

**North Stonington Volunteer Fire Company
and the
Town of North Stonington**

**Bid Specifications
for a
2019 Tanker/Pumper Fire Apparatus**

North Stonington Vol. Fire Company New Apparatus Committee

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| Chairman | Patrick R. Chute |
| Fire Chief | Charles Steinhart |
| Vice Chairman | Gary Bond |

Town of North Stonington Board of Selectman

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| First Selectman | Mr. Mike Urgo |
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North Stonington Volunteer Fire Co., Inc.

25 Rocky Hollow Road
North Stonington, Connecticut 06359
(860) 535-0937

and the Town of North Stonington

INVITATION TO BID

The North Stonington Volunteer Fire Company, Inc. is currently seeking bids for the purchase of a Class A pumper/tanker in accordance with the North Stonington Volunteer Fire Company, Inc. Copies of these specifications are available on the Town website, www.northstoningtonct.gov

GENERAL INSTRUCTIONS

It is the sole responsibility of the bidder to that his or her proposal reaches the destination listed above on time. No phone bids or late proposals will be accepted. Postal delays or delivery schedules will not be considered justifiable reasons for late bids. Only one bid per vendor will be acceptable. Two or more bids by one vendor is unacceptable and will be cause for all bids from that bidder to be **REJECTED. "NO EXCEPTIONS"**. Bids are to be sealed and marked FIRE APPARATUS BID. The bids must be sent to the Selectmen's Office no later than 3 PM, Selectmen's Office time, on September 16. The bids will be reviewed by the North Stonington Volunteer Fire Company Truck Committee and the contracted awarded by the Board of Selectmen at their meeting on September 24 at 1800 hrs.

Bidders must submit their proposals in writing and in accordance with the enclosed specifications. The Town of North Stonington reserves the rights to reject any and all bids which are not considered in the best interest of the Town of North Stonington and the North Stonington Volunteer Fire Company, Inc.

INTENT OF BID SPECIFICATION

It is the intent of these specifications to describe the furnishing of a Class A Pumper Tanker Fire Engine. The apparatus shall be the manufacturers latest "Top of the line" model meeting these specifications. The unit shall be ready for immediate operation at the time of delivery the following details are assumed to be in addition to requirements of NFPA Standard #1901. Any questions and/or apparent conflicts shall be brought to the attention of the Apparatus Committee NS.V.F.C, 25 Rocky Hollow Rd North Stonington, Connecticut 06359 at least five working days prior to the opening of the bids. Items not specifically covered in the following specifications shall meet the requirements of NFPA Standards #1901 current edition. The truck shall be provided with the minimum equipment required by category A of the sectors which pertain to the type of apparatus being specified unless otherwise called out in the following specifications. Any specified equipment shall be taken to intend that said equipment are the only items to be supplied.

Each bidder shall provide proof that their manufacturer maintains and follows current NFPA Standard #1901 and Federal/State of Connecticut Department of Transportation standards. "NO EXCEPTIONS"

The purpose of this specification is to cover the furnishing and delivery to the North Stonington Volunteer Fire Company, Inc. of complete and soundly engineered apparatus equipped as hereinafter specified. Each bidder is to provide with the bid proof of full-time employment of a registered licensed, certified engineer qualified in the state of the manufacturer's location.

The construction, materials and equipment in these specifications have been researched and found to be acceptable and in the best interests of the North Stonington Volunteer Fire Company, Inc. In the consideration of material considered equal to, the final decision of equality shall be made by North Stonington Volunteer Fire Company, Inc. and shall be final. We reserve the right to accept or reject any and all bids in the process of selecting the unit which will best serve the town of North Stonington, Connecticut. We reserve the right to accept the "HIGH" bid if it is deemed to be the best unit in regard to these specifications.

Each bidder shall list all exceptions on a separate sheet titled "Exceptions To Bid Specifications". The list shall include any and all **OR EQUAL** items. All such exceptions shall be explained in full to the satisfaction of the accepting authority, North Stonington Volunteer Fire Company, Inc., Truck Committee. Bids taking total exception to these specifications will be rejected.

It shall be the responsibility of the manufacturer that the apparatus meets all federal Department of Transportation standards in effect at the time the unit leaves the factory as well

as any and all State of Connecticut Department of Transportation requirements.

The importance of public safety associated with firefighting and rescue apparatus covered by this specification will be excluded from consideration, when evaluating bids, manufacturers of apparatus that have not fully field tested such apparatus for at least 5 years and have been in the business of manufacturing such apparatus for a minimum of 10 consecutive years. "NO EXCEPTIONS".

Bi-metal manufacturing of the apparatus will not be acceptable. Bidder must not subcontract any portion of the manufacture of the apparatus.

When a commercial chassis is specified the bidder is to provide a complete truck list and engineering data with proof that the chassis GVWR and frame rail RBM is sufficient to carry the completed apparatus and equipment with water in accordance with the standards set forward in NFPA Standard # 1901. The above data shall be provided for any chassis being bid for this unit.

The standard set for field testing shall apply to commercial chassis provider also. No exceptions will be allowed, this includes body fabrication and painting.

As a continuous operation of the apparatus contemplated is of the utmost importance, it is necessary that the successful bidder be able to guarantee the furnishing of replacement parts for a period of not less than twenty years. Accordingly, bidders shall provide proof of their ability to render prompt service. The bidder shall also provide proof of operation of a service facility fully equipped to repair fire apparatus and provide 24 hour a day emergency service. Bidders must be able to provide most service work in the North Stonington Volunteer Fire Company, Inc. station where the apparatus is garaged by use of road service. All major service shall be able to be done at a service center operated by the manufacturers dealer network within 75 miles of the apparatus. Due to the legal liability of the service work, ALL service work is to be done within the State of Connecticut. This is to ensure any litigation which may arise in the future will indisputable fall under the cognizance of the laws and court system of the State of Connecticut. It shall also be understood that no service work other than component warranty shall be sub-contracted out. "NO EXCEPTIONS".

All bidders shall provide with their bid a financial statement. This shall be by means of a current Dunn and Bradstreet Report as well as a current income and balance report of the firm.

The bidder shall provide a certificate of insurance for product liability for not less than \$3,000,000.00 (THREE MILLION DOLLARS). "NO EXCEPTIONS". All bidders must show proof of Worker's Compensation Insurance, a minimum of \$100,000/\$300,000 Bodily injury Liability Insurance and a minimum of \$50,000 Property Damage Liability.

PERFORMANCE AND TEST

A road test will be conducted with the apparatus fully loaded and a continuous run of ten (10) miles or more will be made under all driving conditions, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts, and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus.

- A) The apparatus, when fully equipped and loaded, shall have not less than 25 % nor more than 50 % of the weight on the front axle, and not less than 50 % nor more than 75 % on the rear axle.
- B) The apparatus must be capable of accelerating to 45 mph from a standing start within 25 seconds on a level concrete highway without exceeding the maximum governed rpm of the engine.
- C) The service brakes shall be capable of stopping fully loaded vehicle in 35 feet at 20 mph on level concrete highway.
- D) The apparatus, fully loaded, shall be capable of obtaining a speed of 60 mph on a level concrete highway with the engine not exceeding its governed rpm (full load).

FAILURE TO MEET TEST REQUIREMENTS

In the event the apparatus fails to meet the test requirements of these specification on the first trials, second trials may be made at the option of the bidder within thirty (30) days of the date of the first trials. Such trials shall be final and conclusive and failure to comply with these requirements shall be cause for rejection. Failure to comply with changes as the purchaser may consider necessary to conform to any clause of the specifications, within thirty (30) days after notice is given to the bidder of such changes shall also be cause for rejection of the apparatus. Permission to keep or store the apparatus in any building owned or occupied by the purchaser or its use by the Fire Company during the above specified period with the permission of the bidder shall not constitute acceptance.

MANUALS

The contractor shall supply at time of delivery at least two (2) copies of a complete operation and service manual covering the completed apparatus as delivered and accepted, including but not limited to, the chassis, pump, wiring diagrams, lubrication charts, and firefighting equipment delivered with the apparatus. Copies may be (1) Digital and (1) Hardcopy.

BONDS

Bidders shall provide a Bid Bond in the amount of 10% of the bid price. The successful bidder shall provide at the time of the contract award, a performance bond in the amount of 100% of the final bid price. A certified bank letter stating the manufacturers bond rate/premium (per thousand) shall be provided with the bid.

The bidder shall provide a list of apparatus which it has delivered in Connecticut within the last five years.

The bidder shall state the delivery time of his proposed apparatus both in calendar day and **NO LATER THAN** delivery date. The North Stonington Volunteer Fire Company reserves the right to require the successful bidder to enter into contract with the town inclusive of a Penalty Clause stipulating a mandatory deduction of a minimum of \$500.00 per day for each and every day the unit delivery goes past the stated delivery date.

BOTH CHASSIS AND BODY MUST BE BUILT IN THE UNITED STATES OF AMERICA BY A COMPANY THAT IS ONE HUNDRED PERCENT HELD AND OWNED BY AN AMERICAN CORPORATION.

Each bid shall also be accompanied by a sample corner piece. This shall be a cut away section showing as a minimum to scale the construction of the bidder's body, sub body, door construction, door hinge, hold open device, door latch, wire runs, rub rail and full stage paint process. It shall remain in the truck committee chairman's possession for a minimum of 14 calendar days for evaluation by the North Stonington Volunteer Fire Co. Inc. Failure to provide the cross section shall be cause for rejection of your bid.

DELIVERY

As stated, the unit shall be ready for immediate operation. To ensure this requirement is met in its full intent each bidder shall submit with his bid a detailed description of his delivery procedure. We have set the following criteria to be met by the vendor as a minimum. No exceptions to these minimum requirements will be acceptable.

- The unit is to be driven under its own power from point of manufacture to deliver at the North Stonington Emergency Services Building, 25 Rocky Hollow Road, North Stonington, Connecticut.
- The unit shall have been inspected and completely serviced prior to delivery by

the North Stonington Volunteer Fire Co. Inc. private service center at the expense of the manufacturer.

- Complete servicing shall include as a minimum, fluid levels, and filters as required.
- Complete inspection of all vehicle systems.
- The entire unit shall be cleaned prior to delivery.
- A four-hour pump test shall be conducted. This will be from draft not to exceed more than ten-foot lift, hydrant type of test will not be acceptable.
- An eight-hour training session on full operation of apparatus is to be conducted. Pump time not included in these eight hours.

Completed vehicle must be delivered 360 days from signing of contract.

TESTING COMPLIANCE STANDARD

Hose Bed Capacity

The hose bed shall have the capacity to store the following hose from the driver side to the officer side. 500' of 3" and 1000' of 5" supply hose.

Overall Height Restriction

The apparatus shall have overall height restriction of 10' 2" (unloaded condition).

The height of the apparatus shall be measured with no water/foam in the water/foam tank, no equipment, no ground ladders and no hoses.

Overall Length Restriction

The completed unit shall have a maximum overall length restriction of 37'.

NFPA Compliance

The supplied components of the apparatus shall be compliant with the NFPA 1901 current edition.

Equipment Capacity

Equipment allowance on the apparatus shall be 1000 lbs. This allowance is in addition to the weight of the hoses and ground ladders listed in the shop order as applicable.

CHASSIS PREP

Peterbilt Commercial Chassis Preparation

The commercial chassis shall be made ready for installation of components required by the fire apparatus specifications such as warning lights and sirens, cab wire harness, etc. Preparation shall also include relocating of components as necessary to meet the fire apparatus requirements such as exhaust tail pipe, air system components, batteries, etc.

BUMPERS

Front Bumper

The vehicle shall be equipped with a one-piece 10" high bumper, made from 10 gauge (0.135" nominal) polished (chrome finish) stainless steel for corrosion resistance, strength, and long-lasting appearance. It shall be mounted directly to the front frame extensions for maximum strength. The bumper shall incorporate two (2) stiffening ribs.

Bumper Extension

The front bumper extension shall be approximately 12" from the face of the cab as required.

Bumper Gravel Shield

The extended front bumper gravel shield shall be made of 3/16" (.375") aluminum tread plate material.

Bumper Guides

Two chrome bumper guides with lights shall be installed at the furthest corner of the bumper. They shall be removable and easily replaced.

TIRE OPTIONS

Tire Pressure Indicators

The apparatus shall be provided with Real Wheels AirGuard LED tire pressure indicating valve stem caps. When the tire is under inflated by 5-10 PSI, the LED indicator on the cap shall flash red. The indicator housings shall be shock resistant and constructed from polished stainless steel. The indicators shall be calibrated by attaching to valve stem of a tire at proper air pressure per load ratings and easily re-calibrated by simply removing and re-installing them during service.

AIR SYSTEM OPTIONS

Air Inlet Auto-Eject

A Kussmaul Air Auto-Eject #091-28 airline disconnect shall be installed for the air inlet connection. The airline will automatically disconnect when the vehicle is started. A white weatherproof gasketed cover, which automatically closes when the airline is ejected, shall be supplied.

The Auto-Eject shall be located driver's doorstep area.

Isolated Air Reservoir

The air system shall have an additional 1738 cu. in. isolated reservoir. The supply side of the reservoir shall be equipped with a check valve and an 85-psi pressure protection valve.

Specified options shall be plumbed to the isolated air tank.

Auxiliary Air Tank Plumbing

The auxiliary air tank shall be plumbed to air primer.

Air Horns

Dual stutter air horns shall be provided, connected to the chassis air system. The horns shall be mounted in the front bumper of the vehicle. A pressure protection valve shall be installed to prevent the air brake system from being depleted of air pressure. Air horns shall be controlled by a foot pedal mounted vertically to the left of the steering column. In addition to a pull chain that is accessible for both the driver and officer.

ENGINES & TRANSMISSIONS

Vehicle Speed

The maximum speed shall be electronic limited to 60 MPH as required by NFPA 1901.

Engine

The chassis shall be equipped with a Cummins X15 Fire/Emergency six-cylinder, EPA compliant, electronic engine.

The engine rating shall be 565 HP rating, 1850 lb-ft Torque @ 1150 RPM, 2100 RPM Governed Speed

Transmission

The chassis shall have an Allison 4000 EVS-P Transmission, Gen 5 for Fire and Emergency Applications.

Exhaust Brake

Braking will be assisted by a three-stage exhaust brake. A three-position switch will be installed and labeled "Exhaust Brake" in the Cab. The switch will display the three positions, High/Medium/Low.

The exhaust brake system will be enabled/disabled by an additional switch installed next to the stage selection switch.

