

CLASS A PUMPER



DATE: 4-19-05
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STATE:
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CHASSIS MAKE: International
MODEL: 4400 2x4 4DR
ENGINE: 300 HP Diesel
TRANSMISSION: Allison Automatic

One (1)
1A-03-2000

ON LINE SERVICE MANUAL SUPPORT

As part of the standard delivery manual the manufacturer shall give a password-protected link to the end user, allowing access to the manufacturers database on service parts. The internet based system shall allow the end user to access the major component suppliers service parts listing such as Hale, Waterous, Akron, Etc. This shall be accomplished with simplistic point and click features on the manufacturer line item within the "stripper" or "line sheet". This will include, automatic updates, printable schematics, manufacturers web links and is available in a commercially available format of Adobe Reader to access these documents.

PARTS LISTINGS

The manuals will include cross-reference part numbers from the apparatus manufacturers part number to the vendor parts. Example: Brand X Fire Apparatus, hydraulic ladder rack, part number WW-MN-0302 crosses to Ziamatic Corporation part number 098-MN2345. This will allow for reference between individual parts and complete installation assemblies and completed by body builder. The manuals will list all components of the vehicle that includes a vendor part utilized in a complete installation via the manufacturer's "line sheet" or "stripper" utilized to manufacture the completed vehicle.

ILLUSTRATIVE SCHEMATICS

The manufacturer shall include installation diagrams and drawings of all major sub assemblies. This will include components such as hydraulic ladder rack assemblies, pump panels, tanks, fire pumps, etc. The drawings shall be linked via Internet based service programs, in an electronic format from the manufacturer's "stripper" of the manufacturing document.

DIGITAL IMAGES

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In addition to two and three dimensional installation drawings, the manufacturer shall make accessible, via an internet based link, the actual photos of the installed components listed with the "stripper" or line sheet. This will include, but shall not be limited to: Wiring terminals, main body distribution strips, fire pump shifting, auxiliary components, etc.

INSTALLATION INSTRUCTIONS

The manufacturers "work instructions" or "installation instructions" shall be included with the service manuals. These documents shall be accessible via a web-based link to the individual vehicle manufactured. The work instructions shall give step by step instructions of the installation process.

AUTOMATIC UPDATES OF MANUALS

The online manuals will include automatic updates that accessible via the web link. When clicking on the part within the manufacture's "stripper/line sheet", it will allow the end user to access the component manufacturer website updated information. This will allow for the latest parts and service components from the individual part manufacturer or vendor.

ELECTRICAL SCHEMATICS

To maintain the vehicles electrical systems, the manufacturer shall provided to the purchaser the instructional manuals, complete electrical information and schematics on the vehicle. The electrical information shall be provided for the 12-volt and 120-volt wiring systems as follows:

- Graphic symbols for electrical diagrams
- Wire labeling, imprinting codes and index
- Computer drawn electrical schematics noting the circuit number, wire size, switches, circuit breakers and terminals.

The manufacturer shall submit, with the bid proposal, a sample set of online Adobe formatted material that is printed from the manufacturer's website, including but not limited to: schematics, digital images, installation instructions, etc. Failure to do so will result in rejection of the proposal. Reference to "on delivery" or "at pre-bid" submission and "typical" or "generic" manuals is not an acceptable response for the bid document.

One (1)
1B-00-0500

WARRANTY

We warrant each new motorized fire apparatus manufactured by CENTRAL STATES FIRE APPARATUS for a period of ONE YEAR from the date of delivery, except for chassis and other components noted herein.

Under this warranty we agree to furnish any parts to replace those that have failed due to defective material or workmanship where there is no indication of abuse, neglect, unusual or other than normal service providing that such parts are, at the option of CENTRAL STATES FIRE APPARATUS, made available for our inspection at our request, returned to our factory or other location designated by us with transportation prepaid within thirty days after the date of failure or within one year from the date of delivery of the apparatus to the original purchaser, whichever occurs first, and inspection indicates the failure was attributed to defective material or workmanship.

The warranty on the chassis and chassis supplied components, storage batteries, generators, electrical lamps and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for the same are to be made directly with the manufacturer by the customer.

This warranty will not apply to any fire apparatus that has been repaired or altered outside our factory in any way, which in our opinion might effect its stability or reliability.

CLASS A PUMPER

This warranty shall not apply to those items that are usually considered normal maintenance and upkeep services: including, but not limited to, normal lubrication or proper adjustment of minor auxiliary pumps or reels.

This warranty is in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on our part. We neither assume nor authorize any person to assume for us any liability in connection with the sales of our apparatus unless made in writing by CENTRAL STATES FIRE APPARATUS.

One (1)
1B-00-2500

5 YEAR ALUMINUM BODY WARRANTY

Central States Fire Apparatus LLC (CSFA) warrants to the original purchaser only, that the all aluminum body, fabricated by Central States Fire Apparatus, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of FIVE (5) years.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, moldings, and other accessories attached to this body. In addition, this warranty does not apply to any part or accessory manufactured by others and attached to this body.

CENTRAL STATES FIRE APPARATUS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE ALUMINUM BODY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND HEREBY DISCLAIMED.

Central States Fire Apparatus will replace without charge, repair or make a fair allowance for any defect in material or workmanship demonstrated to its satisfaction to have existed at the time of delivery or not due to misuse, negligence, or accident. If Central States Fire Apparatus elects to repair this body, the extent of such repair shall be determined solely by Central States Fire Apparatus, and shall be performed solely at the Central States Fire Apparatus factory, or at an approved facility. The expense of any transportation to or from such repair facility shall be borne by the purchaser and is not an item covered under this warranty.

Central States Fire Apparatus will not be liable for damages and under no circumstances will its liability exceed the price for a defective body. The remedies set forth herein are exclusive and in substitution for all other remedies to which the purchaser would otherwise be entitled.

Central States Fire Apparatus will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve months from the date the cause of the action occurred.

One (1)
1B-00-3500

PAINT WARRANTY

The PPG paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of FIVE (5) years beginning the day the vehicle is delivered to the purchaser.

The areas as outlined on the Guarantee Certificate, will be covered for the following paint failures:

GUARANTEE INCLUSIONS:

FULL APPARATUS BODY MANUFACTURED AND PAINTED BY CENTRAL STATES FIRE APPARATUS:

* Peeling or delamination of the topcoat and/or other layers of paint.

CLASS A PUMPER

* Cracking or checking.

* Loss of gloss caused by cracking, checking, or hazing.

* Any paint failure caused by defective PPG Fleet Finishes which are covered by this guarantee.

All guarantee exclusions, limitations, and methods of claims are covered in the full certificate provided to the original purchaser.

One (1)
1B-01-1000

SUBFRAME WARRANTY

Subject to the provisions, limitations and conditions set forth in this warranty, Central States Fire Apparatus, LLC (hereby referred to as "seller"), hereby warrants to each original purchaser only that each new hot dip galvanized or stainless steel body subframe (exclusive of paint finish and hardware) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity. This warranty terminates upon transfer of possession or ownership by original purchaser.

This warranty is conditioned upon normal use and reasonable maintenance of such subframe; prompt written notice of all defects to seller or one of the seller's then authorized dealers in the area; no repair or additions there to except by seller or authorized by it; said defect not resulting from misuse, negligence, accident, remount, overloading beyond applicable weight reating by customer or third parties. If any such conditions are not complied with, this warranty shall become void and unenforceable.

Should repairs become necessary under the terms or the warranty, the extent of that repair shall be determined solely by the seller and shall be performed solely at Central States Fire Apparatus, LLC or a repair facility designated by the seller. The expense of any transportation to or from such repair facility shall be that of the purchaser and is not an item covered by this warranty.

Seller reserves the unrestricted right at any time from time to time to make changes in the design of and/or improvements on its products without thereby imposing any obligation on itself to make corresponding changes or improvements in or on its products theretofore manufactured.

EXCLUSIONS AND LIMITATIONS: THIS MANUFACTURER'S WARRANTY IS PROVIDED IN PLACE OF ANY AND ALL OTHER REPRESENTATIONS OR IMPLIED WARRANTIES. NO PERSON IS AUTHORIZED TO MAKE ANY REPRESENTATIONS OR WARRANTY ON BEHALF OF CENTRAL STATES FIRE APPARATUS, LLC OR ANY OF ITS DISTRIBUTORS OTHER THAN SET FORTH IN THIS MANUFACTURER'S WARRANTY. YOUR RIGHT TO SERVICE AND REPLACEMENT OF PARTS ON THE TERMS EXPRESSLY SET FORTH HERIN ARE YOUR EXCLUSIVE REMEDIES AND NEITHER THE MANUFACTURER NOR ANY OF ITS DISTRIBUTORS SHALL BE LIABLE FOR DAMAGES, WHETHER ORDINARY, INCIDENTAL OR CONSEQUENTIAL.

One (1)
1B-02-1000

STAINLESS STEEL PLUMBING WARRANTY

Subject to the provisions, limitations and conditions set forth in this warranty, Central States Fire Apparatus, LLC (hereby referred to as "seller"), hereby warrants to each original purchaser only that stainless steel plumbing components and ancillary brass fittings used in the construction of the water/foam plumbing system shall be warranted for a period of ten (10) years. This covers structural failures caused by defective design or workmanship, or perforation caused by corrosion, provided the apparatus is used in a normal and reasonable manner. This warranty is extended only to the original purchaser for a period of ten years from the date of the delivery and shall terminate upon the transfer of possession or ownership by original purchaser.

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This warranty is conditioned upon normal use and reasonable maintenance of such plumbing; prompt written notice of all defects to seller or one of the seller's then authorized dealers in the area; no repair or additions there to except by seller or authorized by it; said defect not resulting from misuse, negligence, accident, remount, overloading beyond applicable weight reating by customer or third parties. If any such conditions are not complied with, this warranty shall become void and unenforceable.

Should repairs become necessary under the terms or the warranty, the extent of that repair shall be determined solely by the seller and shall be performed solely at Central States Fire Apparatus, LLC or a repair facility designated by the seller. The expense of any transportation to or from such repair facility shall be that of the purchaser and is not an item covered by this warranty.

