the electrical system performance tests

A written load analysis, which will include the following:

The nameplate rating of the alternator.

The alternator rating under the conditions specified per:

Current edition of applicable NFPA standards.

The minimum continuous load of each component that is specified per:

Current edition of applicable NFPA standards.

Additional loads that, when added to the minimum continuous load, determine the total connected load.

Each individual intermittent load.

All of the above listed items will be provided by the bidder per the current edition of applicable NFPA standards.

0002758 Amp Draw, NFPA/ULC Radio

Allowance

0799248 Appleton/Florida BTO

0000049 Ascendant BODY

0000012 PIERCE CHASSIS

0004713 ENGINE, OTHER

0046396 EVS 4000 Series TRANSMISSION

0020015 ABS SYSTEM

0658751 PUMPER BASE

Bid #: 979 72



Electrical Analysis

Bid #: 979 **Job #**:

Desc: SFD 107' Tandem HD Ladder Truck (DUPLICATE OF

41479)

Sales Rep: Hansen, Brad

Customer: City of Sacramento Fire Department **Organization:**

n: 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
0002617	PTO switch, w/light - aerial		0.00	0.00	0.08
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud		0.00	3.00	0.00
0199683	Cab Lift, Elec/Hyd, w/Manual Override, Unlocked Ind Light,		0.00	180.00	0.00
0583938	Lights, Engine Compt, Custom, Auto Sw, Wln 3SC0CDCR, 3"		0.00	0.60	0.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0591874	Mirrors, Velvac, 2025, Heated/Remote, w/Heated/Remote convex,		0.00	0.00	8.00
0626449	Light, Wln, 12V NP6B* Nano Pioneer Series LED, Bail Mount 2nd		0.00	0.00	1.50
0626453	Light, Wln, 12V NP6B* Nano Pioneer Series LED, Bail Mount 1st		0.00	0.00	1.50
0667902	Controls, Electric Windows, All Cab Doors, Impel/Velocity FR		0.00	26.00	0.00
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine		0.00	0.42	0.00
0743902	Lights, Side, Wln M6** LED, Trm Fet 2nd		0.00	2.70	1.80
0745871	Lights, Side, Wln WIONSM** LED, Trim Fet, 1st		0.00	0.00	2.00
0748793	Lights, Wln, S44M** 44" 12VDC, RS Body		0.00	0.00	10.80
0748795	Lights, Wln, S44M** 44" 12VDC, LS Body		0.00	0.00	10.80
0771345	Camera, Pierce, LS Mux, RS, R Cameras, Loc		0.00	1.20	0.00
0774457	Handlight, Streamlight, Vulcan 180, 44315, 12v, Orange		0.00	0.00	0.40
0792976	Stabilizers, Ascendant Tandem, Rear Mount Steel, 16' Spread,		0.00	4.00	0.00
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
0819994	Radio, Jensen, AM/FM/WB, Bluetooth		0.00	0.00	2.00
0821298	Wiring, Spare, 12V DC, USB-A, USB-C AlfredDireck Batt Dir 1st		0.00	0.00	15.00
0821302	Wiring, Spare, 12V DC, USB-A & C, Kussmaul 091-264 Cab Batt		0.00	0.00	12.00
0821337	ABS Wabco Brake System, Tandem Rear Axle, Tak-4, NFPA		0.00	6.00	0.00
0821498	Wiring, Spare, 5 A 12V DC 1st Batt Dir NFPA1900/ULC		0.00	0.00	20.00
0821564	Wiring, Spare, 50 A 12V DC 1st NFPA1900/ULC		0.00	0.00	50.00
0889070	Intercom, David Clark, 5-Pos, 2-Dual Radio, (D,O, 2RPTT.1st R),		0.00	0.00	0.50
0889662	Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 2nd		0.00	0.00	3.66
0889664	Lights, Win, S16*M* 16.37" 12VDC, Brkt Fet 1st		0.00	0.00	3.66
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0898549	Cab Air Filtration, TFT CrewProtect 100, 12v DC, Loc, CARE		0.00	0.00	1.50
0527622	Compt w/No Pump, 60" Wide w/Rollup Door, Special Hgt	Load Managed	0.00	0.00	3.60
0605741	Lightbars, Wln, Freedom IV, 2-21.5", RRRR RRRR	Load Managed	0.00	0.00	14.56
0672937	Lights, Side, Win WIONSMC* LED, Chrome Flange, Mounted In	Load Managed	0.00	0.00	6.00
0741239	HVAC, Heavy-Duty, Impel/Velocity FR, CARE	Load Managed	0.00	0.00	136.00
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
0002750	Flow Meter, Waterway, PAL, 110' Ascendant, MUX	NFPA	0.50	0.00	0.00
0063703	Compt, LS Turntable, F/H F/D, Roll Drs, Ascendant Tandem, 105	NFPA	1.80	0.00	1.80
0063705	Compt, RS F/H F/D, Roll Drs, w/o Chute, Ascendant Tandem,	NFPA	2.70	0.00	2.70
0063733	Compt, RS Turntable, F/H F/D, Roll Drs, Ascendant Tandem, 105	NFPA	1.80	0.00	1.80
0068703	Lights, Grote Supernova LED, Stabilizer Beam, (1) Set	NFPA	1.60	0.00	0.00
0008703	Ladder Rack Banding, Moved Forward 10.00", Torque Box	NFPA	1.40	0.00	0.00
0078430	Light, Rear Zone Up, Win L31HRFN LED Beacon, Red LED	NFPA	3.20	4.80	0.00
0080745	Lights, Clearance/Marker/ID, Rear, Truck-Lite 35200R LED 7Lts	NFPA	0.50	0.00	0.00
0090155	Lights, Clearance/Marker/ID, Rear, Truck-Lite 35200R LED / Lts Load Manager/Sequencer, MUX	NFPA NFPA	0.56	0.56	0.00
0512558	Platform, Slide Out, 500 lb Capacity, Alum 4-Way, Full Width	NFPA	3.00	0.00	0.00
0012000	i lationin, Silue Out, 300 ib Capacity, Alum 4-vvay, Full vvidth	INFFA	3.00	0.00	0.00

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



Electrical Analysis

Job #: Bid#:

Desc: SFD 107' Tandem HD Ladder Truck (DUPLICATE OF

City of Sacramento Fire Department

41479)

Customer:

Sales Rep: Hansen, Brad

Golden State Fire Apparatus, Inc

Organization:

Option: Pierce Command Zone, Advanced Electronics & Control Type: Multiplexed

System, Vel WiFi CZT

0 "	System, Vei WIFI CZ1	- +		1 4 14 4	
Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0533071	Siren, Wln 295SLSC1, 100 or 200 Watt, w/Plug-in/Detachable	NFPA	0.80	7.20	0.00
0540439	Light, Front Zone, Wln M6* LED, Colored Lens 2Lts	NFPA	1.80	2.70	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	Load Managed	2.10	8.40	0.00
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light	NFPA	1.80	2.70	0.00
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity	NFPA	1.26	0.00	0.00
0587034	Air Dryer, Bendix, AD-IP w/Heat, 2010	NFPA	4.70	0.00	0.00
0601972	Lights, Turntable Walkway, P25, LED	NFPA	0.35	0.00	0.00
0601974	Lights, Stabilizer Scene, (2) sets, Truck-Lite 44042C, LED	NFPA	2.00	0.00	0.00
0613546	Headlights, Round LED, JW Speaker, 8630 Evolution,	NFPA	4.00	4.00	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
0648425	Light, Directional, Wln 600 Cmb, Cab Crn, Wrp Bzl Out HD Lts,	NFPA	0.70	0.70	0.00
0651334	Cab, Velocity FR, 7000	NFPA	6.80	10.20	0.00
0653937	Flasher, Headlight Alternating	NFPA	0.08	0.00	0.00
0668061	Light, Do Not Move Apparatus, Wln VTX609R Red LED	NFPA	0.30	0.45	0.00
0709438	Lights, Walk Surf, FRP Flood, LED	NFPA	2.00	0.00	0.00
0721094	Lights, Hose Bed, Not Required, No Hose Bed/Cargo Area	NFPA	1.36	0.00	0.00
0731813	Hour Meter, Aerial, Included in Information Centers, ASL, AAT,	NFPA	0.10	0.00	0.00
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor	NFPA	0.49	0.00	0.00
0737181	Intercom, 2-Way Fire Research ICA910 Hands Free	NFPA	0.50	0.00	0.00
0749399	Light, Visor Mt, Wln S72M**, 72" Cnt Feature	NFPA	0.32	0.00	18.68
0755095	Aerial, 107' ASL Tandem, 750/500 Tip, 50 MPH	NFPA	5.00	0.00	0.00
0762396	Light, Turntable Console, Amdor AY-LB-12HW012, LED Strip	NFPA	0.20	0.00	0.00
0762413	Light, Boom Support, Amdor AY-LB-12HW012, 12" LED	NFPA	0.18	0.00	0.00
0762435	Light, Traffic Directing, Wln TAL85, 46.87" Long LED, Lens	NFPA	2.52	2.52	0.00
0764199	Cabinet, Rear Facing, LS, 25 W x 34 H x 24 D, Ext Acc Only, Sp	NFPA	0.34	0.34	0.00
0764563	DEF Tank, 8.0 Gallon, LS Fill, Forward of Rear Axle	NFPA	0.60	11.40	0.00
0765941	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts,	NFPA	0.36	0.00	0.00
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	NFPA	1.20	0.00	0.00
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door	NFPA	0.80	0.00	0.00
0779787	Lights, Side Zone Lower, Wln M6**, WIONSMC* LED, 2pr	NFPA	2.60	3.90	0.00
0791893	Lightbar, Wln, Freedom IV-Q, 2-21.5", RRRRR RRsrRR	NFPA	5.24	0.00	9.76
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	NFPA	2.00	2.00	0.00
0802753	Lights, Tracking, Wln MP** LED, 2lts	NFPA	8.00	0.00	0.00
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0808299	Lights, Tip, Wln MP** LED, ASL 4lt	NFPA	13.12	0.00	0.00
0808495	Engine, Cummins X15, 525 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
0819124	Cabinet, Rear Facing, RS, 25 W x 34 H x 21.5 D, Ext Acc Only,	NFPA	0.34	0.34	0.00
0824961	Wiring, Spare, 60A 12V DC Sacramento Fire Department, 6 Ga.	NFPA	60.00	0.00	0.00
0827069	Lights, Rear Scene, Wln, MPB* Micro Pioneer LED, 2Lts	NFPA	6.56	0.00	0.00
0832344	Lights, Torque Box Ladder Storage, Amdor AY-9250-024, Red 2	NFPA	1.00	0.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0891800	Compt, LS F/H F/D, Roll Drs, Ascend TA, 105', 100 HAL, No	NFPA	2.70	0.00	2.70
0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	NFPA	1.00	0.00	0.00

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



Electrical Analysis

5/7/2025

Bid #: 979

Job#:

Desc:

SFD 107' Tandem HD Ladder Truck (DUPLICATE OF

Sales Rep:

Hansen, Brad

41479)

Customer: City of S

City of Sacramento Fire Department

Organization:

Golden State Fire Apparatus, Inc

Option:

Pierce Command Zone, Advanced Electronics & Control

Type:

Multiplexed

System, Vel WiFi CZT

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
			Loud	Loud	- Commodica
0892656	Lights, Step (6), P25 LED, Each Side	NFPA	0.30	0.00	0.00
0893962	Cabinet, Rear Facing, Top Eng Tnl, 44 W x 16 H x 14 D,	NFPA	0.20	0.20	0.00
0898680	Compt, Saddle, Transverse C/C, Dbl Pan, 70/90" Vel/Imp	NFPA	0.28	0.28	0.00
0647728	Alternator, 430 amp, Delco Remy 55SI	S	0.00	0.00	0.00
		Load Totals:	185.90	401.10	343.70

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

Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference

only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901)

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

Alternator Output at Idle: 253.00

Minimum Continuous Load	
Supply:	253.00
Demand:	185.90
Variance:	67.10

Alternator Output at Governed Speed: 370.00

Total Connected Load	
Supply:	370.00
Demand:	369.44
Variance:	0.56

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



Turning Performance Analysis

Bid Number: 979 Chassis: Velocity Chassis, Aerials, Tandem Axle, Ascendant/LSL, (Big

Block), 2010

Department: City of Sacramento Fire Department **Body:** Aerial, HD Ladder 107' ASL Tandem, No Pump, Alum Body

Additional Bumper Depth

Axle Track
Wheel Offset
Cramp Angle
Tread Width

Wheelbase

Curb to Curb huming Radius
Inside Turning Radius

Parameters:

*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	15.9 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	0777891	Axle, Front, Oshkosh TAK-4, Non Drive, 20,050 lb, Imp/Vel
Tires, Front	0802633	Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot

Notes:

Curb to Curb turning radius calculated for 9.00 inch curb.

^{*}Actual Inside cramp angle may be less than shown.

Definitions:

Inside CrampAngle Maximum turning angle of the front inside fire.

Axle Track King-pin to King-pin distance of front axle.

Wheel Offset Offset from the center line of the wheel to the King-pin.

Tread Width Width of the tire tread.

Chassis Overhang Distance of the center line of the front axle to the front edge of the cab. This does not include

the bumper depth.

Additional Bumper Wheel Depth that the bumper assembly adds to the front overhang.

Wheelbase Distance between the center lines of the vehicles front and rear axles.

Inside Turning Radius Radius of the smallest circle around which the vehicle can turn.

Curb to Curb Turning Radius Radius of the smallest circle around which the vehicle's tires can turn. This measures

assumes a curb height of 9 inches.

Wall to Wall Turning Radius Radius of the smallest circle around which the vehicle's tires can turn. This measures takes

into account any front overhang due to chassis, bumper extensions and or aerial devices.



PKUDUGI WARRANTIES



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:

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

2/8/2010 WA0008



Pierce Fire and Rescue Apparatus

Three (3) Year Material and Workmanship **Velocity and Impel Custom Chassis**

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:	Three (3) Years, or 30,000 Miles, or 5000 Engine Hours
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the drain pan pump and thermostat), under seat heaters coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Standen spring suspension components, and the gauge instrument cluster.

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

(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

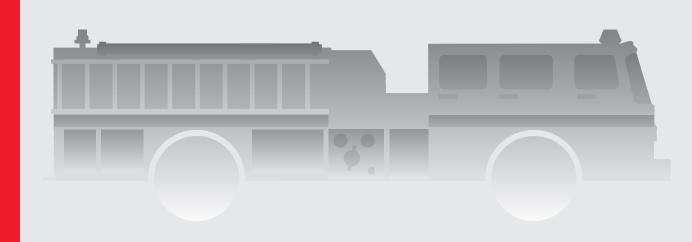
Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any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

7/2/2015 **WA0284**



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.



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

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

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

SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT. Pierce expressly acknowledges its obligation to

inform all users (customers) of the above disclaimer.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Signed at Pierce Manufacturing Inc., Appleton, WI this _	day of	, 2006.
R. H. SHEPPARD CO., INC.	PIERCE MANUFA	CTURING 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:

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

2/16/2010 WA0038



Pierce 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:

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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

(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 CONSECUENTIAL, 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.

12/16/2013 WA0050



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

Limited Warranty

1. LIMITED WARRANTY

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

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Coverage:	The TAK-4 Rear 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 shoes, brake drums, ball joint 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

(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.

12/16/2013 WA0249



Pierce • Fire and Rescue Apparatus

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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

2/25/2013 WA0232

WARRANTY

MODEL YEAR 2021 VEHICLES



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

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

How to Read Warranty Coverage (Example)		
Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	Р

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

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

• High mileage operation (over 60,000 miles/year)

• Well maintained major highways of concrete or

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach

asphalt construction

LINEHAUL TYPICALLY IS

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

GENERAL SERVICE TYPICALLY IS

• Moderate mileage operations (less than 60,000 miles/year)

WARCO Components (cont)

- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WADOO O	
WABCO Components ¹	
Air Management	
Air Brake Valves	
Trailer Lift Axle Control Valve	1/100/P&L
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow® TrailerSkirt	2/UnU/P
OptiFlow® Trailer Tail and AutoTail	2/Unl/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	3/300/P&L
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	4 (400 /50)
OptiRide® Automated Manual Transmission (AMT)	1/100/P&L
OptiRide® Electronically Controlled Air Suspension (ECAS)	3/300/P&L

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

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

HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

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

- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

HEAVY SERVICE TYPICALLY IS

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



WABCO Components ¹	
Air Management	
Air Brake Valves	
Air Compressors (ALL)2	
Air Dryers (ALL)	1/100/P&L
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	3/300/P&L
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide® Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE®	
OnLane [®]	
OnLaneALERT®	3/300/P&L
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	0/000/17
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.

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

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

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



WABCO Components ¹		
Air Management		
Air Brake Valves		
Air Compressors (ALL)2	2/Unl/P	
Air Dryers (ALL)		
Brake Actuation		
Air/Hydraulic Actuators		
Master Cylinders		
Remote Actuators	2/Unl/P	
Slave and Wheel Cylinders		
Two Fluid Actuators		
Brake Locks		
Brake Locks (ALL)		
Electric Brake Locks	2/Unl/P	
Lever Locks		
Braking Systems		
ABS (Anti-Lock Braking System) Air	1/100/D01	
ABS (Anti-Lock Braking System) Hydraulic	1/100/P&L	
Driveline Suspension Control		
Clutch Controls	1/100/D01	
Leveling Valves	1/100/P&L	
Electrohydraulics & Controls		
Electronic Pedals		
Electrohydraulic Brake Valves (EBV)	2/Unl/P	
Pressure Switches		
Hydraulic Braking Solutions		
Accumulator Charging Valves		
Hydraulic Throttle Controls and Switches	2/Unl/P	
Modulating Brake Valves		
Wheel End Solutions		
EasyFit™ Slack Adjuster	2/200/P	
Caliper Disc Brakes	2/Unl/P	
MAXXUS™ Air Disc Brake	1/Unl/P&L	
Multiple Disc Brakes	2/Unl/P	
IVTM - Wheel Module	6/P	
IVTM - All Other Products	2/P	
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L	
TRISTOP™ D Actuator w/ IBV	3/Unl/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 PLUSTM. Additional labor due to use of an outdated version of TOOLBOXTM software and/or the time to purchase or install the latest version of TOOLBOX PLUSTM 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 TOOLBOXTM, time to purchase or install latest version of TOOLBOXTM are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

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

- the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.
- (3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.
- (4) What is not Covered by this Warranty? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, installation, adjustment, repair or modification including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.
- (5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.
- (6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at 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





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:

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

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.



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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILLURE 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.



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:

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



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:

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 occuring during the warranty period.	
Warranty Begins:	The date of delivery.	
Warranty Period Ends After:	Fifty - Four (54) months	
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.	

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILLURE 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.

1/11/2011 WA0188



Ten (10) Year Material and Workmanship Pierce 12V LED Strip Light

Limited Warranty

1. LIMITED WARRANTY

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

the following warranty to the Buyer:		
Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Pierce 12V LED strip lights installed on the apparatus occuring during the warranty period.	
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).	
Warranty Period Ends After:	Ten (10) Year	
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.	

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, 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.

7/5/2011 WA0203

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

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.

OUESTIONS

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

Allison Transmission, Inc. P.O. Box 894 Indianapolis, IN 46206-0894

Attention: Warranty Administration PF-9

Form SE0616EN (201009)



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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

(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 maieure 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) anv 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

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

2/22/2012 WA0216



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:

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: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.	

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.



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

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

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

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

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

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

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

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

Limited Wet Paint Match Adhesion Warranty

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

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

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

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

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



Pierce 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:

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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

(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.

10/23/2013 WA0052



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.

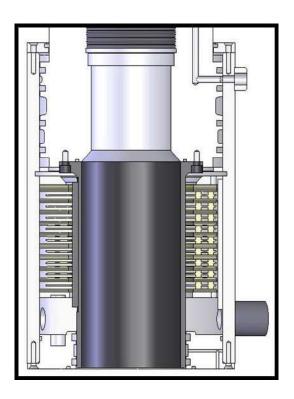
- 8. All warranty claims must be presented at the time the problem occurs, or as soon as practical thereafter, either called or faxed to the Amity and include the numbers on the assembly's Amity's label with a detailed explanation of the difficulty in order for the matter to be appropriately evaluated 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___







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.

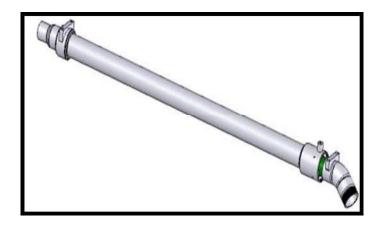
- 1. Products are warranted to be free of defects in labor and/or materials for a period of ten years from the date of purchase from the Amity and shall be repaired or replaced at the sole option and expense of the Amity provided the products alleged to be defective was used for its intended normal use 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.

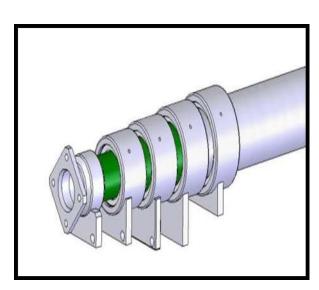
THE REMEDIES PROVIDED IN THE ABOVE EXPRESS LIMITED WARRANTY AND ARE THE SOLE AND EXCLUSIVE REMEDIES AVAILABLE. NO OTHER EXPRESS WARRANTIES ARE MADE. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR

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___







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: See Also Paragraphs 2 thru 4	This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any: Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-24 months 100% 25-48 months 50% Integrity of Coating System: Adhesion, Blistering/Bubbling 0-24 months 100% 25-48 months 50% Corrosion: Dissimilar Metal and Crevice 0-24 months 100% 25-48 months 50% Corrosion Perforation 0-24 months 100% 25-48 months 50% This limited warranty applies only to exterior paint. 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.

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.



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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



Three (3) Year Material and Workmanship Goldstar® Gold Leaf Lamination

Limited Warranty

1. LIMITED WARRANTY

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

the following warrant	the following warranty to the buyer.		
Coverage:	Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.		
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).		
Warranty Period Ends After:	Three (3) Years		
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).		

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

2/22/2010 WA0018



DEALER SUPPLIED PRODUCTS MR SERVICES

Exhibit "D"

PROPOSAL INTRDUCTION

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

We sincerely appreciate the opportunity to present this comprehensive proposal for a <u>PIERCE MANUFACTURING INC. 107' VELOCITY ASCENDANT LADDER TRUCK</u>. Your consideration of this proposal is greatly valued, and we are eager for the opportunity to support your department with the highest level of excellence and professionalism.

DEALER-SUPPLIED PRODUCTS AND SERVICES

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

AUTHORIZED MANUFACTURER

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

AUTHORIZED DEALERSHIP

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

AUTHORIZED SALES REPRESENTATIVE

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

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

VEHICLE REGISTRATION

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

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

WEEKLY PROGRESS PHOTOGRAPHS

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

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

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

FIRE FIGHTING EQUIPMENT MOUNTING FUND

A Fire Fighting Equipment Mounting Fund amounting to \$28,000 per unit is incorporated into the quotation and is specifically designated to cover the expenses associated with mounting of said equipment, adhering to the directives of the Customer.

In the event that the mounting costs surpass the stipulated allowance, any additional work required can be undertaken at the prevailing shop rate. Any unused portion of the Fire Fighting Equipment Mounting Fund will be credited back on the final invoice. Alternatively, if not credited, the remaining funds will be promptly returned to the Customer in the form of a check

following the completion of the final invoicing process. This approach guarantees financial transparency and effective management throughout the project.

FINAL INSPECTION, FACTORY VISIT

A final inspection trip to the manufacturing facility is included for <u>six (6)</u> Customer representatives. The primary objective of this visit is to ensure the adherence of the apparatus to specifications and promptly identify any potential deficiencies. The final inspection trip is anticipated to span three (3) days and two (2) nights, with scheduling details collaboratively determined between GSFA and the Customer.

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

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

DELIVERY TO AUTHORIZED SERVICE FACILITY

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

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

PRE-DELIVERY SERVICE

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

1. Engine Compartment and Undercarriage:

- Inspect for broken mounting brackets.
- Inspect and identify locations of any fluid leaks.
- General inspection of hoses, wiring, and linkage, focusing on potential wear points.
- Verify correct fluid capacities for engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear-end fluid, pump transmission oil, and primer oil if applicable.
- Re-torque U-bolts to OEM specifications if equipped with leaf spring suspension (Pierce Custom chassis only).

2. Interior:

- Confirm proper operation of doors, windows, and locks, ensuring accurate adjustment.
- Confirm proper operation of seatbelt alarms.
- Confirm proper operation of all compartment door alarms, as well as hose bed cover, ladder rack, light tower, and deck gun alarms.
- Ensure functionality of auxiliary power points, interior lighting, mirror, and seat controls, and if applicable headsets and radios.
- Inspect upholstery for quality and condition.

3. Exterior:

- Address reasonable paint scratches or chips.
- Tighten any loose hardware.
- Inspect tires and wheels, ensure proper pressure.
- Check compartment doors for proper operation and latch fit.
- Lubricate compartment door locks if applicable.

4. Road Test:

- Conduct a road test with a full water tank (if applicable), covering approximately twenty miles on both city and highway roads.
- Perform a DOT compliant brake test to verify the system is holding air.
- Inspect brake condition, wheel seals, and ensure drive train components reach optimal operating temperatures.
- Conduct an Allison Transmission self-diagnostic to verify fluid level, fluid and filter life, and check for fault codes.

5. Electrical:

• Verify the operation of all lights, sirens, and other electrical accessories.

6. Pump:

- Operate the Pressure Governor or Relief Valve, transfer valve, and check pump shift.
- Inspect water tank, pump and plumbing for leaks and calibrate the water level gauge.
- Ensure smooth operation of all discharge, suction, and drain valves.

7. Pierce Husky™ Foam System:

• If applicable, draft and inject clean water to ensure proper operation of the foam pump.

8. Fuel and DEF Tanks:

Fill the fuel tank and DEF tank prior to final delivery.

9. Wash:

• Thoroughly wash the apparatus prior to final delivery.

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

FINAL DELIVERY (CUSTOMER LOCATION)

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

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

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

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

COMPREHENSIVE SALES AND SERVICE SUPPORT

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

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

Golden State Emergency Vehicle Service (GSEVS)

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

Sacramento Facility

Our Sacramento location features a 33,814-square-foot facility with 18 working bays and a 4,500-square-foot, two-story parts distribution department. Conveniently located near Highway 99 with easy access to Interstates 80 and 50, we are positioned to serve you efficiently.

Tracy Facility (Opening Fall 2025)

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

<u>Certified and Experienced Technicians</u>

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

Parts

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

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

Mobile Service

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

Pre-Delivery Inspection (PDI) Process

We employ a dedicated team of Pre-Delivery Inspection (PDI) technicians solely focused on ensuring your apparatus arrives in peak condition. Before your new custom unit is delivered, it undergoes a

thorough, multi-point inspection to verify quality, performance, and compliance with all specifications. Our team handles every detail of the acceptance and delivery process—so you can take ownership with complete confidence and peace of mind.

Your Single Source for Sales and Service

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

END OF EXHIBIT "D"



PREPARED ESPECIALLY FOR:

CITY OF SACRAMENTO

One (1) Pierce Manufacturing, Inc. Enforcer 1500 GPM Type 1 Fire Engine







PRODUCT PROPOSAL





PRODUCT PROPOSAL FOR:

City of Sacramento

5770 Freeport Blvd, Suite 2 Sacramento, CA 95822

Sales Consultant

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

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
05/16/2025	06/30/2025	10516-25A	978	Pierce Manufacturing Inc.	Sourcewell #113021- OKC, ID #259, Member #18730

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

ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing Inc. Enforcer 1500 GPM Type 1 Fire Engine	1,174,200.00
В	Fire Fighting Equipment Mounting Allowance	20,000.00
C	Discount for Sourcewell contract #113021-OKC, ID #259	(50,213.00)
D	Discount for 100% Payment at Time of Order (the "Prepayment Discount")	(179,017.00)
E	SUBTOTAL	964,970.00
F	8.75% State Sales Tax	84,434.88
G	California Tire Fee	10.50
Н	100% Performance Bond	2,939.00
I	GRAND TOTAL PURCHASE PRICE	1,052,354.38

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

<u>MANUFACTURER</u> – 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

ACCEPTED AND AGREED TO BY GSFA



ACCEPTED AND AGREED TO BY CUSTOMER



Manufacturer's acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

<u>PRODUCT COMPLETION</u> – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately <u>49.5 to 52.5 MONTHS</u> after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

<u>PREDELIVERY SERVICE</u> – 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 <u>1.5 to 2.5 MONTH(S)</u> 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.

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

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

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

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

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal <u>dated 05/16/2025</u>, <u>GSFA Proposal Number 10516-25A</u> to be executed by their duly authorized representatives effective as of the Executed Date.

Signature of Authorized Customer Representative	Signature of Authorized GSFA Representative
Print Name	Print Name
Title	Title





Date	Date



2 STANDARD TERMS AND CONDITIONS

Exhibit "A"

STANDARD TERMS AND CONDITIONS

1. Definitions.

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

2. Purchase and Payment.

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

- c. <u>Prepayment Discount</u>. If GSFA has granted Customer a Prepayment Discount, Customer must provide each associated prepayment (each, a "**Prepayment**") within the time frame specified in the Product Proposal in order to receive such discount. Customer's failure to timely make such Prepayment may result in: (i) GSFA's termination of the Agreement; and/or (ii) Customer's loss of the Prepayment Discount for the portion of the Grand Total Purchase Price represented by such outstanding Prepayment and the application of a late fee as set forth in Section 6, in each case in GSFA's sole discretion.
- d. <u>State Sales Tax</u>. Customer shall be responsible for the cost of state sales tax associated with, or attributable to, the Product. The taxes stated in the Product Proposal are subject to adjustment for the applicable state sales tax rate in effect at the time of delivery. Therefore, the sales tax set forth on the Product Proposal is only an estimate of such taxes and will be increased or decreased at the time of delivery if a change in the applicable sales tax rate has occurred, in which case Customer shall pay GSFA (or be refunded by GSFA) the difference in the applicable sales tax.
- 3. <u>Product Completion Date</u>. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the "**Executed Date**"), GSFA shall submit to Customer a tentative Product completion date (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available.
- 4. 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. <u>Multiple Unit Purchase</u>. If the Grand Total Purchase Price includes pricing for multiple Products, the Product price stated in the Product Proposal shall only be valid if the quantity of Products being proposed are purchased at the same time, pursuant to the same Agreement. GSFA shall have no obligation to offer the same price for any Product if purchased by Customer pursuant to a later purchase agreement.
- 6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or (ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer's possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. <u>Delivery</u>; <u>Inspection and Acceptance</u>.