CHASSIS OPTIONS

Rear Tow Eyes

Two (2) heavy duty tow eyes made of 3/4" (0.75") thick steel having 2-1/2" diameter holes shall be mounted below the body at the rear of the vehicle to allow towing (not lifting) of the apparatus without damage. The tow eyes will be welded to the lower end of a 5" steel channel that is bolted at the end of the chassis frame rails. The tow eyes shall be painted chassis black.

Front Tow Eyes

Two (2) heavy duty painted front tow eyes (not hooks) shall be securely bolted to the front chassis frame rail extensions to allow towing (not lifting) of the apparatus without damage. They shall be mounted in the downward position. In addition to two heavy duty rated shackles to utilize for towing.

CAB MODEL

Must be a 2DR Peterbilt model 567 chassis 6x4 tandem axle, 121" cab used with high horsepower engine. (see additional spec)

There will be double frame rails due to the loads that this apparatus will carry.

CAB DOOR OPTIONS

Cab Door Interior Striping

Reflective striping shall be installed on commercial cab doors, visible when the door is open, meeting NFPA requirement of 96 sq. in. coverage for each door.

MISC EXTERIOR CAB OPTIONS

Label ``Diesel Fuel Only``

Located above each fuel filler housing shall be a metallic label that designates " Diesel Fuel Only" requirements. It shall be black with white or equivalent contrasting letters a minimum of 1/2" high.

SEATS

Drivers seat shall be a Peterbilt Air ride seat (Most current model)

Officers seat shall be a H.O. Bostrom's 500 series Tanker 550 SCBA air seat with RiteHite adjustable height integrated seatbelt with dual retractor and SecureAll SCBA holder.

MISC INTERIOR CAB OPTIONS

Cab Console

The console shall be centrally located and shall allow the driver and/or officer access to all components while seated with seat belts secured.

The console shall be constructed of aluminum smooth plate with a black Zolatone finish. The top surface shall have a non-reflective material for increased visibility of labels and controls.

All switches located on the console shall be clearly labeled and shall be back lit for easy operation and visibility.

All Camera and Dump functions shall be integrated into the console.

Location will be provided for the install of three mobile radio remote heads.

CAB ELECTRICAL OPTIONS

Auto-Eject Battery Charger Receptacle

The battery charger receptacle shall be a Kussmaul 20-amp NEMA 5-20 Super Auto-Eject #091-55-20-120 with a cover. The Super Auto-Eject receptacle shall be completely sealed and have an automatic power line disconnect.

The receptacle shall be located driver's doorstep area and the cover color shall be white.

Antenna Base

Style and placement will be discussed at a further date.

Battery Charger

A fully automatic charging system shall be installed on the apparatus. The system shall have a 120-volt, 60 hertz, 7 amp AC input with an output of 40 amps 12 volts DC. The battery charging system shall be connected directly to the shoreline to ensure the batteries remain fully charged while the vehicle is in the fire station or firehouse.

The system shall include a remote charging status indicator panel located on the lower area of the driver's seat. Display will be visible from the ground level when the door is opened.

Cab Dome Lights

A Whelen model 60CREGCS LED dome light shall be installed. The light shall have twelve (12) high intensity Super LEDs; six (6) white and six (6) red. Two (2) switches shall be provided on the face of the light to activate the red or white lights. The white light shall activate with appropriate cab door and light assembly switch, the red light activates with light assembly mounted switch only.

There shall be two (2) mounted in the cab, one (1) above the driver and one (1) above the officer ceiling.

BODY CONSTRUCTION

Body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity

Body shall be completely sanded and deburred to assure a smooth finish and painted job color.

Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.

An externally mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate.

BODY COMPARTMENTS

Driver Side Compartments

The three (3) driver side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) forward lower compartment located ahead of the rear wheels. This compartment shall be approximately 60" wide x 34" high x 26" deep. The compartment shall contain approximately 30.7 cu. ft. of storage space. The door opening shall be approximately 60" wide x 34" high.

There shall be one (1) rearward lower compartment located behind the rear wheels. The compartment shall be approximately 54" wide x 34" high x 26" deep. The compartment shall contain approximately 27.6 cu. ft. of storage space. The door opening shall be approximately 54" wide x 34" high.

There shall be one (1) forward upper compartment located above L1. The compartment shall be approximately 30" wide x 34.75" high x 12" deep. The compartment shall contain approximately 7.2 cu. ft. of storage space. The door opening shall be approximately 30" wide x 34.75" high.

BODY COMPT RIGHT SIDE

Officer Side Compartments

The two (2) officer side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 60" wide x 34" high x 26" deep. The compartment shall contain approximately 30.6 cu. ft. of combined storage space. The door opening shall be approximately 60" wide x 34" high.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 54" wide x 34" high x 26" deep. The compartment shall contain approximately 27.6 cu. ft. of combined storage space. The door opening shall be approximately 54" wide x 34" high.

BODY COMPT REAR

Tailboard

Tailboard Step

A tailboard step shall be provided at the rear of the body. The tailboard shall 16" in depth and in accordance with NFPA in both step height and stepping surface. The maximum rear step height to the tailboard shall not exceed 24".

The tailboard step shall be formed from 3/16" (0.188") aluminum treadplate and shall be reinforced with 6063-T5 1.5" x 3" aluminum extrusion. The tailboard shall be in accordance with current NFPA requirements and shall include a multi-directional aggressive gripping surface incorporated into the diamond plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (0.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4".

The tailboard step shall be bolted on to the body from the underside assuring a clear surface and shall be easily removable for replacement in the case of damage.

Beavertails

Two (2) angled beavertails shall be provided at the rear of the body. The beavertails shall be a part of the body framework and provide additional support to the tailboard. Each beavertail shall be constructed of formed 1/8" (0.125") aluminum treadplate and includes removable outside panels for access to internal wiring and bolt-on accessories.

Rear Access Handrails

Handrails shall be provided at the rear of the body to assist ground personnel accessing the tailboard step and hose bed area. Each handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety and shall be mounted between chrome stanchions.

The handrails shall be located- two (2) handrails, one (1) on each side, appropriately sized handrail mounted vertical on the trailing edge of the body and appropriately sized handrail(s) mounted horizontal below the rear hose bed opening.

Rear End Assembly

The rear end shall be set-up as tanker and shall have no rear body compartment.

The rear end shall be constructed of vertical and horizontal extrusions with interlocking smooth plate upper and lower panels. The lower center area shall have a smooth plate panel area that shall allow for a Newton tank dumping application.

The vertical, horizontal, and smooth plate panels shall have a sanded finish.

DOORS

Single Compartment Door

A single compartment door shall be constructed using a box pan configuration. The outer door pan shall bevel and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pan shall be constructed from 3/32" (0.090") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pan shall have a 95-degree bend to form an integral drip rail.

The compartment door shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the door to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless-steel Hansen D-ring style twist-lock door handle with #459 latch shall be provided on the door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The compartment door shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment door with a dielectric barrier. The door shall be attached with machine screws threaded into the doorframe. The door shall have gas shock-style hold-open devices.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door will be installed on the driver's side forward upper compartment. Door will open upwards.

Double Compartment Door

Double compartment doors shall be constructed using a box pan configuration. The outer door pans shall bevel and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pans shall be constructed from 3/32" (0.090") smooth aluminum plate and shall have (Nutsert) fittings to attach hold-open hardware. The inner pans shall have a 90-degree bend to form an integral drip rail.

The compartment doors shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the doors to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless-steel Hansen D-ring style twist-lock door handle with #459 latch shall be provided on the primary door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The secondary door shall have a dual stage rotary latch with a 750 lb rating to hold the door in the closed position. The latch shall be mounted at the top of the door. A stainless-steel paddle style handle shall be mounted on the interior pan of the door to actuate the rotary latch. The paddle handle shall be connected to the rotary latch by a 5/32" (.156") diameter rod. Cable actuation shall be deemed un-acceptable due to the potential for cable stretch and slippage. The striker pin shall be 3/8" (.38") diameter with slotted mounting holes for adjustment.

Double door latch to have latch brackets fabricated from .125 aluminum smooth plate, installed with "PULL" tags #1032993 for left side and #1032294 for right side.

The compartment doors shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment doors with a dielectric barrier. The doors shall be attached with machine screws threaded into the doorframe.

The doors shall have a gas shock-style hold-open device. The gas shocks shall have a 30 lb rating and be mounted near the top of the door (when possible).

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

These doors will be installed on the officer's side lower front and rear, the driver's side lower front and rear.

TRAYS

Running board Suction Tray

A running board suction hose storage tray "floating style" shall be provided and located on the officer side running board.

The tray shall be "floating style" mounted and constructed of 1/8" (.125") aluminum diamond plate (exterior) with a smooth sanded surface interior. The bottom of the tray shall have removable aluminum slats and drain holes to allow water drainage from hose stored in the tray. The tray shall have a 3" tapered front corner to protect tray against debris.

COVERS

Rear Hose Bed Cover

A cover constructed of heavy-duty black nylon cargo netting shall be installed at the rear apparatus hose bed.

The bottom of the cargo netting shall be mechanically attached to the hose bed. The cover shall be attached to comply with the latest edition of NFPA 1901.

Cover shall secure the hose load at the rear open back of the hose bed and shall compliment the separate top cover that secures top of body open areas over hose load.

NFPA Hose Bed Cover

The hose bed area will be covered by a red canvas cover secured on three sides. Cover will display the unit number in a contrasting (white) lettering.

The water tank fill tower(s) shall be accessible with the cover in the closed position through a Velcro opening.

The covers shall be secured in place to comply with the latest edition of NFPA 1901

Cross Lay Cover

A cross lay cover shall be provided for the cross lay storage area of the pump module. The cross lay cover shall be provided in compliance with NFPA 1901.

The cross lay cover shall be constructed from red canvas.

Cross Lay Cover - Sides

A pair of covers constructed of heavy-duty black nylon cargo netting shall be installed over the side openings of the apparatus cross lay.

The covers shall be secured in place to comply with the latest edition of NFPA 1901.

Running Board Tray Securing Strap

A heavy-duty black nylon strap with an aluminum quick-release buckle shall be provided for the running board hose tray. The strap shall be attached to the inboard side of the tray as low as practical to allow cinching of strap for securing tray contents and shall not reduce the overall tray capacity.

Location: officer side running board.

PUMP MODULE

Pump Module Width

Pump module shall be a maximum of 65" wide.

Pump Module Frame

An extruded aluminum pump module shall be provided and located forward of the apparatus body. The pump module shall be constructed entirely of welded aluminum alloy extrusions and interlocking aluminum plates. The pump module framework shall consist of 1.5" x 3" x .188" wall, 1.5" x 3" x .375" wall with center web and 3" x 3" x .188" wall extrusions.

The pump module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration.

The exterior surface of the pump module framework shall have a sanded finish.

Pump Module Mounting

The pump module shall be attached to the chassis using four (4) center bonded isolation mounts and a steel mounting frame. The isolation mounts shall be 2.75" diameter and mount to the chassis with two (2) 4" x 4" x .312" A36 steel angles.

Pump Access

A pump service access door shall be provided at the front of the pump module. The door shall be secured with two (2) thumb latches. (Access door not provided on fixed cab applications)

Pump Module Running Boards

The pump module shall include a running board on each side. The running boards shall be in accordance with NFPA in both step height and stepping surface. The running boards shall be formed from .125" aluminum treadplate.

Stepping Surface

Each running board shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of .125". Gripping

surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Each running board shall be bolted on to the pump module and be easily removable for replacement in the case of damage.

Pump Panel Opening

The panel opening on the pump module shall be 39" wide.

Pump Module Height

The pump module height shall be 80".

PUMP PANELS

Zolatone Pump Panels

The driver and officer side pump panels shall have a black zolatone painted finish.

Pump Access Door

The officer side pump module shall have a three (3) piece panel, one (1) above the discharge outlets, one (1) encompassing the discharges and intakes and one (1) low for bleeder valves.

The upper two (2) pump panel sections shall have a vertical stainless-steel piano type hinge with 1/4" pins along the forward edge of the pump module. The hinges shall be "staked" on every other knuckle to prevent the pin from sliding. The panels shall have push button style latches to secure the panels in the closed position. The upper panel shall have one (1) pneumatic shock to hold the panel in the open position.

MISC PUMP PANEL OPTIONS

Pump Panel Tags

Color coded pump panel labels shall be supplied to be in accordance with NFPA 1901 compliance.

PUMP MODULE OPTIONS

Flex Joint

The area between the pump modules and body shall include a rubber flex joint.

Air Horn Switch

A heavy duty weatherproof push-button switch shall be installed at the pump operator's panel to operate the air horns.

The switch shall be labeled "Evacuation Alert".

Location: driver side pump panel.

Triple Cross Lay Hose bed

Three (3) cross lay hose beds shall be provided on the pump module. The two (2) forward cross lay areas shall each have a capacity for up to 200` of 1.75" double-jacket fire hose single stacked. The rearward cross lay area shall have a capacity for 200` of 2.5" double-jacket fire hose single stacked. The cross lay floor and side walls shall be constructed of 3/16" (.188) smooth aluminum plate. The floor shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. Two (2) 1/4" (.25") smooth aluminum plate fixed dividers with a sanded finish shall be provided to separate the three (3) hose storage areas.

WATER TANK

Tower Locations

Fill tower locations. Water fill tower to be located driver side of hose bed and foam fill tower to be located to officer side of hose bed.

3030 Gallon Water Tank

A 3030 gallon (U.S.) "T" booster tank shall be supplied.

The booster tank shall be constructed of polypropylene material. The booster tank shall be completely removable without disturbing or dismounting the apparatus body structure. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal.

The booster tank top, sides, and bottom shall be constructed of a minimum 1/2" (0.50") thick black UV-stabilized copolymer polypropylene. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The tank cover shall be constructed of 1/2" thick polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions.

The tank shall have a combination vent and manual fill tower with a hinged lid. The fill tower shall be constructed of 1/2" polypropylene and shall be a typical dimension of 8" x 8" outer perimeter (subject to change for specific design applications). The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall have a 1/4" thick removable

polypropylene screen and a polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid.

The booster tank shall have two (2) tank plumbing openings. One (1) for a tank-to-pump suction line with an anti-swirl plate, and one (1) for a tank fill line. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates per the tank fill inlet size.

The sump shall be constructed of a minimum of 1/2" polypropylene. The sump shall have a minimum 3" N.P.T. threaded outlet for a drain plug per NFPA. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.

The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength.

Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with an I.D. of 3" or larger that is designed to run through the tank. This outlet shall direct the draining of overflow water past the rear axle, thus reducing the possibility of freeze-up of these components in cold environments. This drain configuration shall also assure that rear axle tire traction shall not be affected when moving forward.