Seller reserves the unrestricted right at any time from time to time to make changes in the design of and/or improvements on its products without thereby imposing any obligation on itself to make corresponding changes or improvements in or on its products theretofore manufactured.

EXCLUSIONS AND LIMITATIONS: THIS MANUFACTURER'S WARRANTY IS PROVIDED IN PLACE OF ANY AND ALL OTHER REPRESENTATIONS OR IMPLIED WARRANTIES. NO PERSON IS AUTHORIZED TO MAKE ANY REPRESENTATIONS OR WARRANTY ON BEHALF OF CENTRAL STATES FIRE APPARATUS, LLC OR ANY OF ITS DISTRIBUTORS OTHER THAN SET FORTH IN THIS MANUFACTURER'S WARRANTY. YOUR RIGHT TO SERVICE AND REPLACEMENT OF PARTS ON THE TERMS EXPRESSLY SET FORTH HERIN ARE YOUR EXCLUSIVE REMEDIES AND NEITHER THE MANUFACTURER NOR ANY OF ITS DISTRIBUTORS SHALL BE LIABLE FOR DAMAGES, WHETHER ORDINARY, INCIDENTAL OR CONSEQUENTIAL.

One (1)
BS-10-3600

INTERNATIONAL 4400 CONVENTIONAL CHASSIS

Base chassis, Model 4400 SBA 4X2 with 232 wheelbase, 121 CA, 121. Useable CA and 75 axle to frame.

TOW HOOK FRONT, (2) Frame Mounted

FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.125" x 3.580" x 0.312" (257.2Mm x 90.9Mm x 8.0Mm); 456.0" (11582mm) Maximum OAL

BUMPER, FRONT Full Width, Aerodynamic, Steel; 0.142" Material Thickness

Includes:

: PLEASE NOTE: Power Coated Gray (Argent) Color

WHEELBASE RANGE 199" (505cm) Through and Including 254" (645cm)

AXLE, FRONT, I-BEAM TYPE {International I-120G} 12,000-lb Capacity

SUSPENSION, FRONT, SPRING Parabolic, Taper Leaf; 12,000-lb Capacity; With Shock Absorbers

Includes:

: SPRING PINS Rubber Bushings, Maintenance Free

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes:

:AIR COMPRESSOR AIR SUPPLY LINE International Engines Naturally-Aspirated

:BRAKE CHAMBERS, SPRING (2) Rear Parking

:BRAKE LINES Color Coded Nylon

:SLACK ADJUSTERS, FRONT Automatic

:SLACK ADJUSTERS, REAR Automatic

:PARKING BRAKE VALVE Color-Coded Yellow Knob, Located on Instrument Panel

CLASS A PUMPER

:DRAIN VALVE Twist-Type
:SPRING BRAKE MODULATOR VALVE
:GAUGE, AIR PRESSURE Located in Instrument Cluster Air 1 and Air 2 Gauges

DRAIN VALVE, AUTOMATIC {Bendix DV-2} With Heater; for Air Tank

AIR BRAKE ABS {Bendix AntiLock Brake System} Full Vehicle Wheel Control System (4-Channel)

AIR DRYER {Bendix AD-9} With Heater

BRAKES, FRONT, AIR CAM S-Cam; 15.0" x 4.0"; Includes 20 Sq. In. MGM Long Stroke Brake Chambers

BRAKE, REAR, AIR CAM 16.5" x7.0"; Includes MGM TR3030 Long Stroke Brake Chamber and Heavy Duty Spring Actuated Parking Brake

AIR COMPRESSOR {Bendix Tu-Flo 550} 13.2 CFM

DUST SHIELDS, FRONT BRAKE

DUST SHIELDS, REAR BRAKE

STEERING COLUMN Stationary

STEERING WHEEL 2-Spoke, 18" Diam. Black

STEERING GEAR {Sheppard M-100} Power

EXHAUST SYSTEM Single, Horizontal Muffler and Short Tail Pipe, Aluminized Steel, frame Mounted Right Side

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes:

: FUSES, ELECTRICAL SAE Blade-Type
: TURN SIGNAL SWITCH - Self Cancelling, Headlight Dimmer (With Flash-To-Pass Feature)
: HORN, ELECTRIC Single
: PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
: STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
: STARTER SWITCH Electric Key Operated
: TURN SIGNALS, FRONT Flush Mounted Include Reflectors and Auxiliary Side Turn Signals, Solid State Flashers;
: DATA LINK CONNECTOR In Cab For Vehicle Programming and Diagnostics
: WINDSHIELD WIPERS Single Motor, Electric Cowl Mounted
: WINDSHIELD WIPER SWITCH 2-Speed Integral with Turn Signal Switch with Wash and Intermittent Feature,
: WIRING, CHASSIS Color Coded and Continuously Numbered

CIGAR LIGHTER

ALTERNATOR {Leece Neville 4867 JB} Brush Type; 12 Volt 270 Amp Capacity With Self Excite, Includes a 1-Gauge Charging Circuit

BODY BUILDER WIRING To Rear of Frame, With Stop, Tail, Turn and Marker Lights Circuits, Ignition Controlled Auxiliary feed and Ground, Less Trailer Socket

BATTERY SYSTEM (3) {International} Maintenance Free 12-Volt 1950 CCA Total

CLASS A PUMPER

BATTERY DISCONNECT SWITCH {Joseph Pollack 51-315} Positive Type, Lever Operated, Mounted on Cab floor

ALTERNATOR PULLEY 2.4" Diameter for Increased Alternator Output at Idle; For Fire Truck Application with International Engines, Must Include Fire Truck Identity Code

HEADLIGHTS Halogen; Composite Aero Design for Two Light System; Includes Daytime Running Lights

STARTING MOTOR {Leece Neville MS2} 12-Volt; less Thermal Over-Crank Protection

CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses

GRILLE Chrome

FRONT END Tilting, Fiberglass, With Three Piece Construction

PAINT SCHEMATIC, PT-1 Single Color, Design 100

Includes:

: PAINT SCHEMATIC ID LETTERS "GA"

PAINT TYPE Base Cloat/Clear Coat, 1-2 Tone

CLUTCH Omit Item (Clutch & Control)

ENGINE, DIESEL {International DT570 Standard Torque} Electro-Hydraulic Fuel System, 50 State 300 HP @ 2000/2200 RPM, 950 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 310 Peak HP (Max) Includes #2 Bell Housing

Includes:

: GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted

: WET TYPE CYLINDER SLEEVES

: ENGINE SHUTDOWN Electric, Key Operated

: GOVERNOR Road Speed, Electronic

: ENGINE OIL DRAIN PLUG Magnetic

: OIL FILTER, ENGINE Spin-On Type

: ENGINE OIL CHANGE SYSTEM 30 Quart Capacity

: DAMPER, CRANKSHAFT Viscous

: FAN Optimized Position

: FUEL FILTER Engine Mounted

FAN DRIVER {Borg-Warner Kysor Series 8000} With Front Tether Air Inlet and With Nylon Fan; Use With International DT466 & 530 Engines

RADIATOR Aluminum; 2-Row, Cross Flow, Over Under System, 630 SqIn Louvered, With 270 SqIn Charge Air Cooler, 4.25" Core

Includes:

: ANTI-FREEZE Shell Rotella Extended Life Coolant -40F (-40C)

: DEAERATION SYSTEM with Surge Tank

: RADIATOR HOSES Premium, Rubber

FEDERAL EMISSIONS for 2002; for International VT365, T444E, DT466 and DT530 Engines

AIR CLEANER Single Element

CLASS A PUMPER

ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls; With Ignition Switch Control

THROTTLE, HAND CONTROL Engine Speed Control for PTO; Electronic, Stationary Pre-Set, Two Speed Seetings; Mounted on Steering Wheel

ENGINE WATER COOLER {Sen-Dure} Auxiliary, For Use With Fire Trucks

TRANSMISSION, AUTOMATIC {ALLISON 3000EVS_P} Close Ratio, 5-Speed; Includes Oil Level Sensor, With Provision for PTO, Less Retarder

Includes:

: TRANSMISSION OIL PAN Magnet in Oil Pan

TRANSMISSION SHIFT CONTROL {ALLISON} Push-Buttom Type; for Allison MD & HD Transmission

ALLISON WT SPARE INPUT/OUTPUT for Fire Truck/Emergency Vehicles

AXLE, REAR, SINGLE {Dana Spicer 23090S} Single Reduction, 23,000-lb Capacity, With 200 Wheel Ends Gear Ratio: 5.29

Includes:

: REAR AXLE DRAIN PLUG (1) Magnetic

SUSPENSION, RR, SPRING Vari-Rate; 23,500-lb Capcity, With 4500 lb Auxiliary Rubber Spring

FUEL TANK Top Draw; D Style, Steel, 50 US Gal., 189 L Capacity, 16" Deep, With Quick Connect Outlet, Mounted Right Side, Under Cab

Includes:

: FUEL LINES Nylon Tubing With O-Ring Snap-On Quick Connect Fittings at Both Ends

CAB Conventional Steel; 6-Man Crew Cab

Includes:

: CLEARANCE/MARKER LIGHTS (5) Flush Mounted

: ARM REST (2) Molded Plastic, Smoke Gray; One Each Door

: FLOOR COVERING Rubber, Black

: COAT HOOK Located on Rear Wall, Centered Above Rear Window

: GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side

: GRAB HANDLE, CAB INTERIOR (2) Front of "B" Pillar Mounted, One Each Side

: STEP (4) Two Steps Per Door

: PLEASE NOTE: 43.9" CA Loss

: GLASS, ALL WINDOWS Tinted

SEAT, PASSENGER Omit Item

GAUGE CLUSTER English With English Electronic Speedometer

Includes:

: ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout

: WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low Battery Voltage (Visual and Audible)

: ESC PROG, IP CLUSTER DISPLAY (5) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter

CLASS A PUMPER

GAUGE, OIL TEMP, ALLISON TRANS

SEAT, FRONT BENCH {Gra-Mag} Full Width; Vinyl, With Fixed Mid Back

Includes:

: SEAT BELT (3) Two 3-Point Shoulder Belts for Driver and Outer Passenger and One Lap Belt for Center Passenger