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

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

8. Changes to Agreement Terms.

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

b. Additional Changes.

i. <u>Component Price Volatility</u>. GSFA shall not be responsible for 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) 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) 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.

- ii. <u>New Legal Standards</u>. In the event the Product design, materials or specifications require an alteration arising from new regulations issued by any governmental entity or trade association, including, but not limited to, the NFPA, DOT, and EPA, and such alteration increases the cost of the Product to GSFA, Customer shall be responsible for changes to the Grand Total Purchase Price arising from such alteration. GSFA shall promptly notify Customer when it becomes aware of any potential or required change in regulations occurring prior to delivery that would impact the Product purchased.
- iii. <u>Change Orders</u>. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by <u>Sections 8.b.i and 8.b.ii</u> above (which shall, to the extent practicable, itemize any increases in the Grant Total Purchase Price and specify a commercially reasonable date by which Customer must pay such increase), unless Customer instead elects to terminate the applicable Product order under the Agreement within fifteen (15) calendar days of Customer's receipt of such Change Order and in accordance with <u>Section 9</u>. Absent such a termination, failure to execute a Change Order does not alter Customer's obligations under this <u>Section 8.b</u>.
- c. <u>Changes in Commercial Specifications</u>. Specifications for all components of the Product manufactured by companies other than the Manufacturer are subject to change without notice. Specifications for such components will be as available at the time of manufacture of the Product. GSFA shall not be liable for any deviations in such specifications arising from a substitution of components or changes in the design of any component by their original manufacturer.

9. Termination.

a. 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 preconstruction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer's termination of the Product order ("Manufacturer Termination Fees"), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation, as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

Customer may terminate the Agreement for an Event of Default by GSFA after providing GSFA with written notice in accordance with <u>Section 16</u> (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA

has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

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

Notwithstanding any other provision of this Agreement, if Customer terminates a Product order in accordance with 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. <u>Based on Discontinuation or Cancellation by Manufacturer</u>. In the event that Manufacturer cancels a Product order (provided that such cancellation is not the result of an act by Customer in violation of the Agreement) or discontinues the manufacture of a Product prior to its completion and delivery: (i) if such Product is the only Product contemplated under the Agreement, then the Agreement shall terminate; or (ii) if additional Products are contemplated under the Agreement, then only the Product order for the applicable cancelled or discontinued Product shall be terminated. Such Agreement termination or Product termination, as applicable, shall be effective upon GSFA's written notice to Customer of such cancellation or discontinuance in accordance with <u>Section 16</u> 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 <u>Section 9.a</u> hereof shall not apply in the event of a termination pursuant to this <u>Section 9.c</u>.
- 10. <u>Customer's Obligations</u>. Customer shall provide its timely and best efforts to cooperate with GSFA and Manufacturer during the Product manufacturing process. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to any requests from Manufacturer or GSFA and the participation of Customer's authorized representatives in traveling to Manufacturer's facility for inspections and approval of the Product, including a final approval before the Product leaves Manufacturer's facility.
- 11. 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. <u>Standard Warranty</u>. All applicable Manufacturer warranties are contained in the Product Warranties. Any additional warranties must be expressly approved in a writing signed by GSFA, and Customer acknowledges and agrees that Manufacturer will not be liable for any such additional warranties.
- a. <u>Disclaimer</u>. OTHER THAN AS EXPRESSLY SET FORTH IN THE AGREEMENT, GSFA, ITS AFFILIATES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES, DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT (WHETHER RELATING TO THE CONDITION OR QUALITY OF THE PRODUCT, OR OTHERWISE) PROVIDED HEREUNDER OR OTHERWISE REGARDING THE AGREEMENT (INCLUDING, WITHOUT LIMITATION, WITH RESPECT TO ANY APPLICABLE DEALER PREPARATION), WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, THE

IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE ARE EXPRESSLY EXCLUDED AND DISCLAIMED. STATEMENTS MADE BY SALES CONSULTANTS OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

- b. 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. <u>Default</u>. The occurrence of one or more of the following events (each, an "Event of Default") shall constitute a default under the Agreement: (a) Customer's failure to pay any amounts due or to perform any of its obligations under the Agreement; (b) GSFA's failure to perform any of its obligations under the Agreement; (c) either Party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either Party under the Agreement which is false in any material respect; (e) any action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity during the term of the Agreement; (f) any other material breach of the terms of the Agreement by a Party; or (g) a default or breach by Customer under any other agreement with GSFA or its affiliates.
- 14. <u>Indemnification of GSFA</u>. Customer shall indemnify, defend, and hold harmless GSFA, its agents, servants, successors and assigns from and against all losses, damages, injuries, claims, demands and expenses, including attorneys' fees and other legal expenses, of whatever nature ("**Damages**"), to the extent Damages arise out of or in connection with: (i) Customer's breach of the Agreement, or (ii) Customer's use, storage, or operation of the Product following delivery, regardless of where, how, and by whom operated (excluding any negligent operation by GSFA). The indemnification and assumptions of liability and obligation herein provided shall continue in full force and effect notwithstanding the termination of the Agreement, whether by expiration of time, by operation of law or otherwise. This provision is not intended to and shall not constitute the exclusive remedy of the Parties under the Agreement; the Parties may seek indemnity from one another under other legal principles, whether based in equity or law, so long as they do not nullify or cancel the effects of this paragraph.
- 15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.
- 16. <u>Notice</u>. Any notices, requests, consents, claims, demands, waivers and other communications required or permitted to be given hereunder must be given in writing at the address of each Party set forth below, or to such other address as either Party may substitute by written notice to the other in accordance with this <u>Section 16</u>, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

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

CUSTOMER:

To the address listed in the Product Proposal

- 17. <u>Contradictions</u>. In the event of a conflict between the Agreement and any Change Order, or between Change Orders, the terms of the latest executed Change Order shall control.
- 18. <u>Manufacturer's Statement of Origin</u>. It is agreed that the manufacturer's statement of origin ("**MSO**") for the Product covered by the Agreement, if applicable, shall be retained and remain in the possession of GSFA per California Department of Vehicles (DMV) directives. Notwithstanding the foregoing, GSFA shall provide Customer with the original MSO if the Customer is self-registering, and Customer shall comply with all good-faith Process of Duty and other DMV requirements applicable to the Product and retain its own MSO.
- 19. <u>Assignment</u>. The relationship of the Parties established under the Agreement is that of independent contractors and neither Party is a partner, employee, agent, or joint venturer of or with the other. Neither Party may assign its rights and obligations under the Agreement unless it has obtained the prior written approval of the other Party.
- 20. <u>Governing Law; Jurisdiction; Disputes</u>. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with an agreed upon mediator. If the Parties cannot agree upon a mediator within thirty (30) calendar days of the submission of written notice of a dispute in accordance with <u>Section 16</u> hereof, if any disputed matter remain unresolved within thirty (30) calendar days of the commencement of discussions, or if any party refuses to meet, then either party may submit any remaining disputes concerning and/or claim regarding the Agreement and/or the terms and conditions herein to the Superior Court, County of Sacramento (and the parties expressly consent to exclusive personal jurisdiction and venue before such court).
- 21. 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

Bid Number: 978

City of Sacramento Fire Customer:

Department

Hansen, Brad

Representative Requirements Manager: **Organization:** Golden State Fire Apparatus, Inc.

Description: SFD Pumper FY26 (Duplicate #

Chassis: **Enforcer Chassis**

Body: Pumper, Medium, Galvanneal, 2nd Gen **OptionCode** Type Option **ProposalText**

0766611 Boiler Plates, Pumper Job Number:

Golden State Fire Apparatus Inc is pleased to submit a proposal to City of Sacramento for a Pierce® triple combination pumper per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

PIERCE MANUFACTURING was founded in 1913. Since then, we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of applicable NFPA standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION

To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality. Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal. In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to ensure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

To demonstrate the quality of our products and services, a list of at least twenty five (25) fire departments/municipalities that have purchased vehicles for a second time is provided.

DELIVERY

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

MANUAL AND SERVICE INFORMATION

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

SAFETY VIDEO

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

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

SERVICE AND WARRANTY SUPPORT

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

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

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

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

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

LIABILÍTY

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

INSURANCE PROVIDED BY BIDDER

Commercial General Liability Insurance

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

Each Occurrence:

\$1,000,000

Products/Completed Operations Aggregate:

\$1,000,000

Personal and Advertising Injury:

\$1,000,000

General Aggregate:

\$2,000,000

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

Commercial Automobile Liability Insurance

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

Each Accident Combined Single Limit:

\$1,000,000

Umbrella/Excess Liability Insurance

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

Aggregate:

\$3,000,000

Each Occurrence:

\$3,000,000

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

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

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

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

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

INSURANCE PROVIDED BY MANUFACTURER

Product Liability Insurance

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

Each Occurrence:

\$1,000,000

Products/Completed Operations Aggregate:

\$1,000,000

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

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

Umbrella/Excess Liability Insurance

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

Each Occurrence:

\$25,000,000 Aggregate:

\$25,000,000

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

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

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

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

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

0661794

Single Source Compliance

SINGLE SOURCE MANUFACTURER

Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.

0584456

Manufacture Location, Appleton,

Wisconsin

Your apparatus will be manufactured in Appleton, Wisconsin.

0584452

RFP Location: Appleton, Wisconsin

0588609

Vehicle Destination, US

0670275

Unit to be Similar in some Aspects, Excluding Pump Panel

SPECIAL INSTRUCTIONS

The apparatus being proposed will be designed and built to match the 41478. However, some variation may be necessary due to changes in our manufacturing processes or our product offering. Revisions in NFPA guidelines and/or other regulations may also affect our ability to match the previous unit.

0816491

Comply NFPA 1900 Changes Effective Jan 1, 2024, With Exceptions

NFPA 2024 STANDARDS

This unit will comply with the NFPA standards effective January 1, 2024, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating.

The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company will designate, in writing, who is qualified to witness and certify test results.

0533347

Pumper/Pumper with Aerial Device

Fire Apparatus

0588611

Vehicle Certification, Pumper

0661778 Agency, Apparatus Certification, Pumper/Tanker, U.L. 0816495 Certification, Vehicle Inspection Program, NFPA 1900

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA"

PUMP TEST

Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. The test results will be provided to the Fire Department at the time of delivery.

BREATHING AIR TEST

If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and have the sample certified that the air quality meets the requirements of NFPA 1989, Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection.

VEHICLE INSPECTION PROGRAM CERTIFICATION

To assure the vehicle is built to current NFPA 1900 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.

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

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.

0766110 Consortium, Sourcewell

0537375 Unit of Measure, US Gallons

0030006 Bid Bond Not Requested

BID BOND NOT REQUESTED

A bid bond will not be included. If requested, the following will apply:

All bidders will provide a bid bond as security for the bid in the form of a 5 percent bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract. Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.

0816571			PERFORMANCE BOND, 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"), 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
000007		Approval Drawing	APPROVAL DRAWING A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc. A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.
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.
0649754		Enforcer Chassis	ENFORCER CHASSIS The Pierce Enforcer™ is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength, capacity for the intended load to be sustained, and the type of service required. The chassis will be the manufacturer's first line tilt cab.
0021007		Maximum Overall Height	MAXIMUM OVERALL HEIGHT The maximum overall height of the apparatus will be 114.00" to the top of the truck, 123.00" to the top of the monitor.
0021010		Maximum Overall Length	MAXIMUM OVERALL LENGTH The maximum overall length of the apparatus will be 367.25".
0000110		Wheelbase	WHEELBASE The wheelbase of the vehicle will be 187.50".

0000070	GVW Rating	GVW RATING The gross vehicle weight rating will be 43,500 lbs.
0649713	Frame Rails, 10.25" x 3.50" x .375", Saber FR/Enf	FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will be heat-treated steel measuring 10.25" x 3.50" x 0.375". Each rail will have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.
0020018	Frame Liner Not Req'd	
0630705	Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Enforcer	FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 19,500 lb. Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron. The center cross members and side plates will be constructed out of 80,000-psi yield strength steel. Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations. There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension. The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be zero degrees for optimum tire life. The ball joint bearing will be of low friction design and be maintenance free. Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided. The wheel ends must have little to no bump steer when the chassis encounters a hole or obstacle. The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase. The axle will have a turning angle of up to 45 degrees.
0030264	Suspension, Front TAK-4, 19,500 lb, Qtm/AXT/Imp/Vel/Enf/SFR	FRONT SUSPENSION Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 19,500 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment. Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side. The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.
0087572	Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.
0000322	Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0802633	Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg	FRONT TIRES Front tires will be Goodyear 385/65R22.5 radials, 18 ply Armor Max MSA tread, rated for 20,050 lb maximum axle load and 68 mph maximum speed.
0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10) stud, 11.25" bolt circle.
0530458	Axle, Rear, Meritor RS24-160, 24,000 lb, Saber/Enforcer	REAR AXLE The rear axle will be a Meritor™, Model RS-24-160, with a capacity of 24,000 lb.

0544253	Top Speed of Vehicle, 68 MPH /109 KPH	TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.
0555350	Suspen, Rear, Hendrickson FMX 242 EX, Air Ride, 24,000 lb	REAR SUSPENSION Rear suspension will be a Hendrickson FMX 242 EX, air ride with a ground rating of 24,000 lb. The suspension will have the following features: - Heavy-duty shock absorbers to protect air springs from overextension - Heavy-duty torque rods and bushings - Premium, heavy-duty rubber bushings require no lubrication - Integrated stabilizer design results in greater stability - Low spring rate air springs for excellent ride quality - Dual height control valves to maintain level vehicle from side to side
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0782552	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	REAR TIRES Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.
0019625	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.
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.
0620570	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single 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 six (6) 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.
0801909	Lug Nut, Covers, Chrome	CHROME LUG NUT COVERS Chrome lug nut covers will be supplied on front and rear wheels.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0544802	Chocks, Wheel, SAC-44-E, Folding, (Up to 44" Diameter Tires)	WHEEL CHOCKS There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.
0544806	Mounting Brackets, Chocks, SAC-44- E, Folding, Horizontal	- Wheel Chock Brackets There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted forward of the left side rear tire.

0820509 ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA 1900/UI C

ELECTRONIC STABILITY CONTROL

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

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 4S4M, anti-lock braking system. The ABS will provide a four (4) channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any wheel begins to lockup, a signal will be sent to the control unit. This control unit will then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

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.

0652082 Brakes, Meritor, EX225, 17", Disc

Plus, TAK-4

BRAKES

The service brake system will be full air type.

The front brake calipers will be Meritor® DiscPlus™ EX225 air disc type. The brake rotors will be 17.00" ventilated.

Brakes, Meritor, EX225, Disc Plus,

Rear, Single Axle

The rear brakes will be Meritor™, Disc Plus, Model EX225, disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.

0020784 Air Compressor, Brake. Cummins/Wabco 18.7 CFM

BRAKE SYSTEM AIR COMPRESSOR

The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.

0644232 Brake Reservoirs, 4,272 Cubic Inch Minimum Capacity, Saber

FR/Enforcer

BRAKE SYSTEM

The brake system will include:

Brake treadle valve

Heated automatic moisture ejector on air dryer

Total air system minimum capacity of 4,272 cubic inches

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

Spring set parking brake system

Parking brake operated by a push-pull style control valve

A parking "brake on" indicator light on instrument panel

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

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

1/4 turn drain valves on each air tank

The air tank will be primed and painted to meet a minimum 750 hour salt spray test.

The air tanks will be painted same as frame color.

To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.

Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber FR/Enforcer

BRAKE SYSTEM AIR DRYER

The air dryer will be a Bendix AD-9 air dryer, with spin-on coalescing filter cartridge and 100 watt heater.

0542809 Brake Lines, Wire Braided

BRAKE LINES

Wire braided reinforced rubber brake lines will be provided for the chassis air brake system. This also includes the brake lines between the frame and brake chambers. The brake lines will not be

. Coupler fittings for chassis brake lines will be installed forward of the front axle. They will be a separation point for those air lines going to the cab. The air lines going into the cab will be nylon wrapped in loom.

Bid #: 978 8

0630489

0509206

0729902 SP Inlet/Outlet, Air, w/Disconnect Fitting, AIR INLET/OUTLET controlled by a needle valve. 0630460 Moisture Fiector, Manual, Remote MANUAL MOISTURE EJECTOR(S) Mounted, Enforcer/Saber FR A loop will be provided at the moisture ejector, to allow for ease of pulling the drain. Nylon tubing, 0.38" diameter, will be routed from the air tank to the moisture ejector. The nylon 0808535 Engine, Cummins X10, 450 hp, 1250 **ENGINE** lb-ft, W/OBD, EPA 2027, Saber Make: FR/Fnforcer Cummins Model: X10 Power: 450 hp at 2100 rpm Torque: 1250 lb-ft at 1400 rpm Governed Speed: 2200 rpm Emissions Level: EPA 2027 Fuel: Diesel Cylinders: Six (6)

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

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.

Manual moisture ejectors will be installed in the brake system.

The moisture ejector(s) will be remote mounted on the left side of vehicle, as close to the edge of

Each moisture ejector will have a label directly under the ejector, stating air tank drain.

tubing will be covered with protective split loom.

The moisture ejector(s) will be provided on the each tank reservoir(s).

The chassis will be powered by an electronically controlled engine as described below:

Displacement:

606 cubic inches (9.9L)

Starter:

Delco 39MT™

Fuel Filters:

Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style

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**

0001244 High Idle w/Electronic Engine,

Custom

A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.

The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."

0687994 Engine Brake, Jacobs Compression

Brake, Cummins Engine

ENGINE BRAKE

A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.

The driver will be able to turn the engine brake system on/off and have a high, medium and low setting

The engine brake will activate when the system is on and the throttle is released.

The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.

The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.

The ABS system will automatically disengage the auxiliary braking device, when required.

0644227 Clutch, Fan, Air Actuated, Saber FR/Enforcer

CLUTCH FAN

A fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.

0655637		Engine Foot Throttle Control, Engage in Pump Mode	e THROTTLE CONTROL An engine foot throttle control will be provided for use while in pump mode. The parking brake must be enabled for this operation.
0640477		Air Intake, Metal Screen, Saber FR/Enforcer	ENGINE AIR INTAKE The engine air intake will be located above the engine cooling package. It will draw fresh air from the front of the apparatus through the radiator grille. A stainless steel metal screen will be installed at the inlet of the air intake system that will meet current edition of applicable NFPA standards. The air cleaner and stainless steel screen will be easily accessible by tilting the cab.
0814375		Exhaust System, Horizontal, Right Side	EXHAUST SYSTEM The exhaust system will be stainless steel from the turbo to the engine's aftertreatment device. The exhaust system will include an aftertreatment device to meet current EPA standards. An insulation wrap will be provided on all exhaust pipe between the turbo and the aftertreatment device to minimize the transfer of heat to the cab. The exhaust will terminate horizontally ahead of the right side rear wheels and will be flush with the body rub rail. The exhaust pipes will be aluminized steel. There will be an aluminized steel exhaust diffuser reduced to 5.00" in the center to accommodate the fire department's air recovery system with a standard straight tip on the end provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.
0816185	SP	Exhaust, Modified 35 Degree - Approval Req'd	EXHAUST MODIFICATION The exhaust pipe will be brought out from under the body at a 35 degree angle to the rear.
0788765		Radiator, Saber FR/Enforcer	RADIATOR The radiator and the complete cooling system will meet or exceed the current edition of applicable NFPA and engine manufacturer cooling system standards. For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The radiator core will consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. The radiator core will have a minimum front area of 1060 square inches. Supply tank will be made of heavy duty glass-reinforced nylon and the return tank will be made of aluminum. Both tanks will be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There will be a full steel frame around the inserts to enhance cooling system durability and reliability. The radiator will be compatible with commercial antifreeze solutions. The radiator assembly will be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain. The radiator will include a de-aeration/expansion tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.
0001090		Cooling Hoses, Rubber	COOLANT LINES Gates, or Goodyear, rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing. Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping a constant clamping pressure on the hose.
0804381		Fuel Tank, 50 Gallon, Left Side Fill, w/ Air Suspension	FUEL TANK A 50 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A .75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only". A .50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.
0001129		Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.

0723696	DEF Tank, 8.0 Gallon, LS Fill, Rear of Rear Axle, Triple Door	DIESEL EXHAUST FLUID TANK An 8.0 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward of the rear axle. A 0.50" drain plug will be provided in a low point of the tank for drainage. A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the engine fuel inlet behind a triple, painted door on the left side of the vehicle. The fuel door will be held closed by one (1) Southco C2 lever latch. 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.
0552712	Not Required, Shutoff Valve, Fuel Line	
0553019	Cooler, Engine Fuel, Imp/Vel, SFR/Enf	FUEL COOLER An air to fuel cooler will be installed in the engine fuel return line.
0665235	Door, Fuel Fill with Cap Holder, No Chain	The fuel filler door will include a holder for the fuel fill cap.
0690880	No Selection Required From This Category	
0887559	Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics, Imp/Vel/SFR/Enf	TRANSMISSION An Allison 6th generation, Model EVS 3000P, electronic torque converting automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear. A transmission temperature gauge with amber light and audible alarm will be installed on the cab dash.
0625329	Transmission, Shifter, 5-Spd, Push Button, 3000 EVS	TRANSMISSION SHIFTER A five (5)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st 3.49 to 1.00 2nd 1.86 to 1.00 3rd 1.41 to 1.00 4th 1.00 to 1.00 5th 0.75 to 1.00 R 5.03 to 1.00
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0090176	Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 5 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, resulting in improved engine braking performance.
	•	F
0801878	Fluid, 3000 Series Trans, Allison Approved TES-668 Synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TranSynd, or other Allison approved TES-668 heavy duty synthetic transmission fluid.

0669988	Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braded lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
0605356	Steering Wheel, 4 Spoke without Controls, Saber FR/Enforcer	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0550144	Logo/Emblem, on Horn Button	LOGO AND CUSTOMER DESIGNATION ON HORN BUTTON The steering wheel 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: CITY The second row of text will be: OF The third row of text will be: SACRAMENTO
0606186	Bumper, Non-Extended, Saber FR/Enforcer	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.
0614646	No Lift & Tow Package, Imp/Vel, AXT, SFR/Enf	
0049963	Tow Eyes, Painted Black, Below Deck	TOW EYES Two (2) painted steel tow eyes will be installed under the bumper and attached to the front frame members. The tow eyes will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus. The inner and outer edges of the tow eyes will have a .25" radius. The tow eyes will be painted black.
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.

Cab, Enforcer, 7000

CAB

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

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

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

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

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

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

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

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

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

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

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

The cab will be a full tilt cab style.

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

CAB ROOF DRIP RAIL

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

FENDER LINERS

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

PANORAMIC WINDSHIELD

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

WINDSHIELD WIPERS

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

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

0724229

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

FR/Enforcer

ENGINE TUNNEL

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

The engine hood will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. The noise insulation keeps the dBA level within the limits stated in the current edition of applicable NFPA standards.

The engine tunnel will be no higher than 17.00" off the crew cab floor.

0887601

Cab Insulation, Enforcer/Saber FR

INTERIOR CAB INSULATION

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

0610508

Rear Wall, Interior, Adjustable Seating, Not Available

CAB REAR WALL EXTERIOR COVERING 0632103 Rear Wall, Exterior, Cab, Saber FR/Enforcer The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered. 0639726 Cab Lift, Elec/Hyd, Manual Override, **CAB LIFT** Unlocked Ind Light, Saber A hydraulic cab lift system will be provided consisting of an electric powered hydraulic pump, dual FR/Enforcer lift cylinders, and necessary hoses and valves. Hydraulic pump will have a manual override for backup in the event of electrical failure. Lift controls will be located on the right side pump panel or front area of the body in a convenient location. A "cab unlocked" indicator light will be located at the controls that will indicate when the cab is not in the locked position for safe road travel. The cab will be capable of tilting 43 degrees to accommodate engine maintenance and removal. The cab will be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system will be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms will return to the normally closed and locked position. The hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered. Cab Lift Interlock The cab lift system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled. 0550343 Special Circuit, Cab Tilt w/o Ignition **CAB TILT CIRCUIT** Switch The cab tilt mechanism will be operational with the battery switch on and with parking brake set. 0695930 Grille, Bright Finished, Front of Cab, **GRILLE** Enforcer A bright finished aluminum mesh grille screen, inserted behind a bright finished grille surround, will be provided on the front center of the cab. 0648912 **DOOR JAMB SCUFFPLATES** Scuffplates, S/S At Cab Door Jambs and Handrails All cab door jambs will be furnished with a polished stainless steel scuffplate, mounted on the striker side of the jamb and include the area behind the cab door handrails. 0817874 Seal, Caulk Top Edge, Exterior Cab CAULK TOP EDGE OF REAR WALL SCUFFPLATE Rear Wall The top edge of the scuffplate on the back wall of the cab will be caulked to prevent water from leaking behind it. 0758591 SP Caulk, Cab/Crew Cab Stepwell Edge, CAB AND CREW CAB STEPWELL CAULK The cab and crew cab stepwell aluminum treadplate shall have edges sealed with caulk. The cab Aluminum Treadplate stepwell area shall be caulked at the rearward edge along the fender curve at the treadplate transition. The crew cab stepwell area shall be caulked at the forward edge along the fender curve at the treadplate transition. SCUFFPLATES, REAR CAB CORNER GUARDS 0620047 Scuffplates, S/S Corner Guard, Both rear cab corners will be furnished with a full height, polished stainless steel corner guard Polished, Rear Cab Corners, 2" scuffplate. The guard will extend 2.00" from the corner to protect paint from damage when pulling items (such as booster hose) around the cab. 0647932 Not Required, Trim, S/S Band, Across Cab Face AXT/Saber/Enforcer 0015440 No Chrome Molding, On side of cab

0092291 Mirrors, Velvac, 2025,

Heated/Remote, w/Heated Convex, w/I FD Directional

MIRRORS

Velvac®, Model 2025, low mount chrome mirrors will be mounted, one (1) on each of the cab doors. The mirror will include a replaceable 62 square inch flat glass and a 30 square inch convex glass. Overall mirror dimensions will be 8.50" wide x 13.75" high. Mirror head will have a highly polished chrome finish.

Both flat mirror heads will be adjustable by an electric remote control switch inside the cab within easy reach of the driver. Convex mirror heads will be adjusted manually.

The mirror heads will also be heated with the control within easy reach of the driver.

Each mirror will be provided with an LED directional light.

The Velvac **two (2)-year** warranty on material and workmanship and **two (2)-year** warranty on chrome finish will be provided.

0733772 SP Mirror, Special Mounting, Velvac 2025 Door, Full Height, Saber FR/Enforcer DOORS 0648173 4-Door Cab, Level Roof

Mirror Mounting Location

The Velvac 2025 mirrors will be mounted higher than standard. The top of the mirror mount will be aligned with the chassis logo mounted on the cab doors.

To enhance entry and egress to the cab, the forward cab doors will be a minimum of 37.50" wide x 75.50" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab door openings will be a minimum of 34.30" wide x 75.50" high.

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

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

The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 1041. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.

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

A chrome grab handle will be provided on the inside of each cab door for ease of entry. A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.

The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.

Door Panel, Brushed Stainless Steel, Door Panels 0655543 Saber/Enforcer 4-Door Cab

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

0630636 Controls, Electric Roll-Up Windows. 4dr, 4 Driver Controls, Saber FR/Enforcer

ELECTRIC OPERATED CAB DOOR WINDOWS

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

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

0653574 Electric Door Locks, Cab Doors, Conceal Switch Feature, QXS/AXT/Sab/Enf

ELECTRIC CAB DOOR LOCKS

The front driver and officer doors will have a door lock master switch that will control all front and rear crew cab door locks. Each rear crew cab door will have its own lock control.

There will be one (1) concealed switch located Drivers side bumper.

0633615 Steps, 4-Door Cab, Reduced Bottom CAB STEPS Step, Saber FR/Enforcer

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 25.00" wide, and the crew cab steps will be 21.65" wide with an 8.00" minimum depth. The inside cab steps will not exceed 16.50" in height.

The vertical surfaces of the step well will be aluminum treadplate.

0770200 Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab

CAB EXTERIOR HANDRAILS

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

0892638 Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts

STEP LIGHTS

There will be six (6) white LED step lights with chrome housing installed for cab and crew cab access steps

One (1) light for the left side cab access steps.

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

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

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

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. The lights will be activated when the battery switch is on and the adjacent door is opened.