The booster tank shall undergo extensive testing prior to installation in the truck. All water tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale.

Each tank shall be weighed empty and full to provide precise fluid capacity. Each tank shall be delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

The tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from the tank manufacturer.

The booster tank shall include a rear tank dump mounting plate.

Tank capacity is 3030 US gallons / 2523 Imperial gallons / 11469 Liters.

WATER TANK OPTIONS

Tank Sump Additional [Qty: 2]

A second sump shall be added to the tank bottom for customer`s special applications.

Newton Dump Provision [Qty: 3]

Special provisions for mounting a Newton dump valve on the poly water tank shall be provided.

TANK PLUMBING

Tank Fill 2 Elkhart Unibody Valve

One (1) 2” pump-to-tank fill line having a 2” manually operated full flow valve. The valve control shall be located at the pump operator`s panel and shall always visually indicate the position of the valve . The fill line shall be controlled using a chrome handle with an integral tag.

The valve shall be an Unibody series with stainless steel ball and dual adjustable neoprene seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart Drop-out or Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

Tank Dumps

Side tank dumps 1080 or 1085 shall be provided. Located one on each side of the apparatus in between the rear wheels and 1 centered on the rear of the apparatus.

The tank dumps shall be Newton Kwik Dump and shall include a 10" x 10" flip-up valve plate for maximum water flow. Each dump assembly shall have a 5018 extension that shall extend the dump out past the side of the apparatus.

The dump valve and dump extension shall be electrically actuated.

The exterior surface of the dump assembly shall be stainless steel.

Tank To Pump 3 Elkhart Unibody Valve

One (1) manually operated 3" Elkhart valve with 4" plumbing shall be installed between the pump suction and the booster tank in order to pump water from the tank. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

The valve shall be an Elkhart Unibody series with a stainless-steel ball and dual adjustable neoprene seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the acetal ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart drop-out or swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

A check valve shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

Rear Direct Tank Fill

Two (2) 4" rear direct water tank fills shall be provided.

The connection shall include an inlet strainer, 4" NST inlet with cap and retainer.

Both will have 5" Storz connections.

They will both have the capability to hold the weight of charged 5" Supply lines.

Label will be affixed above both tank fills stating that only one fill will be used at one time.

The valve control shall be a handwheel located on the valve.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

The direct tank fills shall be located one to the driver's side, one to the officer's side rear of the body. Both must be accessible from the ground.

FOAM TANK

30 Gallon Foam Tank

A 30-gallon (U.S.) foam cell for Class B foam shall be supplied. The foam cell shall be integral to the water tank.

The integral tank top, sides, and bottom shall be constructed of black polypropylene material. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The copolymer polypropylene material shall be used for its high strength and corrosion resistance for a prolonged tank life.

The foam tank shall have a manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a typical dimension of 8" x 8" outer perimeter (subject to change for specific design applications). Foam fill tower shall be constructed of a Yellow colored material indicating type of foam utilized. The capacity of the tank shall be engraved on the top of the fill tower lid. The fill tower shall be located in the forward area of the tank. The tower shall have a 1/4" thick removable polypropylene screen. Inside the fill tower, approximately 1.5" down from the top, there shall be an anti-foam fill tube that extends down to the bottom of the tank. A pressure vacuum vent shall be provided in the lid of the fill tower. The foam fill tower shall be removable to facilitate the cleaning of the foam tank.

The foam tank shall undergo extensive testing prior to installation in the truck. All foam tanks shall be tested and certified as to capacity. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

The tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from the tank manufacturer.

LADDER STORAGE / RACKS

Hold Downs

The ladder brackets/rack to store one (1) 3-section extension and one (1) roof ladder.

Ladder Brand

The ladder brand capable of being carried on the unit shall be Alco-Lite.

Equipment Storage

A recessed equipment storage compartment shall be provided. The storage compartment shall store two (2) pike poles. (1) ten foot and (1) eight foot.

The storage compartment shall be accessed through a hinged 1/8" (.125") aluminum diamond plate door with a push-button latch. The door shall be wired to the door ajar indicator light in the cab and shall be interlocked with the parking brake per NFPA.

The storage compartment shall be located below officer side compartment top below the ladders and above the DOT light assembly on the rear of the apparatus. The door will open in the downward direction. This compartment will be duplicated on the driver's side below the portable tank.

Adjustable Tracking [Qty: 2]

Adjustable tracking shall be provided on the driver's side of the apparatus.

The tracking shall be positioned above the compartment top and shall allow for maximum adjustment of items mounted to the tracks.

Hard Suction Storage

An aluminum storage tray shall be provided and shall be capable of storing the supplied 6" x 20' hard suction hose.

The storage tray shall include a minimum of four (4) NFPA compliant hose restraints.

The tray shall be located on the driver side in adjustable tracks.

Storage tray and suction hose can not block any lighting on the high side of the apparatus.

Two pull out steps, (1) Forward of the body and (1) to the rear of the body, will be installed for use when removing hard suction.

Ladders

The length of ladders capable of being stored shall be the following: 35' 3-section and 16' roof ladder.

Portable Storage Tank Rack

A Zico QUIC-LIFT Portable Tank System (PTS) rack shall be provided. The rack shall lower a portable tank from the stored position to provide a safe and convenient height for unloading and loading.

The rack shall be hydraulically operated by two (2) durable high cycle 12-volt actuators and controlled by a 30 amp two-pole double-throw momentary switch located at the pump module area. The control switch location shall allow the operator to monitor operations, monitor positioning of apparatus mounted equipment in the storage racks travel path and ground personnel while lowering and raising the rack.

The storage rack shall be self-locking in any position during operation. A visual signal shall be provided to indicate when the storage rack is in motion by two (2) yellow flashing lights installed one (1) on each side of the rack.

The rack shall also be wired through the door ajar indicator light located in the cab to alert the driver that the rack is not stowed if the parking brake is released.

The rack will be wired additionally to an indicator light on the center console that shows if it is in the stored or lowered position.

The storage rack shall be capable of storing a maximum of three hundred pounds (300 lbs).

The rack shall be located to the driver side on compartment top of the body and shall be capable of storing a 3500-gallon aluminum frame tank.

Portable Tank Rack Cover

The Zico drop down rack shall have a smooth plate(s) cover provided. The cover shall wrap over the top of the tank and along the outboard side between the outboard rack assemblies.

The smooth plate panel(s) shall be painted body color.

Ladder Storage Rack

A Zico QUIC-LIFT Ladder Access System (LAS) ladder rack shall be provided. The rack shall lower the ladders approximately 31” from the stored position to provide a safe and convenient height for unloading and loading.

The rack shall be electrically operated by two (2) durable high cycle 12-volt actuators and controlled by a 30 amp two-pole double-throw momentary switch located at the pump module area. The control switch location shall allow the operator to monitor operations, monitor positioning of apparatus mounted equipment in the ladder racks travel path and ground personnel while lowering and raising the rack.

The ladder rack shall be self-locking in any position during operation. A visual signal shall be provided to indicate when the ladder rack is in motion by two (2) yellow flashing lights installed one (1) on each side of the rack.

The rack shall also be wired through the door ajar indicator light located in the cab to alert the driver that the rack is not stowed if the park brake is released.

The rack will be wired additionally to an indicator light on the center console that shows if it is in the stored or lowered position.

The ladder rack shall be capable of storing a maximum of three hundred pounds (300 lbs.).

The rack shall be located to the officer's side of the body.

Hard Suction Tray

One (1) hard suction storage tray shall be provided and mounted to the top of the Zico drop-down hard suction hose rack. The tray shall provide ground level access to the suction hose with the rack in the lowered position.

The hard-suction tray shall be constructed of 1/8" (.125") smooth aluminum plate. The hard-suction hose (hose not included) shall be secured in the tray by two (2) securing straps, one (1) each end.

Two pull out steps, (1) Forward of the body and (1) to the rear of the body, will be installed for use when removing hard suction.

HANDRAILS / STEPS

Body Handrails

Hansen white LED lighted body handrails shall be provided (includes pump module if applicable). The handrails shall be installed between chrome end stanchions and shall be positioned at least 2" from the mounting surface to allow a positive grip with a gloved hand.

Handrail lighting shall be wired through clearance / headlight switch and only activate when park brake is set.

Hose Bed Folding Steps

Innovative Controls dual lighted LED folding steps shall be positioned to the driver side and officers side rear of the body. The steps shall be NFPA compliant for access to the hose bed

storage area and in step height and surface area. The steps shall be staggered stepped as applicable with tailboard depth, not applicable with recessed step mounting.

Innovative Controls dual lighted folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 fc (20 lx) on the stepping surface. Folding step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18" below the step. The folding step shall sustain a minimum static load of 500 lb with a 3 to 1 safety factor. The folding step shall also meet NFPA slip resistance qualifications. Corrosion resistance shall be demonstrated by a 1000 hr salt spray test with no visible signs of deterioration of the step body or hardware.

One (1) handrail shall be installed (as applicable) in compliance with current NFPA. The handrail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Intermediate Rear Step

One (1) intermediate rear step shall be provided above the rear Newton dump.

The intermediate step shall be constructed of 3/16" (.187") aluminum treadplate. The step shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4".

MISC BODY OPTIONS

Mud Flaps

Black mud flaps provided for the body wheel wells.

Splash Guard

A two (2) piece splash guard shall be installed under the body full width behind the rear axle. The design and material of the splash guard shall be poly bristle (grass skirt) style, designed to keep rear of vehicle clean of road spray and debris. Each splash guard to be 18"H x 48"L.

Body Mainframe

The body mainframe shall be entirely constructed of aluminum. The complete framework shall be constructed of 6061T6 and 6063T5 aluminum alloy extrusions welded together using 5356 aluminum alloy welding wire.

The body mainframe shall include 3" x 3" 6061-T6 aluminum 3/8" (0.375") wall crossmember extrusion or 3" x 3" I-beam section aluminum extrusion depending on the application at the front of the body. A solid 3" x 3" I-beam section aluminum extrusion shall be provided the full width of the body forward and rearward of the rear wheel well. The crossmembers shall be designed to support the compartment framing and shall be welded to 1-3/16" x 3" (1.188" x 3") solid 6063-T5 aluminum frame sill extrusions. The frame sill extrusions shall be shaped to contour with the chassis frame rails and shall be protected from contact with the chassis frame rails by 5/16" x 2" (0.31" x 2") fiber-reinforced rubber strips to prevent wear and galvanic corrosion caused when dissimilar metals come in contact.

Body Mounting System

The main body shall be attached to the chassis frame rails with six (6) of 5/8" (0.625") diameter steel U-bolts. This body mounting system shall be used to allow easy removal of the body for major repair or disassembly.

Water Tank Mounting System

The body design shall allow the booster tank to be completely removable without disturbing or dismantling the apparatus body structure. The water tank shall rest on top of a 3" x 3" frame assembly covered with rubber shock pads and corner braces formed from 3/16" angled plate to support the tank. The booster tank mounting system shall utilize a floating design to reduce stress from road travel and vibration. To maintain low vehicle center of gravity the water tank bottom shall be mounted within 5" of the frame rail top.

Hose bed Side Assembly

The hose bed side assemblies shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth plate. The hose bed side assemblies shall provide a 95" high body.

The exterior hose bed side surface shall be completely sanded and deburred to assure a smooth finish and painted job color. The interior hose bed side surface shall be completely sanded and deburred to assure a smooth sanded finish.

Hose Bed

The area above the booster tank shall have a hose storage area provided. The hose bed shall be constructed entirely from maintenance-free, 3/4" deep x 7.5" wide, extruded aluminum slats that shall be pop-riveted into a one-piece grid system. Each slat shall have all sharp edges removed and have an anodized ribbed top surface that shall prevent the accumulation of water and allow for ventilation of wet hose.

The hose bed design shall incorporate adjustable tracks in the forward area and the rearward area of the hose bed for the installation of an adjustable divider(s). The adjustable tracks shall hold an adjustable divider(s) mounting nut straight, so only a Philips head screwdriver is required to adjust a divider(s) from side to side (as is practical with other hose bed mounted equipment).

The hose bed shall be easily removable to allow access to the booster tank below.

Hose Bed Dividers

There shall be two hose bed dividers provided the full fore-aft length of the hose bed.

The hose bed dividers shall be constructed of 1/4" (0.25") smooth aluminum plate with an extruded aluminum base welded to the bottom. The rear end of the dividers shall have a 3" radius corner to protect personnel. The dividers shall be natural finish aluminum for long-lasting appearance and shall be sanded and de-burred to prevent damage to the hose.

The dividers shall be adjustable from side to side in the hose bed to accommodate varying hose loads.

Hose Bed Dividers Hand Hold

There shall be a hand hole cut-out(s) on the trailing edge of each hose bed divider. The cut-out(s) is specifically sized for use in adjusting of the hose bed divider.

3" Hard Suction Storage

An enclosed compartment on the officer's side of hose bed with a door opening downwards. Compartment shall be capable of storing two (2) 10' lengths of 3" hard portable pump suction. Compartment shall be constructed of similar materials as that of the hose bed.

Floor Matting

This unit shall have all applicable compartment floors, shelves and trays covered with a heavy-duty black floor matting.

Body Wheel Well

The body wheel well frame shall be constructed from 6063-T5 aluminum extrusion with a slot the full length to permit an internal fit of 1/8" (0.125") aluminum treadplate. The wheel well trim shall be constructed from 6063-T5 formed aluminum extrusion. The wheel well liners shall be constructed of a 3/16" (.187") composite material. The liners shall be bolt-on and shall provide a maintenance-free and damage-resistant surface.

Rub Rail

The pump area module(s) and body shall have rub rails mounted along the sides and at the rear.

The rub rail shall be C-channel in design and constructed of 3/16" thick 6463T6 anodized aluminum extrusion. The rub rail shall be 2.75" high x 1.25" deep and shall extend beyond the

body width to protect compartment doors and the body side. The rub rail depth shall allow marker and/or warning lights to be recessed inside for protection.

The top surface of the rub rail shall have minimum of five (5) raised serrations. Each serration being a minimum of .1" in height and with cross grooves to provide a slip-resistant edge for the tailboard step and pump module running board areas. The rub rail shall be mounted a minimum of 3/16" off the pump module and body with nylon spacers. The ends of each section shall be provided with a finished rounded corner piece.

Anodize Aluminum Trim

A anodize aluminum trim shall be located at the bottom edge of all body compartment openings with painted edge (as applicable). The trim shall provide added protection of the painted surface of the body when equipment is removed from the compartment.