SEATING, REAR Three (3) forward facing SCBA seats in crew area

GRAB HANDLE (2) Chrome Towel Bar Type Anti-Slip Rubber Inserts; for Cab Entry Mounted Left and Right

GRAB HANDLE, ADDITIONAL (2) Chrome; Towel Bar Type With Anti-Slip Rubber Inserts; Mounted Left and Right Side on Exterior, Rear of Rear Doors, With Crew Cab

MIRRORS (2) {Lang Mekra} Rectangular, 7.44" x 14.84", Brackets Breakaway Type, With 102" Wide Spacing, With 7.44" Sq. Convex Both Sides

SEAT BELT All Red; 4 to 6

INSTRUMENT PANEL Center Section, Flat Panel

AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster

Includes:

: REFRIGERANT Hydrofluorocarbon HFC-134A

: HEATER HOSES Premium

CAB INTERIOR TRIM Deluxe; for Crew Cab

Includes:

: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets and Retainer Nets and CB Radio Pocket; Smoke Gray with Black Netting Over Storage Pockets

: "A" PILLAR COVER Molded Plastic, Smoke Gray

: HEADLINER Printed Cloth

: INSTRUMENT PANEL TRIM Molded Plastic, Drawbridge Gray with Black Center Section, Hidden Cup Holder and Ash Tray (Pull Out)

: DOME LIGHT, CAB Rectangular, Center mounted, Integral to Console Door Activated, Time Theater Dimming

: SUN VISOR (2) Padded Vinyl Integral to Console with Driver Side Toll Ticket Strap

: STORAGE POCKET, DOOR (1) Molded Plastic, Smoke Gray, Full-Length; driver Door

: CAB INTERIOR TRIM PANELS Molded Plastic, Full-Height; All Exposed Interior Sheet Metal is Covered

: DOOR TRIM PANELS (2) Molded Plastic; Driver and Passenger Doors

CAB REAR SUSPENSION Air Bag Type

WHEELS, FRONT DISC; 22.5" Painted Steel, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs

Includes:

: WHEEL SEALS, FRONT Grease Lubricated, Includes Wheel Bearings

: PAINT IDENTITY, FRONT WHEELS, White

WHEELS, REAR DUAL DISC; 22.5" Painted Steel, 10-stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs

CLASS A PUMPER

Includes:

: WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings
: PAINT IDENTITY, REAR WHEELS White

(4) TIRE, REAR 11R22.5 G328 (GOODYEAR) 496 rev/mile, load range G, 14 ply

(2) TIRE, FRONT 11R22.5 G149 RSA (GOODYEAR) 501 rev/mile, load range G, 14 Ply

Services Section:

WRTY, LTD, BASIC VEHICLE DSPEC {Diamond SPEC} To 24-Month/Unlimited Mileage; Includes Diamond Emergency Breakdown Service; With 90-Day Towing.

One (1)
CC-50-0510

STEP TYPE FUEL TANK

There shall be a step type fuel tank furnished with the chassis.

One (1)
CC-50-5600

FRONT MUD FLAPS

Heavy-duty, white colored, rubber mud flaps shall be furnished and installed behind the front wheels of the vehicle. Mud flaps shall extend the full width of the front tires and are to be attached with stainless steel fasteners.

One (1)
CC-50-6100

REAR MUD FLAPS

Heavy-duty, white colored, rubber mud flaps shall be furnished and installed behind the rear wheels of the vehicle. Mud flaps shall extend the full width of the rear duals and are to be attached with stainless steel fasteners.

One (1)
CC-51-1100

HORIZONTAL CHASSIS EXHAUST

The chassis exhaust system shall be extended to the front of the right rear wheel.

One (1)
CC-65-0400

ALTERNATOR

The alternator shall be of adequate size to meet the NFPA requirements and to accommodate the specific apparatus electrical load.

One (1)
DH-00-3200

HALE PSD-1250 GPM SINGLE STAGE FIRE PUMP

The centrifugal type fire pump shall be a Hale model PSD, midship mounted with a rated capacity of 1250 GPM. The pump shall meet NFPA 1901 requirements.

One (1)
DH-01-2600

SINGLE STAGE FIRE PUMP

A Hale model PSD single stage centrifugal fire pump shall be midship mounted on the frame rails of the chassis.

At time of delivery the pump shall be UL tested and rated as follows:

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- 100% of rated capacity at 150 pounds net pressure.
- 70% of rated capacity at 200 pounds net pressure.
- 50% of rated capacity at 250 pounds net pressure.
- 100% of rated capacity at 165 pounds net pressure.

The entire pump shall be cast, manufactured and tested at the pump manufacturer's factory. The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

The entire pump, both suction and discharge passages shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Standard 1901.

Pump shall be free from objectionable pulsation and vibration. The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.

Pump body shall be vertically split, on a single plane, for easy removal of impeller assembly, including clearance rings. Pump shaft to be rigidly supported by two bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

The pump shaft shall have only one mechanical seal. The mechanical seal shall be spring loaded, maintenance free and self-adjusting. The pump shaft shall be heat-treated, electric furnace, corrosion resistant, stainless steel. Pump shaft must be sealed with double lip oil seal to keep road dirt and water out of gearbox.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand-ground and individually balanced. The vanes of the impeller intake eye shall be hand-ground and polished to a sharp edge, and be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower. Impeller clearance rings shall be bronze, easily renewable without replacing impellers or pump volute body.

PRIMING PUMP

The priming pump shall be a positive displacement vane type, electrically driven, and conform to standards outlined in NFPA Pamphlet no. 1901. One priming control shall both open the priming valve and start the priming motor.

One (1)
DH-04-3000

OILLESS PRIMER

The pump shall be furnished with the Hale ESP oil-less priming system.

One (1)
DH-04-5000

MECHANICAL SEALS

The fire pump shall be provided with a mechanical pump seal. One only required on the suction, inboard, side of the pump. The mechanical seal shall be two inches in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with Teflon backup seal.

One (1)
DH-04-7300

APPARATUS MONITORING SYSTEM

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The Fire Research **INControl** pressure governor and all-in-one instrument panel uses state of the art programmable microprocessor technology. It will maintain a steady pump discharge pressure by controlling engine speed or hold a selected engine RPM. It offers complete engine control and remote display in a single compact unit. The **INControl** operates in one of two modes, pressure or RPM. In pressure mode the **INControl** maintains a constant pump discharge pressure. The discharge pressure is monitored and compared to the selected pressure setting, the engine RPM is varied to keep the discharge pressure at the selected setting. In RPM mode the **INControl** maintains a constant engine RPM. The pump discharge pressure is monitored and can vary but, as a safety feature it will be limited to an increase of 30 PSI. If the discharge pressure increases 30 PSI the governor will automatically lower the engine RPM to prevent a high pressure surge. The panel has three 4-digit LED displays for pump discharge, pump intake, and engine RPM. The LEDs are more than 1/2" high. There is an LED bar graph to show PSI or RPM setting depending on the mode, and three LED bar graphs that provide a constant display of the battery voltage, engine coolant temperature, and engine oil pressure.

All controls and indicators are located on the front of the control module.

Features:

- Power Up in Pressure Mode
- Automatic Regulation of Pump Discharge Pressure
- Manual Control of Pressure or Engine RPM Settings
- Field Programmable Presets
- Diagnostic Capabilities
- No Pressure or RPM Variation When Changing Modes
- Limits Increase of Pressure When in RPM Mode
- Recognition of No Water Condition With Automatic Response
- Interlock Signal Recognition and OK To Pump LED
- Return to Engine Idle With the Push of a Button

The monitoring system shall be furnished, installed and tested by the apparatus body builder.

One (1)
DH-15-7500

MANIFOLD DRAIN

A manifold drain valve shall be furnished with all pump drains connected to it so that the entire pump system may be drained by one control. Drain valve assembly shall consist of a stainless steel plunger and a bronze body.

A control handle is to be provided and located below the driver's side running board of the pump house, properly identified MASTER DRAIN.

One (1)
DH-20-1000

UL TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per Class A requirements of NFPA #1901 prior to delivery of the completed apparatus. The UL acceptance certificate shall be furnished with the apparatus on delivery.

One (1)
DH-20-1200

ALTITUDE REQUIREMENTS

The apparatus shall be designed to meet the specified rating at _____ feet altitude.

One (1)
DH-20-2000

PUMP COOLING LINE

CLASS A PUMPER

A 3/8" cooling line shall be installed to recirculate water from the pump back to the water tank, to cool the pump during pro-longed pumping operations. The cooling line shall be controlled at the operator's position with a quarter turn valve.

One (1)
DH-20-5000

HEAT EXCHANGER

A heat exchanger shall be provided on the pump driving engine cooling system. The heat exchanger shall not allow mixing of the pump driving engine coolant and water from the fire pump.

A gated line shall be installed to provide water from the fire pump to the pump driving engine heat exchanger to assist in engine cooling during pumping operations. The heat exchanger line shall be controlled at the pump operator's panel.

One (1)
DH-99-0500

FIRE PUMP WARRANTY

The Hale fire pump shall carry the manufacturer's two (2) year warranty covering defective parts and workmanship. A copy of the pump manufacturer's warranty policy shall be provided with the completed apparatus.

One (1)
EE-01-1200

PUMP SHIFT INDICATOR LIGHTS

Fire pump shall be driven by a heavy duty 10 bolt PTO capable of enough torque to operate the fire pump at rated capacity for continuous duty. The PTO shall be approved by Allison for this type of service. The PTO shall be of a "Hot Shift" style capable of either full capacity stationary pumping or **pump and roll**. Stationary pumping shall be done with chassis transmission in neutral. Pump engagement lights and safety interlock system for PTO driven pumps that are to be used for Stationary Pumping or Pump and Roll shall be as follows:

- A "Pump Engaged" indicator light shall be provided both in the driving compartment and on the pump operator's panel to indicate that the pump shift has been successfully completed.
- An "OK to Pump" indicator light shall be provided in the driving compartment to indicate that the pump is engaged, the chassis transmission is in neutral, and the parking brake is engaged. An "OK to Pump and Roll" indicator shall be provided in the driving compartment and shall be energized when the pump is engaged, the chassis transmission is in road gear, and the parking brake is released. When the "OK to Pump and Roll" indicator is energized, the "OK to Pump" shall not be energized.
- A "Throttle Ready" indicator shall be provided at the pump operator's panel that is energized when the "Ok to Pump" indicator is energized or when the chassis transmission is in neutral and the parking brake is engaged.
- An interlock system shall be provided to prevent advancement of the engine speed at the pump operators panel unless the chassis transmission is in neutral and the parking brake is engaged, or the apparatus is in "OK to Pump" mode.
- Controls for the pump shift are to be in the cab, and easily accessible.