0583698	Fenders, S/S on cab, Extra Wide, Saber/Enf	FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.
0586967	Grab Handle, Chrome, Specify Location, Qty	GRAB HANDLE(S) There will be two (2) chrome grab handle(s) mounted in the interior of the cab Drivers door ahead of window controls angled up towards front of door. Officer door ahead of window controls angled up towards front of door The grab handle(s) will be securely mounted.
0042105	No Windows, Side of Crew Cab	
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.
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.
0887710	Window Coatings, Solar Film, Cab/Crew Cab	WINDOW COATINGS All cab and crew cab windows will have solar window film applied. The solar film will block UV rays and excess heat while not impacting the visibility or clarity of the window.
0898689	Compt, Saddle, Transverse C/C, Dbl Pan, 70" SFR/Enf	Provided under the forward facing crew cab seats will be a transverse compartment. The compartment will be open top to bottom with no dividers. The upper section will be 16.25" wide x 9.00" high x full width (transverse) of the crew cab. The lower section will be 16.50" wide x 25.50" high x 15.00" deep on both sides. The compartment will extend from the bottom of the cab to top of the seat riser. There will be two (2) double pan doors painted to match the cab exterior with a locking D-Ring latch with #1250 key, one (1) on each side of the cab with a web strap for each exterior door provided as a door stop. The clear door opening of each compartment door will be 10.25" wide x 32.00" high. The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame. There will be one (1) drop down door, painted to match the cab interior with two (2) non-locking flush lift and turn latches with no louvers on the forward face of the seat riser. The exterior of the compartment will be painted to match the cab interior color. The interior of the compartment will be painted spatter gray. Compartment Light There will be two (2) red Amdor LED strip lights, one (1) horizontally mounted above each exterior compartment door opening. The lights will be controlled by an automatic door switch.
0798178	Matting, Turtle Tile, Auxiliary Compartment	MATTING IN AUXILIARY COMPARTMENT Turtle Tile vinyl matting will be provided in two (2) auxiliary compartment(s) located lower rear cab compts. Tile color will be black no ramp. The matting will be 0.75" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration.
0745808	Scuffplate, Inner Door Pan, Aux Cab Compts, Pair	SCUFFPLATE A full height brushed stainless steel scuffplate will be installed on the inside of each of the auxiliary cab compartment door pans.
0604171	Scuffplate, Brushed S/S, Bottom of Door Frame, Each	DOOR FRAME SCUFFPLATE There will be two (2) scuffplate(s) provided for the bottom of the door frame of both aux cab compts. Each scuffplate will be brushed stainless steel with a 0.38" lip down.
0776419	Lettering, Laser Cut, S/S Screen, Below Grille, SFR/Enf	SCREEN BELOW GRILLE LETTERING There will be lettering provided within the stainless steel screen below the front grille. The lettering will be cut in Helvetica style with a water jet process. The lettering will be centered in the screen. The lettering will read Respect.

0898549 Cab Air Filtration, TFT CrewProtect **CAB AIR FILTRATION** The vehicle will be equipped with a CrewProtect™ air filtration system to provide purification of 100, 12v DC, Loc, CARE the interior air of the cab and crew cab. The multi-stage filtration system will remove particulates, violate organic compounds, aerosol carrying viruses and bacteria from the air. System Construction The housing will be constructed of powder coated stainless steel and will be 12.00" wide x 4.50" high x $20.0\bar{0}$ " long. The angled surface will be provided with an additional 2.00" of clearance for air flow. The unit will be mounted on a mounting plate, vertically, to the rear of the driver seat. There will be one (1) filter installed in the unit. The expected filter life will be no less than 1,800 active hours of usage (6 months). There will be no additional replacement filters shipped loose with the unit. The filter will be designed to neutralize harmful chemical contaminants and is safe to discard as normal trash with no special handling requirements. System Operating Conditions CrewProtect will automatically run when the truck is operating. And will not be required to turn on or adjust the flow rate. The fan will operate at 100 CFMs and only 60.2 decibels. Electrical Wiring/Function The system will be ignition powered from the 12 VDC vehicle power supply. The system will draw a maximum of 2 amps and have a 5-amp integrated fuse in the wire harness. Holder, Cup, 4" Diameter x 4" High x CUP HOLDER 0644019 1" Slit on Side, Matting, Alum, Each 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 painted to match the cab interior and located Match 41478. 0722796 Dash, Poly, Saber FR/Enforcer **CAB DASH** The driver side dash, switch panel located to the right of the driver, and center console will be an easily removable high impact resistant polymer cover. The instrument gauge cluster will be surrounded with a high impact ABS plastic contoured to the same shape of the instrument gauge cluster. The officer side dash will be a flat top design with an upper beveled edge to provide easy maintenance and will be constructed out of aluminum and painted to match the cab interior. Tray, Equipment Mounting, 0725269 SP **EQUIPMENT MOUNTING TRAY(S)** There will be two (2) tray(s) for mounting of equipment located on top of the heater/defroster Aluminum, Lip, Size blister and rearward of the DS and PS rear facing cabinets (see photo). Each tray will have a 2.00" lip on three (3) sides. The size of the tray(s) shall be 5.00" D x the width of the EMS compartment. Each tray will be fabricated from aluminum and will be dual action sander finish. Tray not intended for storage of loose equipment. Items stored on tray will be permanently attached to meet current edition of applicable NFPA standards. 0664381 Bracket, PAC, Ironslok, PN K5003 HALLIGAN TOOL/AXE MOUNTING BRACKET(S) inside the cab outboard of the PS outboard forward facing seat against the rear wall. Match 41478 Work Surface, 1/4" Alum, Engine **WORK SURFACE ON ENGINE TUNNEL** 0804970 Tunnel, Flat, To RF Cabinet, SFR/Enf There will be a work surface provided on the engine tunnel. The work surface will cover the

There will be one (1) PAC Ironslok, P/N 5003, mounting bracket(s) provided. They will be located

engine tunnel, terminating at the rear facing cabinet, and follow the width of the engine tunnel. It will be constructed of 0.25" aluminum.

The work surface will be spaced 1.00" off the top flat surface of the engine tunnel. The work surface will be flat from the front of the engine tunnel up to the rear facing cabinet. The work surface will be open on the sides to allow for equipment to be mounted underneath it.

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

0750824 Cab Interior, Vinvl Headliner, Saber FR/Enforcer, CARE

CAB INTERIOR

The cab interior will be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The engine tunnel will be padded and covered, on the top and sides, with black 36 ounce leather grain vinyl resistant to oil, grease, and mildew

For durability and ease of maintenance, the cab interior side walls will be painted aluminum. The rear wall will be painted aluminum.

The headliner will be installed in both forward and rear cab sections. Headliner material will be vinyl. A sound barrier will be part of its composition. Material will be installed on an aluminum sheet and securely fastened to interior cab ceiling.

The forward portion of the cab headliner will permit easy access for service of electrical wiring or other maintenance needs.

All wiring will be placed in metal raceways.

CAB INTERIOR UPHOLSTERY

The cab interior upholstery will be 36 oz black vinyl.

0753903 Cab Interior, Paint Color, Saber FR/Enforcer

CAB INTERIOR PAINT

The cab interior metal surfaces, excluding the rear heater panels, will be painted black, vinyl

The rear heater panels will be painted black, vinyl textured paint.

0728537

Floor, Lonseal, Loncoin II Flecks, Cab & Crew Cab, Custom Chassis,

CAB FLOOR

The cab and crew cab floor areas will be covered with easy to clean, anti-microbial Lonseal®, Loncoin® II Flecks, Black Flecks vinyl flooring. The durable top surface material will have an embossed coin pattern to provide slip resistance. All seams and edges will be sealed to be impermeable to moisture.

Additionally, the material has a 0.25" thick closed cell foam (no water absorption) under lament which offers a sound dampening material for reducing sound levels.

0891411

HVAC, Heavy-Duty, Enforcer, CARE DEFROST/AIR CONDITIONING SYSTEM

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

Cab Defroster

A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:

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

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

Six (6) fixed outlets directed at the windshield.

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

Cab/Crew Auxiliary Heater

There will be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat riser with a dual scroll blower. An aluminum plenum incorporated into the cab structure to be 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. Mounting the condenser below the cab or body would reduce the performance of the system and will not be acceptable. The condenser cover to be painted to match the cab roof.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours

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

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

Adjustable air outlets will be strategically located on the forward plenum cover per the following: Four (4) outlets directed towards the seating position on the left side of the cab.

Four (4) outlets directed towards the seating position on the right side of the cab.

Adjustable air outlets will be strategically located on the rear plenum cover per the following: Minimum of five (5) outlets directed towards crew cab area.

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

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

Climate Control

An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.

The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.

The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.

The system controller will be located within panel position #12.

Gravity Drain Tubes

Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.

0639675

Sun Visor, Smoked Lexan, AXT, Imp/Vel, SFR/Enf

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

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

0634328		Grab Handles, Driver and Officer Door Posts, Saber FR/Enforcer	GRAB HANDLES A black rubber covered grab handle will be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handles will be securely mounted to the post area between the door and windshield.
0693439		Lights, Engine Compt, Custom, Auto Sw, w/Fld Chk Dr Wln 3SC0CDCR, 3" LED Trim	ENGINE COMPARTMENT LIGHTS There will be two (2) Whelen®, Model 3SC0CDCR, 12 volt DC, 3.00" white LED light(s) with Model 3FLANGEC, chrome flange kit(s) installed under the cab to be used as engine compartment illumination. These light(s) will be activated automatically when the cab is raised or when the dip stick door is opened.
0631830		Fluid Check Access, Saber FR/Enforcer, Arrow XT	ACCESS TO ENGINE DIPSTICKS For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.
0530840		Box, Storage, Aluminum, Latex Gloves	STORAGE BOX There will be two (2) storage box(es) designed to hold and dispense boxes of latex gloves provided. Each box will be constructed of aluminum and located one on each side of the forward facing crew cab seat riser - horizontal with opening on top. Each storage box will be 10.00" wide x 5.00" high x 3.50" deep and painted to match the cab interior. A slot will be provided on the top of each box to dispense the gloves.
0599959		Straps, Velcro, Map Box, Custom Chassis	VELCRO STRAP(S) FOR MAP BOX There will be two (2) Velcro® strap(s) installed at final inspection.
0002508		Map Box, 3 Bin/30 deg Slant, Custom Chassis	n MAP BOX There will be one (1) map box(es) with three (3) bins, open at top. The map box(es) will be installed at final inspection. The map box(es) will be divided into three (3) bins, each being 12.50" wide x 3.00" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box(es) will be constructed of 0.125" aluminum and will be painted to match the cab interior.
0583039		Not Required, Side Roll and Frontal Impact Protection	
0622618		Seating Capacity, 5 Belted Seats	SEATING CAPACITY The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be five (5).
0764118	SP	Seat, Driver, Bostrom, Pacifica, Air Ride, High Back, PRIMARY, SFR/Ent	DRIVER SEAT f A H.O. Bostrom, Pacifica, air suspension high back seat will be provided in the cab for the driver. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel) and vertical position (4.00" of travel). To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 15 degrees back to 45 degrees forward. A deluxe contoured 20.00" cushion and an adjustable lumbar support will be provided. 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 be furnished with a 3-point, shoulder type seat belt.
0632916		Seat, Officer, Bostrom Sierra, Fixed, High Back, PRIMARY, SFR/Enf	OFFICER SEAT A H.O. Bostrom, Sierra, fixed seat will be provided in the cab for the officer. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high back style with 9 degree fixed recline angle. The seat will include no additional zip clean covers. The seat will be furnished with a 3-point, shoulder type seat belt.
0620420		Radio Compartment, Below Non-Air Ride Seat, Saber FR/Enforcer	RADIO COMPARTMENT A radio compartment will be provided under the officer's seat. The inside compartment dimensions will be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure. A drop-down door with one (1) flush lift and turn latch will be provided for access. The compartment will be constructed of smooth aluminum and painted to match the cab interior.

0749765 SP Cabinet, Rear Fcng, LS, 22 W x 34 H REAR FACING LEFT SIDE CABINET x 23 D,Ext Acc Only,Sp Mtg,Sp Lt Loc,SFR/Enf

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

The cabinet will be 22.00" wide x 34.00" high x 23.00" deep.

The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lippainted to match the cab interior.

The cabinet will include no louvers.

The cabinet will provide access only from outside the cab with one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #1250 key. The door will be located on the side of the cab over the wheelwell. A pneumatic stay arm will be provided as a door stop. The clear door opening will be 17.00" wide x 29.25" high.

The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame

The cabinet will be constructed of smooth aluminum and painted to match the cab interior.

Cabinet Light

There will be one (1) red Amdor LED strip light installed on the right side of the exterior cabinet door opening and one (1) red Amdor LED strip light installed on the left side of the exterior cabinet door opening. The lighting will be located LIGHTS TO BE VERTICAL BEHIND THE SHELF TRACK, POINTING INTO THE CABINET, ON BOTH LEFT AND RIGHT SIDE. The lighting will be controlled by an automatic door switch.

0102783 Not Required, Seat, Rr Facing C/C, Center

0749764 SP Cabinet, Rear Fcng, RS, 22 W x 34 H REAR FACING RIGHT SIDE CABINET

x 22 D,Ext Acc Only,Sp Mtg,Sp Lt Loc, SFR/Enf

A rear facing cabinet will be provided in the crew cab at the right side outboard position. The cabinet will be mounted off the edge of the seat riser so that it is flush with the crew cab door

The cabinet will be 22.00" wide x 34.00" high x 22.00" deep.

The cabinet will provide access from outside the cab only with a one (1) double pan door painted to match the cab exterior with a locking D-ring latch with #1250 key having a clear door opening of 17.00" wide x 29.25" high. The door will be located on the side of the cab over the wheelwell. A pneumatic stay arm will be provided as a door stop.

The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lippainted to match the cab interior.

The cabinet will include no louvers.

The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame.

The cabinet will be constructed of smooth aluminum and painted to match the cab interior.

Cabinet Light

There will be one (1) red Amdor LED strip light installed on the right side of the exterior cabinet door opening and one (1) red Amdor LED strip light installed on the left side of the exterior cabinet door opening. The lighting will be located VERTICALLY BEHIND THE SHELF TRACK ON THE LEFT AND RIGHT SIDE, TO POINT INTO THE CABINET. The lights will be controlled by an automatic door switch.

0889184 SP Seat, Fwd Fcng C/C, LS Otbrd, Bostrom Sierra, Hi-Back, 5.5" Inbrd, SECONDARY, Enf

FORWARD FACING DRIVER SIDE OUTBOARD SEAT

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the driver side outboard in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle.

The seat will be mounted inboard an additional 5.50" from standard.

The seat will include no additional zip clean covers

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

0632609

Sierra, Hi-Back, SECONDARY, SFR/Enf

Seat, Fwd Fcng C/C, Ctr, (1) Bostrom FORWARD FACING CENTER SEAT

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the center position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle.

The seat will include no additional zip clean covers.

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

Seat, Fwd Fcng C/C, RS Otbrd. SP

Bostrom Sierra, Hi-Back, 5.5" IB,SECONDARY,SFR/Enf

FORWARD FACING PASSENGER SIDE OUTBOARD SEAT

There will be one (1) forward facing, HO Bostrom Sierra high back seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat will be provided with 17.00" deep cushion. The seat back will be a high-back style with 9 degree fixed recline angle.

The seat will be mounted inboard an additional 5.50" from standard

The seat will include no additional zip clean covers.

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

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 both external ems doors.

Bid #: 978 20

0889185

0617401		Matting, Turtle Tile, No Trim, EMS Compt	MATTING IN EMS COMPARTMENT Vinyl grating will be provided in two (2) EMS compartments, one in each rear facing EMS compartment Tile color will be black. The vinyl grating will be 0.50" thick and be cross bonded by 0.25" diameter ribbed sections spaced for aeration. The trim edge will not be installed at the edge of the tile.
0617410		Matting, Turtle Tile, EMS Compt, Shelving, 0.75" Thick	MATTING IN EMS COMPARTMENT Turtle Tile vinyl matting will be provided in two (2) EMS compartment shelves, one in each rear facing EMS compartment Tile color will be black.
0756860	SP	Cabinet, Rear Facing, Top Eng Tnl, 42.25 W x 16 H x 14 D, Lap, Tray, Lip,SFR/Enf	REAR FACING CENTER CABINET A rear facing cabinet will be provided on the top rear of the engine tunnel. The cabinet will be 42.25" wide x 16.00" high x 14.00" deep with one (1) drop down door, painted to match the cab interior with two (2) locking flush lift and turn latches with #751 keys facing the crew cab. Gas cylinders will be provided to hold the door in the open position. There will be a 1.00" lip provided on the top of the cabinet. The cabinet will include louvers provided on the door 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 horizontally above the interior cabinet door opening. The light will be controlled by an automatic door switch
0820412		Fasteners, Mechanical, Strip Lighting Cab Compartments	BRACKETS/CLAMPS FOR COMPARTMENT LIGHTS Metal clamps will be used to retain the strip lighting in all cab compartments.
0042359		Upholstery, Seats In Cab, All Vinyl, Bostrom, CARE	SEAT UPHOLSTERY All seat upholstery will be leather grain black vinyl resistant to oil, grease and mildew. The cab and tiller cab (if applicable) will have five (5) seating positions.
0511471		No SCBA Brackets Required In Cab Seats, Imp/Vel, AXT 2010, Qtm 2010,Saber FR/Enf	
0603866		Seat Belt, Dual Retractor, ReadyReach, Saber FR/Enforcer	SEAT BELTS All cab and tiller cab (if applicable) seating positions will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of applicable NFPA and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will include height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position. The 3-point shoulder type belts will also include the ReadyReach® D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only. To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.
0817557		Helmet Storage, Provided by Fire Department, NFPA/ULC 2024	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 11.1.8.4.1 and CAN/ULC S515:2024 edition, section 5.2, requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.
0647638		Lights, Dome, Weldon Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) Weldon, 808* series, dual LED dome lights with black bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the lens switch. The color LED's will be controlled by the door switches and the lens switch.
0896451		Enhanced Software for Cab and Crew Cab Dome Lts	ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.
0816997		Portable Hand Light, Provided by Fire Dept, NFPA/ULC 2024	PORTABLE HAND LIGHTS PROVIDED BY FIRE DEPARTMENT The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.

Bid #: 978 21

Handlight, Streamlight, Vulcan 180, 44305, 12v, Yellow

ADDITIONAL HAND HELD LIGHT

There will be two (2) lights additional 12v Streamlight, Model #44305, Vulcan 180 LED light(s) provided and mounted one on each side of the center rear facing EMS compartment, top, outboard, lighthead facing towards the front windshield with release closest to the firefighters. Each light will be provided with a 12 volt direct wire vehicle mounting rack and quick release shoulder strap.

Each light housing will be yellow in color.

0622803

Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX

CAB INSTRUMENTATION

The cab instrument panel include gauges, an LCD display, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

Gauges

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

Voltmeter gauge (volts): Low volts (11.8 VDC)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

High volts (15.5 VDC)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Very low volts (11.3 VDC)

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Very high volts (16.0 VDC)

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly Engine Tachometer (RPM)

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

Fuel level gauge (Empty - Full in fractions):

Low fuel (1/8 full)

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

Very low fuel (1/32 full)

Red caution indicator on the information center with steady alarm

Amber caution light on gauge assembly

Engine Oil pressure Gauge (PSI):

Low oil pressure to activate engine warning lights and alarms

Red caution indicator on the information center with steady alarm

Amber caution light on gauge assembly

Front Air Pressure Gauges (PSI):

Low air pressure to activate warning lights and alarm

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Rear Air Pressure Gauges (PSI):

Low air pressure to activate warning lights and alarm

Red warning indicator on the information center with a steady alarm

Amber caution light on gauge assembly

Transmission Oil Temperature Gauge (Fahrenheit):

High transmission oil temperature activates warning lights and alarm

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly Engine Coolant Temperature Gauge (Fahrenheit):

High engine temperature activates an engine warning light and alarms

Amber caution indicator on the information center with intermittent alarm

Amber caution light on gauge assembly

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

Low fluid (1/8 full)

Amber indicator light in gauge dial

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

Indicator Lamps

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

The following amber telltale lamps will be present:

Low coolant

Trac cntl (traction control) (where applicable)

Check engine

Check trans (check transmission

Aux brake overheat (Auxiliary brake overheat

Air rest (air restriction)

Caution (triangle symbol)

Water in fuel

DPF (engine diesel particulate filter regeneration)

Trailer ABS (where applicable)

Wait to start (where applicable)

HET (engine high exhaust temperature) (where applicable)

ABS (antilock brake system)

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

Side roll fault (where applicable)

Front air bag fault (where applicable)

The following red telltale lamps will be present:

Warning (stop sign symbol)

Seat belt

Parking brake

Stop engine

Rack down
The following green telltale lamps will be provided:

Left turn Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

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

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

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

A system will be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

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

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

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

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will turn off and deactivate vehicle ignition. The second switch position will activate vehicle ignition and will perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position will temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position will terminate the alarm silence feature and reset function of cab alarm system.

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

Heater, defroster, and air conditioning control panel.

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

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

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

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

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

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

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

Custom Switch Panels

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

Diagnostic Panel

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

The diagnostic panel will include the following:

23

Engine diagnostic port Transmission diagnostic port ABS diagnostic port Roll sensor diagnostic port

Command Zone USB diagnostic port

ABS diagnostic switch (blink codes flashed on ABS telltale indicator) Diesel particulate filter regeneration switch (where applicable) Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

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

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

Odometer Trip mileage PTO hours **Fuel consumption**

Engine hours

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

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

AIR RESTRICTION INDICATOR

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

0668061 Light, Do Not Move Apparatus, Wln VTX609R Red I FD

"DO NOT MOVE APPARATUS" INDICATOR

There will be a Whelen, Model VTX609R, red LED indicator light with chrome trim located in the driving compartment. This light 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.

0622798 Switching, Cab Instrument Lower

Console & Overhead, Rocker MUX,

Enforcer

SWITCH PANELS

The built-in switch panels will be located in the lower console or overhead console of the cab. The switches will be rocker-type and include an integral indicator light. For quick, visual indication the switch will be illuminated whenever the switch is active. A 2-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed below the switches. The label will allow light to pass through the letters for improved visibility in low light conditions. Switches and light source are integral to the switch panel assembly.

Wiper Control, 2-Speed with Intermittent, Saber FR/Enforcer WIPER CONTROL

Wiper control will consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls. The control will be located on the left side of the center instrument

Bid #: 978 24

0802940

SPARE CIRCUIT Wiring, Spare, 4.8 A 12V DC, USB Term, Blue Sea 1045, Batt Dir, 1st There will be three (3) dual USB fast charge socket mounts installed on the apparatus. The wires will have the following features: NFPA1900/ULC The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 4.8 amps. The USB socket mount will be one to the left of the officer below the chrome push buttons (SEE PHOTO 5933) and one in panel location #13 & (1) in Loc #14 per 41478. Termination will be a Blue Sea Systems, part number 1045, dual USB charger socket. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed. 0820922 Wiring, Spare, 4.8 A 12V DC, USB SPARE CIRCUIT Term Blue Sea 1045, Batt Dir, 2nd There will be two (2) dual USB fast charge socket mounts installed on the apparatus. NFPA1900/ULC The wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be capable of carrying 4.8 amps. The USB socket mount will be one (1) each side rear facing cabinet, one rear vertical surface (edge closest to crew cab seating positions) in the lower outboard corner 3.00" up from heater/defroster box (SEE PHOTO TITLED "FIRE FIGHTER DUAL USB"). Termination will be a Blue Sea Systems part number 1045 dual USB charger socket. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be Load Managed 0821720 Wiring, Spare, 3 A 12V DC 1st SPARE CIRCUIT NFPA1900/ULC There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The wires will have the following features: The positive wire will be connected directly to the battery switched power. The negative wire will be connected to ground. Wires will be capable of carrying 3.0 amps. Power and ground will terminate LOC #13 next to 140. Termination will be with 15 amp, power point plug with rubber cover. Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. This circuit(s) may be load managed when the parking brake is set. 0824961 SP Wiring, Spare, 60A 12V DC **SPARE CIRCUIT** Sacramento Fire Department, 6 Ga. There will be one (1) pair of 6 gauge wires, including a positive and a negative, installed on the apparatus originating at the right side batteries. Radio NFPA1900/ULC The wires will include the following: The 6 gauge positive wire will be connected directly to one of the positive power terminals on the right side battery bank. The wire will be protected by a Blue Sea part number 5006100 fuse block with 60 amp fuse. The 6 gauge negative wire will be connected to the frame ground closest to the right side batteries, the same location as the right side batteries are grounded to the frame. The positive power wire and the negative wire will run uninterrupted to the radio compartment located, positive power wire and negative wire shall run uninterrupted from battery power and frame ground, terminating inside radio compartment (#756860) with 6' of slack wire and heat shrinkable butt splicing. ALL WIRING TO BE RUN IN STANDARD RACEWAYS. The wires will terminate with a 6' pigtail and heat shrinkable butt splices Wires will be protected to meet the NFPA Automotive Fire Apparatus standard. Battery direct loads cannot be load managed. 0798604 Wiring Protection, Secure Seat SECURE SEAT WIRING Cushion and Buckle Wiring All wiring going to seat cushion and seat belt buckle will be in loom and secure to the seat area. 0819994 Radio, Jensen, AM/FM/WB, STEREO RADIO Bluetooth There will be one heavy duty AM/FM / Weatherband / Bluetooth stereo radio. The radio will be installed within reach of the driver. There will be 5.25" speakers installed one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab. The antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof. The following Jensen features will be included: 180 watts max power (45W x 4); 100 watts RMS (25W x 4) Bluetooth® streaming audio (A2DP/AVRCP) Weatherband AM/FM tuner with 30 presets Audio settings (volume/bass/treble/balance/fade) Toggle switch between day and night display Daylight-readable, segmented LCD Two-wire power with non-volatile memory and clock support Low battery alert 0743033 Bin, Center Dash Console **CENTER STORAGE BIN** A bin will be provided within reach of the officer in the center of the cab close to the windshield. The depth and width of the bin will be maximized for the space available.

0820921

Bid #: 978 25

attached to meet NFPA requirements.

The bin is not intended for storage of loose equipment. Items stored on bin will be permanently

Vehicle Information Center, 7" Color Display, Touchscreen, MUX, CL714

INFORMATION CENTER

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

The information center will have the following specifications:

Operate in temperatures from -40 to 158 degrees Fahrenheit

LCD optically bonded to hardened AR glass lens Five weather resistant user interface switches

Grey with black accents

Sunlight Readable

Linux operating system

Minimum of 1000nits rated display

Display can be changed to an available foreign language

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

Programmed to read US Customary

General Screen Design

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used. If a caution or warning situation arises the following will occur:

An amber background/text color will indicate a caution condition

A red background/text color will indicate a warning condition
The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages. A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

Vehicle Mitigation (if equipped)

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

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

Seat Belt Monitoring Screen

Tire Pressure Monitoring (if equipped)

Digital Speedometer

Active Alarms

On Scene Screen

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

Fuel

Oil Pressure

Coolant Temperature

RPM

Water Level (if equipped)

Foam Level (if equipped)

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

Water Used (if equipped)

Active Alarms

Virtual Buttons

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

Page Screen

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

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

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

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

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

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data Maintenance Engine oil and filter Transmission oil and filter Pump oil (if equipped) Foam (if equipped) Aerial (if equipped) Setup Clock Setup

Date & Time 12 or 24 hour format

Set time and date Backlight

Daytime Night time

Sensitivity Unit Selection

Home Screen

Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

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

Driver Side Cab Door

Passenger's Side Cab Door

Driver Side Crew Cab Door

Passenger's Side Crew Cab Door

Driver Side Body Doors

Passenger's Side Body Doors

Rear Body Door(s)

Ladder Rack (if applicable)

Deck Gun (if applicable)

Light Tower (if applicable)
Hatch Door (if applicable)

Stabilizers (if applicable)

Steps (if applicable)

Notifications

View Active Alarms

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

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 WA7F 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.

Vehicle Data Recorder w/CZ Display VEHICLE DATA RECORDER Seat Belt Monitor

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information

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

FAULT = Blue LED indicator illuminated

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.

0889070

SP

Intercom, David Clark, 5-Pos, 2-Dual Radio, (D,O, 2RPTT.1st R), 3C, 800/VHF,3805

INTERCOM SYSTEM

A five (5) position David Clark, Model U3800, intercom system with dual radio interface capability at the driver and officer positions. Three (3) crew cab positions at three (3) forward facing seats will have radio listen / intercom only. There will be a Remote Push To Talk (RPTT) switch provided for the driver, mounted at on the driver's side, on the vertical surface midline below the transmission shifter NO more than 3" from the top edge (SEE APPROVED 35533 IP FOR DETAILED LOCATION)., connected to the drivers side of the U3816 module for Radio #1. There will be a (RPTT) switch provided for the officer, connected to the officers side of the U3816 module for Radio #1 and routed to the back of the Officer seat, coiled, and secured. The Customer will mount final.

Radio #1 C3821 (Radio interface cable) Connect to the U3805 in the Input as shown in Customer Diagram. "Edit Labeling to include "DRIVER". ran along driver's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled 800

Radio #2 C3821 (Radio interface cable) Connect to U3805 input as shown on Customer supplied diagram. Edit Labeling to show "DRIVER". ran along driver's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled VHF.

Radio #1 C3821 (Radio interface cable) Connect to PRIMARY INPUT, as shown on Customer Supplied Diagram. Edit Labeling to show "OFFICER". ran along officer's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled 800 Radio #2 C3821 (Radio interface cable) Connect to PRIMARY INPUT, as shown on Customer Supplied Diagram. Edit Labeling to show "OFFICER". ran along officer's side raceway behind seatbelt and terminating into the Comm compartment - end of cable labeled VHF.

The following components will be supplied with this system:

Two (2) U3816 Radio Interface Modules (Driver, Officer)

Two (2) U3805 Radio Cord Junction Module

One (1) RPPT kit for the left side radio #1

One (1) RPPT kit for the right side radio #1

One (1) U3800 Intercom Unit (2 Crew)

One (1) C3820 Power Cable

One (1) U3801 Remote Headset Station (1 Crew)

All necessary station cables and connectors

0637058

David Clark Universal Radio Interfaces Included with Single/Dual System

RADIO / INTERCOM INTERFACE INCLUDED

All radio interfaced stations will have universal radio interfaces installed. The interface wiring will be routed within the cab to U3805 boxes to be mounted in Radio Comms box Option #756860 above the shelf on back wall. See Customer Schematic for all cable routing .