Tank Dump Plates and Doors

The tank dumps shall have diamond plate dump panels. Included shall be lift-up diamond plate doors with spring loaded hinges.

Commercial Tandem Axle Tanker

Commercial chassis tandem axle wheelbase modification. Adds 1" to wheelbase due rear axle offset between commercial and custom chassis.

Body Mod High HP Commercial Engines

Body or pump module shall be notched to accommodate the exhaust canister for high horsepower engines (370 HP or more) on the commercial chassis. The top mount right side walkway and/or speedlay module lower storage compartment may be modified or eliminated. Side mount or under tank pump bodies may have reduced front right-side lower storage areas.

SCBA BOTTLE STORAGE

SCBA Strap

Straps shall be provided in each exterior storage compartment to provide secondary means to hold each SCBA bottle in the compartment. The straps shall be constructed from 1" nylon webbing formed in a loop. The strap(s) shall be mounted to the storage compartment ceiling directly inside the door opening at each bottle location.

SCBA STORAGE

SCBA storage with hinged door and push button latch shall be provided in the body wheel well area.

The door shall match the wheel well area material and finish.

The door shall be wired to "Door Open" indicator inside cab.

Compartment shall be weather tight.

The storage area shall be capable of holding one complete Scott 4.5 SCBA and one spare Scott 30 min bottle.

Location: driver side rear wheel well offset forward, driver side rear wheel well offset rearward, officer side rear wheel well offset forward, officer side rear wheel well offset rearward

PUMPS

Pump Rating

The fire pump shall be rated at 1500 GPM or greater.

Fire Pump System

The pump shall be a midship-mounted Hale QMAX single stage centrifugal pump. The pump shall be mounted on the chassis frame rails of commercial or custom truck chassis and have the capacity of 1,500 to 2,250 gallons per minute (U.S. GPM) NFPA 1901 rated performance and shall be split shaft driven from the truck transmission.

The entire pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 psi (207 MPa). All metal moving parts in contact with water shall be of high-quality bronze or stainless steel. Pump body shall be horizontally split in two sections, for easy removal of impeller assembly including wear rings and bearings from beneath the pump without disturbing pump mounting or piping.

The pump impeller shall be hard, fine grain bronze of the mixed flow design and shall be individually ground and hand balanced. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

The pump shaft shall be heat-treated, corrosion-resistant stainless steel and shall be rigidly supported by three (3) bearings for minimum deflection. The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure-balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and shall be splash-lubricated. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of the gearbox.

Two (2) 6" diameter suction ports with 6" NST male threads and removable screens shall be provided, one each side. The ports shall be mounted one (1) on each side of the midship pump

and shall extend through the side pump panels. Inlets shall come equipped with long handle chrome caps.

Discharge Manifold

The pump system shall utilize a stainless-steel discharge manifold system that allows a direct flow of water to discharge valves. The manifold and fabricated piping systems shall be constructed of a minimum of Schedule 10 stainless steel to reduce corrosion.

Pump Shift

The pump shift shall be pneumatically controlled using a power shifting cylinder.

The power shift control valve shall be mounted in the cab and be labeled "PUMP SHIFT". The apparatus transmission shift control shall be furnished with a positive lever, preventing accidental shifting of the chassis transmission. This control valve shall be in reach of the driver.

A green indicator light shall be located in the cab and be labeled "PUMP ENGAGED". The light shall not activate until the pump shift has completed its full travel into pump engagement position.

A second green indicator light shall be in the cab and be labeled "OK TO PUMP". This light shall be energized when both the pump shift has been completed and the chassis automatic transmission has obtained converter lock-up (4th gear lock-up). This will also be duplicated on the pump panel.

Test Ports

Two (2) test plugs shall be pump panel mounted for third party testing of vacuum and pressures of the pump.

Gearbox Cooler

A gearbox cooler shall be provided to maintain safe operating temperatures during prolonged pumping operations for pump rating 1500 GPM and over.

PUMP CERTIFICATION

Pump Certification

The pump, when dry, shall be capable of taking suction and discharging water in accordance with current NFPA 1901. The pump shall be tested at the manufacturer's facility by an independent, third-party testing service. The conditions of the pump test shall be as outlined in current NFPA 1901.

The tests shall include, at a minimum, the pump test, the pumping engine overload test, the pressure control system test, the priming device tests, the vacuum test, and the water tank to pump flow test as outlined in current NFPA 1901.

A piping hydrostatic test shall be performed as outlined in current NFPA 1901.

The pump shall deliver the percentage of rated capacities at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure
- 100% of rated capacity at 165 psi net pump pressure
- 70% of rated capacity at 200 psi net pump pressure
- 50% of rated capacity at 250 psi net pump pressure

A test plate, installed at the pump panel, shall provide the rated discharges and pressures together with the speed of the engine as determined by the certification test, and the no-load governed speed of the engine.

A Certificate of Inspection certifying performance of the pump and all related components shall be provided at time of delivery. Additional certification documents shall include, but not limited to, Certificate of Hydrostatic Test, Electrical System Performance Test, Manufacturer`s Record of Pumper Construction, and Certificate of Pump Performance from the pump manufacturer.

PUMP OPTIONS

Steamers, Flush+1

The pump 6" steamer intake(s) shall be mounted approximately 1" from the pump panel to back of cap when installed. The "Flush+1" dimension can vary + or - 1-1/4" or as practicable depending on the pump module width and options selected.

All electric MIV's.

Location: driver's side, officer's side.

Zinc Anodes

The zinc anodes help prevent damage caused by galvanic corrosion within the fire pump. The system provides a sacrificial metal which helps to diminish or prevent pump and pump shaft galvanic corrosion. One anode will be located on the suction side and one will be located on the discharge side of the pump.

Thermal Relief Valve

A Hale thermal relief valve that protects the pump from overheating shall be provided. The valve shall automatically dump a controlled amount of water to the ground when the pump water exceeds the pre-set temperature of the relief valve.

Engine Throttle

Fire Research ThrottleXcel engine throttle and monitoring display shall be installed at the pump operator's panel. The case shall be waterproof and have dimensions not to exceed 6-3/4" high by 4-5/8" wide by 1-3/4" deep. The engine throttle control knob shall be 2" in diameter with a serrated grip, with a red idle push button in the center, and no mechanical stops. Inputs for engine information shall be from a J1939 data bus, other inputs shall be 12 volts DC or from independent sensors.

The engine RPM shall be set to idle when the pump engaged interlock signal is recognized regardless of the throttle control knob position. Optical technology shall be used to detect the direction and speed that the control knob rotated for RPM control.

The following continuous displays shall be provided:

- Engine RPM; shown with four daylight bright LED digits more than 1/2" high, updated in 10 RPM increments
- Engine oil pressure; shown on an LED bar graph display in 10 psi increments
- Engine coolant temperature; shown on an LED bar graph display in 10 degree increments
- Battery voltage; shown on an LED bar graph display in 0.5 volt increments
- Time and date; shown on a dot matrix message display
- Interlock; OK TO PUMP LED is green to indicate throttle ready

A dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. Operator selections and inputs shall be via push buttons on the front panel.

The program shall store the accumulated operating hours for the pump and engine, previous incident hours, and current incident hours in a non-volatile memory. Stored elapsed hours shall be displayed at the push of a button. The program shall have calibration and self-diagnostic capabilities. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- Low Oil Pressure
- High Engine Coolant Temperature
- High Transmission Temperature

- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Battery Voltage
- High Engine RPM

The engine throttle and monitoring display shall be programmed at installation for a specific engine.

Throttle Selection Switch

A throttle selection switch shall be provided and mounted on the pump operator`s panel. The switch shall be provided to allow the operator to toggle between the pump/throttle relief system and the pressure governor.

The throttle selection switch and pump discharge relief valve controller shall be provided as a back-up to the pressure governor.

Inlet Valve

A Hale Master Intake Valve (MIV-E) shall be provided for the specified intake. The large diameter inlet valve shall be capable of achieving an NFPA test rating of 1500 GPM through a single 6” suction hose.

The inlet valve shall be operated by a 12 VDC electric motor with a remote switch provided at the pump operator`s position. The 12 VDC motor shall be provided with an automatic resetting, thermally compensated over-current protection circuit breaker to protect the 12 VDC motor and apparatus electrical system. The gear actuator on the valve will cycle from full closed to full open in not less than three (3) seconds. A hand-controlled pump panel mounted manual override (knob style) shall be provided.

An indicator light panel shall be located at the pump operator`s position to show valve open, closed, or traversing from open to closed.

A built-in adjustable pressure relief valve shall be provided. The pressure relief valve shall be factory set to 125 psi. The pressure relief valve shall provide overpressure protection for the suction hose even when the intake valve is closed.

A 3/4” air bleeder valve shall be provided and controlled at the pump operator`s position.

A 1/4” water bleeder shall be supplied and controlled at the pump operator`s position.

Location: driver side pump panel, officer side pump panel, 5 in. rear intake.

Mechanical Pump Seal

The midship pump shall be equipped with a high quality, spring loaded, self-adjusting mechanical seal capable of providing a positive seal to atmosphere under all pumping conditions. This positive seal to atmosphere must be achievable under vacuum conditions up to 26 Hg (draft) or positive suction pressures up to 250 psi.

The mechanical seal assembly shall be 2 inches in diameter and consist of a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat, with a Teflon back-up seal provided.

Only one mechanical seal shall be required, located on the first stage suction (inboard) side of the pump and be designed to be compatible with a one-piece pump shaft (no exceptions). A continuous cooling flow of water from the pump shall be directed through the seal chamber when the pump is in operation.

Hale Pressure Relief Valve

A Hale pressure relief valve shall be provided and mounted on the pump operator's panel. The pump shall be equipped with an automatic pressure control device. A single bronze variable pressure setting relief valve shall be provided and be of ample capacity to prevent an undue pressure rise as outlined in NFPA 1901. The relief valve shall be normally closed and shall open against pump pressure. A relief valve control wheel with a control light to signal when open shall be mounted on the pump operator's panel.

Master Drain Valve

A manual master drain valve shall be installed on the pump panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal. The master drain shall have a rubber seal to prevent water from running out on the running board.

The manual master drain valve shall have twelve (12) individual-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 PSI.

The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.

Trident Primer

A Trident air operated priming system shall be installed. The unit shall be of all brass and stainless-steel construction and designed for fire pumps of 1,500 GPM or more. Due to corrosion exposure no aluminum or vanes shall be used in the primer design. The primer shall be three-barrel design with 3/4" NPT connection to the fire pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control

actuator is not in operation. The inlet side of the primer shall include a brass "wye" type strainer with removable stainless-steel fine mesh strainer to prevent entry of debris into the primer body.

The system shall create vacuum by using air from the chassis auxiliary air tank through a two-barrel multi-stage internal "venturi nozzles" within the primer body. The noise level during operation of the primer shall not exceed 75 Db.

Air Flow Requirements

The primer shall require a minimum of 15.6 cubic foot per minute air compressor and shall be capable of meeting drafting requirements at high idle engine speed. The air supply shall be from a chassis supplied "protected" air storage tank with a pressure protection valve. The air supply line shall have a pressure protection valve set between 70 to 80 PSIG.

Primer Control

The primer control shall have a manually operated, panel mounted "push to prime" air valve. The valve shall direct air pressure from the air brake storage tank to the primer body. To prevent freezing, no water shall flow to and from the panel control on the driver's side.

Warranty

The primer shall be covered by a five (5) year parts warranty.

INTAKES

Left Intake 2.5 Elkhart Unibody Valve

One (1) 2 1/2" suction inlet with a manually operated 2 1/2" Elkhart Unibody valve with chrome valve face shall be provided on the left side of the apparatus at the pump panel.

The valve shall be an Elkhart Unibody series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless-steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The outlet of the valve shall be connected to the suction side of the pump with the valve body located behind the pump panel. The valve shall come equipped with a brass inlet strainer, 2 1/2"

NST female chrome inlet swivel and shall be equipped with a chrome-plated, rocker-lug plug with a retainer device.

The valve control shall be located at the pump operator`s panel and shall always visually indicate the position of the valve.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

A 3/4” bleeder valve assembly will be installed on the left side pump panel.

DISCHARGES AND PRECONNECTS

Deck Gun Discharge 3 Electric Unibody Valve

One (1) 3” deck gun discharge outlet with an electrically-operated Elkhart valve and 3” stainless steel pipe shall be provided above the pump compartment.

The valve shall be an Elkhart unibody series with a stainless-steel ball and dual UHMWPE seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the acetal ball when in a throttle position with water flowing through it.

The valve shall be of the unique Elkhart Drop-out or Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The unibody series valve shall have the following features:

- 12-volt DC motor
- A toggle switch and indicator lamp assembly mounted on the pump operator`s panel
- 10 LED indicator lights
- Manual override valve actuation

The system shall include a valve-controller and valve actuator.

The valve shall be equipped with a device that limits the opening and closing speeds to comply with the current edition of NFPA1901.

The valve control shall be located at the pump operator panel and shall always visually indicate the position of the valve.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Cross Lay 1.5 Elkhart Manual Unibody [Qty: 2]

One (1) cross lay discharge shall be provided at the front area of the body. The cross lay shall include one (1) 2" brass swivel with a 1-1/2" hose connection to permit the use of hose from either side of the apparatus.

The cross lay hose bed shall consist of a 2" heavy duty hose coming from the pump discharge manifold to the 2" swivel. The hose shall be connected to a manual operated 2" Elkhart valve. The valve shall be an Elkhart Unibody series with a stainless-steel ball, and dual UHMWPE seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart drop-out or swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The Unibody series valve shall have the following features:

The system shall include a valve-controller and valve actuator.

The valve control shall be located at the pump operator's panel and shall always visually indicate the position of the valve.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

Left Panel 2.5 Elkhart Unibody Valve

One (1) 2-1/2" discharge outlet with a manually operated Elkhart valve shall be provided at the left-hand side pump panel.

The valve shall be an Elkhart Unibody series with a stainless-steel ball and dual adjustable neoprene seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the acetal ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart Drop-out or Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall always visually indicate the position of the valve.

The discharge shall extend out beyond the pump panel with a cast brass with 2-1/2" NST . Shall be equipped with a chrome-plated rocker-lug cap with a retainer chain.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: left side discharge 1, left side discharge 2

Right Panel Elkhart Unibody Valves

One (1) 3” discharge outlet and one (1) 2.5” discharge outlet with a manually operated Elkhart valve shall be provided at the left-hand side pump panel.

The valve shall be an Elkhart Unibody series with a stainless-steel ball and dual adjustable neoprene seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the acetal ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart Drop-out or Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall always visually indicate the position of the valve.