One (1)
EE-01-2110

HALE PTO PUMP INSTALLATION

The Hale PTO fire pump shall be installed in conjunction with the body manufacturing process. Fire pump installation shall include installation of the fire pump, modification and/or fabrication of new drivelines and all pump-mounting brackets. PTO drive shaft(s) shall be spin balanced prior to final installation.

One (1)
EE-02-1000

INTAKE RELIEF VALVE

CLASS A PUMPER

A 2-1/2" intake relief valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed to the right side below the runningboards, away from the pump operator, and shall terminate with a 2-1/2" NST male chrome threaded adapter, marked with an engraved tag "Intake pressure relief outlet - Do Not Cap".

One (1)
EE-02-5150

STAINLESS STEEL INTAKE MANIFOLD

The suction manifold assembly shall be fabricated with schedule 10 type 304 stainless steel. All threaded fittings shall be a minimum of schedule 40 stainless steel. The suction manifold assembly shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to installation. The stainless steel manifold assembly shall be attached to the pump intake volute with a heavy-duty, flexible victaulic coupling.

The stainless steel manifold assembly shall have a ten (10) year warranty.

One (1)
EE-02-5600

DRIVER SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the driver side of pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

Steamer inlet to be as short as possible to allow suction fittings to be attached without extending past the side running boards.

One (1)
EE-02-5700

PASSENGER SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the passenger side of pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

Steamer inlet to be as short as possible to allow suction fittings to be attached without extending past the side running boards.

One (1)
EE-20-0500

SUCTION CAP DRIVER'S SIDE

The driver's side suction inlet shall be equipped with a chrome-plated, long handled, cap capable of withstanding 500 PSI.

One (1)
EE-20-1000

SUCTION CAP PASSENGER SIDE

The passenger's side suction inlet shall be equipped with a chrome-plated, long handled, cap capable of withstanding 500 PSI.

One (1)
ES-02-1500

2-1/2" GATED SUCTION INTAKE DRIVER SIDE

A 2-1/2" independent gated suction intake shall be provided on the driver's side pump panel. Intake shall be provided with a quarter-turn valve and control. The intake shall have a 3/4" drain valve with handle. Each intake shall have chrome-plated female swivel adapter with removable internal screen and a chrome-plated plug type cap with end chain.

CLASS A PUMPER

One (1)
ES-02-1510

SUCTION VALVE CONTROL

Suction valve shall have swing type control handle located adjacent to valve.

One (1)
ES-04-0000

TRIM PANEL

A bolt on stainless steel trim panel shall be provided for easy access to the valve for repair or removal without removing the side panel on all intakes and discharges.

One (1)
FA-00-1050

STAINLESS STEEL DISCHARGE MANIFOLD

The discharge manifold shall be fabricated with schedule 10 type 304 stainless steel. All threaded fittings shall be a minimum of schedule 40 stainless steel. The discharge manifold shall be fabricated, welded, all fittings attached and pressure tested prior to installation. The stainless steel discharge manifold assembly shall be bolted to the pump and have stabilizer arms attached to reinforce the discharge manifold.

The stainless steel discharge manifold assembly shall have a ten (10) year warranty.

One (1)
FA-01-0000

PUMP DISCHARGES

Each gated discharge outlet shall include an Akron heavy-duty brass, quarter-turn, swing-out ball valve. All lines to have victaulic couplings or hose with stainless steel fittings installed where flex may occur to prevent cracking of the plumbing system. Each discharge shall have 3/4" cast bronze 1/4 turn drain valve complete with reinforced teflon seals, and blowout proof stem rated to 600 psi. A chrome-plated zinc handle shall be provided on each drain valve, complete with a 1" X 1 1/2" recessed identification label. Drains shall be aligned in a straight horizontal row at the lower edge of the corresponding pump panel so as to allow for ease of identification and operation. Each drain shall be labeled and numbered to correspond to the respective discharge outlet and coloring.

Individual discharge controls are to be aligned in a straight horizontal row across the pump operator's control panel, directly in-line with the corresponding discharge outlet line pressure gauges.

One (1)
FA-01-0020

STAINLESS STEEL PLUMBING

All rigid piping three-inch diameter or less shall be **STAINLESS STEEL** type with tapered thread or victaulic type couplings.

One (1)
FA-01-0500

DRIVER SIDE DISCHARGE OUTLET

Each 2-1/2" discharge outlet on the driver's side pump panel shall have a 2-1/2" quarter turn valve with control on pump operator's panel. There shall be a chrome plated 2-1/2" NST adapter that extends through the pump panel. Each discharge shall be provided with chrome-plated 30-degree discharge elbow.

One (1)
FA-01-0501

MANUAL VALVE

Discharge valve shall be swing-out type with manual control handle located on pump operator's panel.

One (1)
FA-01-0510

CLASS A PUMPER

MANUAL DRAIN VALVE

The driver's side 2-1/2" discharge outlet shall have a 3/4" drain with individual control on side pump panel.

One (1)
FA-01-1000

PASSENGER SIDE DISCHARGE OUTLET

Each 2-1/2" discharge outlet on the passenger's side pump panel shall have a 2-1/2" quarter turn, swing-out valve with control on pump operator's panel. There shall be a chrome-plated 2-1/2" NST adapter that extends through the pump panel. Each discharge shall be provided with chrome-plated 30-degree discharge elbow.

One (1)
FA-01-1001

MANUAL VALVE

Discharge valve shall be swing-out type with manual control handle located on pump operator's panel.

One (1)
FA-01-1010

MANUAL DRAIN VALVE

The passenger's side 2-1/2" discharge outlet shall have a 3/4" drain with individual control on side pump panel.

One (1)
FA-01-1500

DRIVER SIDE REAR DISCHARGE OUTLET

There shall be one (1) 2-1/2" discharge outlet located on the driver's side rear of the body below the hosebed. The discharge outlet shall have a 2-1/2" quarter turn, swing-out valve with control on pump operator's panel. There shall be a chrome-plated 2-1/2" NST adapter that extends through the rear of the body. The discharge shall be provided with a chrome-plated 30-degree discharge elbow.

One (1)
FA-01-1501

MANUAL VALVE

Discharge valve shall be swing-out type with manual control handle located on pump operator's panel.

One (1)
FA-01-1510

MANUAL DRAIN VALVE

The driver's side rear 2-1/2" discharge outlet shall have a 3/4" drain with individual control on side pump panel.

Three (3)
FA-01-3220

2-1/2" CAPS AND CHAINS

The following discharge outlets shall be equipped with a 2-1/2" chrome-plated cap and chain.

One (1)
FA-01-4000

PASSENGER SIDE LDH OUTLET

One (1) LDH discharge outlet on the passenger's side pump panel. The discharge outlet shall be plumbed with 3" I.D. pipe and quarter turn, swing out valve with control on pump operator's panel. The valve shall have a slow close device. The discharge shall extend through the pump panel. The discharge outlet shall terminate with a 3" NST male connection.

One (1)
FA-01-4002

MANUAL VALVE WITH SLOW CLOSE

CLASS A PUMPER

Discharge valve shall be three-inch (3") swing out type, with slow close and manual control handle located on pump operator's panel.

One (1)
FA-01-4010

MANUAL DRAIN VALVE

The passenger's side LDH discharge outlet shall have a 3/4" drain with individual control on side pump panel.

Two (2)
FC-31-0100

1-3/4" CROSSLAY(S) ASSEMBLY ABOVE PUMP

Crosslay hosebed(s) shall be designed to carry 200 feet of 1-3/4" double jacket fire hose. Crosslay hosebed(s) shall be located above the fire pump. The floor of the crosslay hosebed(s) shall be perforated to allow for drainage. Polished stainless steel hose roller assemblies shall be provided at the sides and lower edges of the crosslay opening on each side of the apparatus body.

Crosslay discharge(s) shall be plumbed using rigid pipe or flexible high-pressure hose coupled with stainless steel fittings. The crosslay shall be provided with 2" brass valve, and a 2" 90 degree swivel adapter with 1-1/2" NST male outlet thread.

Two (2)
FC-31-0101

MANUAL VALVE

Each discharge valve shall be swing out type with manual control handle located on pump operator's panel.

Two (2)
FC-31-0108

MANUAL DRAIN VALVE

Each crosslay/speedlay shall have a 3/4" drain with individual control on side pump panel.

One (1)
FC-31-4200

CROSSLAY HOSEBED COVER

A .125 polished aluminum treadplate hinged cover shall be provided over the crosslay hosebed(s) complete with full length stainless steel piano hinge and with chrome plated lift handles provided on each side of the cover. Stops shall be provided to hold the cover in the open position or to protect cab or other adjacent body components. The hinge shall be located on the forward section of the cover, closest to the chassis cab.

One (1)
FF-26-8500

FOAM SYSTEM

The apparatus shall be equipped with a FoamPro #2002 fully automatic electronic direct injection foam proportioning system. The system shall be capable of Class A foam concentrates and most Class B foam concentrates. The proportioning operation shall be based on an accurate direct measurement of water flows with no water flow restriction. The proportioning system shall meet NFPA standards for foam proportioning systems and the design shall have passed testing against SAE automotive reliability standards appropriate for the application. The foam system shall be installed in accordance with the manufacturer's recommendations.

The system shall be equipped with a digital electronic control display. It shall be installed on the pump operator's panel and enable the pump operator to perform the following control and operation functions;

1. Activate the foam system.

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2. Change foam concentrate proportioning rates from 0.1% to 3% in 0.1% increments.
3. From discharges plumbed after the paddlewheel type flow meter: show current flow in gpm, show total volume of water pumped, show total amounts of foam concentrate used.
4. Provide simulated flow for manual operation.
5. Perform setup and diagnostic functions.
6. Flash a "low concentrate" warning for two minutes when the foam concentrate tank(s) run low of concentrate.
7. Flash "no concentrate" warning if foam concentrate tank was not changed or foam concentrate was not added to the low tank and shut down foam concentrate pump.