0597914 Headset, David Clark, H3442 Under **UNDER THE HELMET HEADSET** Helmet, Flex Mic There will be five (5) under the helmet, headset(s) provided driver, officer and 3 crew. Each David Clark, Model H3442, headset will feature: M-7A noise canceling electret microphone Hybrid wire/flex boom assembly, 280Å rotating, for perfect microphone placement on left or right side Dynamic earphone elements Advanced Undercut Gel Ear Seals for superior comfort Microphone on/off switch 6 ft. extended coil cord Adjustable overhead support assembly Carbon steel nape-band spring, black finish, rotates for left or right side mic positioning Independently Certified NRR: 23dB 0819255 Hangers For Headsets, NFPA/ULC **HEADSET HANGERS** There will be five (5) headset hanger(s) installed driver's seat, officer's seat, driver's side 2024, Each outboard forward facing seat, passenger's side outboard forward facing seat and rear, center, forward facing seat. The hanger(s) will meet the current edition of applicable NFPA and ULC standards for equipment mounting. 0559185 Install Customer Provided Handlight HANDLIGHT CHARGER INSTALLATION There will be four (4) customer supplied handlight chargers(s) sent to the apparatus Charger(s) manufacturers preferred installer to be installed (1) driver side, run wiring, final placement at Final Inspection due to new Mapbox location, (1) on engine tunnel near officer, (1) on DS rear facing cabinet near door and (1) on PS rear facing cabinet near door. Per job #41478 . Specific shipping requirements will be followed. 0828322 SP Antenna, Panorama, 7 in 1, LG-**COMBO ANTENNA** IN2445-W, Low Profile Dome There will be one (1), Panorama LG-IN2445 bolt on, low profile 7 in 1 dome antenna(s). The antenna kit contains a complete set of 7 extension cables, 4G, 5G, GNSS, GPS, LTE, WiFi: Antenna. 5G GPS: 1 x 16' RG58 with SMA/Male. The antenna will be white The cables will be routed within the cab to inside the center rear facing "radio cabinet" (option 0756860). NOTE THE ANTENNA IS TO BE FORWARD OF THE PS CREW CAB LIGHTBAR (SEE PHOTO FOR SPECIFIC LOCATION). Antenna Mount, Custom Chassis, Fill RADIO ANTENNA MOUNT 0660489 in Blank Mounting and Cable There will be two (2) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed Antennas to be at least 18"from antennas/objects including Lightbars. All antenna cabling should Locations be loosely run with minimal bending, and encased in protective loom in areas of abrasive or sharp object. SEE AD FOR SPECIFIC PLACEMENT OF ANTENNA STUBS on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to inside the center rear facing "radio cabinet" (option 0756860) . A weatherproof cap will be installed on the mount. 0816486 Camera, Pierce, LS Mux, RS, R, SD **VEHICLE CAMERA SYSTEM** Cameras, CL714 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 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 located behind the driver seat. The following components will be included: One (1) SV-CW134639CAI SD Camera One (1) CS134404CI Side SD Camera All necessary cables 0814831 Not Required, Camera Switcher Camera Switcher A camera switcher is not required. 0511071 Guard, 4-Way, Rear Vision Camera **VEHICLE CAMERA GUARD** There will be one (1) aluminum treadplate guard(s) fastened over the vehicle camera(s) located centered at the rear below the hosebed and in between the handrails. Pierce Command Zone, Advanced **ELECTRICAL POWER CONTROL SYSTEM** 0890416 The primary power distribution will be located forward of the officer's seating position and be Electronics & Control System, Enforcer, WiFi CZT 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

supplying customer installed equipment thus providing a lower cost of ownership.

Bid #: 978

containing fuses, circuit breakers and/or relays will be easily accessible.

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

Distribution centers located throughout the vehicle will contain battery powered studs for

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 -40 degrees Celsius to +70 degrees Celsius

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

Vibration to 50g

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

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

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

Circuit Protection and Control Diagram

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

On-Board Electrical System Diagnostics

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

Text description of active warning or caution alarms

Simplified warning indicators

Amber caution indication with intermittent alarm

Red warning indication with steady tone alarm

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

TCU Module with WiFi

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

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

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

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

device.

Indicator Light and Alarm Prove-Out System

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

Voltage Monitor System

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

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

Dedicated Radio Equipment Connection Points

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

12-volt 40-amp battery switched power

12-volt 60-amp ignition switched power

12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system

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

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

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

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

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

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

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

0624253

Electrical System, Enforcer MUX

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

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

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

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

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

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

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

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

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

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

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

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

0079211

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

BATTERY SYSTEM

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

950 CCA, cold cranking amps

190 amp reserve capacity

High cycle

Group 31

Rating of 5700 CCA at 0 degrees Fahrenheit

1140 minutes of reserve capacity

Threaded stainless steel studs

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

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

0008621	Battery System, Single Start, All Custom Chassis	BATTERY SYSTEM There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel. MASTER BATTERY SWITCH There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system. An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.
0002698	Battery Compartment, Saber/Enforcer	BATTERY COMPARTMENTS Batteries will be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab and bolted directly to the chassis frame. The battery boxes will have reinforced sides. The battery compartments will be constructed of 0.188" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The battery hold-downs will be of a non-corrosive material. All bolts and nuts will be stainless steel. Heavy-duty, 2/0 gauge, color coded battery cables will be provided. Battery terminal connections will be coated with anti-corrosion compound. Battery solenoid terminal connections will be encapsulated with semi-permanent rubberized compound. JUMPER STUDS One (1) set of battery jumper studs with plastic color-coded covers will be included on the battery compartments.
0812586	Charger, Sngl Sys, Kussmaul, Chief 091-266-12-60, 60 Amp	BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger 6012, product code 091-266-12-60, 60 amp battery charger with build-in touch screen display provided. The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.
0814940	Location, Cab, Charger, EMS Compt Back Wall, LS	The battery charger will be located on the back wall of the left side EMS compartment.
0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.
0814945	Location, Cab, Ind/Remote, Driver's Step Area	The battery charger indicator will be located in the driver's step area.
0811952	Not Required, Indicator/Remote Status	
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	AUTO EJECT FOR SHORELINE There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline inlet(s) will include red weatherproof flip up cover(s). There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting. The shoreline(s) will be connected to 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 Ratting (amps) Phase Frequency
0026800	Shoreline Location	The shoreline receptacle will be located on the driver side of cab, to the front of cab door.
0121711	Alternator, 320 amp, Leece-Neville 4962PA, Sgl Sys	ALTERNATOR A Leece-Neville, Model 4962PA, alternator will be provided. It will have a rated output current of 320 amps, as measured by SAE method J56. The alternator will feature an integral, self diagnostic regulator and rectifier. The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.
0550970	Fan, 12v, Electrical Component Cooling	ELECTRICAL COOLING FAN There will be three (3) 12v electrical cooling fan to be located rear vertical wall of the radio compartment option #756860 one each in the upper corner and one centered – all up as high as possible). The fan will vent the heat outward. Fan to be wired to the battery switch.

Load Manager/Sequencer, MUX

ELECTRONIC LOAD MANAGER

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

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load

management tasks. Load management systems which require additional components will not be allowed

The system will include the following features:

System voltage monitoring.

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

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

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

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

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

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

The information center indicates system voltage.

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

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

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

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

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

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

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

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

Cab Heater and Air Conditioning
Crew Cab Heater (if applicable)
Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)
Third Evaporator (if applicable)

0783153 Headlights, Rect LED, JW Spkr Evo

2, AXT/DCF/Enf/Imp/Sab/Vel

Bzl, Above Headlts, Sab/Enf

HEADLIGHTS

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

front quad style, chrome housing on each side of the cab grille: the outside light on each side will contain a part number 055***1 low beam module the inside light on each side will contain a part number 055***1 high beam module the headlights to include chrome bezels

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

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

Light, Directional, Wln 604T* Cmn

DIRECTIONAL LIGHTS

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

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

The lens color(s) to be the same as the LEDs.

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

0805325

0804681

Light, Directional, Wln M62T* LED, 15 Degree Angle Bracket, Additional

ADDITIONAL DIRECTIONAL LIGHT

There will be two (2) Whelen®, Model M62T*, amber LED directional lights provided (1) one each side back of cab. Match previous Sacramento units #35533, #37009, #39220. The lens color(s) to be the same as the LEDs.

Each light will be surface mounted in a 15 degree angled bracket with chrome housing.

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

0823046

SP Light, Directional/Marker, Intermediate, Truck-Lite 35200Y Alum Ex Rub Rail 2lts

INTERMEDIATE LIGHT

There will be two (2) Truck-Lite®, Model 35200Y, 1.00" high x 4.00" wide x 1.25" deep lights with amber LEDs and amber lenses furnished, one (1) each side. The light will double as a turn signal and marker light.

They will be installed in the rub rail ahead of the rear wheels.

CAB CLEARANCE/MARKER/ID LIGHTS 0736083 Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor Lt There will be two (2) amber LED lights provided to indicate the presence and overall length of the vehicle in the following locations: Two (2) lights with amber LEDs as front side clearance lights will be installed, one (1) on each side above the cab doors. All other forward facing clearance lights will be included with the visor scene light. Lights, Directional/Marker, Cab Front FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS 0647899 Side, Weldon 9186-8580-29 LED, There will be two (2) Weldon, Model 9186-8580-29, amber LED lights installed front of the cab door, one (1) on each side of the cab. Sab/Enf The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit. 0090155 Lights, Clearance/Marker/ID, Rear, REAR CLEARANCE/MARKER/ID LIGHTING There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located Truck-Lite 35200R LED 7Lts at the rear of the apparatus per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height There will be two (2) Truck-Lite, Model 35200R, 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) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground. There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground. Per FMVSS 108 and CMVSS 108 requirements. 0804514 Lights, Tail, Wln M62BTT* Red **REAR FMVSS LIGHTING** Stop/Tail & M62T* Amber Dir Arw For The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Hsg Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red **LEDs** Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be the same as the LEDs. 0806466 Lights, Backup, Wln M62BU, LED, There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing. For Tail Lt Housing 0889577 Bracket, License Plate & Light, P25 LICENSE PLATE BRACKET LED, Stainless Brkt One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear. 0556842 Bezels, Wln, (2) M6 Chrome Pierce, **LIGHTING BEZEL** For mtg (4) Wln M6 lights 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.

Bid #: 978 34

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

BACK-UP ALARM

environmental noise levels.

0589905

Alarm, Back-up Warning, PRECO

1040

Light, Marker, Britax Rubber Arm, Model L427.203.L12 LED, Red/Amb, There will be one (1) pair of amber and red, Britax, Model L427.203.L12, LED marker lights with rubber arm, located one (1) each side at the rear of the body aft of the LS1 and RS1 roll-up Qtv/Loc doors. The amber lens will face the front and the red lens will face the rear of the truck and be the most rearward marker light. These lights will be activated with the running lights of the vehicle. 0578264 Flash Pattern, California Title13, LED WARNING LIGHT FLASH PATTERN Warning Lights The flash pattern of all the exterior warning lights will be set to meet the certified California, Title XIII flash pattern by either the light manufacturer's default flash pattern or by a conversion change to the certified flash pattern. 0557569 Light, Additional, P25 LED, White **ADDITIONAL LIGHT** There will be additional white LED light(s) provided. 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 light(s) will be installed deck gun area, on the inside of the D.S. side sheet. There will be one (1) light(s) provided. These light(s) will be controlled when parking brake is applied 0896155 Lights, TecNiq Eon E03-*001-1 LED, **BEHIND GRILLE LIGHTING** There will be one (1) TechNiq Model E03-*001-1, 0.70" high x 2.95" long x 0.62" deep 12 volt DC Steady Burn, Behind Cab Grille 1st steady burning light(s) with stainless steel vertical mount(s) provided behind the front cab grille, located To be mounted in lower section of the Grill to backlit Option #766419 the stainless lower grill insert. to illuminate it as if it is backlit. The light(s) will include red LEDs. The lights will be activated with the headlight switch on or the parking brake set. The lights may be load managed when the parking brake is applied. 0769420 Lights, Perimeter Cab, Amdor AY-LB- CAB PERIMETER SCENE LIGHTS 12HW020 LED 4Dr There will be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door. These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights. **PUMP HOUSE PERIMETER LIGHTS** 0769572 Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, one (1) each side If the combination of options in the vehicle does not permit clearance for a 20.00" light, a 12.00" version of the Amdor light will be installed. The lights will be controlled by the same means as the body perimeter lights. 0770056 Lights, Perimeter Body, Amdor AY-**BODY PERIMETER SCENE LIGHTS** There will be two (2) Amdor, Model AY-LB-12HW020, 350 lumens, 20.00" long, white LED's, 12 LB-12HW020 LED 2lts, Rear Step volt DC lights provided at the rear step area of the body, one (1) each side shining to the rear. The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied. 0896454 Enhanced Software for Perimeter Lts ENHANCED SOFTWARE FOR PERIMETER LIGHTS All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed. 0566799 Lights, Step, P25 LED 4lts, Ign, Prk **STEP LIGHTS** There will be four (4) white LED, step lights provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. **Brk Activated** These step lights will be actuated when the ignition switch is on and the parking brake is set. All steps on the apparatus will be illuminated per the current edition of applicable NFPA standards. 0696870 Lights, Side Scene, TecNiq, E960 **SCENE LIGHTS** There will be one (1) pair of TecNiq, Model E960, LED scene light(s) with stainless steel housing, LED, Stainless 1st Pr installed on the side of the apparatus, one (1) each side aft of rear wheelwells. A control for the light(s) selected above will be the following: no additional switch location no additional switch location no additional switch location

MARKER LIGHTS

0564535

Bid #: 978 35

These lights may be load managed when the parking brake is set.

By the rear scene light switch in DS cab

0626449

Light, Wln, 12V NP6B* Nano Pioneer 12 VOLT LIGHTING Series LED, Bail Mount 2nd

There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail bracket to be located passenger side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per previous truck #32995

The painted parts of this light assembly to be white.

The light(s) selected above will be controlled by the following: from the same switches provided to activate other scene lights.

no additional switch location. no additional switch location.

no additional switch location.

These light(s) may be load managed when the parking brake is applied.

0626453

Light, Wln, 12V NP6B* Nano Pioneer 12 VOLT LIGHTING

Series LED, Bail Mount 1st

There will be one (1) Whelen Model NP6B*, 1,800 lumens 12 volt DC LED floodlight(s) and bail bracket to be located driver side on the cab roof, as far forward as possible and under the lightbar towards the outboard side and angled at 45 degrees outwards per previous truck #32995 01-03.

The painted parts of this light assembly to be white. The light(s) selected above will be controlled by the following:

from the same switches provided to activate other scene lights.

no additional switch location.

no additional switch location.

no additional switch location.

These light(s) may be load managed when the parking brake is applied.

0729921

Light, Roof Mt, Wln S72M**, 72" Cnt Feature, Mkr Lts Activated, SUBKT*

Mounts

SP

12 VOLT LIGHTING

There will be a Whelen® Model S72M**, 72.00" long 32,400 lumens DC powered light provided on the front cab roof as far forward as practical. The painted parts of this light assembly to be

The light(s) to be installed with flat horizontal mounts.

The light will include the following:

White scene LEDs

Two (2) amber LED modules as clearance lights

Three (3) amber LED modules as identification lights

Four (4) additional LED modules. The additional modules to be four (4) scene light modules with white I FDs

The clearance and identification LEDs will be activated with the headlight switch.

The scene LEDs will be activated when the battery switch is on and by a switch at the driver's

side switch panel and by a switch at the left side pump panel. There will be a switch in the cab on the switch panel to control the flashing or spot LED modules.

Amber flashing LED modules will be deactivated when the parking brake is released.

The white scene and flashing LED modules may be load managed when the parking brake is applied.

0889662

Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 2nd

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model S16*M*, 6,480 lumens, 2.48" high x 16.37" wide x 2.15' deep 12 volt DC light(s) with white, amber LEDs and flood optics provided on the cab located, RS crew cab centered under the Whelen side lightbar per AD print. The light(s) to be installed with extended horizontal mounts.

The painted parts of this light assembly to be white.

The scene LEDs will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by the same control that has been selected for the passenger's side scene light(s)

The marker lights included in this light housing shall not be energized.

These light(s) may be load managed when the parking brake is applied.

0889664

Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 1st

12 VOLT DC SCENE LIGHTS

There will be one (1) Whelen® Model S16*M*, 6,480 lumens, 2.48" high x 16.37" wide x 2.15" deep 12 volt DC light(s) with white, amber LEDs and flood optics provided on the cab located, LS crew cab centered under the Whelen side lightbar per AD print. The light(s) to be installed with extended horizontal mounts.

The painted parts of this light assembly to be white.

The scene LEDs will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and by the same control that has been selected for the driver's side scene liaht(s).

The marker lights included in this light housing shall not be energized.

These light(s) may be load managed when the parking brake is applied.

0749207 Lights, Wln, S30M** 30" 12VDC, RS 12 VOLT LIGHTING There will be one (1) Whelen® Model S30M**, 12,960 lumens 30.00" 12 volt DC light(s) with Body white LEDs provided on the right side of the body located, RS centered on body catwalk area, mounted high on the side sheet. For reference please see Job #35533. The painted parts of this light assembly to be black. The light(s) will include the following: Six (6) scene light modules with white LEDs Three (3) amber LEDs as marker lights Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs. The lights will be activated per the following: The amber marker lights not activated. The scene LEDs will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and 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 or spot LED modules. The light(s) may be load managed when the parking brake is applied. 0749209 Lights, Wln, S30M** 30" 12VDC, LS 12 VOLT LIGHTING There will be one (1) Whelen® Model S30M**, 12,960 lumens 30.00" 12 volt DC light(s) with Body white LEDs provided on the left side of the body located, LS centered on the body. mounted high on the Side Sheet. Please refer to Job #35533. The painted parts of this light assembly to be black The light(s) will include the following: Six (6) scene light modules with white LEDs Three (3) amber LEDs as marker lights Two (2) additional LED modules. The additional modules to be two (2) scene light modules with white LEDs. The lights will be activated per the following: The amber marker lights not activated. The scene LEDs will be controlled by a switch at the driver's side switch panel, by a switch at the left side pump panel and 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 or spot LED modules. The light(s) may be load managed when the parking brake is applied. 0768474 Lights, Hose Bed, Below Alum Cvr, LIGHTS BELOW HOSE BED COVER Amdor AY-LB-12HW040, 40" LED There will be four (4) Amdor Model AY-LB-12HW040, 700 lumens, 40.00" white LED lights provided to illuminate the hose bed area. Two (2) LED light strips will be installed on the driver's side hose bed cover, as close to the hinge as practical Two (2) LED light strips will be installed on the passenger's side hose bed cover, as close to the hinge as practical. The lights will be activated when the battery switch is on, and when the hosebed cover is raised. 0645639 Lights, Rear Scene, Wln, PEL*C **REAR SCENE LIGHTS** There will be two (2) Whelen, Model PEL*C, white 12 volt DC LED scene lights with 45 degree LED, 45 Deg Flange chrome housing installed at the rear of the apparatus, below the stop/tail/warning assembly at the rear of the body, one (1) each side. The lights will be controlled when the parking brake is applied and from the other rear scene light control. 0709438 Lights, Walk Surf, FRP Flood, LED **WALKING SURFACE LIGHT** There will be Model FRP, 4.00" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body. The light(s) will be activated when the body step lights are on. 0753285 Switch, White Warning Lights, Front FRONT WHITE WARNING LIGHT CONTROL There will be switch(es) installed in the cab on the switch panel that will allow the operator to activate/deactivate all the front white warning lights whenever the emergency master switch is activated and the parking brake is released. The headlight flash option is included in this white warning light control if applicable. Each time the emergency master switch is activated, and the parking brake is released, the white warning light control switch and the white warning lights will default to on. 0721939 SP **Combined Control SWITCH FOR 12 VOLT LIGHTS** Switch, Combined Control, 12 Volt Scene Lights A Combined Control "on/off" switch will be provided for the 12 volt light(s) located To control option 591872, 696870 & 645639. A total of one (1) switch(es) will be provided DS switch Rear Scene.

Gen

Pumper, Medium, Galvanneal, 2nd

0554271 Body Skirt Height, 20"

0060111

0028244	Tank, Water, 500 Gallon, Poly, Med	WATER TANK Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated. Tank joints and seams will be nitrogen welded inside and out. Tank will be baffled in accordance with the current edition of applicable NFPA standards. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments. Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding. Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover. All partitions will interlock and will be welded to the tank bottom and sides. Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions. Tank top will be sufficiently supported to keep it rigid during fast filling conditions. Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes. A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank. Sump will include a drain plug and the tank outlet. Tank will be installed in a fabricated cradle assembly constructed of structural steel. Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing. Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.
0003405	Overflow, 4.00" Water Tank, Poly	Fill tower will be constructed of 0.50" polypropylene and will be a minimum of 8.00" wide x 14.00" long. Fill tower will be furnished with a 0.25" thick polypropylene screen and a hinged cover. An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.
0028104	Foam Cell Required	
0633066	Sleeve, Through Tank	SLEEVE PLUMBING THROUGH TANK Two (2) sleeves will be provided in the water tank for a 3.00" pipe to the rear.
0553729	Not Required, Restraint, Water Tank, Heavy Duty	
0003429	Not Required, Direct Tank Fill	
0003424	Not Required, Dump Valve	
0048710	Not Required, Jet Assist	
0030007	Not Required, Dump Valve Chute	
0514778	Not Required, Switch, Tank Dump Master	
0126632	Hose Bed, Galv, Pumper	HOSE BED The hose bed will be fabricated of 12-gauge galvanneal steel. The sides will not form any portion of the fender compartments. Upper and rear edges of side panels will have a double break for rigidity, a split tube finish will not be acceptable. The upper area at the rear of the hose bed will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed. Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.
0723549	Painted Hose Bed	The hose bed interior walls will be painted to match the lower body color.

0003481		Hose Bed Capacity, Special	Hose bed will accommodate (from left to right): 600' x 3.00" D.J.C.R.L 500' x 2.50" D.J.C.R.L 1000' x 5.00" D.J.C.R.L.
0022407		Divider, Hose Bed, Unpainted, Special Height	HOSE BED DIVIDER Two (2) hosebed dividers will be furnished for separating hose. The height of the hose bed divider(s) will be 24.00". Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.
0824962	SP	Cover, Hose Bed, Alum Treadplate, Bolted T-Bar, RS Open, Metal End Gas Cylinder	HOSE BED COVER A two (2) section hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be hinged with full length stainless steel piano hinge. The sides will be slanted down with the center of the cover supported by a stationary modular bridgework support. The cover will be reinforced so that it can support the weight of a man walking on the cover. The cover is designed with the right cover opening first. If access to water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that tank may be filled without raising cover doors. Chrome grab handles and four (4) gas filled cylinders with metal ends will be provided to assist in opening and closing the cover. This cover will be included in the "Do Not Move Truck" circuit to provide an alert when open.
0807353		Hose Restraint, Hose Bed, Vinyl, Rear, Separate From Top, Split 2-Sec	HOSE RESTRAINT REAR At the rear of the hose bed, a red vinyl flap will be provided. The vinyl flap will be split into two sections in the middle of tarp aligning with the middle of the hose bed. The vinyl flap will be provided with hook and loop between each section. The top of the vinyl flap will be attached to the top of the hosebed with permanent attachment to the aluminum hose bed cover with an aluminum angle. At the bottom of the flap, Velcro strap and footman loop will be provided. The bottom of the flap will be chain weighted.
0010133		Cross-Divider, Hose Bed	A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.
0779959	SP	Divider, .25", Unpainted, Special Height 15", Notched	There will be one (1) additional hose bed dividers furnished. Each divider will be constructed of a .25" brushed aluminum sheet. The divider will be 15.00" tall. The rear 24.00" of the divider will be notched out to the base of the divider. Partition will be installed and located See sketch in Job Photo's. Divider to be on driver's side of hosebed Divider will be held in place by tightening two (2) bolts, one (1) at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads. Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.
0690569	SP	Divider, .25", Unpainted, Special Height	There will be one (1) additional hose bed dividers furnished. Each divider will be constructed of a .25" brushed aluminum sheet and 24" tall inches tall. Partition will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening two (2) bolts, one (1) at each end and located Far right side of HB when looking into HB, Per AD. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads. Flat surfaces will be sanded for uniform appearance or constructed of brushed aluminum.
0748157	SP	Special Grating Substruture, Hose Bed, Wider Flat Bar	HOSE BED GRATING SUBSTRUCTURE The hose bed grating substructure will be modified with wider flat bar to it in order to help prevent wear to the water tank below it.
0060884		Stay Arm, Hose Bed Cover, Mechanical	HOSE BED STAY ARM COVER An additional positive stay arm will be provided at the front of the cover. The additional stay arms will be a flat bar, mechanical design.
0013512		Running Boards, 12.75" Deep	RUNNING BOARDS Running boards will be fabricated of 0.125" bright aluminum treadplate. Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure. Running boards will be 12.75" deep and spaced 0.50" away from the pump panel. A splash guard will be provided above the running board treadplate.

0689621		Tailboard, 16" Deep	TAILBOARD The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly. The tailboard area will be 16.00" deep. The exterior side will be flanged down and in for increased rigidity of tailboard structure.
0818176		Wall, Rear, Smooth Aluminum/Body Material, 16" Inset	REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL The rear facing surfaces of the center rear wall will be smooth aluminum. The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body. The center rear wall will be inset 16" from the body bulkhead rear walls. Any inboard facing surfaces below the height of the hosebed will be aluminum diamondplate.
0889214		Tow Eyes, w/Tow Bar, 2G Pumper	REAR TOW EYES Two (2) tow eyes, which are an integral part of the body mounting substructure, will be installed below the rear of the truck. The tow eyes will be of adequate strength to allow the truck to be pulled from the eyes. REAR TOW BAR One (1) tow bar will be installed under the tailboard. The tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow bar design will have been tested and evaluated using finite element analysis techniques.
0729516	SP	Restraint, Tailboard Area, 2" Nylon Webbing w/Velcro, Turnout Gear, CARE	TAILBOARD RESTRAINT 2.00" heavy nylon webbing will be provided on the rear tailboard area Rear Tailboard, not to extend higher than the top of the roll up door. Please reference Job #35533 and at Final changes with lower footman loops mounted to below tailboard to allow for dirty turnout gear to be stored after use. The webbing will attach with footman loops and velcro straps to allow the restraint to be fully removable when not in use. The lower footman loops will be mounted under the tailboard.
0612233		Hose Restraint, Running Board, Velcro Straps, Special Length	RUNNING BOARD HOSE RESTRAINT A pair of 2.00" wide black nylon straps with Velcro fasteners will be provided for each hose tray to secure the hose during travel. The straps will be 20.00", permanently attached to the outboard edge, so when open the straps fall to the ground and not in the tray" in length. There will be Two (2) hose trays located one (1) in each side running board.
0014123		Tray, Hose, Running Board, Special Capacity, FITB	HOSE TRAY Two (2) hose trays will be recessed in the right hand side running board. Capacity of the tray will be 30' x 5.00" in the LEFT SIDE tray and 50' x 5.00" in the RIGHT SIDE. MATCH JOB #35533. Rubber matting will be installed on the floor of the tray to provide proper ventilation. Drain holes will be provided.

Construction, Compt, Galv, 2G Pumper

COMPARTMENTATION

Body and compartments will be fabricated of galvanneal steel.

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

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance. Side compartment flooring will be 12-gauge and of the sweep out design, with the floor higher than the compartment door lip.

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

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

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

Side compartment covers will be separate from the compartment tops.

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

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

UNDERBODY SUPPORT SYSTEM

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

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

The support system will include 0.375" thick steel vertical angle supports bolted to the chassis frame rails with 0.625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure, which results in a 500 lb equipment support rating per lower compartment.

The steel frames as well as the steel vertical angles will be treated with an epoxy E-coat or equivalent to provide resistance to corrosion and chemicals as standard.

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

The isolators will have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes. The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

A design with body compartments hanging on the chassis, unsupported, will not be acceptable.

AGGRESSIVE WALKING SURFACE

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

LOUVERS

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

TESTING OF BODY DESIGN

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

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

The criteria used during the testing procedure will include:

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

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

Driving the vehicle at 35 mph on a washboard road.

Driving the vehicle at 55 mph on a smooth road.

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

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

LS 152" Rollup, Full Height Front & Rear, FDLER

LEFT SIDE COMPARTMENTATION

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

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

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

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

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

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

Bid #: 978 41

0023650

RS 152" Rollup, Low, FDLER

RIGHT SIDE COMPARTMENTATION

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

A rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 32.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 22.88" high.

A rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 33.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 23.88" high.

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

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

0594005

Doors, Rollup, Amdor, Side Compartments

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be five (5) compartment doors installed on the side compartments, double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors. Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement. Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression.

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

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

A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 1250 for all compartment doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 nylon. Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door

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

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

0083700

Compt, Rear, Rollup, 37.75" FF, 25.88" D

REAR COMPARTMENTATION

A roll-up door compartment above the rear tailboard will be provided.

The interior dimensions of this compartment will be 40.00" wide x 40.63" high x 25.88" deep. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartment will be calculated with the compartment door closed.