The discharge shall extend out beyond the pump panel with a cast brass 2-1/2” NST threads.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: right side discharges

Cross lay 2.5 Elkhart Unibody Valve

One (1) cross lay discharge shall be provided at the front area of the body. The cross lay shall include one (1) 2.5” brass swivel with a 2.5” hose connection to permit the use of hose from either side of the apparatus.

The cross lay hose bed shall consist of a 2.5” heavy duty hose coming from the pump discharge manifold to the 2.5” swivel. The hose shall be connected to an electrically operated 2.5” Elkhart valve. The valve shall be an Elkhart Unibody series with a stainless-steel ball, and dual UHMWPE seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Elkhart Drop-out or Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The Unibody series valve shall have the following features:

The system shall include a valve-controller and valve actuator.

The valve control shall be located at the pump operator`s panel and shall always visually indicate the position of the valve.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

Blitz Fire Rear Discharge

One (1) discharge with 4” piping to a 2.5” coupling will be installed on the driver’s side rear of the apparatus.

The Blitz Fire Master Stream will be mounted on the rear for easy access.

Decontamination Discharge

A .75" decontamination discharge outlet shall be provided on the driver side pump panel. The outlet shall include a 1/4 turn valve, hose bib connection and pressure reducing valve.

Deck Gun Location

Deck gun piping shall be positioned centered in deck gun channel. This location shall allow for optimal operation of a deck gun monitor once installed.

DISCHARGE OPTIONS

Elkhart 8598 Extender

Elkhart model 8598 3” electrically actuated extender shall be installed. The waterway shall be capable of being lowered to deck level (or into a monitor well) for storage and transportation and shall be capable of being raised to an extended height of 18” using panel mounted controls. These controls shall be capable of moving the waterway in either the raised or lowered position while maintaining the ability to horizontally rotate the monitor device 360 degrees. There shall be an accessible manual override control for use in the event power failure occurs. A power cable shall be supplied for connection from the panel control box to the extender.

A sensor shall be located on the waterway that signals a 12-volt indicator light installed in the cab to illuminate to indicate that the monitor is raised. Labeled as such.

The extender shall have a 3” waterway and a connection for an Elkhart remote controlled monitor.

Monitor Elkhart Cobra

An Elkhart Cobra RF with panel mounted control and handheld control and an adapter to mount to deck gun discharge or extender shall be provided with a 3" inlet. The monitor shall be capable of remote controlled 360 degree left/right travel (in deck mount mode), programmable automatic oscillating from 2 to 360 degree (in deck mount mode) and programmable stow feature. The monitor shall include a SM-1250E nozzle.

The charging base shall be mounted in L1 on forward wall.

IC Push/Pull Control

The apparatus pump panel shall be equipped with Innovative Controls Side Mount Valve Controls. The ergonomically designed ¼ turn push-pull T-handle shall be chrome-plated zinc with recessed labels for color-coding and verbiage. An anodized aluminum control rod and housing shall, together with a stainless spring steel locking mechanism, eliminate valve drift. Teflon impregnated bronze bushings in both ends of the rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long-term operation. The control assembly shall include a decorative chrome-plated zinc panel-mounting bezel with areas for color-coding and/or FOAM and CAFS identification labels.

Bleeder Drain Valve [Qty: 8]

The bleeder/drain valves shall be Innovative Controls ¾" ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag identifying each valve, also supplied by Innovative Controls. The color labels shall also include valve open and close verbiage.

Discharge/Intake Bezel

Innovative Controls intake and/or discharge swing handle bezels shall be installed to the apparatus with mounting bolts. These bezel assemblies will be used to identify intake and/or discharge ports with color and verbiage. These bezels are designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

PRESSURE GOVERNORS

Pressure Governor FRC In-Control

Fire Research In-Control series TGA300-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5-1/2" high by 10-1/2" wide by 2" deep. Inputs for monitored information shall be from a

J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific wiring.

The following continuous displays shall be provided:

Pump discharge; shown with four daylight bright LED digits more than 1/2" high

Pump intake; shown with four daylight bright LED digits more than 1/2" high

Pressure / RPM setting; shown on a dot matrix message display

Pressure and RPM operating mode LEDs

Throttle ready LED

Engine RPM; shown with four daylight bright LED digits more than 1/2" high

Check engine and stop engine warning LEDs

Oil pressure; shown on a dual color (green/red) LED bar graph display

Engine coolant temperature; shown on a dual color (green/red) LED bar graph display

Transmission temperature: shown on a dual color (green/red) LED bar graph display

Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and nighttime operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs 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 Transmission Temperature

Low Engine Oil Pressure

High Engine Coolant Temperature

Out of Water (visual alarm only)

No Engine Response (visual alarm only).

The program features shall be accessed via push buttons located on the front of the control panel. There shall be an USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other

safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

Location of the governor and monitoring display shall be: Pump operator`s panel.

GAUGES

FUEL LEVEL GAUGE

One diesel fuel gauge will be mounted on the pump panel.

GAUGE IC 10 LED FOAM TANK LEVEL

One (1) Innovative Controls brand foam tank level gauge shall be located at the pump operator`s panel to provide a high-visibility display of the foam tank level. Ten (10) high-intensity light emitting diodes (LEDs) on the display module shall have a 3-dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance within full 180-degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module to the pump panel. Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an” anti-slosh” feature.

GAUGE IC 10 LED TANK LEVEL WATER, ADDITIONAL

An additional Innovative Controls brand water tank level gauge shall be located at the officer rear to provide a high-visibility display of the water tank water level. Ten (10) high-intensity light emitting diodes (LED`s) on the display module shall have a 3-dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance within full 180-degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module to the pump panel. Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an "anti-slosh" feature.

GAUGE IC 10 LED TANK LEVEL WATER MINI

Innovative Controls miniature tank indicator shall be installed in the cab dash. The indicator shall show the volume of water in the tank on five (5) *easy to see super bright LED`s* with auto dimming feature. The miniature indicator shall receive input information over a single wire from a tank primary indicator.

GAUGE IC 10 LED TANK LEVEL WATER/WHELEN 500

One (1) Innovative Controls brand water tank level gauge shall be located at the pump operator`s panel to provide a high-visibility display of the water tank water level. Ten (10) high-intensity light emitting diodes (LEDs) on the display module shall have a 3-dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance full 180-degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color coded cover plates shall complete the assembly of the display module to the pump panel. Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an "anti-slosh" feature.

In addition to the pump panel mounted lights there shall be four (4) Whelen 500 series LED (Light Emitting Diode) light heads installed each side as specified.

The system shall be controlled by an Innovative Controls tank level driver module that is integral of the NFPA required pump panel mounted tank level light assembly.

The additional tank level system shall be interlocked through the parking brake assembly so as not to be on while the vehicle is in motion.

The remote light heads shall be arranged as follows.

Full Green
3/4 Blue
1/2 Amber
1/4 Red

Location of Whelen 500 tank level lights: each side of pump module up high and the rear below the arrow stick.

2.5" Discharge Pressure Gauge (Dual Read) [Qty: 8]

The valve discharge gauges shall be 2 ½“ (63mm) diameter Innovative Controls pressure gauges. Each gauge shall have a rugged corrosion free stainless-steel case and clear scratch resistant molded crystals with captive O-ring seals to ensure distortion free viewing and seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from –40F to +160F. Each gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy.

A polished chrome-plated stainless-steel bezel shall be provided to prevent corrosion and protect the lens and gauge case. The gauges shall be installed into decorative chrome-plated mounting bezels that incorporate valve-identifying verbiage and/or color labels. The gauges shall display a range from 0-2750KPA/0-400PSI with black graphics on a white background.

FOAM SYSTEMS

Foam System Certification

The foam system performance shall be tested and certified in compliance with the applicable NFPA 1901 requirements.

Foam System

A Class 1 SmartFoam 3.3, 12-volt DC powered variable-speed electronic direct-injection foam-concentrate proportioning system with a 3.3 gpm foam concentrate pump shall be integrated into the apparatus to provide foam proportioning. The foam proportioning system shall be compatible with Class A foam concentrates and most high viscosity normal hydrocarbon or polar solvent Class B foam concentrates. The foam proportioning system shall be capable of delivering the rated foam concentrate flow with the above-mentioned foam concentrate types. Foam system manufacturer shall provide a list of foam chemicals that have been tested for compatibility with the foam pump.

A paddlewheel type flowmeter with a stainless-steel impeller wheel shall monitor waterflow in foam capable discharges. The flowmeter shall have a 500 psig (34 BAR) pressure rating per NFPA requirements.

One (1) flowmeter is required for proper operation of the foam proportioning system. Power for the flowmeter sensor will be provided through the cable set from the control unit. Flowmeters shall have saddle clamp mounting shall be used to mount in stainless steel, brass or iron OEM manifold assemblies.

The flowmeter selected shall be sized to adequately monitor the minimum and maximum flow expected in the foam capable discharges.

The foam proportioning system shall be equipped with a panel mounted digital display control unit with a microprocessor that monitors total water flow and foam concentrate pump output to

provide the operator preset proportional amount of foam concentrate injected on the discharge side of the fire pump. Total foam concentrate pump concentrate output shall be 3.3 gallons per minute. Proportioning rate is push-button set by the pump operator on the digital display from 0.1% to 1%, in 0.1% increments.

The foam system shall be equipped with a Class I Ultra View Smart FOAM Controller. The Smart FOAM Controller will show the water flow per minute, foam percentage, total water flowed, and total foam flowed on the main screen without having to press any buttons. The Smart FOAM Controller will maintain a running total of the amount of water and foam used during the current power cycle. The Smart FOAM Controller shall provide on-screen tutorials to assist the user during calibration. The Smart FOAM Controller will allow push-button modification of the foam proportioning rate from 0.1% to 10.0% in 0.1% increments. The Controller will always begin operation at the preset foam proportioning rate which is configured with a password protected set-up screen.

The foam concentrate pump shall be fed concentrate by a non-metallic housing foam concentrate strainer that is equipped with a service shut-off valve.

The unit will be fed 12-volt DC power from the apparatus electrical system, and be equipped with a chassis frame ground strap, per the foam proportioner manufacturer's installation and operating instruction manual.

FOAM SYSTEM OPTIONS

Foam System Plumbing

The specified foam system shall be plumbed to 1.5 first cross lay.

ELECTRICAL SYSTEMS

Multiplex Electrical System

Electrical System

The apparatus shall incorporate a Weldon V-MUX multiplex 12-volt electrical system. The system shall have the capability of delivering multiple signals via a CAN bus. The electrical system installed by the apparatus manufacturer shall conform to current SAE standards, the latest FMVSS standards, and the requirements of the applicable NFPA 1901 standards.

The electrical system shall be pre-wired for optional computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics.

The electrical circuits shall be provided with low voltage over-current protective devices. Such devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. The over-current protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions.

Multiplex System

For superior system integrity, the networked multiplex system shall meet the following minimum component requirements:

- The network system must be Peer to Peer technology based on RS485 protocol. No one module shall hold the programming for other modules. One or two modules on a network referred to as Peer to Peer, while the rest of the network consists of a one master and several slaves is not considered Peer to Peer for this application.
- Modules shall be IP67 rated to handle the extreme operating environment found in the fire service industry.
- All modules shall be solid state circuitry utilizing MOS-FET technology and utilize Deutsch series input/output connectors.
- Each module that controls a device shall hold its own configuration program.
- Each module should be able to function as a standalone module. No “add-on” module will be acceptable to achieve this form of operation.
- Load shedding power management (8 levels).
- Switch input capability for chassis functions.
- Responsible for lighting device activation.
- Self-contained diagnostic indicators.
- Wire harness needed to interface electrical devices with multiplex modules.
- The grounds from each device should return to main ground trunk in each sub harness using ultrasonic splices.

Wiring

All harnessing, wiring and connectors shall be manufactured to the following standards/guidelines. No exceptions.

- NFPA 1901-Standard for Automotive Fire Apparatus
- SAE J1127 and J1127
- IPC/WHMA-A-620 – Requirements and Acceptance for Cable and Wire Harness Assemblies. (Class 3 – High Performance Electronic Products)

All wiring shall be copper, or copper alloys of a gauge rated to carry 125 of the maximum current for which the circuit is protected. Insulated wire and cable 8 gauge and smaller shall be SXL, GXL, or TXL per SAE J1128. Conductors 6 gauge and larger shall be SXL or SGT per SAE J1127.

All wiring shall be colored coded and imprinted with the circuits function. Minimum height of imprinted characters shall not be less than .082” plus or minus .01”. The imprinted characters shall repeat at a distance not greater than 3”.

A coil of wire shall be provided behind electrical appliances to allow them to be pulled away from mounting area for inspection and service work.

Wiring Protection

The overall covering of the conductors shall be loom or braid.

Braid style wiring covers shall be constructed using a woven PVC-coated nylon multifilament braiding yarn. The yarn shall have a diameter of no less than .04” and a tensile strength of 22 lbs. The yarn shall have a service temperature rating of -65 F to 194 F. The braid shall consist of 24 strands of yarn with 21 black and 3 yellow. The yellow shall be oriented the same and be next to each other.

Wiring loom shall be flame retardant black nylon. The loom shall have a service temperature of -40 F to 300 F and be secured to the wire bundle with adhesive-backed vinyl tape.

Wiring Connectors

All connectors shall be Deutsch series unless a different series of connector is needed to mate to a supplier’s component. The connectors and terminals shall be assembled per the connector/terminal manufacturer’s specification. Crimble/Solderless terminals shall be acceptable. Heat shrink style shall be utilized.

NFPA Required Testing of Electrical System

The apparatus shall be electrical tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA 1901. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart

the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.

2. Alternator performance test at idle:

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA 1901 Standard, or a system voltage of less than 11.7 volts DC for a 12-volt nominal system, for more than 120 seconds, shall be considered a test failure.

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts DC for a 12-volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

NFPA Required Documentation

The following documentation shall be provided on delivery of the apparatus:

- A. Documentation of the electrical system performance tests required above.
- B. A written load analysis, including:
 - a. The nameplate rating of the alternator.
 - b. The alternator rating under the conditions.
 - c. Each specified component load.
 - d. Individual intermittent loads.

Multiplex Display

The V-MUX multiplex electrical system shall include a Vista IV touch screen color display.

The display shall have the following features:

- Aspect ratio of 16:9 (Wide Screen)
- Diagonal measurement of no less than 7”
- Touch screen design with “virtual” switch capability
- Master warning switch
- Engine high idle switch
- Five (5) tactile switches to access secondary menus
- Eight (8) multi-function programmable tactile switches
- Specific door ajar indication
- Real time clock
- Provides access to the multiplex system diagnostics
- Video capability for optional back-up camera(s) and GPS display

The display shall be in the center console.