The display shall have the capabilities when using a Hypro-FoamPro manual or electronic dual tank switching system of the following additional functions;

1. Display which foam concentrate tank is selected (tank A: PA or tank B: PB)
2. Separate default setting for foam concentrate injection rate.
3. Total amount of foam concentrate used from selected tank.
4. Dual foam concentrate foam pump calibration.

The foam system shall have a 12-volt, 3/4-h.p. "TENV" electric motor designed for wet and high humidity environments, direct coupled to a positive displacement piston type foam pump with a rated capacity of .01 to 5.0 gpm with operating pressures up to 400 psi.

The foam injection system shall be plumbed to the onboard foam concentrate tank or tanks and to the discharge or discharges as specified.

The FoamPro system must be installed by a FoamPro Certified Dealer.

One (1)
FF-27-0100

SINGLE FOAM TANK PLUMBING SYSTEM

The foam tank shall be plumbed with three-quarter inch (3/4") valve and corrosion resistant hose from the foam tank to the foam inlet. There shall be a three-quarter inch (3/4") drain line furnished on the foam tank. Drain valve to be located on foam tank with corrosion resistant hose piped to below the frame level of the chassis.

One (1)
FF-27-2000

FOAM TANK

A 20-gallon foam concentrate tank shall be furnished as an integral component of the booster tank. The foam tank shall have a separate fill tower provided in a location to allow easy access for filling. Fill tower shall be equipped with a pressure/vacuum vent and have a sealed airtight cover. Tank shall be plumbed to the on board "Class A" foam system. A valved drain shall be provided at the lowest point of the foam tank. The drain shall be plumbed to drain directly to the surface below the apparatus without contacting other body or chassis components.

The following labels shall be attached to the foam tank:

CLASS A PUMPER

"CLASS A FOAM TANK FILL"

"WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM"

One (1)
FH-03-0100

TANK TO PUMP PLUMBING

A 3" Akron ball type gated suction valve shall be furnished from the tank to the pump, complete with a flexible connection and enclosed in the pump compartment.

A check valve shall be provided and installed in the line between the tank and the pump to prevent the possibility of backfilling the booster tank through the tank to pump suction line.

Tank suction shall be located in a sump assembly located below the bottom of the tank, properly baffled to prevent surging of water. A 3" cleanout plug shall be provided in the bottom of the tank sump.

One (1)
FH-03-6100

TANK FILL/COOLING LINE

A gated discharge line from the pressure side of the pump to the tank shall be furnished so the tank can be filled from draft or hydrant. Valve shall have control on the operator's panel. The valve is to be two-inch (2"), swing out type ball valve and be plumbed to tank with flexible type hose.

One (1)
FJ-00-0202

POLY BOOSTER TANK

The booster tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. All joints and seams shall be nitrogen welded and tested for maximum strength and integrity.

The transverse swash partitions shall be manufactured of polypropylene and extend from approximately 4" off the floor to just under the cover. The longitudinal swash partitions shall be constructed of polypropylene and extend from the floor of the tank through the cover to allow for positive welding and maximum integrity. 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 welded to each other as well as to the walls of the tank.

A forward mounted sump shall be provided in the tank. The sump shall be constructed of polypropylene and be located in the left front quarter of the tank. A polypropylene pipe shall be installed that will sweep from the front of the tank to the sump location. The sump shall have a 3" N.P.T. threaded coupling on the bottom for a plug. This shall be used as a combination clean out and tank drain. An anti-swirl plate shall be located above the sump.

There shall be two standard tank outlets; one for tank-to-pump suction lines, and one for a tank fill line. All tank couplings shall be backed with flow deflectors to break up the stream of water entering the tank.

The tank shall carry a lifetime warranty from its manufacturer.

One (1)
FJ-01-0208

FILL TOWER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of polypropylene and with a minimum dimension of 8" x 14" outer perimeter. The fill tower shall be located in the left front corner of the tank. The fill tower shall have a polypropylene screen and a polypropylene hinged cover. Inside the fill tower, shall be fastened a combination vent overflow pipe. The vent overflow

CLASS A PUMPER

shall be polypropylene pipe that is designed to run through the tank and shall be piped behind the rear wheels.

One (1)
FJ-01-3000

BOOSTER TANK

A 1000-gallon capacity polypropylene booster tank shall be provided.

One (1)
FJ-02-7600

HOT DIP GALVANIZED BOOSTER TANK SUBFRAME

The booster tank shall be mounted on a steel subframe. Steel subframe shall consist of two (2) longitudinal 3" x 4 pound channels and two (2) 3" x 4 pound channels welded together to form a tank retention cradle. The tank retention cradle shall prevent fore and aft, and side to side movement of the tank. Additional 3" x 4 pound transverse crossmember channels shall be installed to support the floor of the booster tank. The crossmembers shall have a maximum spacing of 20" for the polypropylene tanks. There shall be an additional full-length longitudinal member installed in the center of the tank support area. The booster tank shall rest on heavy rubber channels that isolate the polypropylene tank from the subframe.

The booster tank subframe shall be hot dip galvanized after fabrication.

One (1)
FK-01-1600

EXTRUDED ALUMINUM PUMP HOUSE STRUCTURE

The pump house structure shall be fabricated of extruded aluminum. The structure shall be welded together and have gusset plates on each corner. The pump house shall be mounted separate from the body and chassis and be bolted to the chassis frame rails.

The exposed areas of the pump house structure shall be over layed with polished aluminum treadplate.

One (1)
FK-02-0500

TOP MOUNTED OPERATOR'S CONTROL PANEL

All pump discharge controls are to be mounted above the fire pump at a top mounted operator's control panel to provide around-the-truck visibility.

Access to the top mounted control panel shall be provided from both sides of the truck with a large full width walkway ahead of the control panel.

Access handrails shall be 1-1/4" in diameter extruded aluminum with rubber inserts and chrome plated end brackets shall be provided and installed on each side, for easy access to the walkway.

The valve control levers shall be located on the lower portion and directly adjacent to one another and mounted in line so that they are in the same position when closed. Each valve control lever shall be connected directly to its respective valve by a "direct linkage" control system.

All of the controls shall be clearly identified with, color-coded, permanently engraved plate type identification labels.

A full control panel width polished light hood with a minimum of three (3) Weldon model 2025 light assemblies shall be provided to illuminate the entire top mount pump operator's control console.

Additional polished light hoods with a minimum of two (2) Weldon model 2025 light assemblies shall be provided to illuminate the right and left side pump panels. Lights shall be controlled by the operator's panel light switch.

CLASS A PUMPER

There shall be four rubber shock mounted lights furnished in the lower forward facing panel to illuminate the walkway.

GAUGE AND VALVE CONTROL PANELS

Engine gauges and master pump gauges shall be mounted on the upper incline plane of the gauge and valve control panel. Both the upper gauge panel and lower valve control panel to be full width and completely removable for access to the pump compartment. The valve controls and individual pressure gauges to be located on the lower flat surface of the valve control panel. All valves and control handles shall have removable escutcheons for easy valve service without removing the entire panel. All manually operated valve handles shall have twist to lock style controls.

One (1)
FK-02-2400

PUMP PANEL PUMP ENGAGEMENT LIGHT

One (1) light in the control panel light hood shall come on with a successful pump engagement. This shall be in addition to the "OK to Pump" light on the control panel.

One (1)
FK-02-2600

PUMP PANELS

The top mount pump operator's control console shall be constructed entirely of aluminum, and be coated with black thermo-plastic material.

One (1)
FK-02-3600

RIGHT AND LEFT SIDE PANEL MATERIAL

The right and left side pump panels shall be constructed entirely of aluminum, and be coated with black thermo-plastic material. The panels are to be completely "bolted" in place for ease of removal.

One (1)
FK-02-4100

PUMP COMPARTMENT SIDE ACCESS DOORS

The side pump panels shall be provided with a full panel width vertically hinged access doors located in the upper portion of the side panel. The doors shall be approximately 18" high and as wide as possible, and shall be constructed of polished aluminum treadplate. Two (2) flush mounted, push type latches shall be furnished to hold the door closed. The inspection door shall be attached with a stainless steel hinged and have a retainer cable attached to prevent the door from opening too far.

One (1)
FK-02-6300

PUMP COMPARTMENT ACCESS DOOR

A full width removable access panel constructed of .125 aluminum treadplate material is to be provided at the front of the pump compartment. The access panel is to be flush mounted in the forward wall of the pump compartment. The door shall have a bent "D"-ring type handle with dual locking pins on each side.

One (1)
FK-10-0010

PUMP OPERATORS PANEL

The following equipment shall be installed on the pump operator's panel.

One (1)
FK-10-0300

APPARATUS MONITORING SYSTEM

The Fire Research **INControl** pressure governor and all-in-one instrument panel uses state of the art programmable microprocessor technology. It will maintain a steady pump discharge pressure by controlling engine speed or hold a selected engine RPM. It offers complete engine control and remote

CLASS A PUMPER

display in a single compact unit. The **INControl** operates in one of two modes, pressure or RPM. In pressure mode the **INControl** maintains a constant pump discharge pressure. The discharge pressure is monitored and compared to the selected pressure setting, the engine RPM is varied to keep the discharge pressure at the selected setting. In RPM mode the **INControl** maintains a constant engine RPM. The pump discharge pressure is monitored and can vary but, as a safety feature it will be limited to an increase of 30 PSI. If the discharge pressure increases 30 PSI the governor will automatically lower the engine RPM to prevent a high pressure surge. The panel has three 4-digit LED displays for pump discharge, pump intake, and engine RPM. The LEDs are more than 1/2" high. There is an LED bar graph to show PSI or RPM setting depending on the mode, and three LED bar graphs that provide a constant display of the battery voltage, engine coolant temperature, and engine oil pressure.

All controls and indicators are located on the front of the control module.