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

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

The clear door opening of this compartment will be a minimum of 33.25" wide x 30.88" high. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0594003		Door, Amdor, Rollup, Rear Compartment	ROLLUP REAR COMPARTMENT DOOR The rear compartment will have a rollup door. The door will be double faced, aluminum construction, satin aluminum and manufactured by AMDOR™ brand rollup doors. The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement. Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingression. The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials. Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands. A polished stainless steel lift bar with locking key latches to be provided for each roll-up door. The keys to be Model 1250 for all compartment doors. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. All injection molded rollup door wear components will be constructed of Type 6 Nylon. The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door. The he
0808925		Body Modification, 4" Reduced Depth Rear Compt, Air Ride	BODY MODIFICATION FROM STANDARD The following body modifications will be required for the installation of a single axle air ride suspension: Rear compartment will be 4.00" shorter in depth. Special water tank mounting required if applicable.
0650792		Scuffplate, S/S Around Air Bottle Compt Openings, Qty	SCUFFPLATE Three (3) scuffplates will be furnished around the opening for the air bottle compartment(s). The scuffplate(s) will be constructed of polished stainless steel and provided for the (1) LS ahead of axle, Both RS compartments air bottle compartment(s).
0749785	SP	Weather Strip, Location	WEATHER STRIP Weather stripping will be provided located both the ds air bottle doors that includes the def fill and the rearward air bottle door that includes the fuel fill, weather stripping to go on the door where it lines up with these openings
0019845		Guard, Drip Pan, S/S, Rollup Door	DOOR GUARD There will be six (6) compartment doors that will include a guard/drip pan designed to protect the roll-up door from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed all body compartments.
0891633	SP	Door Stop, Reduced in Height, Amdor Rollup Door, Each	REDUCED HEIGHT RUBBER DOOR STOPS The black rubber stops provided above the horizontal door ledge on the roll up doors located on a total of six (6) compartment door(s) located LS1, LS2, LS3, B1, RS1, RS2 will be trimmed so that the door can be opened as much as possible.
0742323	SP	Lights, Compt, Amdor AY-9280 Wht Rd LED, Dual Lt Strips, Each Side of Door	COMPARTMENT LIGHTING There will be six (6) compartment(s) with two (2) Amdor®, Model AY-9280-**, 12 volt DC LED compartment light strips mounted with mechanical fasteners. Each light strip will include both red and white LEDs. The dual light strips will be centered vertically along each side of the door framing. The dual light strips will be in all body compartment(s). The lights will be activated when the battery switch is on and the respective compartment door is opened. Control will be with a separate switch in cab and with a switch at the pump panel to control when the white LED lights are activated and when the red LED lights are activated. In the first switch position, the white LED lights will be activated. In the second position, the red LED lights will be activated. Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.

0687135

Shelf Tracks, Unpainted

MOUNTING TRACKSThere will be six (6) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2 and B1. These tracks will be installed vertically to support the adjustable shelf(s). The tracks will be unpainted with a natural finish.

0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	ADJUSTABLE SHELVES There will be five (5) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray 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 LS1 at the depth transition point, in LS2 centered between the floor and ceiling, in LS3 in the upper third, in LS3 in the upper third and in LS1 in the upper third to the left of the partition.
0622945		Shelves, Adjustable, Full Width/Depth, Low/Special Side Height	ADJUSTABLE SHELVES There will be three (3) shelves provided B1, RS1 forward of vertical divider, RS2. The shelf construction will consist of 0.188" aluminum painted spatter gray. A capacity rating will not be available on this item due to a reduced side height being less than 2.00". Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. Each shelf will as wide and as deep as the compartment space will allow. The shelves will be held in place by 0.12" thick stamped plated brackets and bolts. The side height of the shelf/shelves will be as follows: Front: 1.00" high Rear: 1.00" high Left & Right Sides: 1.00" high
0709690		Tray, 250 lb Slide-out, 2" Sides - Adj. Height, Predefined Locations	SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be one (1) slide-out tray 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 spatter gray. Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location. An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand. The location(s) will be in LS3 in the lower third
0647045		Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, 500lb, 2.00" Sides, 2G	SLIDE-OUT FLOOR MOUNTED TRAY There will be one (1) floor mounted slide-out tray(s) with 2.00" sides provided. 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 . 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. The location(s) will be . EXCLUDED: [location] Selected value: "LS1, Per Previous Truck #32995 and Photos 146, 152" EXCLUDED: [Material] Painted - Spatter Gray
0726403		Partition, Vertical Compt, Special Height	VERTICAL COMPARTMENT PARTITION One (1) partition will be bolted in LS1. Each partition will be in LS1, 20.00" from the REAR door frame starting at the top of the compartment and extending to the compartment transition only vertical height of the compartment. Each partition will be painted spatter gray.
0726457		Partition, Vertical Compt, Predefined Locations	VERTICAL COMPARTMENT PARTITION One (1) partition will be provided. The partition construction will consist of body material painted spatter gray. Each partition will be the full vertical height of the compartment. The location(s) will be in RS1, 18.00" from the forward door frame.
0614922		Dura Surf, Additional, Location	SCUFF RESISTANT MATERIAL one (1) additional areas will be protected with Dura Surf material. The locations will be on the B1 back wall, lining up with the air bottle assy that will sit just under the roll door opening.
0502057	SP	Brushed S/S on Compt Floor	COMPARTMENT FLOOR SCUFFPLATE Brushed stainless steel will be provided on the floor of three (3) compartments. The locations will be B1, RS1, RS2. The edges of the stainless steel will be completely caulked before installation to prevent corrosion.

0539735		Caulk, Seam, Catwalk to Side Sheet	The seam between the catwalk and side sheet both sides of body will be caulked.
0799343		Bracket, SCBA, Zico SC-50-H-6-SF, with PHS	AIR BOTTLE HOLDERS There will be one (1) Ziamatic, Model SC-50-H-6-SF, SCBA holder(s) with PHS (positive holding strap) provided. The bracket(s) will be located LS1, aft of the vertical divider. Match #37009.
0659383		Matting, Turtle Tile w/Ramp, Compartment Floors	MATTING, COMPARTMENT FLOOR Turtle Tile compartment matting will be provided in two (2) compartments on the compartment floor. The locations are, LS2,LS3. 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 11 shelves. The locations are, all adjustable shelves (8 total) and all slide-out trays (2 total) Per Photo #6826, 6835, 6846, 6849 The color of the Turtle Tile will be black.
0593150		Plate, Shelf, Adjustable, .38", 500 lb, Each	ADJUSTABLE SHELVES There will be one (1) shelf shelves, provided. The shelf construction will consist of .38" aluminum plate with a dual action finish without sides. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The location will be B1 as high as possible, to support the 5 air bottle assy. Match previous jobs #35533, #37009, #39220.
0653792	SP	Strap, Nylon w/Velcro, 4.00" Wide	STRAP There will be one (1) black 4.00" wide nylon straps provided B1 side to side over the bottle storage bin (option #0772406). Customer request that it be (1) strap fixed mounted to one side, ran through opposite Footman's loop and back onto It self. The strap will have a Velcro® fastener.
0024016		Rub Rail, Aluminum Extruded, Side & Rear of Body	RUB RAIL Bottom edge of the side and rear of the body compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity. The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.
0784811		Fender Crowns, Rear, Stainless, w/Removable Liner	BODY FENDER CROWNS Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion. The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown. BODY FENDER LINER A aluminum painted to match the lower body color fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.
0519849		Not Required, Hose, Hard Suction	HARD SUCTION HOSE Hard suction hose will not be required.
0626229		Handrails, Side Pump Panels, Per Print	HANDRAILS The handrails will be 1.25" diameter knurled aluminum to provide a positive gripping surface. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails. Handrails will be provided to meet current edition of applicable NFPA standards. The handrails will be installed as noted on the sales drawing.
0004126		Handrails, Beavertail, Standard	HANDRAILS One (1) vertical handrail will be located on each rear beavertail.
0030332		Handrails, Rear, (2) Below Hose Bed, One Each Side	Two (2) horizontal knurled aluminum handrails will be provided below the hose bed at the rear of the apparatus, one each side.

0064150		Handrail, Extra - 20-30" Long	ADDITIONAL HANDRAIL Two (2) handrails will be mounted on the top rear of the hosebed cover on each side, 7" forward from rear with bolts. The handrail(s) will be constructed out of knurled aluminum.
0622393		Compt, Air Pack Fender Panel	AIR PACK STORAGE A total of three (3) air pack compartment(s) will be provided and located on the left side forward of the rear wheels, on the right side forward of the rear wheels. The air pack compartment(s) will be tapered to match the profile of the space available in the fender. The compartment(s) will be approximately 15.50" wide at the top and 5.00" wide at the bottom for the wheel cutout. The compartment(s) will be 15.50" tall at the body side compartment and 6.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole. Inside the compartment, black Dura-Surf friction reducing material will be provided. A painted stainless steel hinged door with a Southco raised trigger C2 chrome lever latch will be provided to contain the air pack. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.
0734956	SP	Storage Bin, Air Bottle, Special Size, Open Back	AIR BOTTLE STORAGE BIN A storage bin with an open back will be provided for storage of five (5) air bottles. This storage bin will be installed As High as possible on tracks in B1 compartment. Each storage compartment will be 6.25" x 6.25" nominal x depth of the shelf/mounting plate that the rack mounts to. Please include a piece of durasurf bottom of each slot and on the rear wall of the compartment due to these slots not including a back match 35533. The storage bin will be formed out of aluminum and the flooring lined with Dura-surf.
0650780		Storage Bin, Extinguishers, Special Size, Strap	EXTINGUISHER STORAGE BIN A storage bin will be provided for storage of hand held fire extinguishers. This storage bin will be installed IF STANDING LOOKING INTO THE LS1 COMPARTMENT, bolt the assembly to the floor mounted slide-out tray as far to the right as possible. The bin will contain slots for storage of two (2) extinguishers. The slots for the extinguisher(s) within bin will be CLEAR INSIDE DIMENSIONS TO BE 8" wide x 8" high x 25" deep (note actual bottle dimensions are 24" tall and 7" diameter at the base). The storage bin will be formed out of aluminum with the floor of each slot lined with Dura-surf. A strap will be provided across the front of each slot to help contain the extinguisher. The slots within the bin will be configured 1 wide by 2 high .
0814191	SP	Drain Hole, w/Drain Tube, Air Pack Compt, Each	AIR BOTTLE COMPARTMENT DRAINS A drain hole will be provided in three (3) air pack compartment/s located (3) SCBA compartments. Each drain hole will have a drain tube attached to it to allow water to flow out of the compartment while limiting snow and slush from getting into the compartment.
0804647	SP	Latch Slots, Covered/Sealed, Air Bottle/Extinguisher Compts, Each	AIR BOTTLE/EXTINGUISHER COMPARTMENT LATCH SLOT COVERS There will be a total of three (3) air bottle/extinguisher compartment(s) located All (3) SCBA pack compartments that will have the any latch slot covered from the back side to help prevent road debris from getting in the compartment through the slot. Any gaps that may exist due to compartment design will also be sealed to help provide additional protection.
0004225		Ladder, 24' Duo-Safety 900A 2- Section	EXTENSION LADDER There will be a 24' two-section aluminum Duo-Safety Series 900-A extension ladder provided.
0004230		Ladder, 14' Duo-Safety 775A Roof	ROOF LADDER There will be a 14' aluminum Duo-Safety Series 775-A roof ladder provided.
0004300		Brackets, Adjustable, RS	LADDER BRACKETS The ladders will be installed on the right side of the hose body in lined brackets and held in place by chrome plated, quarter-turn spring loaded clamps. The clamps will be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. The ladder brackets will be adjustable up and down.
0733387		Ladder, 10' Duo-Safety Folding 585A	FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.
0761352		Trough, Folding Ladder, Behind Ladders on Ladder Brackets	FOLDING LADDER STORAGE One (1) folding ladder will be stored behind the ladders on the side sheet, in a painted stainless steel box-shaped trough. One (1) strap will be provided at the rear of the trough to secure the folding ladder in the trough.

0684359	SP	Lock, Ladder, Individual, Ladder Storage	LADDER LOCK A ladder lock mechanism will be provided for each vertically-stored ladder in the ladder storage area. Each ladder will be removable without unlocking the remaining ladders. There will be a total of two (2) individual ladder locks provided.
0785966	SP	Ladders, Nesting, 2-Section Ladder and Roof Ladder, Beam to Beam	LADDER STORAGE ORIENTATION The ladders will be stored with one 2-section extension ladder located outboard of one roof ladder. The ladders will be nested beam to beam, not beam to rung. The ladder locks will be adjusted accordingly.
0725371		Compt w/Door, Backboard, Over Pump	BACKBOARD STORAGE A transverse area over the pump and rearward of the crosslays will hold one (1) storage trough. A blister will be supplied at each side to enclose the backboards due to their length. The backboards will be accessible from either side of the vehicle through the polished stainless steel door(s) with a Southco C2 chrome raised trigger lever latch. The door(s) will be hinged along the rearward edge. The size of the backboard(s) to be stored will be 74.00" long x 18.00" wide x 3.00" high.
0505999		Pike Pole, 10' Fire Hooks Unlimited, New Yorker, NYFG-10, w/Ram Knob	PIKE POLE, 10' One (1) pike pole, Fire Hooks Unlimited, Model NYFG-10, 10' long New Yorker style hook with a ram knob end, will be provided and located in the pike pole tube.
0547754		Not Required, Pike, Pole, 8'	
0552649		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Steel, Pry End, RH-6	6' PIKE POLE There will be one (1) Fire Hooks Unlimited NY roof hook RH-6, 6' pike pole(s) with steel handles and pry end provided Pike Pole storage on Ladder rack.
0767871	SP	Compt, Long Tools, Btwn Tank & Side Sheet/Below Tank Tee, RS	LONG TOOL STORAGE One (1) compartment will be provided below the tank tee between the tank and side sheet on the right side. The compartment will be roughly Compartment to match size of door opening for height and width and with max depth of 38". Utilize door size from job #35533 in size. A door will be provided at the rear of the compartment for access. The door will be made of polished stainless steel with a Southco C2 chrome raised trigger lever latch. The door will be hinged along the inboard edge.
0762449	SP	Compt, Long Tools, Btwn Tank & Side Sheet/Below Tank Tee, LS	LONG TOOL STORAGE One (1) compartment will be provided below the tank tee between the tank and side sheet on the left side. The compartment will be roughly Compartment to match size of door opening for height and width and with max depth of 38". Utilize door size from job #35533 in size. A door will be provided at the rear of the compartment for access. The door will be made of polished stainless steel with a Southco C2 chrome raised trigger lever latch. The door will be hinged along the inboard edge.
0058193		Tubes, Alum, Pike Pole Storage, Spc Notch, NY PP Head	PIKE POLE STORAGE Aluminum tubing will be used for the storage of two (2) pike poles and will be located behind the ladders on the side sheet, passenger's side - ***Top tube to be set 1.75" from rear edge of body and bottom tube to be set 6.50" from rear edge of body If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided. The pike pole tube will be notched to allow a New York style pike pole to fit into the tube.
0768976		Bell, 12" Chrome w/Eagle, Mounted on Cab Corner, Large Brkt	BELL A chrome plated, 12.00" bronze cast bell, complete with an eagle, will be mounted on the passenger side radiused corner of cab face. The cab will be properly reinforced to support the weight of the bell, the reinforcement bracket allow the bell to mount toward the upper corner of the windshield. A rope pull, for the bell, will be installed inside the cab.
0531401		Label, Special Information	LABEL There will be one (1) label(s) provided affixed to the adjustable shelf in LS2 compartment with the following information: PRY BAR.
0593083		Step, Folding, Front of Body, Left Side, w/LED, Trident	STEP A folding step will be provided on the left side front bulkhead. The step will be a bright finished, non-skid step with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. The step will incorporate an LED light to illuminate the stepping surface. The step can be used as a hand hold with two openings wide enough for a gloved hand.

0592995		Steps, Combo Folding Trident w/LED & Corner, Rear Body	REAR STEPS Aluminum treadplate corner steps and bright finished, non-skid folding steps will be provided at the rear. The folding steps will have a a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours,. Each folding step will incorporate an LED light to illuminate the stepping surface. The folding steps can be used as a hand hold with two openings wide enough for a gloved hand. All steps will provide adequate surface for stepping.
0724153		Step, Folding - Extra, Body Only, w/LED, Trident	Two (2) additional folding steps will be located drivers side above the standard step The step(s) will be bright finished, non-skid with a luminescent tread coating, that is rechargeable from any light source and can hold a charge for up to 24 hours, on the stepping surface. Each step will incorporate an LED light to illuminate the stepping surface. The step(s) can be used as a hand hold with two openings wide enough for a gloved hand.
0005497		Pump House, Side Control, 48"	PUMP COMPARTMENT The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. The pump compartment will be constructed of the same material as the body compartment substructure will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards. The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist. Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly. PUMP MOUNTING Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. PUMP CONTROL PANELS (Side Control) All pump controls and gauges will be located at the left side of the apparatus and properly marked. The control panels will be 48.00" wide. Polished stainless steel trim collars will be installed around all inlets and outlets. All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding. The identification tag for each valve control will be recessed in the face of the tee handle. All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge. All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pu
0035501		Pump House Structure, Std Height	
0827186	SP	Cup, Nozzle Storage, Rubber Matting, Strap	NOZZLE STORAGE CUP There will be one (1) storage cup(s) for nozzles, The cup(s) will be constructed of round tubing. The cup(s) will have rubber matting on the floor and will have a Velcro strap across the top. The cup(s) will be located cargo area (mount at pickup).
0756557	SP	Cover, Aluminum 4-way, Exposed Plumbing for CARE Water Tank, in Cargo Area	COVER A bright aluminum treadplate hat section will cover the exposed plumbing for the CARE water tank in the cargo area.
0003977		Floor, Hinged for Access, Aluminum Treadplate, Left Side	ACCESS PANEL The bright aluminum treadplate flooring on the left side of the cargo compartment will be hinged with quarter turn latches for access to the pump and plumbing.

0004425	Pump, Waterous, CSU, 1500 GPM, Single Stage	PUMP Pump will be a Waterous CSU, 1500 gpm single (1) stage midship mounted centrifugal type. Pump will be the class "A" type. Pump will deliver the percentage of rated discharge at pressures indicated below: 100 percent of rated capacity at 150 psi net pump pressure. 70 percent of rated capacity at 250 psi net pump pressure. 50 percent of rated capacity at 250 psi net pump pressure. Pump body will be close-grained gray iron, bronze fitted, and horizontally split in two (2) sections for easy removal of the entire impeller shaft assembly (including wear rings). Pump will be designed for complete servicing from the bottom of the truck, without disturbing the pump setting or apparatus piping. Pump case halves will be botted together on a single horizontal face to minimize chance of leakage and facilitate ease of reassembly. No end flanges will be used. Discharge manifold of the pump will be cast as an integral part of the pump body assembly and will provide a minimum of three (3) 3.50" openings for flexibility in providing various discharge outlets for maximum efficiency. The three (3) 3.50" openings will be located as follows: one (1) outlet to the right of the pump, one (1) outlet to the left of the pump, and one (1) outlet directly on top of the discharge manifold. Impeller shaft will be stainless steel, accurately ground to size. It will be supported at each end by sealed, anti-friction ball bearings for rigid precise support. Impeller will have flame plated hubs assuring maximum pump life and efficiency despite any presence of abrasive matter in the water supply. Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.
0004482	Seal, Mechanical, Waterous	Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal. The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body. In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation. Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.
0816447	Trans, Pump, Waterous C22 Series	PUMP TRANSMISSION The pump transmission will be made of a three (3) piece, aluminum, horizontally split casing. Power transfer to pump will be through a high strength Morse HY-VO silent drive chain. By using a chain rather than gears, 50 percent of the sprocket will be accepting or transmitting torque, compared to two (2) or three (3) teeth doing all the work. Drive shafts will be 2.35" diameter hardened and ground alloy steel and supported by ball bearings. The case will be designed to eliminate the need for water cooling.
0635600	Pumping Mode, Stationary Only	PUMPING MODE An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping only.
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	AIR PUMP SHIFT Pump shift engagement will be made by a two (2) position sliding collar, actuated pneumatically (by air pressure), with a three (3) position air control switch located in the cab. A manual back-up shift control will also be located on the left side pump panel. Two (2) indicator lights will be provided adjacent to the pump shift inside the cab. One (1) green light will indicate the pump shift has been completed and be labeled "pump engaged". The second green light will indicate when the pump has been engaged, and that the chassis transmission is in pump gear. This indicator light will be labeled "OK to pump". The pump shift will be interlocked to prevent the pump from being shifted out of gear when the chassis transmission is in gear to meet NFPA requirements. The pump shift control in the cab will be illuminated to meet NFPA requirements.
0003148	Transmission Lock-up, EVS	TRANSMISSION LOCK-UP The direct gear transmission lock-up for the fire pump operation will engage automatically when the pump shift control in the cab is activated.
0004547	Auxiliary Cooling System	AUXILIARY COOLING SYSTEM A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be a separate unit. It will be installed in the pump or engine compartment with the control located on the pump operator's control panel. The exchanger will be plumbed to the master drain valve.

Not Required, Transfer Valve, Single Stage Pump

0014486

0746501

Valve, Relief Intake, Elkhart

INTAKE RELIEF VALVE - PUMP

One (1) Elkhart Style 40 relief valve(s) will be installed on the suction side of the pump preset at 175 psig.

The relief valve(s) will have a working range of 75 psi to 250 psi.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

The relief valve pressure control will be located behind the right side pump panel with a stainless steel access door.

0826104

Controller, Pressure, FRC, Pump Boss Max, PBA500

PRESSURE CONTROLLER

A FRC Pump Boss 500 electronic pressure controller with one (1) 600 PSI transducer on the pump discharge will be provided. All readouts will be standard PSI.

When a single 300 psi or single 600 psi pressure transducer is selected the transducer is installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller.

When a dual 600 psi pressure transducer is selected the transducer are installed in the discharge side and intake side of the water pump. The discharge transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The intake transducer continuously monitors the pump intake sending a signal to the electronic pressure controller. The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to RPM Setting mode. In RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within

engine operation capabilities). In pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator

(within the discharge capabilities of the pump and water supply) regardless of flow.

A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed.

Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing.

Safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

An additional audible alarm will NOT BE provided.

The pressure controller screen will be LCD. The LCD screen and LED intensity will be automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed.

The following information will be provided/displayed on the LCD screen:

Engine RPM

Check engine and stop engine warning indicators

Engine oil pressure

Engine coolant temperature

Transmission Temp

Battery voltage Operating mode (RPM or pressure)

Pressure or RPM setting

On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions:

High battery voltage Low battery voltage/engine off Low battery voltage/engine running High water pump temperature Low engine oil pressure

High engine coolant temperature No engine response (visual alarm only)

The pressure controller will store the accumulated operating hours for the pump and engine.

These items are to be displayed within the pressure controller menu.

The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.

0641743

Primer, Waterous, VPO Motor, (1) VAP Valve, (1) Push Button Control

PRIMER SYSTEM

A Waterous electric pump priming system conforming to standards outlined in the current edition of applicable NFPA standards will be furnished with the apparatus.

One (1) VPO electric motor driven rotary vane primer will be provided.

One (1) VAP vacuum activated priming valve will be plumbed main pump.

One (1) momentary push-button control will be located at the pump operator's panel.

The push button control system control will operate an electric priming motor and the priming valve will automatically open during priming and close when the primer is deactivated.

0658368

Thermal Relief Valve, OPM, w/Red Warning Light, Waterous Pump

THERMAL RELIEF VALVE

A Waterous Overheat Protection Manager (OPM) will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 140 Degrees F (60 C) and a red warning light that is triggered when the water in the pump reaches 180 F (82 C).

The warning light will act as an additional protection device if the temperature in the pump keeps rising after the valve opens. The warning light with a test switch will be mounted on the pump operator panel.

The discharge line will be plumbed to ground.

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0780364	Manuals, Pump, (2) Total, Electronic Copies	PUMP MANUALS There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.
0603129	Plumbing, Stainless Steel and Hose, Single Stage Pump	PLUMBING, STAINLESS STEEL AND HOSE All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness. Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings. Plumbing manifold bodies will be ductile cast iron or stainless steel. All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame. All water carrying gauge lines will be of flexible polypropylene tubing. All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.
0795135	Plumbing, Stainless Steel, w/Foam System	FOAM SYSTEM PLUMBING All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.
0004645	Inlets, 6.00" - 1250 GPM or Larger Pump	MAIN PUMP INLETS A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.
0014650	Pump Suction Tube(s), Short, All	SHORT SUCTION TUBE(S) The suction tube(s) on the water pump will have short suction tube(s) installed to allow for installation of adapters, elbows or intake valves without excessive overhang.
0820184	Cap, Main Pump Inlet, Provided by Fire Department, NFPA/ULC 2024	MAIN PUMP INLET CAP PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 13.6.8 and CAN/ULC S515:2024 edition, section 5.2, requires all intakes to be provided with caps or closures capable of withstanding a hydrostatic gauge pressure of 500 psi (3400 kPa). The caps are not on the apparatus as manufactured. The fire department will provide both caps for the main pump inlets.
0084610	Valves, Akron 8000 series- All	VALVES All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve. Valves will have a ten (10) year warranty.
0004686	Valve, Inlet(s) Recess Behind Panel, Side Cntrl	The location of the valve for the two (2) inlets will be behind the pump panel.
0004700	Control, Inlet, at Valve	INLET CONTROL The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.
0004660	Inlet (1), Left Side, 2.50"	LEFT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0004680	Inlet, Right Side, 2.50"	RIGHT SIDE INLET There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter. The auxiliary inlet will be provided with a strainer, chrome swivel and plug.
0034720	Anode, Zinc, Pair, Pump Inlets	ANODE, INLET A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.
0092569	No Rear Inlet (Large Dia) Requested	

0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.
0024751	Tank to Pump, (1) 3.50" Valve, 3.00" Plumbing, Waterous Valve	TANK TO PUMP The booster tank will be connected to the intake side of the pump with 3.00" piping and a quarter turn 3.50" Waterous valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.
0004905	Outlet, Tank Fill, 1.50"	TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.
0062133	Control, Outlets, Manual, Pierce HW if applicable	DISCHARGE OUTLET CONTROLS The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve. If a handwheel control valve is used, the control will be a minimum of a 3.90" diameter stainless steel handwheel with a dial position indicator built into the center of the handwheel. Any 3.00 inch or larger discharge valve will be a slow-operating valve to meet current edition of applicable NFPA standards.
0004940	Outlet, Left Side, 2.50"	LEFT SIDE DISCHARGE OUTLETS Two (2) discharge outlets with a 2.50" valve will be provided on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0065091	Elbow, Left Side Outlets, 30 Degree, 2.50" FNST x 2.50" MNST, VLH	LEFT SIDE OUTLET ELBOWS The 2.50" discharge outlets, located on the left side pump panel, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	
0004945	Outlet, Right Side, 2.50"	RIGHT SIDE DISCHARGE OUTLETS There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.
0085096	Elbow, Right Side Outlets, 30 Degree, 2.5" FNST x 2.5" MNST, VLH	RIGHT SIDE OUTLET ELBOWS The 2.50" discharge outlets, located on the right side pump panel, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0816625	Outlet, Large Diameter, Right Side, Akron Valve	LARGE DIAMETER DISCHARGE OUTLET There will be an Akron 8800 4.00" flat ball valve with 4.00" plumbing terminating with a 4.00" MNST chrome adapter on the right side pump panel. The valve will be controlled with a(n) Akron 9333 with an analog pressure gauge located at the pump operator's panel.
0820228	Elbow and Cap, Large Dia Outlet, Provided by Fire Department, NFPA/ULC 2024	LARGE DIAMETER OUTLET ELBOW/CAP PROVIDED BY FIRE DEPARTMENT NFPA 1900, 2024 edition, section 13.7.7 and CAN/ULC S515:2024 edition, section 5.2, requires any 2.00" or larger discharge outlet that is located more than 42.00" off the ground and to which hose is to be connected and that is not in a hose storage area will be supplied with a sweep elbow of at least 30 degrees downward. NFPA 1900, 2024 edition, section 13.7.4 and CAN/ULC S515:2024 edition, section 5.2, requires all discharge outlet connections, except connections to which a hose will be pre-connected, will be equipped with caps or closures capable of withstanding a hydrostatic gauge pressure of 100 psi over the maximum pump close-off pressure or 500 psi, whichever is greater. The elbow(s) and cap are not on the apparatus as manufactured. The fire department will provide the elbow(s) and cap.
0092572	Not Required, Outlet, Front	
0004995	Outlet, Rear, 2.50"	REAR DISCHARGE OUTLET There will be Two (2) discharge outlets piped to the rear of the hose bed, one (1) each side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.
0040286	Elbow, Rear Outlets, 30 Degree, 2.50" FNST x 2.50" MNST, VLH	REAR OUTLET ELBOWS The 2.50" discharge outlets, located at the rear of the apparatus, will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 30 degree elbow. The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.
0092574	Not Required, Outlet, Rear, Additional	
0085695	Not Required, Elbow, Rear Outlets, Large, Additional	
0004990	Outlet, Front HB, 2.50" w/2.50" Plumbing	FRONT OF HOSE BED DISCHARGE OUTLET There will be One (1) discharge outlet discharge(s) piped to the front of the hose bed and located Far right side of HB when looking into HB from rear. Match 39220, 41478. Plumbing will consist of 2.50" piping with a 2.50" full-flow ball valve controlled at the pump operator's panel. The discharge(s) will terminate with a 2.50" (M) National Standard hose thread adapter.
0752097	Caps/Plugs for 1.00" to 3.00" Discharges/Inlets, Chain	DISCHARGE CAPS/ INLET PLUGS Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets. Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size. The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected.
0723042	Valve, 0.75" Bleeder, Discharges, "T Swing Handle	OUTLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