Vehicle Data Recorder

A vehicle data recorder system shall be provided to comply with NFPA 1901, 2009 edition. The following data shall be monitored:

- Vehicle speed MPH
- Acceleration (from speedometer) MPH/Sec.
- Deceleration (from speedometer) MPH/Sec.
- Engine speed RPM
- Engine throttle position % of full throttle
- ABS Event On/Off
- Seat occupied status Occupied Yes/No by position
- Seat belt status Buckled Yes/No by position
- Master Optical Warning Device Switch On/Off
- Time: 24-hour time
- Date: Year/Month/Day

Occupant Detection System

There shall be a visual and audible warning system installed in the cab that indicates the occupant buckle status of all cab seating positions that are designed to be occupied during vehicle movement.

The audible warning shall activate when the vehicle’s park brake is released, and a seat position is not in a valid state. A valid state is defined as a seat that is unoccupied and the seat belt is unbuckled, or one that has the seat belt buckled after the seat has been occupied.

The visual warning shall consist of a graphical representation of each cab seat in the multiplex display screen that will continuously indicate the validity of each seat position.

The system shall include a seat sensor and safety belt latch switch for each cab seating position, audible alarm and wiring harness.

Electrical Connection Protection

The vehicle electrical system shall be made more robust by the application of a corrosion inhibiting spray coating on all exposed electrical connections on the chassis and body. If equipped with an aerial device, the exposed connections on the aerial components shall also be protected.

The coating shall use nanotechnology to penetrate at the molecular level into uneven surfaces to create a protective water repellent film. The coating shall protect electrical connections against the environmental conditions the apparatus are commonly exposed to.

Smart Truck Technology

User Interface

The apparatus shall be equipped with a smart truck technology system designed specifically for first responder apparatus. The system shall interconnect major apparatus CAN networks including but not limited to the chassis J1939/OBD2 data, vehicle multiplex system, water pump pressure governor, electric valves and electric actuated deck gun. The system shall securely report real-time vehicle information from these systems via cellular data to a globally supported cloud computing service for storage and real time access via web dashboards. The dashboards shall be accessible by the department's computers, tablets and smartphones.

The smart truck technology installed on the apparatus shall provide real-time notification via text or e-mail when a check engine light is displayed. The notification shall include the fault code and brief explanation for the code to reduce down-time.

The system shall feature a truck down feature on the web-based user interface to allow instant notification of needed apparatus service to both the authorized dealership and OEM via text or e-mail.

The system shall provide remote diagnostics of vehicle subsystems such as VMUX, pressure governors, electric monitors and electric valves.

By use of the web-based user interface, the system shall allow for over the air programming updates to various subsystems should the need arise.

The web-based user interface shall also provide the following:

- Fuel and DEF levels
- GPS tracking
- Data logging for apparatus multiplex system
- Easy access to the NFPA VDR data

The smart truck technology shall also feature seamless integration to the HAAS ALERT Safety Cloud providing Responder to Vehicle (R2V) alerts to motorists using navigation apps such as WAZE.

The system shall be designed with an open architecture to incorporate future growth with new technology partners designed to enhance fireground operations

Hardware

Vehicle Gateway

The vehicle gateway module shall be rugged in construction using a durable cast aluminum enclosure designed for emergency vehicle applications. The module shall have sealed Deutsch connectors providing four (4) CAN network ports, one (1) RS-485 port, one (1) Ethernet RJ45 port, embedded cellular modem, Bluetooth and GPS capability. The IoT Core Vehicle Gateway shall be capable of 2-way vehicle telemetry, supporting both remote diagnostics and remote over-the-air software updates.

Antenna

A low-profile cellular antenna shall be installed in the location specified at a later date.

Data Plan

A 5-year data plan shall be provided with the initial vehicle purchase. At the end of the 5-year period the department shall be given the option to extend service.

LIGHT BARS

Light Bar Mounts

One (1) pair of fabricated high light bar mounts for use with Whelen Pioneer Summit front brow light mounted below front light bar shall be provided on the front light bar. Fabricated mounts to replace any standard light bar brackets (if equipped).

Front Light Bar Color(s)

The front light bar shall be provided with the following color LED modules: Red/White with clear lenses

If applicable, includes side facing light bars when colors are the same.

Light Bar LED Filters

The Whelen Freedom IV light bar(s) shall be provided with filters for all colored LEDs'. The filters shall cover each individual LED module.

Light Bar

A Whelen Freedom IV Series 60" LED light bar model F4X0 with eight (8) LED modules shall be provided; two (2) front corner mounted LED modules, four (4) forward facing LED modules and two (2) side facing LED modules (with front vista windows) or two (2) rear corner LED modules (without front vista windows).

No rear facing LEDs.

The light bars shall have clear lenses.

The white LEDs (if equipped) shall be switched off in blocking right of way mode.

The light bar shall be installed centered on the front cab roof.

WARNING LIGHT PACKAGES

Lower Level Warning Light Package

Ten (12) Whelen M6RC Super red LED with clear lens light heads shall be provided.

The rectangular lights shall include chrome flanges where applicable. The lights shall be wired with weatherproof connectors and shall be mounted as close to the corner points of the apparatus as is practical as follows:

- Four (4) on the front of the apparatus facing forward
- Two (2) on the rear of the apparatus facing rearward
- Two (4) lights each side of the apparatus, one (1) each side at the forward most point (as practical), and one (1) each side at the rearward most point (as practical).
- Two (2) lights each side of the apparatus, one (1) each side of the apparatus centrally located to provide mid ship warning light.

The side facing lights shall be located at forward most position, in rear wheel well offset to front, and on side of beavertail.

All warning devices shall be surface mounted in compliance with NFPA standards.

WARNING LIGHTS

Whelen LED Warning Light Flasher

Three (3) Whelen model UFM8 warning light flashers shall be provided to control warning lights. One (1) flasher shall be in the cab and two (2) located in the body. Each flasher shall have seventeen (17) selectable patterns with eight (8) outputs.

Upper Rear Warning Lights

Two (2) Whelen model L31H Super LED beacons with Red LED with Clear lens domes shall be supplied.

The lights shall be located rear upper body on aerial style brackets to meet Zone C upper requirements.

Hazard (Door Ajar) Light

There shall be a 2" red LED hazard light installed as specified.

The light shall be located center console.

Warning Lights

Two (2) Whelen M9RC Series Linear Super LED red light heads with clear lens shall be provided with diamond plate boxes. The rectangular lights shall include chrome flanges where applicable.

Location: (1) each side of body on forward upper body corners, (1) each side of body on rearward upper body corners.

RUBRAIL WARNING LIGHTS

Six (6) red LED emergency lights installed in the rub rail next to the DOT lights. Two (2) Officers side Two (2) Drivers side and two (2) in the rear.

DIRECTIONAL LIGHT BARS

Directional Traffic Warning Light

One (1) Whelen TAM65 LED 36" long Traffic Advisor with amber lenses shall be provided.

The directional bar shall include a TACTL5 control head. The control head shall include a remote flash control and end lamp enable/disable feature.

The light shall be installed at rear of body to direct traffic around the apparatus.

Recessed Directional Light Bar Mount

An area at the rear of the body shall be provided for recess mounting of a directional light bar. The recess shall reduce the opening height of the rear compartment(s) (if applicable).

Directional Light Bar Control Location

The directional light bar control head shall be in the center console.

SIRENS

Electronic Siren

A Whelen 295SLSA1 electronic siren shall be installed in the cab. The siren amplifier and control panel module shall include a rotary selector for six (6) functions, on/off switch, push button switch for manual siren or air horn tones, and noise canceling microphone.

Mechanical Siren

A chrome plated flush mounted Federal Q2B-NN coaster siren shall be installed in the front bumper. An electric siren brake switch shall be in the cab accessible to driver.

The siren shall be in the front bumper to the officer's side.

Operation of the siren will be by a foot pedal mounted vertically next to the air horn pedal on the driver's side. In addition to a vertically mounted foot pedal on the officer's side. The siren brake switch will be mounted on the center console.

Electronic Siren Control Location

The electronic siren control shall be located in the center console.

SPEAKERS

Siren Speaker

One (1) Whelen model SP123BMC, 100-watt speaker with chrome grill shall be recessed in the front bumper.

The speaker shall produce a minimum sound output of 120 dB at 10 feet to meet current NFPA 1901 requirements.

The speaker shall be located officer side front bumper.

DOT LIGHTING

License Plate Light

One (1) Truck-Lite model 15905 white LED license plate light mounted in a Truck-Lite model 15732 chrome plated plastic license plate housing shall be mounted at the rear of the body.

Body Marker Lights

Trucklite LED clearance lights shall be installed as specified.

Upper Body:

- One (1) red LED clearance light each side, rear of body to the side.

Lower Body:

- Three (3) red LED clearance lights centered at rear, recessed in the rub rail.
- One (1) red LED clearance light each side at the trailing edge on either side of the apparatus body, recessed in the rub rail.
- One (1) amber LED clearance / auxiliary turn light each side front of body, recessed in the rub rail.
- A rectangular shaped marker light with a red colored lens shall be installed at the trailing edge on each side of the apparatus body/module, recessed in the rub rail.

Marker Lights

One (1) pair of Britax model L427.203L.12V LED amber/red marker rubber housed lights shall be provided. The lights shall be located on the rear body corners mounted in the down angle position. The red lenses shall illuminate to the rear of the apparatus and the amber shall illuminate to the front of the apparatus. The lights shall be wired to the marker light circuit.

Taillights

Three (3) Whelen model M6 series LED (Light Emitting Diode) lights shall be installed in a four (4) light vertical housing each side at rear and wired with weatherproof connectors.

Light functions shall be as follows:

- LED red running light with red brake light in upper position.
- LED amber populated arrow pattern turn signal in middle position.
- LED clear back-up light in lower position.

A one-piece chrome plastic housing shall be mounted around the three (3) individual lights in a vertical position. The lower space will be used by the M6 or equivalent lower NFPA warning light.

LIGHTS - COMPARTMENT, STEP & GROUND

Compartment Light Package

One (1) ROM V4 compartment light strip shall be mounted in each body compartment greater than 4 cu. ft. Transverse compartments shall have two (2) lights, located one (1) each side.

Each light bar shall include super bright white LEDs mounted to circuit boards that have acrylic conformal coating for corrosion protection. The LED circuit boards shall be mounted to an extruded aluminum base with lexan lens. The lights shall produce 250 lumens per foot and be waterproof up to 1 meter (3.3 feet).

Compartment lights shall be wired to a master on/off rocker switch on the cab switch panel.

The wiring connection for the compartment lights shall be made with a weather-resistant plug in style connector. A single water and corrosion-resistant switch with a polycarbonate actuator and sealed contacts shall control each compartment light. The switch shall allow the light to illuminate if the compartment door is open.

Ground Lights

The apparatus shall be equipped with a sufficient quantity of lights to properly illuminate the ground areas around the apparatus in accordance with current NFPA requirements. The lights shall be TecNiq model T440 4" circular LED (Light Emitting Diode) with clear lenses mounted in a resilient shock absorbent mount for improved bulb life. The wiring connections shall be made with a weather resistant plug in style connector.

Ground area lights shall be switched from the cab dash with the work light switch.

One (1) ground light shall be supplied under each side of the front bumper extension if equipped.

Lights in areas under the driver and crew area exits shall be activated automatically when the exit doors are opened.

LIGHTS - DECK AND SCENE

Rear Work Lights

Two (2) FireTech LED lights model FT-WL3500-FT shall be installed. The lights shall produce 1,981 effective lumens and have a black housing. The lights shall be switched with work light switch in the cab.

Location: (1) each side rear compartment face (up high).

Rear Work Lights

Two (2) FireTech LED lights model FT-WL3500-FT-W shall be installed. The lights shall produce 1,981 effective lumens and have a white housing. The lights shall be switched with a labeled work light switch in the cab.

The light(s) will activate automatically when the transmission is in the reverse gear.

Location: rear body/beavertail area on the trailing edge up high.

Hose Bed Lighting

LED rope lighting will be installed around the inside railing of the hose bed.

Cross Lay Light

A FireTech LED light model WL2000 shall be installed at the rear area of the cross lay to provide cross lay lighting per current NFPA 1901. The cross lay light shall be switched with work light switch in the cab.

LIGHTS - NON-WARNING

Engine Compartment Light

There shall be lighting provided in compliance with NFPA to illuminate the engine compartment area. The light wiring circuit shall activate when the cab is tilted, and master power is switched on.

Pump Compartment LED Light

An LED light shall be provided in the pump compartment area for NFPA compliance. The light shall be wired to operate with the work light switch in the cab.

LED Pump Panel Light Package

Three (3) TecNiq model E10 LED lights shall be mounted under a light shield directly above each side pump panel. The work light switch in the cab shall activate the lights when the park brake is set.

LED Pump Panel Light - Additional

One (1) TecNiq model E10 LED light shall be mounted under the light shield, in addition to the existing pump panel lights. The additional light shall be located at the officer side pump panel.

CONTROLS / SWITCHES

A 12-volt switch shall be provided.

The switch shall be located pump operator's panel for pump panel lights.

CAMERAS / INTERCOM

Camera Back-Up

There shall be a Safety Vision camera model number SV-625B-KIT provided. The camera shall be mounted up high at the rear of the vehicle to provide a wide-angle rear view with audio. The camera shall include a cable with metallic waterproof threaded o-ring seal connectors to ensure positive connection between video cable and camera to prevent unplugging due to vibration resulting in video loss to vehicle operator. The camera shall be interlocked with the chassis transmission. When the apparatus is placed in reverse the camera shall automatically be activated and when the transmission is placed in any other gear the screen shall return to the previously displayed screen.

Safety Vision Camera

A Safety Vision camera consisting of Safety Vision model SV-625B camera will be located one (1) each side of body for viewing of the dump chute. This camera will be interlocked with each dump chute. The system shall include a cable with metallic waterproof threaded o-ring seal connectors to ensure positive connection between video cable and camera to prevent unplugging due to vibration resulting in video loss to vehicle operator.

Will require the option for multiplex display or Safety Vision backup camera system.

Intercom

Two-way intercom system will be activated when cameras are in use or when activated by the driver. The driver will have open communication with the personnel around apparatus while it is in operation at low speed and always open two-way communication when chutes are deployed.

MISC ELECTRICAL

Alternating Headlights

The chassis high beam headlights shall alternately flash and shall be controlled by a switch inside the cab.