Features:

- Power Up in Pressure Mode
- Automatic Regulation of Pump Discharge Pressure
- Manual Control of Pressure or Engine RPM Settings
- Field Programmable Presets
- Diagnostic Capabilities
- No Pressure or RPM Variation When Changing Modes
- Limits Increase of Pressure When in RPM Mode
- Recognition of No Water Condition With Automatic Response
- Interlock Signal Recognition and OK To Pump LED
- Return to Engine Idle With the Push of a Button

The monitoring system shall be furnished, installed and tested by the apparatus body builder.

One (1)
FK-10-2700

PRESSURE GAUGES

Class One #LFP220, 2-1/2" diameter liquid filled pressure gauges shall be provided. The gauges are to have white faces with black lettering. The gauges shall read -30 to 600 lbs. Line pressure gauges shall be individually identified with engraved labels.

Individual line pressure gauges are to be mounted adjacent to the corresponding discharge valve control.

Two (2)
FK-10-2900

There shall be one (1) pressure gauge for each 1-1/2" discharge outlet.

Three (3)
FK-10-3000

There shall be one (1) pressure gauge for each 2-1/2" discharge outlet.

One (1)
FK-10-3200

There shall be one (1) pressure gauge for each large diameter discharge outlet.

One (1)
FK-10-4900

CAB MOUNTED PRESSURE GAUGE

A 2-1/2" Class I pressure gauge shall be mounted within the truck cab, within easy view of the driver, to monitor the pump pressure for Pump-And-Roll operation.

One (1)
FK-12-5200

PUMP PANEL IDENTIFICATION LABELS

CLASS A PUMPER

All discharges shall be provided with color-coded labels. Identification labels shall be provided at the discharge control, the discharge outlet, and at the discharge drain valve control, color-coded according to NFPA recommended standards.

One (1)
FK-12-7100

PUMP PANEL WATER TANK LEVEL GAUGE

A Class One ITF Intelli-tank water tank level gauge shall be provided on the pump operator's panel. The Intelli-tank display features wide angle viewing and four (4) ultra-bright LED's for high visibility, even in direct sunlight. The Intelli-tank utilizes a pressure transducer, ILO of probes, to provide nine (9) accurate levels of indication.

One (1)
FK-12-9200

PUMP PANEL FOAM TANK LEVEL GAUGE

A Class One ITF Intelli-tank foam tank level gauge shall be provided on the pump operator's panel. The Intelli-tank display features wide angle viewing and ultra-bright LED's for high visibility, even in direct sunlight. The Intelli-tank utilizes a pressure transducer, ILO of probes, to provide nine (9) accurate levels of indication.

One (1)
FK-13-1500

UL TEST CONNECTIONS

A pump pressure and vacuum test block assembly shall be provided and mounted at the pump operator's control panel. The test block assembly shall include plug type caps.

One (1)
FK-13-2800

PUMP PANEL MOUNTED TRANSMISSION TEMPERATURE GAUGE

A transmission temperature gauge shall be installed at the pump operator's position to show temperature of the chassis transmission oil.

One (1)
HA-00-0200

HOSEBODY

The apparatus hosebody is to be properly reinforced without the use of angles or structural shapes, and free from all projections that might injure the fire hose.

The main apparatus hosebody shall run the full length of the apparatus body from behind the pump panel area to the rear face of the body.

The upper rear interior of the beavertail extrusions on the right and left side shall be overlaid with brushed stainless steel to protect the painted surface from damage by hose couplings

One (1)
HA-00-0320

HOSEBED CAPACITY

The hosebed will be configured to be 55 cubic feet, unless the desired hoseload requires more area.

The hosebed shall hold the following:

One (1)
HA-00-0400

HOSEBED FLOORING

CLASS A PUMPER

Floors of the hosebeds are to be provided with removable slat style extruded aluminum hosebed gratings, spaced 1/2" apart for proper hose ventilation. Hosebed gratings are easily lifted out of the main hosebed for access to the top of the specified booster water tank.

One (1)
HD-00-1000

LADDER RACK, LADDERS AND PIKE POLES

An electric ladder rack shall be installed on the right side of the apparatus body, to carry the ladders in a horizontal position above the side compartments. Each electric cylinder shall be 12-volt operated and installed in an area that provides proper protection of the electric components.

Ladder rack shall be of the dual pivot arm design with stabilizing arms at the front and rear. Ladder rack assembly shall be located on the right side of the body, above the compartment area. There shall be an air operated safety lock provided with control switch on the right side pump operators panel. The ladder rack actuator control switch shall be weatherproof type and located on the right side pump panel in full view of the rack. A safety interlock will be supplied to prevent operation of the rack when the upper compartment doors are open.

Flashing lights facing front and rear shall be installed on the rack and shall be illuminated whenever the rack is in the lowered position. The outward side of the equipment rack that protrudes beyond the body of the apparatus shall be striped or painted with reflective material.

Cast aluminum ladder brackets with chrome plated quick release type mounting clamps shall be provided which hold the ladders to the pivot arm assembly.

A red warning light shall be provided and mounted in the cab to warn the driver when ladder rack is not in the stowed position.

One (1)
HD-00-2520

GROUND LADDERS FURNISHED BY PURCHASER

The purchaser shall furnish the ground ladders.

One (1)
KB-02-0200

ALUMINUM BODY

The body shall be fabricated of aluminum extrusions, smooth aluminum sheet and aluminum treadplate.

The aluminum extrusion alloy shall be 6061 with a temper rating of T6, and have a tensile strength of 45,000 PSI and yield strength of 40,000 pounds. The aluminum extrusions shall 3" x 3" aluminum tubing and specially designed extrusions where applicable.

The smooth aluminum sheet material alloy shall be 5052 with a temper rating of H32, and have a tensile strength of 33,000 PSI and yield strength of 28,000 pounds.

The aluminum treadplate alloy shall be 3003 with a temper rating of H22, and have a tensile strength of 30,000 PSI and yield strength of 28,000 pounds.

The extrusions shall be designed as structural-framing members with the smooth aluminum and treadplate fabricated to form compartments, hosebeds, and floors. All aluminum material shall be welded together using the latest mig spray pulse arc welding system.

Compartments to be sweepout design and to be water and dust proof. All compartments shall be made to the maximum practical dimensions to provide maximum storage capacity.

CLASS A PUMPER

All exterior compartments shall have polished aluminum drip moldings installed above the doors where necessary to prevent water from entering the compartments.

Wheel well panels shall be double break formed smooth aluminum that is welded in place. There shall be no visible bolt heads, retention nuts or fasteners on the exterior surface of the panel. To fully protect the wheel well area from road debris and to aid in cleaning, a full depth radius wheel well liner shall be provided. The frame side of the wheel well area on each side of the opening shall be attached to the frame side of the front and rear compartments. All seams on the frame side of the body shall be welded and caulked to prevent moisture from entering the compartments.

The rear wheel wells shall be radius cut for a streamlined appearance. A polished aluminum fenderette shall be furnished at each rear wheel well opening, held in place with stainless steel fasteners.

FASTENERS

All aluminum and stainless steel components shall be attached using stainless steel fasteners.

Compartment door hinges, handrails and running boards shall be attached using minimum 1/4" diameter machine bolt fasteners.

3/16" diameter fasteners shall only be used in nonstructural areas such as; door handles, trim moldings, gauge mounting, etc.

One (1)
KB-02-0300

CS 1/8" ALUMINUM BODY

The aluminum sheet material used in fabricating the body shall be a minimum of .125 (1/8") in thickness.

One (1)
KB-02-0410

COMPARTMENT FLOORS

The compartment floors shall be constructed of aluminum treadplate material.

One (1)
KB-10-0200

BODY DIMENSIONS

Apparatus body shall be up to 144" long and 102" wide, reference the drawing for actual body length. Body compartments shall be divided into upper and lower areas with the upper area approximately sixteen-inches in depth, and the lower area approximately twenty-six inches in depth. The hose bed shall be 68" wide.

One (1)
KK-01-1000

APPARATUS BODY SUB-FRAME

The apparatus body subframe shall be constructed entirely of heavy steel structural channel material.

Two full frame lengths, three-inch (3") 4 pound per foot longitudinal steel channels shall form the sides of the body subframe and sides of the water tank cradle. Subframe crossmembers shall be fabricated with three inch (3") 4 pound per foot heavy steel channel cross members welded to the longitudinal body subframe sides and the full length frame pads.

Two full frame length 1/2" x 3" flat steel frame pads shall be attached to the body subframe and rest on top of the chassis frame rails for proper frame weight distribution.

The steel frame pads, longitudinal steel channels and subframe crossmembers shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the subframe and body assembly

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from the chassis. There shall be a barrier provided between the subframe and body to prevent electrolysis.

The rear subframe and lower body platform support members shall be of the "two piece" design, fabricated of 4.3 lb. Per foot heavy channel and welded to the full length subframe channel liners at the rear.

A minimum of two rear platform support channels shall be provided and constructed of 4.3 lb. Per foot heavy steel material. Each support channel shall have welded in gusset where the support meets the rear subframe rails.

After fabrication the entire subframe assembly shall be hot dip galvanized to prevent corrosion. The hot dip galvanized subframe shall have a lifetime warranty.

One (1)
KK-02-0500

BODY AND PUMP HOUSE FLEX JOINT

When equipped with a fire pump, the body and pump house shall be a separate freestanding component forming a true flex joint between the body and pump house. The intent is to allow either to be easily removed as a single unit without disturbing the other and to provide a flex joint between the two modules. Designs where the pump house and body are interjoined as a common unit do not meet the technical requirement of providing a flex joint or the repairability requirement of these specifications.

One (1)
KK-02-0652

WHEEL WELL LINER AND FENDERETTES

For ease of accessibility and maintenance, wheel well panels shall be double break formed painted smooth plate that is welded in place.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 25") radius wheel well liner shall be provided. Wheel well liner shall be smooth aluminum to prevent corrosion.

The rear wheel wells shall be radius cut for a streamlined appearance. A polished aluminum fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless steel fasteners.

One (1)
KK-02-3700

REAR TOW EYES

There shall be two tow eyes furnished under the rear of the body and attached directly to each chassis frame rail. There shall be a reinforcement spreader bar connecting the two tow eyes. Tow eyes are to be constructed of 3/8" plate steel with a 4" I.D. hole, large enough for passing through a tow chain end hook.