0736172		Outlet, 3.00" Deluge w/Dual Ctrl, SM HW On Pnl, LG HW Up Top, Akr Vlv	DELUGE RISER, w/DUAL CONTROL Three (3) inch deluge riser plumbing will be installed and routed above the pump in such a manner that a monitor can be mounted and used effectively. The riser plumbing will be gated and controlled at the pump operator's panel by a small handwheel control with position indicator. A second large handwheel control without position indicator will be provided above the pump adjacent to the outlet. Plumbing will consist of 3.00" piping and a 3.00" valve. Piping will be installed securely so no movement develops when the line is charged.
0749628	SP	Riser, Elkhart 8298EX, "The Pipe", Mounting Bracket 8298EX-MB	MOUNTING BRACKET FOR MONITOR An Elkhart Model 8298EX 2.0 monitor extension pipe will be provided. An Elkhart Model 8298EX-MB mounting bracket will be supplied and mounted mount the Elkhart mountng bracket for "the pipe" on the front wall of the deluge directly in line with the deluge plumbing, match 32995 and reference photo #0749628.
0749701	SP	Mounting Bracket, Model 8297 MB for Elkhart "Stinger"	MOUNTING BRACKET FOR MONITOR An Elkhart Model 8297MB mounting bracket, for the monitor portable base unit, will be provided and mounted LS1 to match job 32995 01-03.
0095958		Deluge Outlet, Special Height/Location	DELUGE OUTLET SPECIAL INSTRUCTIONS The deluge gun outlet will be located Deluge outlet lowered so the mount with the Monitor Adapter Flange is 3.5" below the top edge of the Cargo Side Sheet
0543570		Monitor, Elkhart Stinger 8297-51, 5" Storz Inlet, Portable Base	MONITOR An Elkhart Model 8297 "Stinger" monitor will be properly installed on the deluge riser. This monitor will include both a fixed base and a portable base with a 5.00" Storz inlet. The monitor will be painted as provided by monitor manufacturer.
0046998		Nozzle, Elkhart SM-1250, Manual, ST-194 Tips and 282A shaper	MONITOR NOZZLE An Elkhart #SM-1250 Select-O-Matic manual pattern control master stream nozzle will be provided. Also included is an Elkhart ST-194 Quad stack tips and 282A shaper.
0544561		Mount, Elkhart #8298 (for Elkhart Stinger), Adapter, Flange	MONITOR MOUNTING BASE An Elkhart Model 8298 deck mount base for an Elkhart "Stinger" monitor will be properly installed on the deluge riser via the 3.00" four bolt flange. The base will NOT BE PAINTED per the manufacturers recommendations.
0723726		Speedlay Module Not Required	
0722432		Hose Restraint Not Required, No Speedlay Module	
0723395		Speedlays, Not Required	
0723394		Speedlays, Not Required	
0029210		Crosslays Sngl Sheet, (2+) 1.50", Spl. Cap/Arrangement	CROSSLAY HOSE BEDS, 1.50" Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying FORWARD CROSSLAY: 150' x 1.75" SINGLE STACK with clear inside of 7.00" MIDDLE CROSSLAY: 200' x 1.75" DOUBLE STACK with clear inside of 7.00" and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve. Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located in the hose bed so that hose may be removed from either side of apparatus. The crosslay controls will be at the pump operator's panel. The center crosslay dividers will be fabricated of .25" aluminum and will provide adjustment from side to side. The divider will be unpainted with a brushed finish. Vertical scuffplates, constructed of polished stainless steel, will be provided at the front and rear ends of the bed on each side of vehicle. Crosslay bed flooring will consist of removable perforated brushed aluminum.
0029196		Not Required, 2.50" Crosslay	
0500535		Not Required, Hose Restraint, Crosslay	

0750536		Hose Restr, Spdly, Not Required, No Spdly	
0746647	SP	Cover, Crosslay, Hinged Alum Treadplate, Weighted Vinyl Flaps on Sides, Cords	CROSSLAY COVER A hinged aluminum treadplate cover will be installed over the crosslay hose beds. It will include a latch at each end of the cover to hold it securely in place, a chrome grab handle at each end for opening and closing the cover and a foam rubber gasket where the cover comes into contact to a painted surface. A red vinyl cover permanently attached to the aluminum treadplate cover will be provided over each end of the crosslay hose beds. The cover will have bungee cords attached at each lower corner. The bottom of the flaps will be weighted. The cover will be provided with rubber latch hold open device.
0056195		Crosslays, 9.00" Lower Than Standard	CROSSLAY 9.00" LOWER THAN STD The crosslays will be lowered 9.00" from standard.
0522721		90 Degree Swivel Elbow, Special Location	three (3) 90 degree swivel elbow will be located Crosslay Swivels - Please make sure swivels are in the center from front to back of each Crosslay tray location as marked on AD .
0511256		Reel, Booster, Steel - Over Pump, Right Side, NPSH Fitting	BOOSTER HOSE REEL A Hannay electric rewind booster hose reel will be installed over the pump in a recessed open compartment on the right side of the apparatus. The exterior finish of the reel will be painted job color matching the lower body. A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus. Discharge control will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" Aeroquip hose and a 1.50" valve. The reel will include NPSH threaded couplings.
0522296		Switch, Reel Rewind - 1 Reel w/(1) Stirrup & (2) Push	Reel motor will be protected from overload with a 50 amp automatic reset circuit breaker. One (1) foot actuated, stirrup type, electric rewind control (switch) will be installed on the passenger's side below the running board or below the body compartment. Two (2) push-button switches will be provided on the pump panels, one (1) switch each side.
0638707		Hose, Booster - 150' of 1.00"/800 PSI, 1" NPSH Couplings (50'+50'+50')	Booster hose, 1.00" diameter and 150 feet in length, with chrome plated Barway, or equal couplings will be provided. The couplings will have 1" NPSH threads. The hose will be coupled in three (3) sections. Three 50' sections will be provided. Working pressure of the booster hose will be a minimum of 800 psi.
0017858		Capacity, Hose Reel 150' of 1"	Capacity of the hose reel will be 150 feet of 1.00" booster hose.
0007428		Nozzle for Booster Reel Not Req'd	
0021954		Cutout for Reel Access, One, w/ S/S Trim	HOSEREEL ACCESS A cutout will be provided in the side sheet next to the booster hose reel. This cutout will allow access to the hose and provide a window to view the reel. Stainless steel trim will be mounted horizontally and vertically around the cutout.
0085328		Nozzle Cup, Zico w/Bracket	NOZZLE CUP AND BRACKET A Zico nozzle cup and chrome plated mounting bracket will be provided for storage of the booster reel nozzle. There will be one (1) provided. The nozzle cup(s) will have a 3-1/2" inside diameter and will be located on the PS pumphouse per photo 0085328.
0622237		Roller Assembly, Additional	There will be one (1) additional polished stainless steel roller and guide assembly mounted on top of the driver's side pump module side sheet.

0029260

Not Required, Speedlays

0007293 FOAM CONCENTRATE PROPORTIONING SYSTEM Foam Sys, FoamPro 2001 (Single A Hypro FoamPro®, Model 2001, foam system will be provided as the means for the Agent) proportioning of foam concentrate into the water stream. The FoamPro is an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system. This system will be capable of handling Class A foam concentrates, as well as most Class B foam concentrates The foam system will be plumbed to five (5) discharges. The discharges capable of dispensing foam will be reel, the front two 1.50" crosslays, one (1) 2.50" discharge on the left pump panel and one (1) 2.50" discharge DS REAR. The foam proportioning system operation will be based on a direct measurement of water flows, and remain consistent within the specified flow and pressure. The system will be equipped with a digital electronic control display on the pump panel. Incorporated within the control display will be a microprocessor, which receives input from the system flow meter while also monitoring the foam concentrate pump output. The microprocessor will compare the values of the water flow versus the foam flow, to ensure the proportion rate is accurate. One (1) paddle wheel will be installed to monitor all foam discharges. Push button control for the foam proportioning rate will allow a ratio from .1 percent to 3 percent in .1 percent increments. The rated capacity of this system will be 85 gpm at 3 percent and 500 gpm at .5 percent. A 2.5 gpm @150 psi, positive displacement foam pump will be powered by a 1/2 hp 12 vdc electric motor. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump. The check valve will be approved by the foam system manufacturer. 0012126 Not Required, CAF Compressor 0552517 Not Required, Refill, Foam Tank 0031896 Demonstration, Foam System, Dealer Provided 0005446 Foam Cell, 20 Gallon, Not Reduce **FOAM TANK** Water The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid

0748166 SP Drain, 1.00" Foam Tank #1,

Drain, 1.00" Foam Tank #1, Terminate 3/4" MGH

FOAM TANK DRAIN

The foam tank drain will be a 1.00" drain valve and terminate with a 3/4" MGH fitting.

0091079 Not Required, Foam Tank #2

0091112

Not Required, Foam Tank #2 Drain

0738111

Approval Dwg, All Pump Panel(s), Includes Color And Label Tags, FI FFT

The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made to match 39220.41478 similar Pierce job number.

PUMP OPERATOR'S PANEL DRAWING

A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc.., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer

REMAINING PUMP PANEL(S)

Detailed drawing(s) to scale of the remaining pump panel(s) will be provided for the customer to review. The drawing(s) will include all of the gauges, controls, switching, etc.., located on the pump panel(s). The customer will be allowed to make changes and/or mark-ups to these approval drawing(s). The fire apparatus manufacturer will make revisions (If needed) to the drawing(s) per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved pump panel drawing(s) will become part of the contract documents.

Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.

COLOR CODED TAGS

A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

. The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents

SPECIAL TEXT/VERBIAGE TAGS

A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or markups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line.

The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.

Pump Panel Configuration, Similar to PUMP PANEL CONFIGURATION 0615641 Control Zone

The pump panel configuration layout will be ergonomically efficient and systematically organized.

0005525 Material, Pump Panels, Side Control

Brushed Stainless

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.

0721765 Panel, Pump Access - Right Side

Only, Side Control

PUMP ACCESS

Right Side Panel

The right side upper pump panel will be removable.

Panel Fastener

The removable panels will be secured with chrome swell latch.

The left side pump panels will be attached with screws.

The right side lower pump panel (drain bank) will be attached with screws.

0005945 Light, Pump Compt

PUMP COMPARTMENT LIGHT

A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A 0.125" weep hole will be provided in each light lens, preventing moisture retention.

Gauges, (5), Engine - Pump Panel, 0586438 IAT Pressure Controller

PUMP PANEL GAUGES AND CONTROLS

The following will be provided on the pump and gauge panels in a neat and orderly fashion.

These gauges will be in addition to what is provided with the pressure controller.

- Engine Oil Pressure Gauge: With visual and audible warning
- Engine Water Temperature Gauge: With visual and audible warning - Tachometer: Electric
- Master Pump Drain Control
- Voltmeter
- Fuel

0005601 Throttle, Engine, Incl'd w/Press Controller

0739224		Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	THROTTLE READY GREEN INDICATOR LIGHT There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.
0549333		Indicators, Engine, Included with Pressure Controller	
0745568		Indicator Light, Pump Panel, Ok To Pump, Green	OK TO PUMP INDICATOR LIGHT There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.
0614370	SP	Access Hole, LS & RS Panel, Customer Provided MIV Valve	LEFT & RIGHT SIDE PUMP PANEL ACCESS HOLE The left and right side pump panels will be provided with an access hole and grommet for the customer provided MIV drain hose.
0005780		Control, Air Horn At Pmp Pnl, Button	AIR HORN BUTTON An air horn control button will be provided at the pump operator's control panel. This button will be properly labeled and put within easy reach of the operator.
0606002	SP	Pump Access Door Latches, Southco C2 IPOS	PUMP ACCESS DOOR LATCHES one (1) pump access door(s) will be provided with Southco non-locking C2 latches to hold the doors in the closed position in place of standard. Latch(es) will be provided with on the pump access door(s) located on the RS pump panel for the foam drain access
0081262		Drains, RS, Keep Area Under Main Inlet Clear	RIGHT SIDE DRAINS The drains on the right side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.
0066121		Drains, LS, Keep Area Under Main Inlet Clear	DRAINS, LEFT SIDE The drains on the left side pump panel will be located to keep the area under the main pump inlet clear for customer installed piston intake valve.
0514231		Pump Panel Trim Rings, Oversized for Valve Removal, LS, Only	OUTLET TRIM RINGS The left side discharges and auxiliary inlet valves will be recessed behind the panel and have larger holes provided in the pump panel to facilitate removal of the valves without removing the complete pump panel. Stainless steel trim plates will be provided to trim the holes.
0556650		Switch Panel, Pump Panel, Layout Info	TOP TO BOTTOM: #1 Light, #2 Panel Light Switch, #3 Front Floodlight, #4 Driver Side Scene Lights, #5 Passenger Side Scene Lights, #6 Air Horn.
0673431		Switch w/Ind, Pump Panel for Warning Light, 12 VDC	There will be a switch at the pump operators panel that can deactivate the warning light in that vicinity. This switch will only be active when the parking brake is applied and the pump is shifted into gear.
0830289		Gauges, 6.00" Master, IC	VACUUM AND PRESSURE GAUGES The pump vacuum and pressure gauges will be liquid filled and manufactured by Innovative Controls. The gauges will be a minimum of 6.00" in diameter and will have white faces with black markings, with a pressure range of 30.00" 0-600 psi. The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel. Test port connections will be provided at the pump operator's panel. One (1) will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They will be marked with a label.
0008637		Gauge, 2.50" Pressure, Class 1, Special	PRESSURE GAUGES The individual "line" pressure gauges for the discharges will be interlube filled and manufactured by Class 1©. They will be a minimum of 2.50" in diameter and the dial will have white faces with black markings. Gauges will have a pressure rating of 30.00" 0-400 psi. The individual pressure gauge will be installed as close to the outlet control as practical.

0062586 Gauge, Water Level, Class 1, Pierce WATER LEVEL GAUGE There will be an electronic water level gauge provided on the operator's panel that registers water level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The water level indicators will be as follows: 100 percent = Green 75 percent = Yellow 50 percent = Yellow 25 percent = Yellow Refill = Red The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty. The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The field calibratable display measures head pressure to accurately show the tank level. 0062992 Gauge, Foam Level, (1) Tank, Class FOAM LEVEL GAUGE An electronic foam level gauge will be provided on the operator's panel that registers foam level 1, GAAAR 5lt by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows: 100 percent = Green 75 percent = Yellow 50 percent = Yellow 25 percent = Yellow Refill = Red The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level. 0656224 Light Shield/Step 8", S/S Undr Crs, STEP/LIGHT SHIELD LED w/P25 LED Step Light There will be a polished, 16 gauge stainless steel light shield installed under the crosslays. This shield will be properly reinforced to support the crosslay hose weight. There will be 12 volt DC white LED light(s) installed under the stainless steel light shield. These lights will be activated when the battery switch is on and the pump panel light switch is on. There will be an aluminum treadplate stepping surface no less than 8.00" deep and properly reinforced to support a man's weight, installed over the pump operators main panel. There will be 12 volt DC white LED lights installed under the step to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house One (1) pump panel light will come on when the pump is in ok to pump mode. The switch panel will be lit when the parking brake is set. This is to afford the operator illumination when first approaching the control panel. All step lights on the apparatus will be illuminated per the current edition of applicable NFPA standards. **AIR HORN SYSTEM** 0508020 Air Horn, (1) Hadley, 6" Round, eTone, In Bumper One (1) Hadley round air horn with 6.00" bell 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. 0606839 Location, Air Horn, Bumper, Left Air Horn Location Side, Outside Frame, Inboard (Pos The air horn will be located on the left side of the bumper, just outside of the frame rail. #6)

Air Horn Control

The air horn(s) will be activated by the following:

0757081 Control, Air Horn, Ft Sw, LS

0757092

Left side foot switch

0723391 Control, Air Horn, Chrome Push

Button Sw, RS

Control, Air Horn, Multi Select

Right side chrome push button switch

0550598 Siren, Wln 295HFS2 Remote, Single

Amp

ELECTRONIC SIREN

A Whelen, Model 295HFS2, electronic remote siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on.

0510206	Location, Elect Siren, Recessed Overhead In Console	Electronic siren head will be recessed in the passenger 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) Wln, 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.
0601555	Location, Speaker, Frt Bumper, Recessed, Left Side, Outside Frame,Outbrd (Pos 7)	The speaker will be recessed in the left side of the front bumper, towards the outside.
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 in the center. 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:
0748282	Control Mech Siren, Ft Sw LS	Left side foot switch.
0731979	Control Mech Siren, Push Button Sw, Chrome, RS	Right side chrome push button switch.
0736158	Sw, Siren Brake, Momentary, Lower Sw Pnl	A momentary switch will be included in the lower switch panel to activate the siren brake.
0746353	Not Required, Warning Lights Intensity	
0792688	Lightbar, Wln, Freedom IV-D, 81", RRRWRWRRSrsrRRWRWRRRR	FRONT ZONE UPPER WARNING LIGHTS There will be one (1) 81.00" Whelen Freedom IV LED lightbar mounted on the cab roof. The lightbar will include the following: One (1) red flashing LED module in the driver's side rear corner position. One (1) red flashing LED module in the driver's side front corner position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side first front position. One (1) white flashing LED module in the driver's side second front position. One (1) white flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red flashing LED module in the driver's side sixth front position. One (1) red flashing LED module in the driver's side seventh front position. One (1) red steady burning LED module in the driver's side seventh front position. One (1) red flashing LED module in the passenger's side seventh front position. One (1) red flashing LED module in the passenger's side sixth front position. One (1) red flashing LED module in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) white flashing LED module in the passenger's side fifth front position. One (1) white flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side rear corner position. One (1) red flashing LED module in the passenger's side rear corner position. There will be clear lenses and colored filters included on the lightbar. There will be a switch installed in the cab on the switch panel to control this lightbar. The white flashing LED modules will be disabled when the parking br

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0605741	Lightbars, Wln, Freedom IV, 2-21.5", RRRR RRRR	SIDE WARNING LIGHTS There will be two (2) 21.50" Whelen Freedom IV LED lightbars mounted on the roof, one (1) on each side, over the crew cab doors. Each lightbar will include the following: One (1) red flashing LED module in the outside rear corner position. One (1) red flashing LED module in the rear outside position. One (1) red flashing LED module in the front outside position. One (1) red flashing LED module in the outside front corner position. There will be clear lenses and colored filters included on the lightbar. There will be a switch in the cab on the switch panel to control the lightbars. These lights may be load managed when the parking brake is applied.
0899319	Lights, Front Zone, WIn M6**, Common BzI	LIGHTS, FRONT ZONE LOWER There will be two (2) Whelen® Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face above the headlights, in a common bezel with the directional lights per the following: The driver's side front warning light to be red. The passenger's side front warning light to be red. The warning light lens colors to be the same as the LEDs. There will be a switch in the cab on the switch panel to control the lights.
0653937	Flasher, Headlight Alternating	HEADLIGHT FLASHER The high beam headlights will flash alternately between the left and right side. There will be a switch installed in the cab on the switch panel to control the high beam flash. This switch will be live when the battery switch and the emergency master switches are on. The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.
0747228	Lights, Side Zone Lower, WIn M6**, M6**, M6**, 6Lts	SIDE ZONE LOWER LIGHTING There will be six (6) Whelen®, Model M6**, 4.31" high x 6.75" long x 1.37" deep flashing LED warning lights with chrome trim installed per the following: Two (2) lights located, one (1) each side on the front custom cab corner. The driver's side, side front light to include red warning LEDs and the passenger's side, side front light to include red warning LEDs. Two (2) lights located, one (1) each side of cab rearward of crew cab doors. The driver's side, side middle light to include red warning LEDs and the passenger's side, side middle light to include red warning LEDs. Two (2) lights located, one (1) each side above rear wheels. The driver's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs and the passenger's side, side rear light to include red warning LEDs. The warning light lens colors to be the same as the LEDs. There will be a switch in the cab on the switch panel to control the lights.
0672937	Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mtd In Rub Rail, 1st	SIDE WARNING LIGHTS There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails one (1) each mounted in the rub rail and centered below the following compartments: LS1, LS3, RS1 AND RS3. The lights will only be mounted with the rubber gasket if clearance allows it. The color of each light will be red LED with a clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch.
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*, LED flashing warning lights will be located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is the same color as the LED's. There will be a switch located in the cab on the switch panel to control the lights.
0591872	Light, Rear Zone Up, WIn B6MLRZP, LED/LED Rear Scene	REAR OF HOSEBED WARNING LIGHTS There will be two (2) Whelen, Model B6MLRZP, combination LED beacon and LED scene light provided at the rear of the truck, one (1) each side. Each beacon will contain flashing LED warning light in a 360 degree arrangement and a LED scene light mounted in a polished aluminum housing. The LED beacons will be red with both domes red. These beacons will be mounted so that the scene lights face to the rear. There will be two (2) switches provided to activate these lights One (1) switch in the cab will control both beacons. One (1) switch in the cab will control both rear facing scene lights. The scene lights may be load managed when the parking brake is set.

Not Required, Lights, Rear Upper Zone Blocking

0006551

0056610	Mtg, Rear Warn Lts, Low Mt, S/S Brkts	The rear warning lights will be mounted on polished stainless steel brackets with all wiring totally enclosed. These brackets will also support clearance/marker lights. The rear deck lights will be mounted on the beavertail flange to keep the overall height as low as possible.
0762435	Light, Traffic Directing, WIn TAL85, 46.87" Long LED, Lens Feature	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen® Model TAL85 46.87" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The lens color will be the same color as the LED's. The control head will be included with this installation. The control head will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0529860	Location, TDL, Surface Mounted Over Rear Door	This traffic directing light will be surface mounted over the rear door, at the rear of the apparatus as high as practical.
0530280	Location, Traf Dir Lt Controller, Overhead Switch Panel DS Center	The traffic directing light control head will be located in the driver side overhead switch panel in the center panel position.
0781579	Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st, Interior Cab	120 VOLT RECEPTACLE 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 mounted high and rear ward in compartment RS1, See photo of previous truck #32995 The NEMA configuration for the receptacle(s) will be 5-20R. The receptacle(s) will be powered from the shoreline inlet. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Ratting (amps) Phase Frequency
0519934	Not Required, Brand, Hydraulic Tool System	
0007150	Bag of Nuts and Bolts	LOOSE EQUIPMENT The following equipment will be furnished with the completed unit: One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.
0816508	NFPA Required Loose Equipment, Pumper, NFPA/ULC 2024, Provided by Fire Dept	NFPA LOOSE EQUIPMENT NFPA Required Loose Equipment Provided by Fire Department The following loose equipment as outlined in NFPA 1900, 2024 edition, table 8.1 and CAN/ULC S515:2024 edition, section 5.2 will be provided by the fire department: One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, Standard for High Visibility Public Safety Vests, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. NFPA Loose Equipment That Should be Considered The following loose equipment as outlined in NFPA 1900, 2024 edition, appendix table A.8.4 (a) and CAN/ULC S515:2024 edition, section 5.2 should be considered: 800 ft (60 m) of 2.50" (65 mm) or larger fire hose. 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. One (1) handline nozzle, 200 gpm (750 L/min) minimum. Two (2) handline nozzles, 95 gpm (360 L/min) minimum. One (1) smooth bore or combination nozzle with shutoff and with 2.50" (65 mm) inlet that flows a minimum of 250 gpm (950 L/min). Four (4) SCBA apparatus Four (4) SCBA apparatus One (1) first aid kit. Four (4) Combination spanner wrenches. Two (2) hydrant wrenches. One (1) double female 2.50" (65 mm) adapter with national hose (NH) threads. One (1) double male 2.50" (65 mm) adapter with national hose (NH) threads. One (1) double male 2.50" (65 mm) adapter with national hose (NH) threads. One (1) automatic external defibrillator (AED).
0519913	Not Required, Soft Suction Hose	SOFT SUCTION HOSE There will be no soft suction hose provided.

0027023	No Strainer Required	
0816939	Extinguisher, Dry Chemical, NFPA 2024, Provided by Fire Department	DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816937	Extinguisher, 2.5 Gal. Pressurized Water, NFPA/ULC 2024, Provided by Fire Dept	WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.
0816998	Axe, Flathead, Provided by Fire Department	FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.
0817000	Axe, Pickhead, Provided by Fire Department	PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

Paint Process / Environmental Requirements, Appleton

PAINT PROCESS

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

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

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

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

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

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

Resecoat Paint - Two coats of a high performance, two component high solids polygrethane.

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

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

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

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

The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon requirest

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.

0709566

Paint, Two-Tone Color, Enforcer

TWO-TONE CAB PAINT

The cab will be painted two-tone with the upper section painted #20 blue white and the lower section painted #356 Red. There will be a special two-tone cab paint break at the roof line provided.

There will be no cab shield provided.

0709845

Paint, Single Color, Body

BODY PAINT

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

		installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Components that are included with the chassis frame assembly that will be painted not e-coated (unless otherwise stated in a secondary option) are: Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Steel fuel tank Castings Individual piece parts used in chassis and body assembly The E-coat process will meet the technical properties shown.
0693797	No Paint Required, Aluminum Front Wheels	
0693792	No Paint Required, Aluminum Rear Wheels	
0733739	Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted to match lower job color.
0007230	Compartment, Painted, Spatter Gray	COMPARTMENT INTERIOR PAINT The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.
0544124	Reflective Band, 1"-4"-1"	REFLECTIVE STRIPES Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" white stripe at the top with a 1.00" gap then a 4.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.
0007356	Reflective across Cab Face	The reflective band provided on the cab face will be at the headlight level.
0536954	Stripe, Chevron, Rear, Diamond Grade, Pumper	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered. The colors will be red and fluorescent yellow green diamond grade. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0027341	Jog, In Reflective Stripe, Single or Multiple	JOG(S) IN REFLECTIVE BAND The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.
0087349	Stripe, Reflective, 4" Inside Compt Door	REFLECTIVE STRIPE INSIDE COMPARTMENT DOOR A 4.00"black reflective stripe will be provided inside two (2) compartment doors. inside each EMS compartment door
0065687	Stripe, Reflective, Cab Doors Interior	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" black reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel. This stripe will meet the current edition of applicable NFPA standards.
0027285	Stripe, Gold Leaf, Side of Cab, Low and Over Fender	CAB STRIPE There will be a genuine gold leaf stripe on each side of the cab, low and over the fender.
0027372	Lettering Specifications, (GOLD STAR Process)	LETTERING The lettering will be totally encapsulated between two (2) layers of clear vinyl.

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,

Paint Chassis Frame Assy, E-Coat, Standard

0646897

0686428		Lettering, Gold Leaf, 3.00", (41-60)	LETTERING Forty-one (41) to sixty (60) genuine gold leaf lettering, 3.00" high, with outline and shade will be provided.
0017773		Stripe, Gold Leaf, Side of Body, Over Fender Only, Single Axle	BODY STRIPE There will be a genuine gold leaf stripe provided on each side of the body, over the fender.
0685985		Lettering, Reflective, 12.00", Each	LETTERING There will be reflective lettering, 12.00" high, with outline and shade provided. There will be two (2) letters provided.
0685993		Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with no outline or shade provided. There will be four (4) letters provided.
0686002		Lettering, Reflective, 8.00", Each	LETTERING There will be reflective lettering, 8.00" high, with no outline or shade provided. There will be two (2) letters provided.
0686013		Lettering, Reflective, 6.00", Each	LETTERING There will be reflective lettering, 6.00" high, with outline and shade provided. There will be six (6) letters provided.
0686042		Lettering, Reflective, 2.00", Each	LETTERING There will be reflective lettering, 2.00" high, with outline and shade provided. There will be 14 letters provided.
0686048		Lettering, Reflective, 1.00", Each	LETTERING There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be 15 letters provided.
0686084		Lettering, Reflective, 3.00", Each	LETTERING There will be reflective lettering, 3.00" high, with outline and shade provided. There will be 24 letters provided.
0684004		Lettering, Vinyl, 12.00", Each	LETTERING There will be non-reflective vinyl lettering, 12.00" high, with no outline or shade provided. There will be two (2) letters provided.
0684017		Lettering, Vinyl, 9.00", Each	LETTERING There will be non-reflective vinyl lettering, 9.00" high, with no outline or shade provided. There will be ten (10) letters provided.
0684058		Lettering, Vinyl, 2.00", (41-60)	LETTERING Forty-one (41) to sixty (60) non-reflective vinyl lettering, 2.00" high, with no outline or shade will be provided.
0563768		Lettering, Reflective, "Keep Back 300 Feet"	REFLECTIVE LETTERING There will be one (1) set/s of reflective lettering, "KEEP BACK 300 FEET", supplied and installed on the R1 - NOTE THE LETTERING IS ACTUALLY TO READ "KEEP BACK 343" HOWEVER I AM TO USE THIS OPTION PER THE PIERCE RESPONSE IN THREAD NUMBER 592-EP300377-7. The lettering will be ruby red in color and 4.00" in size.
0527677	SP	Emblem, Per Quote, Sacramento	DEPT. EMBLEM There will be (1) one pair of vinyl emblems applied between the cab and crew cab doors. Emblems will be approximately 7.00" x 7.00" per graphics quote.
0529004	SP	Emblem, Per Quote, Sacramento Single Emblem	DEPT. EMBLEM There will be (1) one of vinyl emblem applied drivers side rear compartment bulkhead up high Emblems will be approximately 7.00" x 7.00" per graphics quote.

0022652	Emblem, Maltese Cross, Gold Leaf, 15"-17", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of maltese crosses, comprised of genuine gold leaf material, provided and installed on cab doors.
0755303	Artwork File, Provided on Custom USB Drive	ARTWORK ON CUSTOM USB DRIVE There will be a custom USB drive with department specific artwork files provided to the Fire Department. Stock artwork, or artwork developed exclusively by Pierce Manufacturing, and proprietary fonts will not be included on the USB drive.
0666386	Emblem, Flag, Generic, Each	EMBLEM There will be two (2) emblem(s), approximately 5.00" - 8.00" wide in size, installed behind crew cab door upper portion - size to be 5" x 7". The emblem will be modeled after the department submitted information (art, patch, etc).
0769753	Emblem, American Flag Painted on Cab Grille, All Custom Chassis	CAB GRILLE DESIGN An American flag design will be painted on the cab grille.
0032773	Manuals, Two (2), Fire Apparatus Parts, & (1) CD, 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. One (1) compact disc (CD) will also be provided that will include all of the information from the above manual. The manual will contain the following: - Job number - Part numbers with full descriptions - Table of contents - Parts section sorted in functional groups reflecting a major system, component, or assembly - Parts section sorted in Alphabetical order - Instructions on how to locate parts 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. SERVICE PARTS INTERNET SITE The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.
0032421	Manuals, (2) Chassis Service, (1) CD, Custom	MANUALS, CHASSIS SERVICE Two (2) chassis service manuals containing parts and service information on major components will be provided with the completed unit. One (1) compact disk (CD) will also be provided that will include all of the information from the above manual. The manuals will contain the following sections: - Job number - Table of contents - Troubleshooting - Front Axle/Suspension - Brakes - Engine - Tires - Wheels - Cab - Electrical, DC - Air Systems - Plumbing - Appendix The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.
0029551	Manuals, Two (2) Chassis Operation, & (1) Compact Disc, Custom	MANUALS, CHASSIS OPERATION Two (2) chassis operation manuals will be provided. One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	ONE (1) YEAR MATERIAL AND WORKMANSHIP A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	ENGINE WARRANTY A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.