Back-Up Alarm

An electronic back-up alarm shall be supplied. The 97-dB alarm shall be wired into the chassis back-up lights to signal when the vehicle is in reverse gear.

12 Volt DC Power Distribution Module

A Blue Sea model 5032 12 place, split bus fuse block with ground, 12-volt DC power distribution module shall be provided. The module shall provide two isolated groups of six circuits and shall be wired through switched hot and battery hot and include a battery ground.

Location: behind driver's seat.

LIGHTS - QUARTZ

Bracket Mount Light

One (1) Pioneer Summit Series 12V LED bracket mounted flood light model S30MW 30" long shall be provided. The light shall feature 24 LEDs`. The 135W 12V light shall draw 7.2 amps. A switch shall be provided, accessible to driver, for activation of light.

The light assembly shall be recessed below the rear arrow stick.

The light will activate automatically when the transmission is in the reverse gear.

Bracket Mounted Light [Qty: 4]

One (1) Pioneer Summit Series 12V LED 9" long flood light with built-in amber marker light, model S091MW with universal mount shall be provided. The 36W 12V light shall draw 3 amps. A switch shall be provided, accessible to driver, for activation of light.

The light assembly shall be located high side on both sides of body. Not to be obstructed by equipment.

Cab Brow Light

One (1) Pioneer Summit Series 12V LED 44" long flood light with built-in amber marker light, model S44MW with universal mount shall be provided. The 140W12V light shall draw 11 amps. A switch shall be provided, accessible to driver, for activation of light.

The light assembly will be located under light bar and above windshield.

GROUND LADDERS

Alco-Lite Roof Ladder

An Alco-Lite PRL-16, 16` aluminum roof ladders shall be provided. A pair of folding 3/4" (0.75") steel roof hooks shall be attached to one end of the ladder, and a pair of steel spiked feet on the other end. The ladder shall meet or exceed the requirements of the current edition of NFPA 1931.

Alco-Lite Extension Ladder

An Alco-Lite 35` 3-section extension ladder shall be provided.

MISC LOOSE EQUIPMENT

DOT Required Drive Away Kit

Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.

EXTERIOR PAINT

Un-Painted Pump/Pre-Connect Module(s)

All applicable pump application modules shall have a sanded finish (not painted job color). Includes upper and lower pump modules, crosswalk module and/or speedlay/pre-connect module (as applicable). Rear mounted body/pump module shall be painted job color.

Any plumbing extending out past pump panel enclosure must be painted body color.

Paint Body Large

The apparatus body shall be painted to match the current apparatus color.

Any location where aluminum is penetrated after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20-degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

Commercial Cab Paint

The Peterbilt cab shall be painted black by the chassis supplier. The cab will then be painted body color by the body manufacturer.

Paint shall be warranted by the body manufacturer.

STRIPING

Striping

Reflective striping shall be provided and installed by the dealer under the instruction of the customer.

Reflective Stripe in Rub Rail

The reflective stripe in the body rub rail shall be white.

Rear Body Reflective Striping

Chevron style Reflexite V98 striping shall be provided on the rear of the apparatus. The stripes shall consist of 6" Red/Fluorescent Yellow Green alternating stripes in an "A" pattern. The striping shall be located on the rear facing extrusions, panels and doors inboard and outboard of the beavertails if applicable.

Designated Standing / Walking Area Indication

1" wide yellow perimeter marking consisting of individual Reflexite diamonds shall be applied to indicate the outside edge of designated standing and walking areas above 48" from the ground in compliance with 2016 NFPA 1901. Steps, ladders and areas with a railing or structure at least 12" high are excluded from this requirement.

GRAPHICS

Will match the existing apparatus.

SUPPORT, DELIVERY, INSPECTIONS AND MANUALS

Approval Drawings

A detailed large-scale approval drawing of the pump panel(s) shall be provided. The drawing shall be provided for purchased unit prior to the construction process.

A detailed approval drawing for the cab center console.

A detailed approval drawing for any graphics.

WARRANTY & EXTENDED

Standard 1 Year Warranty

The apparatus manufacturer shall provide a full 1-year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1-year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal.

10 Year 100,000 Mile Structural Warranty

The apparatus manufacturer shall provide a comprehensive 10 year/100,000-mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal.

10 Year Stainless Steel Plumbing Warranty

The apparatus manufacturer shall provide a full 10-year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

10 Year Paint and Corrosion Warranty

The apparatus manufacturer shall provide a 10-year limited paint and corrosion perforation warranty. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The paint shall be prorated for 10 years as follows:

Topcoat & Appearance:

(Gloss, Color Retention, Cracking)

| | |
|------------------|------|
| 0 to 72 months | 100% |
| 73 to 120 months | 50% |

Coating System, Adhesion & Corrosion:

(Includes Dissimilar metal corrosion, Flaking, Blistering, Bubbling)

| | |
|------------------|------|
| 0 to 36 months | 100% |
| 37 to 84 months | 50% |
| 85 to 120 months | 25% |

Corrosion perforation shall be covered 100% for 10 years. Corrosion perforation is defined as complete penetration through the exterior metal of the apparatus.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

UV paint fade shall be covered in a warranty supplied and shall be for a minimum of 10 years.

INSPECTION TRIPS

Two inspection trips are to be provided. Both trips will be for up to three people. They are to be scheduled later. These trips shall cover the cost of flight, hotel, meals and transportation.



Phone:
 Fax:
 Contact Email:

Vehicle Summary

| | | | | |
|-------------------------|----------------------|------------|----------------------------|--------|
| | Unit | | Chassis | |
| Model: | | Model 567 | Fr Axle Load (lbs): | 18000 |
| Type: | | Full Truck | Rr Axle Load (lbs): | 46000 |
| Description 1: | | | G.C.W. (lbs): | 90000 |
| Description 2: | | | | |
| | Application | | Road Conditions: | |
| Intended Serv.: | Fire Engine - Pumper | | Class A (Highway) | 100 |
| Commodity: | Other Commodity | | Class B (Hwy/Mtn) | 0 |
| | | | Class C (Off-Hwy) | 0 |
| | | | Class D (Off-Road) | 0 |
| | Body | | Maximum Grade: | 6 |
| Type: | Fire Apparatus | | Wheelbase (in): | 246 |
| Length (ft): | 22 | | Overhang (in): | 111 |
| Height (ft): | 13.5 | | Fr Axle to BOC (in): | 74.1 |
| Max Laden Weight (lbs): | 7500 | | | |
| | | | Cab to Axle (in): | 171.9 |
| | | | Cab to EOF (in): | 282.9 |
| | | | Overall Comb. Length (in): | 404.23 |
| | Trailer | | | |
| No. of Trailer Axles: | | 0 | | |
| Type: | | | | |
| Length (ft): | | 0 | | |
| Height (ft): | | 0 | | |
| Kingpin Inset (in): | | 0 | | |
| Corner Radius (in): | | 0 | | |
| | Restrictions | | | |
| Length (ft): | | 40 | | |
| Width (in): | | 102 | | |
| Height (ft): | | 13.5 | | |

Special Req.

Approved by: _____

Date: _____

Note: All sales are F.O.B. designated plant of manufacture.



| Std/ Opt | Description |
|-------------|-------------|
|-------------|-------------|

Base Model

S Model 567
 The Model 567 is available in both a set-forward and set-back front axle configuration to provide customers with maximum versatility for their application requirements. For weight-sensitive applications, the set-forward front axle provides optimized weight distribution and compliance with bridge laws. The Model 567 has steer axle ratings up to 22,000 lbs. The 567 also offers single, tandem or tridem drive axles and a variety of lift axles for added versatility. Available with a 115" or 121" BBC and as a day cab or with a selection of detachable sleeper configurations, the 567 is as versatile as it is reliable.

O Other Commodity

O Fire Engine - Pumper
 Truck used in fire fighting with pumps mounted in the body.

O Fire Apparatus
 Truck equipped for use in fire fighting applications.

O United States Registry
 Canadian Registry Package Requires Air Conditioning Excise Tax Canada, Speedometer to be KPH ipo MPH, Daytime Running Lights and Rubber Battery Pad in Bottom of Battery Box.

Configuration

O Other
 Secondary Manufacturer.

Frame & Equipment

O 10-3/4" Steel Rails 385-402"
 10.75x3.5x.375 Dimension, 2,136,000 RBM; Yield Strength: 120,000 psi. Section Modulus: 17.8 cubic inches. Weight: 1.74 lbs/inch pair

O Full Steel Inner Liner

O Heavy-Duty Iron Front Spring Brackets
 Forward and Rear

S Aluminum Frame Rail Crossmembers
 Excludes suspension

O EOF Square without Crossmember
 For use with body builder installed crossmember.

O Omit Rear Mudflaps and Hangers

Front Axle & Equipment

O Dana Spicer D2000F 20,000 lb, 3.5 in. Drop
 Factory front axle alignment to improve handling & reduce tire wear. Zerk fittings on tie rod ends, king pins, & draglink ball joints for ease of maintenance & help extend service life of components. Cognis EMGARD® FE 75W-90 synthetic axle lube provides over 1% fuel economy improvement. Reduces wear & extends maintenance



| Std/ Opt | Description |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | intervals, resulting in increased uptime. Provides improved fluid flow to protect components in extreme cold conditions & withstand the stress from high temperatures, extending component life. |
| O | Taper Leaf Springs, Shocks 18,000 lb Standard with Heavy Resistance Shocks. |
| O | Power Steering Sheppard HD94 Dual For use with 16,000 to 20,000 lb. axle ratings. |
| O | Power Steering Reservoir Frame Mounted w/Cooler |
| O | PHP10 Iron PreSet PLUS Hubs-Air Disc Preset iron hub assemblies are designed for demanding conditions and require less maintenance while still offering dependability and superior performance. Precisely engineered to minimize roller stress under heavy loads and increase bearing life when used in demanding conditions such as wide-based single wheels and misalignment due to spindle wear. |
| S | Air Disc Front Brakes Bendix air disc front brakes complies with reduced stopping distance regulations. |
| S | Tenneco Shocks For Steer Axle |
| O | Pad Dust Shields for Air Disc Brakes; Front Axle |

Rear Axle & Equipment

| | |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| O | Dana Spicer D46-170 46,000 lb Interaxle diff lock air rocker occupies space of one gauge. Laser factory axle alignment to improve handling & reduce tire wear. Magnetic rear axle oil drain plug captures & holds any metal fragments in drive axle lube to extend service life. Parking brakes on all drive axles for optimal performance. Cognis EMGARD® FE 75W-90 synthetic axle lube provides over 1% fuel economy improvement. Reduces wear & extends maintenance intervals, resulting in increased uptime. Provides improved fluid flow to protect components in extreme cold conditions & withstand the stress from high temperatures, extending component life. |
| O | PHP10 Iron PreSet PLUS Hubs |
| S | Long Stroke Parking Brakes, Drive Axle(s) |
| O | Rear Brake Camshaft Reinforcement |
| O | Gusseted Cam Brackets, Drive Axle(s) |
| O | SBM Valve Full trucks require a spring brake modulation (SBM) system for emergency braking application. This system requires an SBM valve and a relay valve with spring brakes on the rear axles. The SBM valve allows the foot valve to operate the rear axle spring brakes if a failure exists in the rear air system. |
| O | Upsize Parking Brakes |



| Std/ Opt | Description |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| O | Tanker Height Less Than 75" From top of Frame Rail. Bendix ESP Tanker/Pumper |
| O | Bendix ESP Electronic Stability Program With ATC Truck, pumper/tanker (requires body manufacturer code). Conventional SFFA & SBFA require 170in - 311in wheelbase. Model 348 requires 170in - 282in for single axle and 170in - 311in for tandem axle. The system provides added stability and traction by applying the brakes when excessive wheel slip or a critical stability threshold is detected. For more information please see Truck Sales Bulletin 10-12. |
| S | Anti-Lock Braking System (ABS) 6S6M ABS-6. Includes air braking system. |
| S | Synthetic Axle Lubricant All Axles Peterbilt heavy duty models include Fuel Efficient Cognis EMGARD FE75W-90 which provides customers performance advantages over current synthetic lubricants with reduced gear wear and extended maintenance intervals, resulting in increased uptime. In addition, the lubricant provides improved fluid flow to protect gears in extreme cold conditions and withstand the stress from high temperatures, extending component life. |
| S | Bendix Air Cam Rear Drum Brakes 16.5x7 Includes Automatic Slack Adjusters & Outboard Mounted Brake Drums. |
| O | Ratio 5.38 Rear Axle |
| O | Peterbilt Air Trac 46,000 lbs, 52in Axle Spacing Light Weight |
| O | Air Springs, Internal Bumpers Air Trac / Air Leaf suspensions |
| O | Dash Mtd Dump Switch With Indicator Light For suspension |