One (1)
KK-03-0050

APPARATUS COMPARTMENTATION

There shall be large enclosed compartments on both sides of the body, starting at the front of the hosebody and continuing to the rear of the apparatus. These compartments shall be as large as possible, using all available space.

The aluminum treadplate compartmentation tops on each side of the body shall be extended out and downwards a minimum of .50" over the compartment doors forming a drip rail. Corners shall be TIG welded.

Lower or rear face compartments, if specified shall be provided with polished aluminum drip rails.

One (1)

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KK-03-0070

SIDE BODY COMPARTMENT ROLL-UP DOOR CONSTRUCTION

Exterior side equipment compartments so specified shall be equipped with roll-up shutter doors to be installed as specified herein.

The drum assembly shall be fully enclosed and protected from the elements. Pendant plates supporting the door roll assembly shall be bolted in place, adjustable and capable of being removed with common hand tools. Pendant plates and supports that are welded in place do not meet the maintenance and service criteria of these specifications.

One (1)
KK-03-0071

NATURAL FINISH ROLL UP DOORS

The roll-up doors on each side of the apparatus body shall be natural finish aluminum.

One (1)
KK-03-0080

ROLL UP DOORS

R.O.M. Robinson brand extruded aluminum shutter style doors with lift bar latch mechanisms and associated hardware shall be provided and installed as specified.

One (1)
KK-03-6200

DRIVER SIDE COMPARTMENTS

Three body compartments shall be furnished as follows:

- One compartment ahead of the rear wheels with full height roll-up door.
- One compartment above rear wheels with roll-up door.
- One compartment behind the rear wheels with full height roll-up door.

One (1)
KK-04-6200

PASSENGER SIDE COMPARTMENTS

Three body compartments shall be furnished as follows:

- One compartment ahead of the rear wheels with full height roll-up door.
- One compartment above rear wheels with roll-up door.
- One compartment behind the rear wheels with full height roll-up door.

One (1)
KK-50-0640

REAR BODY CONFIGURATION

Rear apparatus body compartments shall be as follows:

There shall be one compartment with full height roll-up door.

One (1)
KK-50-4100

REAR BEAVER TAIL

There shall be a beaver tail on the rear of the body. The beaver tail shall angle down from the top of the hose bed to the rear step area. Polished aluminum tread bright shall be installed on the inside of the beaver tail.

Two (2)
KM-50-0100

DRIVER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL

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SCBA storage compartment shall be provided and located in the driver side rear wheelwell of the apparatus body. Compartment door and frame shall be constructed entirely of cast aluminum and have hinged style door. The compartment bottom and rear wall shall be lined with rubber material to protect paint finish of the air cylinder.

Two (2)
KM-50-0250

PASSENGER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL

SCBA storage compartment shall be provided and located in the passenger side rear wheelwell of the apparatus body. Compartment door and frame shall be constructed entirely of cast aluminum and have hinged style door. The compartment bottom and rear wall shall be lined with rubber material to protect paint finish of the air cylinder.

One (1)
KR-01-0100

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the right and left body sides and in the pump panel area. The rub rails shall extend outward beyond the body sides for protection of the compartments and doors. There shall be a bolt on aluminum corner casting on each rear corner to blend the rear tailboard assembly with the side rub rails.

The side rub rails shall be a heavy extruded aluminum "C" channel.

One (1)
KR-04-0002

SIDE AND REAR OVERLAYS

Overlay panels shall be constructed of 3003 polished aluminum treadplate. Polished aluminum overlay shall be provided and installed in the following areas:

- The front face of each side compartment.
- The rear body face and vertical area above tailboard and below hosebed.
- Drivers side and passenger compartment top extending down over side to the compartment doors then forming a drip rail above doors.
- Front face of hose bed above booster tank.

Overlay shall be installed with "Aluminized" stainless steel bolts to prevent corrosion.

One (1)
KR-04-3000

SLIP-RESISTANT WALKWAY SURFACE

All exterior surfaces designated as stepping, standing, and walking areas shall have an aluminum slip-resistant overlay material installed. The slip-resistant overlay material shall have a raised serrated surface that will allow moisture to drain out either side. The recessed surface shall be one piece solid material to prevent road spray and debris from entering the top surface from below. The slip-resistant overlay material shall meet the requirements of NFPA 13-7.3. The slip-resistant surface shall be installed in the following areas of the apparatus body:

Step areas of the side running boards.
Rear step running board step.
Walkway and standing platforms

One (1)
KR-04-4902

REAR STEP/RUNNING BOARDS

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The apparatus body running boards and rear step shall be constructed with slip-resistant surface and shall have bright aluminum treadplate trim around the outside edges. Side running boards and rear step shall be removable for ease of service in case of damage.

One (1)
KR-04-4908

REAR STEP/TAILBOARD

A single piece .188 rear step/tailboard shall be furnished that is a minimum of 12.00" deep and full width of the apparatus body, from rub rail to rubrail. The tailboard shall be provided with a removable casting on each corner for a pleasing appearance.

One (1)
KR-10-0000

HANDRAILS

Access handrails shall be 1 1/4" in diameter extruded aluminum with rubber insert. Access rail escutcheons and brackets shall be chrome plated and attached with stainless steel bolts. Anchoring of posts and framing members for railings of all types shall be of such construction that the completed railing structure shall be capable of withstanding a load of at least 225 pounds applied in any direction at any point along the rail.

One (1)
KR-10-0100

REAR HANDRAILS

Two (2) vertical access handrails shall be provided and mounted on the rear of the apparatus body, one on each side. Each rear handrail to be approximately 48" long.

One (1)
KR-10-0400

HANDRAILS

A full width access rail is to be provided and installed across the rear face of the apparatus body, below the hosebed level above the rear compartment doors.

One (1)
KS-01-2000

REAR CAST ALUMINUM STEPS

Four (4) NFPA approved cast aluminum steps shall be provided and mounted on the rear of the apparatus, two on each side. All access steps shall have a minimum surface area of 35-square inches, and have a slip-resistant standing surface. The step shall be capable of supporting a 500-lb. load.

One (1)
NA-00-0010

ELECTRICAL

Electrical wiring, hydraulic lines, air system tubing, and control cables shall be fastened to the frame or body structure of the apparatus and shall be furnished with protective looms, grommets, or other devices, so that any such connector and/or wiring will be protected from shear or tear.

The body 12-Volt electrical system shall be designed specifically for the apparatus body. Automatic reset circuit breakers shall be provided and installed in all circuits.

Wiring data shall be provided with the completed apparatus.

The following electrical equipment and lights shall be provided and installed:

One (1)
NA-00-0080

WIRING SYSTEM

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All electrical wiring shall be 14-gauge heavy strand copper with type GXL crosslink high temperature insulation, being circuit function printed every three-inches along its entire length.

Wiring data shall be provided with the completed apparatus.

The following electrical equipment and lights shall be provided and installed:

One (1)
NA-00-0110

REAR DOT LIGHT PACKAGE

A Weldon #3884 LED tri-cluster light package with bezel shall be supplied on the apparatus. The package shall include the following stop/tail, directional and backup lights.

One (1)
NA-00-1200

TAIL & STOP LIGHTS

Two (2) Weldon #3884 LED rectangular red stop/tail lights shall be provided and mounted at the rear of the body, one on each side.

One (1)
NA-00-2700

DIRECTIONAL LIGHTS

Two (2) Weldon #3884 LED rectangular amber directional signal lights with black arrows shall be provided and mounted at the rear of the body, one on each side below the stop/tail lights.

One (1)
NA-00-4200

BACKUP LIGHTS

Two (2) Weldon #3884 LED rectangular clear backup lights shall be provided and mounted, one on each side at the rear of the body. The backup lights shall be mounted below the rear stop/tail and directional lights.

One (1)
NA-00-5300

CLEARANCE LIGHTS

There shall be clearance marker lights installed meeting all DOT requirements. The vehicle clearance lights shall be recess mounted within the rear center tailboard step.

One (1)
NA-00-5400

LICENSE PLATE BRACKET

A license plate mounting bracket shall be provided complete with a chrome-plated shielded indirect type light. Bracket shall be mounted at the rear of the apparatus body.

One (1)
NA-00-5600

BACKUP ALARM

An automatic, electronic reverse alarm shall be provided and installed. An alarm shall activate whenever the reverse gear is selected in the transmission.

Seven (7)
NA-01-1010

COMPARTMENT LIGHTING

All side and rear exterior equipment compartments shall be provided with one (1) clear compartment light mounted to the side walls of the compartment. Compartment lights shall switch on automatically when the compartment door is opened and switch off when the door is closed.

One (1)
NA-01-3000

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OPEN COMPARTMENT/HAZARD WARNING LIGHT

A red flashing, warning light shall be provided and installed in the driver's compartment to indicate an open passenger or apparatus compartment door. The hazard light shall also be attached to folding equipment racks and light towers as specified. Light shall be properly marked and identified.

One (1)
NB-02-5200

BATTERY DISCONNECT SWITCH

A master battery on/off switch shall be provided and mounted in a convenient location to the driver. The master battery switch shall disconnect the batteries from all chassis and body accessories.

One (1)
NB-02-9100

A "Battery-On" pilot light shall be provided, visible to the driver.

DASH MOUNTED EMERGENCY ELECTRICAL SWITCH PANEL

An electrical switch panel shall be designed and mounted in the cab dash area. All switches shall be provided with backlighted snap-in legend inserts.

SWITCHES

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be provided and installed adjacent to each rocker switch with backlighting provided behind the label.

An internally lighted "master" switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights.

One (1)
NB-10-5000

REAR STEP LIGHTS

Two (2) chrome plated lights shall be furnished and installed on the rear face of the body to illuminate the rear step area. Lights shall be wired to the panel light switch at the pump operator's panel.

One (1)
NB-10-5400

ENGINE COMPARTMENT WORK LIGHT

An engine compartment work light shall be provided complete with a switch mounted on the light head.

One (1)
NB-10-5600

PUMP COMPARTMENT WORK LIGHT

A pump compartment work light shall be provided and installed within the pump compartment area complete with a switch mounted on the light head.