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0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	STEERING GEAR WARRANTY A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with this proposal.
0596017	Warranty, Frame, 50 Year, Custom Chassis, WA0013	FIFTY (50) YEAR STRUCTURAL INTEGRITY The Pierce custom chassis frame only (does not include crossmembers) limited warranty certificate, WA0013, is included with this proposal.
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.
0733306	Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor™ Axle 5 year limited warranty will be provided.
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.
0019914	Warranty, Structure, 10 Year, Custon Cab, WA0012	n TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.
0744240	Warranty, Paint, 10 Year, Cab, Pro- Rate, WA0055	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	FIVE (5) YEAR MATERIAL AND WORKMANSHIP The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.
0695416	Warranty, Pierce Camera System, WA0188	CAMERA SYSTEM WARRANTY A Pierce fifty four (54) monthwarranty will be provided for the camera system.
0647720	Warranty, Pierce LED Strip Lights, WA0203	COMPARTMENT LIGHT WARRANTY The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be included with this proposal.
0688798	Warranty, Water Tank, Lifetime, UPF Poly Tank, WA0195	, WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years. A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.

0734463 Warranty, Pump, Waterous, 7 Year **PUMP WARRANTY** Parts. WA0382 The Waterous pump will be provided with a seven (7) yearmaterial and workmanship limited warranty. A copy of the warranty certificate will be included with this proposal. 0648675 **TEN (10) YEAR PUMP PLUMBING WARRANTY** Warranty, 10 Year S/S Pumbing, WA0035 The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal. 0641372 Warranty, Foam System, Not Available 0595820 TEN (10) YEAR PRO-RATED PAINT AND CORROSION Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057 A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal. 0595421 Warranty, Goldstar, 3 Year, THREE (3) YEAR MATERIAL AND WORKMANSHIP The Pierce Goldstar gold leaf lamination limited warranty limited warranty certificate, WA0018, is Apparatus, WA0018 included with this proposal. 0819254 Certification, Vehicle Stability, VEHICLE STABILITY CERTIFICATION CD0196 The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1900, current edition, section 7.14, Vehicle Stability. The certification is included with this proposal. 0808582 Certification, Engine Installation, **ENGINE INSTALLATION CERTIFICATION** Saber FR/Enf, Cummins X10, 2027 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. POWER STEERING CERTIFICATION 0686786 Certification, Power Steering, CD0098 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. **CAB INTEGRITY CERTIFICATION** 0892691 Certification, Cab Integrity, Saber FR/Enforcer, CD0189 The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29 SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.

Side Impact

The cab will be subjected to dynamic preload where a 14,320-lb moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lb of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.

Frontal Impact

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

Additional Frontal Impact

The same cab will withstand a frontal impact of 65,098 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420)

Roof Crush

The cab will be subjected to a roof crush force of 22,500 lb. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.

Additional Roof Crush

The same cab will be subjected to a roof crush force of 110,000 lbs. (Four and a half times the load criteria of ECE 29)

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

0631973 Certification, Cab Door Durability, Saber FR/Enforcer, CD0137

CAB DOOR DURABILITY CERTIFICATION

Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.

Bid #: 978 69

DURABILITY CERTIFICATION

weather is essential to safe apparatus performance. Windshield wipers cle durability test in accordance with section 6.2 of SAE J198 Windshield Buses and Multipurpose Vehicles. The bidder will certify that the wiper tested and that the wiper system has met these criteria.

URABILITY CERTIFICATION

ms can cause maintenance problems if not designed for long service design will complete 30,000 complete up-down cycles and still function he bidder will certify that sample doors and windows similar to those s have been tested and have met these criteria without malfunction or

STRENGTH

ngth is regulated by Federal Motor Vehicle Safety Standards and should ng. Each seat belt anchor design will withstand 3000 lb of pull on both in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. each anchor design was pull tested to the required force and met the

is regulated by Federal Motor Vehicle Safety Standards and should be Each seat mounting design will be tested to withstand 20 G's of force in 571.207 Seating Systems. The bidder will certify, at time of delivery, that structure design was pull tested to the required force and met the

Performance, SFR/Enf, CD0165/CD0167/CD0174/CD0175

TIFICATIONS

Cab Air Conditioning

Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.

Cab Defroster

Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.

Cab Auxiliary Heater

Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.

0545073 Amp Draw Report, NFPA Current

Edition

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

Documentation of the electrical system performance tests.

A written load analysis, which will include the following:

The nameplate rating of the alternator.

The alternator rating under the conditions specified per:

Current edition of applicable NFPA standards.

The minimum continuous load of each component that is specified per:

Current edition of applicable NFPA standards.

Additional loads that, when added to the minimum continuous load, determine the total connected

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

Appleton/Florida BTO

0000018 PUMPER. 2ND GEN

0799248

0000012 PIERCE CHASSIS

0004713 ENGINE, OTHER

> Bid #: 978 70

0046395 EVS 3000 Series TRANSMISSION

0020011 WATEROUS PUMP

0020009 POLY TANK

0028048 FOAM SYSTEM

0020006 SIDE CONTROL

0020007 AKRON VALVES

0020015 ABS SYSTEM

0658751 PUMPER BASE



Electrical Analysis

Bid #: 978 **Job #:**

Desc: SFD Pumper FY26 (Duplicate #43258) Sales Rep: Hansen, Brad

Customer: City of Sacramento Fire Department Organization: Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control Type: Multiplexed

System, Enforcer, WiFi CZT

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	0.00
0005780	Control, Air Horn At Pmp Pnl, Button		0.00	0.16	0.00
0005945	Light, Pump Compt		0.00	1.80	0.00
0007293	Foam Sys, FoamPro 2001 (Single Agent)		0.00	40.00	0.00
0062992	Gauge, Foam Level, (1) Tank, Class 1, GAAAR 5lt		0.00	0.00	1.00
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud		0.00	3.00	0.00
0092291	Mirrors, Velvac, 2025, Heated/Remote, w/Heated Convex, w/LED		0.00	0.00	8.00
0511256	Reel, Booster, Steel - Over Pump, Right Side, NPSH Fitting		0.00	36.00	0.00
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0557569	Light, Additional, P25 LED, White		0.00	0.07	0.00
0559185	Install Customer Provided Handlight Charger(s)		0.00	0.00	0.16
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0605741	Lightbars, Wln, Freedom IV, 2-21.5", RRRR RRRR		0.00	0.00	14.56
0626449	Light, Wln, 12V NP6B* Nano Pioneer Series LED, Bail Mount 2nd		0.00	0.00	1.50
0626453	Light, Wln, 12V NP6B* Nano Pioneer Series LED, Bail Mount 1st		0.00	0.00	1.50
0630636	Controls, Electric Roll-Up Windows, 4dr, 4 Driver Controls, Saber		0.00	26.00	0.00
0639726	Cab Lift, Elec/Hyd, Manual Override, Unlocked Ind Light, Saber		0.00	180.00	0.00
0641743	Primer, Waterous, VPO Motor, (1) VAP Valve, (1) Push Button		0.00	260.00	0.00
0655637	Engine Foot Throttle Control, Engage in Pump Mode		0.00	0.00	1.00
0672937	Lights, Side, Wln WIONSMC* LED, Chrome Flange, Mtd In Rub		0.00	0.00	4.00
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine		0.00	0.42	0.00
0693439	Lights, Engine Compt, Custom, Auto Sw, w/Fld Chk Dr Wln		0.00	0.76	0.00
0696870	Lights, Side Scene, TecNiq, E960 LED, Stainless 1st Pr		0.00	0.00	1.20
0749207	Lights, Wln, S30M** 30" 12VDC, RS Body		0.00	0.00	7.50
0749209	Lights, Wln, S30M** 30" 12VDC, LS Body		0.00	0.00	7.50
0772376	Handlight, Streamlight, Vulcan 180, 44305, 12v, Yellow		0.00	0.00	2.20
0805325	Light, Directional, Wln M62T* LED, 15 Degree Angle Bracket,		0.00	1.50	0.00
0806466	Lights, Backup, Wln M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0816486	Camera, Pierce, LS Mux, RS, R, SD Cameras, CL714		0.00	1.20	0.00
0819994	Radio, Jensen, AM/FM/WB, Bluetooth		0.00	0.00	2.00
0820509	ESC/ABS/ATC Wabco Brake System, Single Rear Axle, NFPA		0.00	6.00	0.00
0820921	Wiring, Spare, 4.8 A 12V DC, USB Term, Blue Sea 1045, Batt Dir,		0.00	0.00	14.40
0820922	Wiring, Spare, 4.8 A 12V DC, USB Term Blue Sea 1045, Batt Dir,		0.00	0.00	9.60
0821720	Wiring, Spare, 3 A 12V DC 1st NFPA1900/ULC		0.00	0.00	3.00
0889070	Intercom, David Clark, 5-Pos, 2-Dual Radio, (D,O, 2RPTT.1st R),		0.00	0.00	0.50
0889662	Lights, Wln, S16*M* 16.37" 12VDC, Brkt Fet 2nd		0.00	0.00	3.66
0889664	Lights, Win, S16*M* 16.37" 12VDC, Brkt Fet 1st		0.00	0.00	3.66
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0896155	Lights, TecNiq Eon E03-*001-1 LED, Steady Burn, Behind Cab		0.00	0.00	0.13
0898549	Cab Air Filtration, TFT CrewProtect 100, 12v DC, Loc, CARE		0.00	0.00	1.50
0891411	HVAC, Heavy-Duty, Enforcer, CARE	Load Managed	0.00	0.00	136.00
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0002750	LS 152" Rollup, Full Height Front & Rear, FDLER	NFPA	4.50	0.00	4.50
0023030	Gauge, Water Level, Class 1, Pierce Std	NFPA	1.23	0.00	0.00
00023657	RS 152" Rollup, Low, FDLER	NFPA	1.80	0.00	1.80
0073037	Compt, Rear, Rollup, 37.75" FF, 25.88" D	NFPA	0.90	0.00	0.90
0083700	Lights, Clearance/Marker/ID, Rear, Truck-Lite 35200R LED 7Lts	NFPA	0.50	0.00	0.90
0030100	Eights, Glearandermarkerne, rear, Truck-Lite 302001 LLD 7Lts	INITA	0.50	0.00	0.00

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



Electrical Analysis

Bid #: 978 **Job #:**

Desc: SFD Pumper FY26 (Duplicate #43258) Sales Rep: Hansen, Brad

Customer: City of Sacramento Fire Department Organization: Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control Type: Multiplexed

System, Enforcer, WiFi CZT

<u> </u>					
Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00
0550598	Siren, Wln 295HFS2 Remote, Single Amp	NFPA	1.40	12.60	0.00
0564535	Light, Marker, Britax Rubber Arm, Model L427.203.L12 LED,	Load Managed	2.00	0.00	0.00
0564654	Lights, Rear Zn Lwr, Wln M6*, Colored Lens, For Tail Light	NFPA	1.80	2.70	0.00
0566799	Lights, Step, P25 LED 4lts, Ign, Prk Brk Activated	NFPA	1.00	0.00	0.00
0586438	Gauges, (5), Engine - Pump Panel, IAT Pressure Controller	NFPA	0.30	0.00	0.00
0591872	Light, Rear Zone Up, Wln B6MLRZP, LED/LED Rear Scene	NFPA	3.00	0.00	6.00
0605126	Pump Shift, Air Mnl Override, Split Shaft, Interlocked, Waterous	NFPA	1.00	0.00	0.00
0614370	Access Hole, LS & RS Panel, Customer Provided MIV Valve	NFPA	0.11	0.00	0.00
0622803	Cab Instruments, Black Gauges, Black Bezels, Enforcer MUX	NFPA	1.26	0.00	0.00
0625650	Cab, Enforcer, 7000	NFPA	6.80	10.20	0.00
0630489	Air Dryer, Bendix, AD-9, With Wet Tank, Heated, Saber	NFPA	7.81	0.00	0.00
0645639	Lights, Rear Scene, Wln, PEL*C LED, 45 Deg Flange	NFPA	1.70	0.00	0.00
0647638	Lights, Dome, Weldon Dual LED 4 Lts	NFPA	0.80	0.80	0.00
0647899	Lights, Directional/Marker, Cab Front Side, Weldon 9186-8580-29	NFPA	0.80	0.00	0.00
0653937	Flasher, Headlight Alternating	NFPA	0.08	0.00	0.00
0656224	Light Shield/Step 8", S/S Undr Crs, LED w/P25 LED Step Light	NFPA	5.00	0.00	0.00
0668061	Light, Do Not Move Apparatus, Wln VTX609R Red LED	NFPA	0.30	0.45	0.00
0709438	Lights, Walk Surf, FRP Flood, LED	NFPA	2.00	0.00	0.00
0723696	DEF Tank, 8.0 Gallon, LS Fill, Rear of Rear Axle, Triple Door	NFPA	0.60	11.40	0.00
0729921	Light, Roof Mt, Wln S72M**, 72" Cnt Feature, Mkr Lts Activated,	NFPA	0.32	0.00	18.68
0736083	Lights, Clearance/Marker, Side, P25 LED 2 Lts, Others With Visor	NFPA	0.49	0.00	0.00
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.10	0.00	0.00
0745568	Indicator Light, Pump Panel, Ok To Pump, Green	NFPA	0.10	0.00	0.00
0747228	Lights, Side Zone Lower, WIn M6**, M6**, M6**, 6Lts	NFPA	5.40	8.10	0.00
0749764	Cabinet, Rear Fcng, RS, 22 W x 34 H x 22 D,Ext Acc Only,Sp	NFPA	0.34	0.34	0.00
0749765	Cabinet, Rear Fcng, LS, 22 W x 34 H x 23 D,Ext Acc Only,Sp	NFPA	0.34	0.34	0.00
0756860	Cabinet, Rear Facing, Top Eng Tnl, 42.25 W x 16 H x 14 D, Lap,	NFPA	0.20	0.20	0.00
0762435	Light, Traffic Directing, Wln TAL85, 46.87" Long LED, Lens	NFPA	2.52	2.52	0.00
0768474	Lights, Hose Bed, Below Alum Cvr, Amdor AY-LB-12HW040, 40"	NFPA	2.40	0.00	0.00
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	NFPA	1.20	0.00	0.00
0769572	Lights, Perimeter Pump House, Amdor AY-LB-12HW020 LED 2lts	NFPA	0.58	0.00	0.00
0770056	Lights, Perimeter Body, Amdor AY-LB-12HW020 LED 2lts, Rear	NFPA	0.60	0.00	0.00
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door	NFPA	0.80	0.00	0.00
0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	NFPA	4.20	4.20	0.00
0792688	Lightbar, Wln, Freedom IV-D, 81",	NFPA	6.48	2.48	12.40
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0804681	Light, Directional, Wln 604T* Cmn Bzl, Above Headlts, Sab/Enf	NFPA	0.02	0.02	0.00
0808535	Engine, Cummins X10, 450 hp, 1250 lb-ft, W/OBD, EPA 2027,	NFPA	1.00	0.00	0.00
0814201	Vehicle Information Center, 7" Color Display, Touchscreen, MUX,	NFPA	1.20	0.00	0.00
0823046	Light, Directional/Marker, Intermediate, Truck-Lite 35200Y Alum	NFPA	0.10	0.00	0.00
0824961	Wiring, Spare, 60A 12V DC Sacramento Fire Department, 6 Ga.	NFPA	60.00	0.00	0.00
0826104	Controller, Pressure, FRC, Pump Boss Max, PBA500	NFPA	1.80	0.00	0.00
0887559	Trans, Allison 6th Gen, 3000 EVS P, w/Prognostics,	NFPA	2.00	2.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0892638	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 6lts	NFPA	1.00	0.00	0.00
0898689	Compt, Saddle, Transverse C/C, Dbl Pan, 70" SFR/Enf	NFPA	0.65	0.65	0.00
0899319	Lights, Front Zone, Wln M6**, Common Bzl	NFPA	1.80	2.70	0.00

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



Electrical Analysis

5/16/2025

Bid #:

Job #:

Desc: SFD Pumper FY26 (Duplicate #43258)

Sales Rep: Hansen, Brad

Customer: City of Sacramento Fire Department

Organization: Golden State Fire Apparatus, Inc.

Option:

Pierce Command Zone, Advanced Electronics & Control

Type:

Multiplexed

System, Enforcer, V	WiFi	CZ1
•		

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0121711	Alternator, 320 amp, Leece-Neville 4962PA, Sgl Sys	S_	0.00	0.00	0.00
		Load Totals:	148.79	726.91	268.85

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

Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference

only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901)

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

Alternator Output at Idle: 168.00

Alternator Output at Governed Speed:

282.00

Minimum Continuous Load	
Supply:	168.00
Demand:	148.79
Variance:	19.21

Total Connected Load	
Supply:	282.00
Demand:	281.64
Variance:	0.36

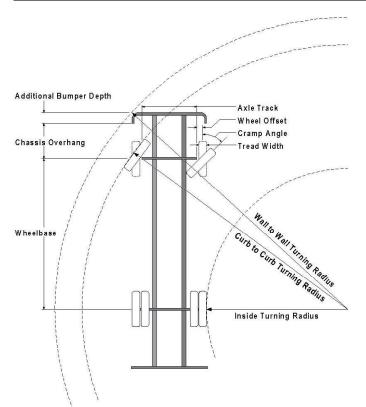
^{*} UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Turning Performance Analysis

Bid Number: 978 Chassis: Enforcer Chassis

Department: City of Sacramento Fire Department **Body:** Pumper, Medium, Galvanneal, 2nd Gen



Parameters:

*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	15.9 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	7 in.
Front Overhang:	72.95 in.
Wheelbase:	187.5 in.

Calculated Turning Radii:

Inside Turn:	14 ft. 7 in.
Curb to curb:	28 ft. 6 in.
Wall to wall:	32 ft. 1 in.

Category	Option	Description
Bumpers	0606186	Bumper, Non-Extended, Saber FR/Enforcer
Tires, Front	0802633	Tires, Front, Goodyear, Armor Max MSA, 385/65R22.50, 18 ply, Fire Ser. Load Rtg
Axle, Front, Custom	0630705	Axle, Front, Oshkosh TAK-4, Non Drive, 19,500 lb, Enforcer
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot

Notes:

Curb to Curb turning radius calculated for 9.00 inch curb.

^{*}Actual Inside cramp angle may be less than shown.

Definitions:

Inside CrampAngle Maximum turning angle of the front inside fire.

Axle Track King-pin to King-pin distance of front axle.

Wheel Offset Offset from the center line of the wheel to the King-pin.

Tread Width Width of the tire tread.

Chassis Overhang Distance of the center line of the front axle to the front edge of the cab. This does not include

the bumper depth.

Additional Bumper Wheel Depth that the bumper assembly adds to the front overhang.

Wheelbase Distance between the center lines of the vehicles front and rear axles.

Inside Turning Radius Radius of the smallest circle around which the vehicle can turn.

Curb to Curb Turning Radius Radius of the smallest circle around which the vehicle's tires can turn. This measures

assumes a curb height of 9 inches.

Wall to Wall Turning Radius Radius of the smallest circle around which the vehicle's tires can turn. This measures takes

into account any front overhang due to chassis, bumper extensions and or aerial devices.



PKUDUGI WARRANTIES



Fire and Rescue Apparatus

One (1) Year Material and Workmanship Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

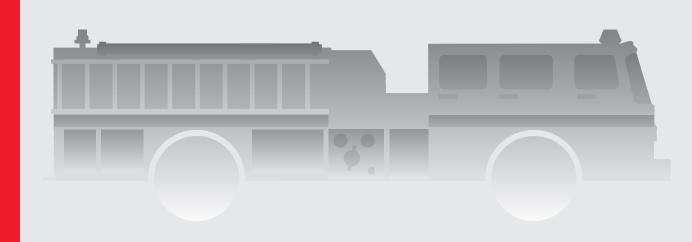
Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any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

2/8/2010 WA0008



Cummins Warranty

Worldwide Fire Apparatus/Crash Trucks



Coverage

Products Warranted

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

Base Engine Warranty

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

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

Additional Coverage is outlined in the Emission Warranty section.

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

Cummins Responsibilities

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

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

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

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

Owner Responsibilities

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

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

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

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

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

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

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

Limitations

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

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

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

exhaust fluid.

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

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

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

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

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

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

CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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

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

Emission Warranty

Products Warranted

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

Coverage

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

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

Limitations

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

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

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

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

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

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

- * Airport operated crash trucks and fire department operated trucks employed to respond to fires, hazardous material releases, rescue and other emergency-type situations.
- ** United States includes American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.



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

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

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

SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT. Pierce expressly acknowledges its obligation to

inform all users (customers) of the above disclaimer.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Signed at Pierce Manufacturing Inc., Appleton, WI this _	day of	, 2006.
R. H. SHEPPARD CO., INC.	PIERCE MANUFA	CTURING INC
Authorized Signature	Authorized Signature	;
Title	Title	



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity Custom Chassis Frame

Limited Warranty

1. LIMITED WARRANTY

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

Coverage:	Custom chassis frame rail manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Fifty (50) Years (Expected Life of Apparatus)
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies to the frame rails only, crossmembers are excluded. 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

- (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.

12/10/2024 WA0013



Pierce 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:

the fellowing warrant	y to the Bayon.
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

(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 CONSECUENTIAL, 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.

12/16/2013 WA0050



Fire and Rescue Apparatus

SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

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

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

6/29/2020 WA0384



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

Notice:

Models or components that are approved for use by Cummins-Meritor's vocational guidelines contained in Cummins-Meritor publication TP-9441 for axles, SP-8320 for trailer axles and TP-12126 for drivelines, or any other products that have an application approval completed with Cummins-Meritor which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

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

Advantage Program

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

LINEHAUL WARRANTY INFORMATION

Vocational Definition of Linehaul

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

Linehaul Vehicles

- Auto Hauler¹
- Doubles
- Grain Hauler¹
- Pipe Hauler
- Triples

- Bulk Hauler¹
- Flatbed
- Livestock Hauler
- Refrigerated FreightTapker1

- Chip Hauler^{1,2}
- General Freight
- Moving Van
 -
- ¹ Cummins-Meritor classifies these vehicle types as high center of gravity, which require special axle housing considerations.

Linehaul Typically Is:

- High mileage operation (over 60,000 miles/year)
- Greater than 30 miles between starts and stops
- Maximum grades of 12%
- Well maintained highways of concrete or asphalt construction (100% on-road)

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

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

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

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

Rear Drive Single Axles – 5/750/P&L

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

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

² Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

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

LINEHAUL WARRANTY INFORMATION

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

RT-40-160/P^{1,2} RZ-166² MA-40-17H³ MT-34-14X/P⁴ MT-40-14X/P⁴ RT-46-160/P^{1,2} RT-50-160/P^{1,2} RZ-188 MT-40-14T/P MT-40-14H/E^{3,4}

RT-46-164/P^{1,2} MA-40-165 MA-40-175 MT-40-14X/P⁴

Trailer Axles¹

Beam and Brackets	5/500/P, 1/100/L
TPX3000 Axle Series ²	10/Unl/P, 1/Unl/L
Wheel End Systems ³	
Standard System ⁴	1/100/P&L
AxlePak5	5/Unl/P&L
AxlePak7 ⁵	7/Unl/P&L

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

TAG/Pusher Axles¹

TQ. TR Beam and Brackets 5/750/P&L

Trailer Mechanical Suspension Systems¹

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

Trailer Air Suspension Systems

MPA40 (Tandem Axle Parallelogram)1

Major Structural Components	5/500/P, 1/100/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/Unl/P, 3/Unl/L
PinLoc Air Controls	1/100/P&L
PinLoc Actuator	3/300/P&L

MPA20 (Single Axle Parallelogram)

Major Structural Components

Height Control Valve

Shock Absorbers

Air Springs

2/200/P, 1/100/L

Bushings

5/500/P, 1/100/L

2/200/P&L

2/200/P&L

5/Unl/P, 3/Unl/L

MTA and MTA-Tec6 Trailing Arm Suspension System

 Major Structural Components
 5/500/P, 1/100/L

 Height Control Valve
 1/100/P&L

 Air Springs
 2/200/P, 1/100/L

 Bushings
 5/500/P, 3/300/L

 Shock Absorbers
 2/200/P&L

 Lift Kit System
 1/100/P&L

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

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

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

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

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

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

⁴ When installed by Cummins-Meritor.

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

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

¹ For axle coverage, refer to appropriate product warranties.

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

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

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

LINEHAUL WARRANTY INFORMATION

Brake Components

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

Drivelines

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

Meritor Tire Inflation System (MTIS)

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

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

² Based on stamped wear diameter max.

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

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

GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van

- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight

- School Bus
- Stake Truck
- Tanker
- Tanker Trailer
- Tour Bus
- Wrecker

General Service Typically Is:

- Typically, moderate mileage operation (less than 60,000 miles/year)
- An average of 3 to 30 miles between starts and stops
- Maximum grades of 12%
- Generally, on-road service (less than 10% off-road allowed)
- Category A job sites, terminals, docks and transfer sites (defined as pavement, concrete or maintained and hard packed gravel) or Category B job sites, terminals, docks and transfer sites (defined as loose or unmaintained sand, dirt or gravel; landfill; farm field; mud, or other similar surfaces)

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

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

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

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

GENERAL SERVICE WARRANTY INFORMATION

Rear Drive Single Axles - 2/Unl/P&L

MS-17-13X	MS-21-14X	RC-23-162 ¹	RS-23-186	MS-26-616-SP
MS-17-14X	MS-23-17X	RC-23-165 ¹	RS-24-160	RS-30-185
MS-19-13X	RS-21-160	RS-23-160	RC-25-160	MS-30-616
MS-19-14X	RC-23-160	RS-23-161	RS-26-185	MS-30-616-SP
MS-21-13X	RC-23-161	RS-23-185	MS-26-616	RS-35-380

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

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

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

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

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

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

Rear Drive Axles - 1/Unl/P&L

RND-14H RND-16A

Brake Components

Cam Q Series Trailer Brakes ¹ Cam P ²	3/Unl/P, 1/Unl/L 2/200/P
Cam	3/Unl/P
Q+ Drum Brake [™]	3/Unl/P&L
Q+ Drum Brake ^{™1,2}	2/200/P&L
ASA	3/Unl/P
ASA ²	2/200/P
Hubs/Cast Drums and Other Wheel-E	End Components 1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake™3	12-Years or Wearable Life/P
EX+ Air Disc Brake™4	2/Unl/P&L

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

Drivelines

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

PTO - 1/Unl/P&L

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

² Applies to Tour Bus and Cross Country Coach only.

³ Based on stamped wear diameter max.

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

GENERAL SERVICE WARRANTY INFORMATION

Trailer Axles¹

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

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

TAG/Pusher Axles¹

TQ, TR Beam and Brackets 3/Unl/P, 1/Unl/L MC14002, MC16003, FH946² 2/Unl/P&L

Meritor Tire Inflation System (MTIS)

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

Trailer Mechanical Suspension Systems¹

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

Trailer Air Suspension Systems¹

MPA40 (Tandem Axle Parallelogram)² Major Structural Components 5/Unl/P, 1/Unl/L 5/500/P, 1/100/L Curbing Damage Warranty³ Height Control Valve 1/Unl/P&L Shock Absorbers 2/Unl/P&L Air Springs 2/Unl/P, 1/Unl/L **Bushings** 5/P, 3/L PinLoc Air Controls 1/Unl/P&L PinLoc Actuator 3/Unl/P&L

MPA20 (Single Axle Parallelogram)

Major Structural Components

Height Control Valve

Shock Absorbers

Air Springs and Rebound Straps

Bushings

5/Unl/P, 1/Unl/L

2/Unl/P&L

2/Unl/P, 1/Unl/L

5/P, 3/L

MTA and MTA-Tec6 Trailing Arm Suspension System

Major Structural Components

Height Control Valve

Air Springs

2/Unl/P, 1/Unl/L

Bushings⁴

Shock Absorbers

2/Unl/P&L

2/Unl/P, 3/Unl/L

5/Unl/P&L

1/Unl/P&L

5/Unl/P, 3/Unl/L

5/Unl/P&L

5/Unl/P&L

5/Unl/P&L

- ¹ For axle coverage, refer to appropriate product warranties.
- ² Fastener torque coverage is limited to 2/Unl/P&L when torqued by Cummins-Meritor
- 3 "Curbing damage" is defined as deformation (bending, buckling or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding sub-frame, consisting of the frame rails, cross-members and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferable to another trailer VIN and coverage does not apply if the trailer is deemed to be a total loss, scrapped or otherwise not salvageable.

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

² 3/Unl/P&L if sold with PreSet by Cummins-Meritor.

¹ For axle coverage, refer to appropriate product warranties.