Engine & Equipment

- O **X15 565EV@1800 GOV@2100 1850@1150**
Perf Series, Emergency (2017 Emissions) Includes alum flywheel housing. Chevron Delo LE SAE 10W30 engine oil is specially formulated for new low emissions engines. Magnetic engine oil drain plug captures and holds any metal fragments in engine oil to extend service life.
N21320 N205 120...Standard Maximum Speed Limit
N21470 P062 NO...Cruise Control Auto Resume (
N21480 P068 NO...Auto Engine Brake in Cruise
N21450 P026 NO...Gear Down Protection (P026)
N21440 P015 NO...Engine Protection Shutdown (
N21350 P001 64...Maximum Accelerator Pedal Ve
N21370 P059 64...Maximum Cruise Speed (P059)
N21590 P230 YES...Enable Hot Ambient Automatic
N21530 P233 YES...Enable Impending Shutdown Wa
N21540 P234 60...Timer For Impending Shutdown
N21460 P046 1400..Max PTO Speed (P046)
N21520 P030 5.....Timer Setting (P030)



| Std/ Opt | Description |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | N21570 P031 NO....Idle Shutdown Manual Overrul N21610 P172 40....Low Ambient Temperature Thre N21630 P171 80....High Ambient Temperature Thr N21510 P520 YES...Enable Idle Shutdown Park Br N21430 N201 0.....Reserve Speed Limit Offset (N21410 N202 0.....Maximum Cycle Distance (N202 N21400 N203 252...Reserve Speed Function Reset N21420 N206 10....Maximum Active Distance (N20 N21340 P112 120...Hard Maximum Speed Limit (P1 N21550 P516 0.....Engine Load Threshold (P516) N21620 P173 60....Intermediate Ambient Tempera N21330 N207 0.....Expiration Distance (N207) N21500 N209 0.....Expiration Distance (N209) |
| O | CECU/VECU Electronics Architecture Features include: Faster processing and larger hard drive capacity to provide new features customers are requesting, Improved data security, accessibility, and reliability of SmartLINQ, SmartNav, Telematics Pre-Wire, PTO/body controller, and RP1226 connector diagnostics and Driver Performance Assistance (DPA) Off-Boarding to allow improved fleet analytics. |
| S | Engine Idle Shutdown Timer Enabled |
| O | Enable EIST Ambient Temp Overrule |
| | Eff EIST NA Expiration Miles |
| | Effective VSL Setting NA |
| O | Decline Driver Performance Assistant |
| O | CARB Engine Idling Compliance DECLINED By Dealer/Customer |
| S | Engine Brake Controls Located on RH Column |
| O | Remote PTO/Throttle, 12-Pin, 250K, BOC/ BOS, J1939, Remote Control Provision |
| O | 320 Amp Alternator |
| S | Immersion Type Block Heater 110-120V Standard location for 2.1M and 1.9M models is left-hand under cab, Model 520 is in bumper, and for Model 220 it is at the driver step. Plug includes a weather-proof cover that protects the receptacle. This pre-heater keeps the coolant in the engine block from freezing when the engine is not running. |
| O | PACCAR Premium Starter - X15 Engines Only PACCAR Premium 12 volt. Better cranking power, lower current draw and improved warranty to 5-yr/500K miles. |
| S | 3 PACCAR Premium 12V Dual Purpose Batt 2190 CCA |



| <i>Std/ Opt</i> | <i>Description</i> |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Threaded stud type terminal. Stranded copper battery cables are double aught (00) or larger to reduce resistance. |
| O | Battery Jumper Terminal Mounted Under Hood LH Frame Rail. Not available with PX-7 engines. |
| O | 2-Speed Fan Clutch For Frequent Start/Stops |
| O | Naturally Aspirated 18.7 CFM Air Compressor X15 Only |
| O | Intebrake (Furnished on Engine) |
| O | PACCAR Fuel/Water Separator Standard Service Interval |
| O | Fuel Heat for Fuel Filter |
| S | No Electric Heat Option for Fuel Filter |
| S | High Efficiency Cooling System Cooling module is a combination of steel and aluminum components, with aluminum connections to maximize performance and cooling capability. Silicone radiator & heater hoses enhance value, durability, & reliability. Constant tension band clamps reduce leaks. ClimaTech extended life coolant extends maintenance intervals which reduces maintenance costs. Anti-freeze effective to -30 degrees F helps protect the engine. Low coolant level sensor warns of low coolant condition to prevent engine damage. Radiator Size by Model: 579/367 FEPTO 1325 sq in, 567/365/367: 1440 sq in, 365 FEPTO: 1184 sq in, 389/367 HH: 1669 sq in, 348: 1000 sq in, 520: 1242 sq in. |
| O | Ember Separator On Air Intake Designed to prevent embers in the atmosphere from entering the engine air intake and causing damage. |
| S | (1) Air Cleaner Firewall Mounted Molded rubber air intake connections with lined stainless steel clamps seal to prevent contaminants in air intake. |
| O | Exhaust Single RH Horizontal DPF/SCR RH Under Cab (2017). |
| O | Curved Tip Standpipe(s) |
| O | 7" Dia Chrome Plated Steel Standpipe(s) IPO 5" |

Transmission & Equipment

- O **Allison 4000 EVS-P Transmission, Gen 5**
Fire and Emergency Applications. Includes Rear Transmission Support except on MX engines, TranSynd Transmission Fluid, and Water Oil Heat Exchange. Also includes features that monitor the transmission fluid, filter and clutch condition. Will display percent life remaining for the transmission fluid, filter and clutches on the shift selector. This information may be displayed using the Mode and Up and Down buttons. A wrench icon will also be included to indicate when the transmission fluid, filter or clutches need servicing. Forward Ratios: 1st-



| Std/ Opt | Description |
|-------------|-------------------------------------------------------------------------------------------|
| | 3.51, 2nd-1.91, 3rd-1.43, 4th-1.00, 5th-0.74, 6th-0.64 / Reverse Ratios: DR-(4.80) |
| O | SPL250 Lite HT Driveline, 2 Midship Bearings |
| O | SPL170 XL Driveline Interaxle For tandem rear axles |
| O | Allison FuelSense 2.0 Not Desired |
| O | Omit Allison Neutral At Stop |
| O | Allison EVS 4th Gear Lockup J (Allison Vocation Package 120) Fire Truck Pumper |
| O | Allison 5-Speed Configuration, Close Ratio Gears Allison 4000 Transmission Only |
| O | Dash Mounted Push Button Shifter Available with Allison Transmissions. |

Air & Trailer Equipment

| | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S | Bendix AD-IS Air Dryer, Heater Coalescing filter |
| O | Pull Cords All Air Tanks |
| O | Rapid Air Pressure Build-Up System for Fire/ Emergency/Rescue Vehicles only |
| S | Nylon Chassis Hose |
| S | Steel Painted Air Tanks All air tanks are steel with painted finish except when Code 4543330 Polish Aluminum Air Tanks is also selected (then exposed air tanks outside the frame rails will be polished aluminum). Peterbilt will determine the optimal size and location of required air tanks. Narratives requesting a specific air tank size or location will not be accepted for factory installation. See ECAT to determine number or location of air tanks installed. |
| O | Clear Outside Frame of All Air System Components LH BOC |
| O | Clear Outside Frame of All Air System Components RH BOC |
| O | Install Frame Mounted Air Tanks As far rearward as possible |
| O | Omit Standard Trailer Connection Package (Omits 12ft A&E lines, Hose Tenna, and Hand Valve) |
| O | Body Connections 5' BOC Junction Box contains light and power circuits for Body Connections located 5' from BOC. |

Tires & Wheels

- | | |
|---|----------------------------------------------------------------------------------------------------------|
| O | FF: MN 20ply 315/80R22.5 XZUS2 Diameter = 42.9 inches; SLR = 19.8 inches. Compares to Goodyear |
|---|----------------------------------------------------------------------------------------------------------|



| <i>Std/ Opt</i> | <i>Description</i> |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------|
| | G289 WHA and Bridestone M860 tread. |
| O | RR: MN 16ply 11R22.5 X Multi D Diameter= 41.4 inches; SLR= 19.4 inches |
| S | Code-rear Tire Qty 08 |
| O | FF: Alcoa 89U637 22.5X9.00 Clean Buff Finish Aluminum, Ultra ONE wheels with MagnaForce alloy. |
| O | RR: Alcoa 885657 22.5X8.25 Clean Buff Finish Aluminum wheel severe service. |
| S | Code-rear Rim Qty 08 |
| O | FF: Polish Wheels, Outer Surface, Sgl/Tdm Steer Polish outer surface of outer wheel. Without chrome wheel nuts. |
| O | RR: Polished Wheels, Outer Surface, Tandem Drive Polish outer surface of outer wheels (4). Without chrome wheel nuts. |

Fuel Tanks

| | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| O | 26in Aluminum 70 Gallon Fuel Tank LH U/C Includes steps for cab access. Paddle handle filler cap with threadless filler neck. Top draw fuel plumbing reduces chance of introducing air into the fuel system during low fuel level conditions due to the central placement of fuel pickup tube. Wire braid fuel lines increase durability & reduce potential for leaks. |
| O | Location LH U/C 70 Gallon |
| O | Polish (1) Aluminum Fuel Tank |
| O | Heavy-Duty Fuel Tank Step Reinforcement (1) Fuel Tank |
| O | Polish All Fuel / Hydraulic Tank Straps Does not apply to Rectangular Def Tank straps. |
| S | DEF Tank Mounted LH BOC Models 220 and 520 mounted LH cab fender |
| S | Standard DEF to Fuel Ratio 2:1 Or Greater |
| O | Polished Stainless Steel Cover For DEF Tank |
| S | DEF Tank Small |
| O | RH Tank None Furnished |

Battery Box & Bumper

| | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| O | Install Batteries On Temp Plywood Support BOC Includes maximum length battery cables allowable per engine manufacture requirements. Recommend three or more batteries for Class 8. |
| S | Aftertreatment RH U/C ALUMINUM Non-Slip Cab Entry |



| Std/ Opt | Description |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| | Step. DPF/SCR for diesel engines, catalyst for natural gas engines. On Models 579 specifying chassis fairings, the box will be aerodynamic. |
| O | Steel Bumper Bobbed Painted |
| O | Omit Front Tow Pin(s) |
| Cab & Equipment | |
| O | Vocational 121" BBC Alum Cab and Metton Hood SBFA Stainless crown and grille with tilt assist. |
| S | No Sleeper Selected |
| O | Fender Lips 2.25" Wide |
| O | Peterbilt NFPA Compliant Driver Seat Includes NFPA compliant seat belt length. |
| O | Peterbilt NFPA Compliant Passenger Seat Includes NFPA compliant seat belt length. |
| O | Drivers Armrest - RH Only |
| O | Black Seat Color IPO Standard Color |
| O | Seat Belt Color Red IPO Standard Black |
| O | Seat Belt Sensor and Wiring - NFPA Compliant |
| O | Seat Occupancy Sensor and Wiring - NFPA Compliant |
| S | Air Ride Driver |
| S | High Back Driver |
| S | Vinyl Driver |
| O | Air Ride Passenger |
| S | High Back Passenger |
| S | Vinyl Passenger |
| S | Adjustable Steering Column - Tilt/Telescope |
| S | Steering Wheel With Peterbilt Logo Steering Wheel with embossed Peterbilt logo over horn button. |
| S | Prestige Interior - Sterling Gray |
| O | Exterior Cab Entry Grabhandle Textured; NFPA compliant. Available on Day Cab specifications only. |



| Std/ Opt | Description |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S | Day Cab Rear Window |
| S | 1-Piece Glass Rear Cab Window Fixed |
| S | 1-Piece Curved Windshield |
| S | Power Door Locks and Power Window Lifts Standard |
| S | Combo Fresh Air Heater/Air Conditioner With radiator mounted condenser, dedicated side window defrosters, Bi-Level Heater/Defroster Controls, 54,500 BTU/HR, and silicone heater hoses. |
| O | Ember Filter for Cabin Air Not available with Fine particulate filter 7330880. |
| O | Outside Sunvisor - Stainless Steel Not available with 2.1M high roof sleeper. |
| O | Aero Rear View Mirror Housing, Bright Finish Right Click on Option Code to Access Product Portfolio for Pictures and Additional Information. |
| O | Peterbilt Aero Rear View Mirror, Motorized Includes top mirror with motorized, adjustable dual axis heated glass. Bottom mirror is an integrated convex surface. Includes black textured arms with breakaway feature. |
| S | Look Down Mirror Over Passenger Door with Black Housing |
| O | Air Horn None Furnished |
| O | Standard Speaker Package For Cab (2) Speakers |
| O | ConcertClass Without CD, Includes BT Phone and Audio, AM/FM, WB, USB and MP3. |
| O | Radio Mute When Automatic Or Automated Transmission in reverse. |
| S | SmartLINQ Remote Diagnostics SmartLINQ is Peterbilt's proprietary remote diagnostics service which monitors the engine and aftertreatment for diagnostic codes providing real-time code analysis maximizing vehicle uptime and strengthening the fleets partnership with their dealer. SmartLINQ provides fault coverage for over 800 codes, a customizable email notification for 116 codes plus a web portal to manage your entire fleet included at no additional charge. SmartLINQ is compatible with any telematics system and doesn't require a specific fleet management system. For those whose customers utilize PeopleNet, the pre-wire with remote diagnostics will provide a more integrated solution utilizing the existing SmartLINQ modem. For those whose customers utilize other fleet services products, the existing pre-wire option for the other fleet service devices will continue to be available. SmartLINQ is standard with MX-13 engines and available on Models 579, 567, 389, 367 and 365. |
| S | Peterbilt Electric Windshield Wipers With Intermittent Feature. |



| Std/ Opt | Description |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| O | Auto Reset Circuit Protection Daycab and Sleeper |
| S | Solid Rear Day Cab Mounts |
| O | Main Transmission Oil Temperature Gauge Located in Driver Information Display |
| O | Engine Oil Temperature Gauge 52mm round, backlit. These physical gauges must be ordered in pairs and are limited to a total of 6. |
| S | Air Filter Restriction Pressure Gauge Located in Driver Information Display |
| O | General Air Pressure 1 Gauge 52mm round, backlit. Physical gauges must be order in pairs and are limited to a total of 6. |
| S | Main Instrument Panel Includes Driver Information Display and Instrument Package With Speedometer, Tachometer, Fuel Level Gauge, Engine Oil Pressure, Engine Coolant Temperature, (2) Air Pressure, DEF Level Gauge. With Gas Engines, DEF Level Gauge will be replaced with Brake Application Gauge. |
| O | Vehicle Data Recorder Wiring, Class One VDR wiring located behind the seat for a Class 1 module with breakout for the Class 1 seat belt warning components. It can be adapted to other VDRs by the body builder. Acceleration and deceleration will be calculated and recorded by the VDR. The body builder will be responsible to install the VDR. |
| S | Headlights Projector Module Pod Fender mounted turn signals. Projector Module Low Beam, Complex Reflector High Beam. Pod Mounted. |
| S | (5) Marker Lights, Aero LED On roof, visor, or fairing. |
| S | Daytime Running Lights Required on all Canadian vehicles |
| O | Incandescent Square Stop/Turn/Tail/Backup LH/RH Square EOF or Dropped A-Brace |
| S | Peterbilt Signature Door Light Turn Signal |

Paint

| | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S | Standard Paint Color Selection |
| S | (1) Color Axalta Two Stage - Cab/Hood Base Coat/Clear Coat N85020 A - L0006EY WHITE N85700 BUMPER L0001EA BLACK N85500 CAB ROOF L0006EY WHITE N85300 FENDER L0006EY WHITE N85200 FRAME L0001EA BLACK N85400 HOOD TOP L0006EY WHITE |



| Std/ Opt | Description |
|-------------|-------------|
|-------------|-------------|

Shipping Destination

- Shipping Destination Other Than Dealer

Options Not Subject To Discount

- S **Peterbilt Class 8 Standard Coverage**
1 year/100,000 Miles (160,000 km)

- PDI At CVS Location**

- Vehicle Layout**

Miscellaneous

- S **Day Cab / Prestige Interior (DM)**

- S **2017 EPA Emissions Engine**
Warranty Only

- Presentation Created With SmartSpec**

Promotions

Order Comments

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Unpublished options may require review/approval.
Dimensional and performance data for unpublished options may vary from that displayed in CRM.

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