One (1)
NB-10-6100

UNDER CAB LIGHTING

There shall be four (4) lights furnished below the chassis cab, one on each side below each door. The lights shall be wired to switch on and off automatically when the cab doors are opened.

One (1)
NB-10-6800

UNDER BODY LIGHTING

There shall be two (2) lights furnished below the pump house running board, one on each side. The lights shall be wired to turn on and off with a switch located on the pump operator's panel.

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One (1)
NB-10-6900

UNDER BODY LIGHTING REAR STEP

There shall be two (2) lights furnished below the rear step, one on each side. The lights shall be wired to turn on and off with a switch located on the pump operator's panel.

One (1)
NB-30-0200

REAR DECK LIGHTS

Two (2) Unity #AG series, chrome-plated, six-inch rear mounted lights with swivel type mounting bracket and individual switches shall be provided.

One light shall be a **35-watt 75,000 candlepower spot** lamp, and one light shall be a **35-watt 1,100 candlepower flood** lamp.

One (1)
NC-03-2000

ELECTRONIC SIREN

A Code 3 Model 3692 V-CON, 200-watt electronic siren with Hi-Lo and hardwired microphone shall be provided and mounted in the cab.

One (1)
NC-03-5000

SPEAKER

Cast Products Model GS1004, 100-watt speaker shall be provided and recess mounted in the front bumper of the chassis. The speaker shall be connected to the electronic siren control unit.

One (1)
NE-04-0950

EMERGENCY LIGHTING

The upper and lower zones "A", "B", "C", "D" of the apparatus shall have the following emergency lighting equipment:

One (1)
NE-05-2105

Lower Zones "A", "B", "C", "D" Emergency Lighting

One (1)
NJ-01-0400

LIGHT BAR

One (1) Weldon model 33902-7408-00 72" light bar mounted on chassis cab roof to meet the NFPA upper zone A lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console. The light bar shall be a 10-lamp straight LED bar.

One (1)
NJ-01-1400

REAR LIGHTS

Six (6) Weldon model 4672-1000-10 LED lights mounted on the upper corners of the body to meet the NFPA Zone B, C, D upper level lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console. There shall be two (2) on rear, and two (2) on each side of the body.

One (1)
NJ-01-2400

FRONT LIGHTS

There shall be two (2) Weldon model 3872-1000-10 flush mounted LED lights furnished on the front grill to meet the NFPA Zone A lower level lighting requirement. The LED lights shall be connected to a

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controller and be activated through the master emergency light switch located on the electrical console. Each light shall have a red lens.

One (1)
NJ-01-5200

ZONE B & D LOWER LEVEL SIDE LIGHTS

There shall be three (3) Weldon model 3872-1000-10 red LED lights furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. One LED light mounted as far forward as possible, one LED light mounted as far to the rear as possible, and one LED light mounted between the front and rear lights. The LED lights shall be connected to a solid state controller and be activated through the master emergency light switch located on the electrical console.

One (1)
NJ-01-6300

ZONE C LOWER LEVEL REAR LIGHTS

There shall be two (2) Weldon model 3872-1000-10 red LED lights furnished on the rear of the apparatus body to meet the NFPA Zone C lower level lighting requirement. The LED lights shall be connected to a solid state controller and be activated through the master emergency light switch located on the electrical console.

One (1)
NS-00-0100

12 VOLT ELECTRICAL CERTIFICATION

The low voltage electrical system shall be tested and certified per NFPA 1901 requirements.

A certificate of compliance shall be provided with the completed vehicle upon delivery.

Minimum electrical load consists of the total amperage required to simultaneously operate the following in a stationary mode at the incident scene.

- The propulsion engine and transmission.
- All Clearance and marker lights.
- The communication radio. (Default of 5.0 amps used for testing).
- Illumination of all walking surfaces, the ground at all egress points, controls and instrument panels and 50% of the total compartment lighting load.
- Minimum warning lights required for "Blocking Right of Way" mode.
- The current to simultaneously operate any fire pump, aerial device & hydraulic pumps.
- Anything defined by the purchaser to be critical to the mission of the apparatus.

The first test for the electrical system is the **Reserve Capacity Test**. All the above listed components operate with the engine shut off. After 10 minutes all electrical loads are shut off and the battery system must have adequate reserve power to start the engine.

The second test is the **Alternator Performance Test at Idle**. All the above listed components operate with the engine at an idle. There can be no current draw from the batteries of the apparatus.

The third test is the **Alternator Performance Test at Full Load**. All electrical components shall be activated with the engine operating at governed RPM for two hours. During the test the system voltage can not drop below 11.7-volts or have excessive battery discharge for more than 120 seconds. Any loads not listed in the minimum electrical load may be load managed in order to pass the test.

All of the above tests must be conducted with the engine compartment at approximately 200 degrees.

One (1)
PA-01-0002

PAINTING

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All bright metal fittings if unavailable in stainless steel shall be heavily chrome-plated. Iron fittings shall be copper plated prior to chrome plating.

All seams shall be caulked both inside and along the exterior edges with an automotive sealant to prevent moisture from entering between any body panels.

The body and all parts shall be thoroughly washed with grease cutting solvents prior to any sanding. After the body has been sanded and the minor imperfections filled and sanded, the body shall be washed again with a solution to remove any contaminants on the surface. The first coating to be applied is a self-etching primer for maximum adhesion to the body metal. The next three coats shall be an acrylic, urethane, primer surfacer. The primer surfacer coat is to be hand sanded with 600-grit sandpaper to insure maximum gloss of the paint. The last step is the application of at least three coats of Concept Acrylic Urethane two component color.

The fire pump and all rigid discharge and suction plumbing shall be painted silver in color.

While constructing the truck body, all aluminum parts shall be properly fitted on the body. The backside of all aluminum parts shall be sanded smooth of any burrs and sharp edges.

All aluminum parts shall be bolted to the body using stainless steel fasteners. Cadmium plated fasteners are not acceptable.

During reassembly of the apparatus, care shall be exercised in fitting and fastening the parts back in their respective position on the vehicle.

Seven (7)
PA-01-0010

NATURAL FINISH ROLL UP DOORS

The roll-up doors on each side of the apparatus body shall be a natural finish aluminum.

One (1)
PA-01-0200

UNDERCOATING

The body subframe shall be undercoated with a heavy-duty automotive type undercoating before the rubber backing and the compartments are attached. After the body has been attached to the subframe and all final items have been installed the entire body assembly shall be undercoated

One (1)
PA-01-1500

INTERIOR COMPARTMENT FINISH

The interior vertical walls of the apparatus compartments shall have a natural smooth finish.

One (1)
PA-01-3500

WHEEL PAINTING

The exterior faces of the front and rear wheels, shall be finished painted to match the apparatus body. Wheels shall be properly prepared and finished with primer coats and topcoats as specified.

The outer two-inches of each outside wheel rim shall be painted Silver in color, unless otherwise specified.

One (1)
PA-01-4500

PAINT BODY TO MATCH CHASSIS

The apparatus body to be painted to match the chassis.

One (1)

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PA-02-1900

LETTERING

Lettering shall be supplied by purchaser.

One (1)
PA-02-4010

REFLECTIVE SAFETY STRIPE

A 4" wide 3M brand Scotchlite #680-10 reflective stripe shall be affixed to the perimeter of the vehicle. Striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear, and at least 40% of the perimeter width of the front of the vehicle shall have reflective stripe.

The side stripe shall be applied straight across the body.

The stripe shall be white in color.

One (1)
PC-00-0100

IDENTIFICATION & SAFETY LABELS

A permanent plate shall be installed in the driver's compartment to specify the quantity and type of the following fluids in the vehicle:

1. Engine oil.
2. Engine coolant.
3. Transmission fluid.
4. Pump Transmission Lubrication Fluid.
5. Pump Primer Fluid (If applicable).
6. Drive Axle Lubrication Fluid.
7. Air-conditioning refrigerant.
8. Air-conditioning lubrication oil.
9. Power steering fluid.
10. Transfer case fluid.
11. Equipment rack fluid.
12. Air compressor system lubricant.
13. Generator system lubricant.

When trucks have been UL certified, a permanent plate with pump performance data and serial numbers shall be installed on the pump panel.

A permanent plate shall be installed in the driver's compartment specifying the maximum number of personnel the vehicle is designed to carry per NFPA standards. It shall be located in an area visible to the driver.

An accident prevention sign stating "DANGER PERSONNEL MUST BE SEATED AND SEAT BELTS MUST BE FASTENED WHILE VEHICLE IS IN MOTION OR DEATH OR SERIOUS INJURY MAY RESULT". The warning sign shall be placed so it is visible from all seating positions.

An accident prevention sign stating "DANGER DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION, DEATH OR SERIOUS INJURY MAY RESULT". The warning sign shall be placed so it is visible from the rear step of the vehicle.

If an inlet located at the pump operator's position is valved, it shall be provided with a permanent label that states "WARNING SERIOUS INJURY Or DEATH COULD OCCUR IF INLET IS SUPPLIED BY A PRESSURIZED SOURCE WHEN THE VALVE IS CLOSED".

One (1)
TA-01-0100

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OPERATION / SERVICE MANUALS

The manufacturer shall provide with the vehicle upon delivery, one (1) complete delivery manual. These manuals shall be in a notebook type binder, with reference tabs for each section of the vehicle. Within each section shall be:

1. Individual component manufacturer instruction and parts manuals.
2. Warranty forms for body.
3. Warranty forms for all major components.
4. Warranty instructions and format to be used in compliance to warranty obligations.
5. Wiring diagrams.
6. Installation instructions and drawings for major parts.
7. Visual graphics, electronic photos of installations of major parts.
8. Necessary normal routine service forms, publications and components of body portion of the apparatus.
9. Technical publications on training and instructions for major body components.
10. Warning and safety related notices for personnel protection.
11. Cab and chassis manuals on parts, service and maintenance shall be provided.
12. UL Pump Certification sheets, including the Manufacturer's Record of Apparatus construction details.
13. Certificate of Compliance to Electrical Warning System Low Voltage test.
14. Line Voltage Electrical System test certificate.
15. Water tank capacity certificate.

One (1)
VA-00-0000

ADDITIONAL EQUIPMENT

The following equipment shall be furnished by the apparatus body builder.