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

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

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicles

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle¹
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up

1 Commercial chassis only

- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig

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

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

- Shuttle Bus¹
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

Heavy Service/Specialty Vehicle Typically Is:

- Moderate mileage operation (less than 60,000 miles per year)
- On/off-road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)
- An average of three (3) miles between starting and stopping

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

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

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

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

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

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

MX-12-120 MX-14-120 EVO MX-17-140 MX-21-160

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

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

Rear Drive Axles - 2/Unl/P&L

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

Rear Drive Axles - 1/Unl/P&L

RND-14H RND-16A

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

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

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

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

RT-40-160/P/A³ RT-46-160/P/A^{1,3} RT-46-164/P^{2,3} RT-50-160/P/A³ RZ-166

PTO - 1/Unl/P&L

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

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

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

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

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

HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Drivelines

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

Transmission - 1/Unl/P&L

FAT 30

Brake Components

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

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

MTC-3120-FV (TC-143)

Trailer Axles¹

Beam and Brackets² 5/Unl/P, 1/Unl/L Wheel End Systems³ Standard System⁴ 1/Unl/P&L

Trailer Air Suspension Systems¹

MTA and MTA-Tec6 Trailing Arm Suspension System

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

¹ For axle coverage, refer to appropriate product warranties.

Meritor Tire Inflation System (MTIS)

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

Gearboxes - 1/Unl/P&L

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

Transfer Cases - 1/Unl/P

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

MTC-3212-CV (315 and 548B)

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

³ Based on stamped wear diameter max.

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

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

² 9000 Series is 3/Unl/P, 1/Unl/L

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

⁴ When installed by Cummins-Meritor.

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

FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

- Aerial Ladder Truck
- Ambulance
- Crash Fire Rescue
- Rapid Intervention Vehicle (RIV)
- Tanker

- Aerial Platform
- Command Vehicle
- Pumper

Fire and Emergency Typically Is:

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

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

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

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

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

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

Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-185	RC-25-160	RS-35-185 ¹
RS-23-160	RS-23-186	RS-26-185	RS-25-160
RS-23-161	RS-24-160	RS-30-185	

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

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

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

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

Transfer Cases – 1/Unl/P

 MTC-2212-CV (306)
 MTC-3124 (T-2119)
 MTC-3220-FC (TC-142)

 MTC-3106-FV (TC-137)
 MTC-3206-FV (TC-237)
 MTC-4206-FV (TC-38)

 MTC-3111 (T-2111 through-shaft)
 MTC-3206-CS (544)
 MTC-4208

 MTC-3112-CV (548C)
 MTC-3208-GV (RTC-50)
 MTC-4210

 MTC-3118-FV (TC-180 and TC-180-23)
 MTC-3209-GV (MTC-60/RTC-60)
 MTC-4213

MTC-3118-FV (TC-180 and TC-180-23) MTC-3209-GV (MTC-60/RTC-60) MTC-3118-CV (358) MTC-3212-CV (315 and 548B)

MTC-3120-FV (TC-143) MTC-3312-FV (TC-270)

² 2/Unl/P&L

FIRE AND EMERGENCY WARRANTY INFORMATION

Brake Components

Drivelines

Cam Q+ Drum Brake [™] ASA Hubs/Cast Drums and Other Wheel-End Components Hydraulic Disc Brakes All Other Brakes EX+ Air Disc Brake ^{™1}	3/Unl/P 3/Unl/P&L 3/Unl/P 1/Unl/P 1/Unl/P 1/Unl/P 2/Unl/P&L	RPL MXL 92N	4/400/P, 1/Unl/L 3/350/P, 1/Unl/L 1/Unl/P
Warranty coverage for boots, seals, caps, bushings and pins is 2/3	200/P.		

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

PTO - 1/Unl/P&L

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

TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

- Airport Shuttle
- Commuter Coach
- Transit Bus
- Trolley

City Bus

Shuttle Bus

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

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

FH-946 FH-9411 MFS-12-155 MFS-13-155

Rear Drive Single Axles - 5/300/P&L

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

Tag Axles - 2/Unl/P&L

MC-14002 MC-16003 FH-946

Center Non-drive Axles - 5/300/P&L

MC-26000 71063 79063

Gearboxes - 1/Unl/P&L

MGX-450 MGX-451 MGX-538

Brake Components

Cam Cast Plus™ 2/100/P&L Q+ Drum Brake^{™1} 2/100/P&L ASA1 2/100/P Hubs/Cast Drums and Other Wheel-End Components 1/Unl/P All Other Brakes 1/Unl/P EX+ Air Disc Brake² 2/100/P&L

Drivelines

RPL	3/Unl/P, 1/Unl/L
92N	1/Unl/P&L
MXI	1/I lnl/P&I

¹ Commuter coach only - 2/Unl/P&L

¹ Commuter coach only - 2/Unl/P&L

¹ Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only. ² Warranty coverage for boots, seals, caps, bushings and pins is 2/100/P. Warranty coverage for pads is 1/100/P.

OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Industrial and Off-Highway Service Vehicles

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

Industrial and Off-Highway Service Typically Is:

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

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

Front Non-Drive Steer Axles – 1/Unl/P

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

Rear Drive Axles - 1/Unl/P

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

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

Planetary Axles – 1/Unl/P

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

Gearboxes - 1/Unl/P&L

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

PTO - 1/Unl/P&L

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

OFF-HIGHWAY SERVICE WARRANTY INFORMATION

Transfer Cases - 1/Unl/P

MTC-2212-CV (306) MTC-3106-FV (TC-137) MTC-3111 (T-2111 through-shaft) MTC-3112-CV (548C) MTC-3116 (T-2111) MTC-3118-FV (TC-180 and TC-180-23) MTC-3118-CV (358) MTC-3120-FV (TC-143) MTC-3124 (T-2119) MTC-3206-FV (TC-237) MTC-3208-GV (RTC-50) MTC-3209-GV (MTC-60/RTC-60) MTC-3220-FC (TC-142)

Drivelines - 1/Unl/P

RPL MXL

Transmission - 1/Unl/P&L

FAT 30

Brake Components

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

TERMS AND CONDITIONS

Coverage Exclusions

Product Description

AII

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

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

Front Axles¹

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

¹ King Pin Bushing wear excluded for all vocations.

Rear Axles

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

ASA

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

Cam Brake

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

Disc Brake

Pad wear, rotor wear.

Coverage Limitations

Product Description

AII

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

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

Front Axles

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

Rear Axles

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

Rear Axles

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

Cam Brake

Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30

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

Terms and Conditions

(1) What is Covered by this Commercial Warranty?

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

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

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

TERMS AND CONDITIONS

(2) Designation of Vocational Use Required

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

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

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

(3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?

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

(5) Remedy

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

(6) Disclaimer of Warranty

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

(7) Limitation of Remedies

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

(8) To Obtain Service

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

(9) Entire Agreement

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



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

cummins.com



Pierce Fire and Rescue Apparatus

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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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

2/25/2013 WA0232

WARRANTY

MODEL YEAR 2021 VEHICLES



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

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

How to Read Warranty Coverage (Example)		
Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	Р

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

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

• High mileage operation (over 60,000 miles/year)

• Well maintained major highways of concrete or

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach

asphalt construction

LINEHAUL TYPICALLY IS

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

GENERAL SERVICE TYPICALLY IS

• Moderate mileage operations (less than 60,000 miles/year)

WARCO Components (cont)

- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WADOO O	
WABCO Components ¹	
Air Management	
Air Brake Valves	
Trailer Lift Axle Control Valve	1/100/P&L
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow® TrailerSkirt	2/UnU/P
OptiFlow® Trailer Tail and AutoTail	2/Unl/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	3/300/P&L
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System)3	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/D91
OptiRide® Automated Manual Transmission (AMT)	1/100/P&L
OptiRide® Electronically Controlled Air Suspension (ECAS)	3/300/P&L

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

¹ **ZF** and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. 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	
Air Compressors (ALL)2	
Air Dryers (ALL)	1/100/P&L
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	3/300/P&L
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide® Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE®	
OnLane [®]	
OnLaneALERT®	3/300/P&L
OnSide®	0,000,1 aL
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	0/000/10
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.

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

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

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



WABCO Components ¹	
Air Management	
Air Brake Valves	
Air Compressors (ALL)2	2/Unl/P
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	
Master Cylinders	
Remote Actuators	2/Unl/P
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	
Electric Brake Locks	2/Unl/P
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	1/100/D01
ABS (Anti-Lock Braking System) Hydraulic	1/100/P&L
Driveline Suspension Control	
Clutch Controls	1/100/D01
Leveling Valves	1/100/P&L
Electrohydraulics & Controls	
Electronic Pedals	
Electrohydraulic Brake Valves (EBV)	2/Unl/P
Pressure Switches	
Hydraulic Braking Solutions	
Accumulator Charging Valves	
Hydraulic Throttle Controls and Switches	2/Unl/P
Modulating Brake Valves	
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
Caliper Disc Brakes	2/Unl/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
Multiple Disc Brakes	2/Unl/P
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/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 PLUSTM. Additional labor due to use of an outdated version of TOOLBOXTM software and/or the time to purchase or install the latest version of TOOLBOX PLUSTM 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 TOOLBOXTM, time to purchase or install latest version of TOOLBOXTM are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

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

- the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.
- (3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.
- (4) What is not Covered by this Warranty? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, installation, adjustment, repair or modification including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.
- (5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.
- (6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at 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





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:

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

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.



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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILLURE 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.



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:

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

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

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

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



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:

the following warrant	y 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 occuring during the warranty period.
Warranty Begins:	The date of delivery.
Warranty Period Ends After:	Fifty - Four (54) months
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILLURE 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.

1/11/2011 WA0188



Ten (10) Year Material and Workmanship Pierce 12V LED Strip Light

Limited Warranty

1. LIMITED WARRANTY

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

the following warranty to the Buyer:			
Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Pierce 12V LED strip lights installed on the apparatus occuring during the warranty period.		
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).		
Warranty Period Ends After:	Ten (10) Year		
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.		

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

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

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

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

2. DISCLAIMERS OF WARRANTIES

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

3. BUYER'S EXCLUSIVE REMEDY.

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

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, 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.

7/5/2011 WA0203

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

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.

OUESTIONS

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

Allison Transmission, Inc. P.O. Box 894 Indianapolis, IN 46206-0894

Attention: Warranty Administration PF-9

Form SE0616EN (201009)



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

Limited Warranty

1. LIMITED WARRANTY

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

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

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

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

(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 maieure 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) anv 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

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

2/22/2012 WA0216



Effective as of January 1, 2024

- 1. <u>General</u>. United Plastic Fabricating, Inc. (the "<u>Company</u>") warrants to the owner (the "Owner") that the products set forth on <u>Exhibit A</u>, attached hereto (the "<u>Product</u>") will be reasonably free from defects in materials and workmanship for the service life of the Product. This Limited Lifetime Warranty (the "<u>Warranty</u>") only applies to Company Products that are: (a) owned by a federal, state, county or local government, a volunteer fire department or dedicated commercial fire service operation; (b) continuously and actively used in emergency response and/or fire suppression vehicles; and (c) used, stored, handled and installed in the manner recommended by Company.
- 2. Warranty Obligations. Subject to the exclusions and limitations set forth in this Warranty, Company will, at its option, repair or offer a one (1) time replacement of the Product without charge, if the Product fails or does not perform as warranted during the warranty period due to a manufacturing defect or a defect in materials. Repair or replacement shall include reasonable labor charges necessary to repair or replace the defective Product but shall not include: (a) the costs associated with removal of the Product from the vehicle or the cost to otherwise provide access to the Product in the vehicle; (b) the cost associated with any required upgrades the vehicle (including, without limitation, upgrades required to strengthen the vehicle's frame); or (c) travel costs, except as provided by Section 3. Company's obligation as to repair or replacement shall further be limited to repair or replacement with the models of the Product that are available at the time of the repair or replacement, and shall be limited to the repair or replacement of only the specific Product that fails due to a manufacturing defect. In the event a Product becomes unavailable or cannot be supplied by Company for any reason a substitute Product of equal quality and functionality of the subject Product may be substituted by Company. Any repaired Product shall remain subject to this Warranty and any repair shall not extend the warranty period in any manner or start a new warranty period. Any Product that is replaced by Company shall be excluded from this Warranty. In no

- event shall Company be required to expend, in any one (1) or series of expenditures, more than the purchase price of the Product to repair or replace a defective Product. Amounts expended by Company shall include all amounts paid by Company in connection the repair or replacement, including without limitation, amounts paid to third-parties, material costs, incidental costs and travel costs (except as provided by <u>Section 3</u>).
- 3. Travel; Expenses; Product Access. Company shall be responsible for any travel costs incurred to repair or replace the Product provided that: (a) the Product is located in the continental United States or Canada; and (ii) the warranty claim is initiated prior to the date on which NFPA 1912 Standards (Annex D) recommends replacement of the Product. All other travel costs incurred by Company or its agents to repair or replace the Product shall be the responsibility of the party asserting the warranty claim. Company reserves the right to require, as a condition to undertaking any repair or replacement: (y) pre-payment of its anticipated travel costs; and (z) satisfactory arraignments concerning scheduling and access to the Product. If the subject Product is located in an area of the world considered, in Company's sole discretion, to be unsafe Company may refuse to process the claim or require relocation of the Product, at no expense to Company, to an area where such repairs can be performed safely by Company or its agents. In the event Company or Company's agents are dispatched to repair or replace a defective Product and the vehicle in which the Product has been installed is not available or the Product is not readily accessible, for any reason, Company or Company's agents, as the case may be, shall be immediately reimbursed for all expenses incurred therewith.
- 4. Exclusions: Products must be stored, handled, installed, used and maintained in accordance with instructions provided by Company, and this Warranty is conditioned upon compliance with all such instructions. This Warranty does not cover defects caused by: (a) improper installation; (b) modification, alteration or repair of the Product by any unauthorized third-party; (c) misuse, including, without limitation, improper

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

- 5. Disclaimer. THE WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY COMPANY IN CONNECTION WITH THE PRODUCT. COMPANY CAN NOT AND DOES NOT MAKE ANY IMPLIED OR EXPRESS WARRANTIES WITH RESPECT TO THE PRODUCT, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT WARRANTY OF LIMITED TO, ANY **MERCHANTABILITY FITNESS** OR FOR Α PARTICULAR PURPOSE. PRODUCTS SOLD BY COMPANY ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY COMPANY IN WRITING. OTHER THAN THE LIMITED WARRANTY SET FORTH HEREIN, COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. COMPANY'S SOLE OBLIGATION UNDER WARRANTY SHALL BE REPAIR REPLACEMENT OF NON-CONFORMING PRODUCT. BUYER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCT PURCHASED, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.
- 6. Limitation of Liability. NO CLAIM BY OWNER OF ANY **INCLUDING CLAIMS FOR** KIND. INDEMNIFICATION, SHALL BE **GREATER** IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT IN RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL COMPANY BE LIABLE TO OWNER IN TORT, CONTRACT OR OTHERWISE, FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, ANY OBLIGATION OF COMPANY TO REPAIR REPLACE ANY OR CHASSIS. SUB-FRAMES, BODIES, VALVES. DUMPS, HOSES, PRESSURE VACUUM VENTS OR OTHER SIMILAR COMPONENTS), RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME,

LOSS OF REVENUES, INCONVENIENCE, LOSS BUSINESS OPPORTUNITIES, OR DAMAGE TO GOOD WILL OR REPUTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF BUYER TO ANY THIRD PARTY WITH RESPECT THERETO.

- 7. Reformation. If any term or provision of this Warranty shall be held or deemed to be, or shall in fact be, invalid, inoperative, illegal or unenforceable as applied in any case or in any jurisdiction or jurisdictions because of the conflicting nature of any provision with any constitution or statute or rule of public policy or for any other reason, then: (a) such circumstance shall not have the effect of rendering the provision or provisions in question invalid, inoperative, illegal or unenforceable in any other jurisdiction or in any other case or circumstance or of rendering any other provision or provisions herein contained invalid, inoperative, illegal or unenforceable to the extent that such other provisions are not themselves actually in conflict with such constitution, statute or rule of public policy; and (b) invalid, inoperative, illegal or unenforceable provision shall be reformed and construed in any such jurisdiction or case so that such provision would be valid, operative and enforceable to the maximum extent permitted in such jurisdiction or case.
- 8. <u>Headings</u>. The headings contained herein are for convenience and reference only, and shall be given no effect in the interpretation of any term or condition of this Warranty.
- 9. <u>Submitting a Warranty Claim</u>. To request coverage under this Warranty you must submit a claim through Company's website:

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

- 10. <u>Transferability</u>. This Warranty is transferable and entitles the transferee to coverage for the remainder of the original warranty period.
- 11. <u>Modification</u>. This Warranty may be modified (a) as set forth on a binding sales order for the Product or (b) by a written agreement between Company and the Owner.

Exhibit A

Covered Product List

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



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:

the following warranty	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: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.				

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.



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

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

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

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

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

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

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

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

Limited Wet Paint Match Adhesion Warranty

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

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

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

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

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.

Waterous Seven-Year Limited Warranty

use and service for a period of seven (7) years from the date the product is first placed in service, or seven and one-half (7-1/2) years from the date of shipment by WATEROUS, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested WATEROUS warrants, to the original Buyer only, that products manufactured by WATEROUS will be free from defects in material and workmanship under normal period, and said product is found by WATEROUS to be nonconforming with the aforesaid warranty. When required in writing by WATEROUS, defective products WATEROUS, whichever period shall be the first to expire; provided the Buyer notifies WATEROUS, in writing, of the defect in said product within the warranty must be promptly returned by Buyer to WATEROUS at WATEROUS' plant at South St. Paul, Minnesota, or at such other place as may be specified by by phone, fax, email, or mail. The aforesaid warranty excludes any responsibility or liability of WATEROUS for:

- damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, or improper maintenance, or attributable to written specifications or instructions furnished by Buyer; <u>a</u>
- defects in products manufactured by others and furnished by WATEROUS hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, WATEROUS will assign to Buyer, if requested by Buyer; **a**
- any product or part, altered, modified, serviced or repaired other than by WATEROUS, without its prior written consent; <u>ග</u>
- the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation; and **©**
- normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.). **(e)**

CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.

The exclusive remedy of Buyer and the sole liability of WATEROUS, whether based on contract, warranty, tort or any other basis of recovery whatsoever, expressly limited at the election of WATEROUS to:

- the replacement at the agreed point of delivery of any product or part, which upon inspection by WATEROUS or its duly authorized representative, is found not to conform to the limited warranty set forth above, or (a)
- (b) the repair of such product or part, or
- the refund or crediting to Buyer of the net sales price of the defective product or part. <u>ပ</u>

BUYER'S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.

Waterous Company 125 Hardman Avenue South South St. Paul, MN 55075 USA www.waterousco.com





Pierce Fire and Rescue Apparatus

Ten (10) Year Material and Workmanship **Stainless Steel Piping**

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides

the following warranty	y to the Buyer:
Coverage:	Stainless steel piping shall be free from structural failures caused by defects in material and workmanship, or perforation caused by corrosion.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	Pierce's obligation under this warranty is limited to repairing or replacing without charge, as Pierce may elect, the stainless steel piping or components which Pierce determines to have failed due to defective material and workmanship, or perforation caused by corrosion. This warranty does not cover the use of fluoroprotein (FP) type foam. The sodium chloride within FP foam can cause long-term damage to system components if not thoroughly flushed immediately after use.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever

- (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 maieure 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) anv 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

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

3/22/2012 WA0035



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion Custom Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

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Coverage:	Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any: Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25% Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25% Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10% Corrosion Perforation 0-120 months 100% This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty. Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/8/2010 WA0057



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Goldstar® Gold Leaf Lamination

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

the following warrant	y to the Buyer.
Coverage:	Each Goldstar® gold leaf lamination shall be free from defects in material and workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;
- (b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;
- (c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or
- (d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

2/22/2010 WA0018



5 DEALER SUPPLIED PRODUCTS MR SERVICES

Exhibit "D"

PROPOSAL INTRDUCTION

With over three decades of industry expertise, Golden State Fire Apparatus, Inc. (GSFA) proudly stands as the premier authorized dealership for top-tier fire apparatus in Central and Northern California. Our steadfast commitment to detail and customer satisfaction has earned us a trusted reputation among first responders.

We sincerely appreciate the opportunity to present this comprehensive proposal for a <u>PIERCE MANUFACTURING INC. ENFORCER 1500 GPM TYPE 1 FIRE ENGINE</u>. Your consideration of this proposal is greatly valued, and we are eager for the opportunity to support your department with the highest level of excellence and professionalism.

DEALER-SUPPLIED PRODUCTS AND SERVICES

Golden State Fire Apparatus Inc. (GSFA) will furnish the following items and/or services before final delivery so that all necessary components and support are in place, contributing to an efficient final delivery process. Please refer to the detailed list below for a comprehensive overview of the products and/or services included:

AUTHORIZED MANUFACTURER

In accordance with the State of California Vehicle Code, specifically Section 11701, it is mandated that "every manufacturer of a vehicle subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number." The manufacturer, as of the proposal submission, holds a valid license in compliance with this requirement and is prepared to furnish a copy upon request. This adherence to regulatory standards ensures that the manufacturer maintains a current and official status, promoting transparency and compliance with legal requirements throughout the duration of the proposal and subsequent processes.

AUTHORIZED DEALERSHIP

In compliance with the State of California Vehicle Code, specifically Section 11701, it is mandated that "a dealer in vehicles of a type subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number." Golden State Fire Apparatus, Inc. possesses a valid license at the time of the bid, as detailed above, and can promptly provide a copy upon request. This adherence to regulatory standards ensures that the dealership maintains a current and official status, promoting transparency and compliance with legal requirements throughout the duration of the proposal and subsequent processes.

AUTHORIZED SALES REPRESENTATIVE

In accordance with the State of California Vehicle Code, specifically Section 11800, it is expressly prohibited for any individual to function as a vehicle salesperson without obtaining a license issued by the Department of Motor Vehicles (DMV). The representative, at the time of

proposal, holds a valid vehicle salesperson's license and is ready to furnish a copy upon request. This adherence to regulatory standards ensures that the sales representative maintains a current and official status, promoting transparency and compliance with legal requirements throughout the bidding process and subsequent phases.

VEHICLE REGISTRATION

In adherence to the State of California Vehicle Code Section 11739, it is mandated that the "dealer of a new motor vehicle sale is responsible for applying for the title, securing vehicle registration, and obtaining license plates for the Customer" through the Department of Motor Vehicles (DMV). Being a factory-authorized dealer of the vehicle being sold, Golden State Fire Apparatus, Inc. is duly authorized to register the vehicle with the State of California as a new vehicle manufacturer.

GSFA is committed to facilitating an excellent vehicle ownership experience for the customer. As such, we will manage all necessary applications and complete all transfer papers, including the application for California Exempt "E" license plates. This approach ensures compliance with regulatory requirements and a hassle-free registration process for our valued customers.

WEEKLY PROGRESS PHOTOGRAPHS

GSFA is committed to ensuring transparency and comprehensive reporting throughout the construction process of the apparatus. To achieve this, GSFA will provide weekly photographs capturing various stages of the apparatus or major components under construction.

Commencing from the initiation of the manufacturing process, the photographic documentation will extend throughout the entire production phase by the manufacturer. These weekly reports will offer a visual representation of the ongoing progress of the apparatus, highlighting key milestones and showcasing unique features and aspects as construction unfolds.

Our focus is to provide customers with a clear and detailed insight into the evolution of the apparatus, fostering a deeper understanding of the craftsmanship and distinct elements incorporated during the construction process. This commitment to regular, visual updates aims to enhance communication and transparency regarding the progress of the apparatus.

FIRE FIGHTING EQUIPMENT MOUNTING FUND

A Fire Fighting Equipment Mounting Fund amounting to \$20,000 per unit is incorporated into the quotation and is specifically designated to cover the expenses associated with mounting of said equipment, adhering to the directives of the Customer.

In the event that the mounting costs surpass the stipulated allowance, any additional work required can be undertaken at the prevailing shop rate. Any unused portion of the Fire Fighting Equipment Mounting Fund will be credited back on the final invoice. Alternatively, if not credited, the remaining funds will be promptly returned to the Customer in the form of a check

following the completion of the final invoicing process. This approach guarantees financial transparency and effective management throughout the project.

PRE-CONSTRUCTION, FACTORY VISIT

A pre-construction trip to the manufacturing facility is included for six (6) Customer representatives. The primary objective of this visit is to review and finalize, in detail, the specifications prior to the start of production. The pre-construction trip is anticipated to span five (5) days and four (4) nights, with scheduling details collaboratively determined between GSFA and the Customer.

GSFA will cover the costs associated with airfare, lodging, meals, and ground transportation during the stay at the manufacturer's location. Air travel will be arranged from one of the following airports: Sacramento, San Francisco, or San Jose.

It is important to note that certain costs, including Customer ground transportation within California, airport parking, luggage fees, and incidental expenses during travel to the factory, fall within the responsibility of the Customer. Furthermore, flight reservations are non-refundable, and in the event of a cancellation post-booking, the Customer will bear all associated costs, encompassing not only the original ticket cost but also any change or cancellation fees levied by the airline and/or travel agency. Additionally, flight reservations are non-transferable. This delineation aims to establish clarity and transparency regarding the allocation of responsibilities and potential costs associated with the pre-construction trip.

FINAL INSPECTION, FACTORY VISIT

A final inspection trip to the manufacturing facility is included for <u>six (6)</u> Customer representatives. The primary objective of this visit is to ensure the adherence of the apparatus to specifications and promptly identify any potential deficiencies. The final inspection trip is anticipated to span five (5) days and four (4) 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.

Electrical:

Verify the operation of all lights, sirens, and other electrical accessories.

6. Pump:

- Operate the Pressure Governor or Relief Valve, transfer valve, and check pump shift.
- Inspect water tank, pump and plumbing for leaks and calibrate the water level gauge.
- Ensure smooth operation of all discharge, suction, and drain valves.

7. Pierce Husky™ Foam System:

• If applicable, draft and inject clean water to ensure proper operation of the foam pump.

8. Fuel and DEF Tanks:

• Fill the fuel tank and DEF tank prior to final delivery.

9. Wash:

Thoroughly wash the apparatus prior to final delivery.

This pre-delivery service assists the apparatus to meet our high standards of quality and operational efficiency before reaching its final destination.

FINAL DELIVERY (CUSTOMER LOCATION)

GSFA will deliver the completed Product, inclusive of any relevant equipment, spare parts, and supplies, to the Customer's specified address at GSFA's expense.

In preparation for the Product's delivery, the Customer is required to furnish GSFA with proof of liability and physical damage insurance. GSFA will withhold the release of the Product until such proof of insurance is provided.

To ensure a timely delivery process, it is incumbent upon the Customer to settle any outstanding balance owed to GSFA before or at the time the Product is completed and ready for delivery. In the event of delayed payment or delivery, GSFA reserves the right to impose a late fee and daily storage charge as outlined in the Standard Terms and Conditions until payment is received.

For compliance with insurance liability considerations, the Product will only be delivered upon full acceptance and full payment, or through a prior written agreement mutually reached between the Customer and GSFA. This ensures a secure and efficient finalization of the delivery process, aligning with both parties' obligations and safeguarding against potential liabilities.

COMPREHENSIVE SALES AND SERVICE SUPPORT

At GSFA, we understand that immediate response is essential - and the service and support of your apparatus should be no different. Since our founding in 1989, our mission has been to provide first responders with the highest quality, most reliable fire and emergency apparatus from top-tier manufacturers. We specialize in guiding our customers through the entire process - from apparatus evaluation and customization to final inspection - and ensuring years of reliable service through our Golden State Emergency Vehicle Service (GSEVS) division.

Golden State Emergency Vehicle Service (GSEVS)

Established in 2014, GSEVS is committed to building long-term, collaborative relationships by providing exceptional warranty and technical support. Our services cover a wide range of needs, including chassis, electrical systems, pump, aerial, routine maintenance, equipment mounting, and pump testing - with priority given to new units sold by GSFA. Our goal is to deliver prompt, professional service and unwavering support for your apparatus.

Sacramento Facility

Our Sacramento location features a 33,814-square-foot facility with 18 working bays and a 4,500-square-foot, two-story parts distribution department. Conveniently located near Highway 99 with easy access to Interstates 80 and 50, we are positioned to serve you efficiently.

Tracy Facility (Opening Fall 2025)

Our second location in Tracy will expand our service capacity with a 49,634-square-foot facility featuring 22 working bays and a parts department equal in size to our Sacramento facility. Strategically located

within the "Tracy Triangle" - bordered by I-580, I-205, and I-5 - this facility will enhance our ability to serve customers in the Bay Area and beyond.

Certified and Experienced Technicians

Our service team includes factory-trained professionals certified by Pierce, ASE, and EVT. They undergo regular training to stay current on chassis, electrical systems, and aerial devices, ensuring expert handling of any challenge. Whether it's routine maintenance or complex diagnostics, you can count on expert care and precision with every visit.

Parts

At Golden State, we're dedicated to keeping your apparatus fully operational and mission-ready. That's why we maintain a robust inventory of both Pierce and non-Pierce parts—ready for immediate deployment when you need them most. If a part isn't in stock, we expedite orders directly from the manufacturer to minimize downtime and get your unit back in service without delay.

To make the process even more efficient, our digital Parts Request Portal offers a streamlined, user-friendly experience. It provides 24/7 access to submit requests, monitor order status, and communicate directly with our team—ensuring transparent updates and quicker turnaround times every step of the way.

Mobile Service

To minimize emergency apparatus downtime, we offer a robust mobile service program for on-site repairs and maintenance.

Pre-Delivery Inspection (PDI) Process

We employ a dedicated team of Pre-Delivery Inspection (PDI) technicians solely focused on ensuring your apparatus arrives in peak condition. Before your new custom unit is delivered, it undergoes a thorough, multi-point inspection to verify quality, performance, and compliance with all specifications. Our team handles every detail of the acceptance and delivery process—so you can take ownership with complete confidence and peace of mind.

Your Single Source for Sales and Service

With Golden State Fire, you have a single point of contact for sales, service, and support - all under one roof, with two strategically located facilities to serve you better. We are confident that our combination of expertise, customer service, and product support is unmatched by any other fire and emergency apparatus dealership in California.

END OF EXHIBIT "D"