

## Fall River Mills F.P.D., CA

One (1)

Y\_\_N\_\_

### CHASSIS

A chassis shall be furnished per the attached specifications.

### CAB AND CHASSIS SPECIFICATIONS

<b>APPLICATION:</b>	2005 International 7400 SBA 4x4
<b>MISSION:</b>	Requested GVWR: 35000. Calc. GVWR: 35000 Calc. Strt/Grade Ability: 46% / 3.31% @ 55 MPH Calc. Geared Speed: 72.6 MPH
<b>FUEL ECONOMY:</b>	8.19 MPG @ 55 MPH
<b>DIMENSION:</b>	Wheelbase: 181", CA: 62.1", Usable CA: 63"
<b>ENGINE, DIESEL:</b>	(International DT570 Standard Torque) Electro Hydraulic Fuel System, 50 State, 330 HP, 950 lb-ft. Torque @ 1200 RPM, 2200 RPM Governed Speed, #2 Bell Housing
<b>TRANSMISSION, AUTOMATIC:</b>	Allison 3500EVS_P) Wide Ratio, 5-Speed; Includes Oil Level Sensor, With Provision for PTO, Less Retarder
<b>CLUTCH:</b>	Omit Item (Clutch & Control)
<b>AXLE, FRONT DRIVING TYPE:</b>	(Meritor MX-12-120) Single Reduction, 12,000-lb. Capacity
<b>AXLE, REAR, SINGLE:</b>	(Meritor RS-23-161) Single Reduction 23,000-lb Capacity with 200 Wheel Ends Gear Ratio: 4.89
<b>CAB:</b>	Conventional Steel; 6-Man Crew Cab
<b>TIRE, FRONT:</b>	(2) 11R22.5 G328 (GOODYEAR) 499 rev/mile, load range G, 14 ply
<b>TIRE, REAR:</b>	(4) 11R22.5 G328 (GOODYEAR) 499 rev/mile, load range H, 16 ply
<b>SUPENSION, RR SPRING, SINGLE:</b>	Vari-Rate; 23,500-lb Capacity, includes 4500-lb. Multileaf Auxiliary

### Description

Base Chassis, Model 7400 SFA 4X4 with 181" Wheelbase, 62" CA, 62" Usable CA

TOW HOOK FRONT (2) Frame Mounted.

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FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.250" x 3.160" x 0.375" (260.4mm x 91.7mm x 9.5mm); 456.0" (11582mm) Maximum OAL

BUMPER, FRONT full Width, Aerodynamic, Chrome Plated Steel; 0.189" Material Thickness

AXLE, FRONT DRIVING TYPE (Meritor MX-12-120) Single Reduction 12,000-lb Capacity

Includes

: DRAIN PLUG, DRIVING FRONT AXLE Magnetic

AXLE, FRONT DRIVING, LUBE (EmGard 75W-90) Synthetic Oil; 1 thru 29.99 Pints

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 Through Air Cleaner

: BRAKE CHAMBERS, SPRING (2) Rear Parking

: BRAKE LINES Color Coded Nylon

: DUST SHIELDS, REAR BRAKE

: DUST SHIELDS, FRONT BRAKE

: SLACK ADJUSTERS, FRONT Automatic

: SLACK ADJUSTERS, REAR Automatic

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

: 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) with Automatic Traction Control

AIR DRYER {Bendix AD-IP} Mounted in Standard Location

BRAKES, FRONT, AIR CAM S-Cam; 16.5" x 5.0", Includes 20 Sq. In. MGM Long Stroke Brake Chambers

BRAKES, REAR, AIR CAM 16.5" x 7.0", Includes MGM TR3030 Long Stroke Brake Chamber and Heavy duty Spring Actuated Parking Brake

AIR COMPRESSOR {Bendix Tu-Flo 550} 13.2 CFM

STEERING COLUMN Tilting

## Fall River Mills F.P.D., CA

STEERING WHEEL 2-Spoke, 18" Diam, Black

STEERING GEAR {Sheppard M-100} Power

EXHAUST SYSTEM Single, Stainless Steel Horizontal Muffler with Catalytic Converter, Aluminized Steel Short Tail Pipe, Frame Mounted Left Side Outside of Rail.

ENGINE EXHAUST BRAKE, DLOGIC {Diamond Logic} for DT570 and HT570 Engines Exhaust Brake, Electronically Activated

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes

:BATTERY BOX Steel with Fiberglass Cover; Mounted Right Side, Back of Cab

:TURN SIGNAL SWITCH Self-Canceling, Headlight Dimmer (with Flash-To-Pass Feature)

:HEADLIGHTS (2) Sealed Beam Halogen, 5" X 7" Rectangular, with Chrome Plated Bezels

: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

:RUNNING LIGHT (2) Daytime

: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

HORN, ELECTRIC (2)

IGNITION SWITCH Keyless

ALTERNATOR (Leece-Neville 4949PA) 12 Volt 270 Amp. Pad Mounted

RADIO {International} AM/FM Stereo With CD Player, Includes Multiple Dual Cone Speakers

Includes

:SPEAKERS IN CAB (4) Coaxial with Premium Interior

:SPEAKERS IN CAB (2) Dual-Cone with Delux Interior

Battery System (3) (International) Maintenance-Free 12-Volt 1950 CCA Total

JUMP START STUD Remote Mounted.

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HORN, AIR {Grover} Black, Single Trumpet, Air Solenoid Operated, Mounted Behind Bumper on Right Side

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 Must Include: Fire Truck Identity Code

SWITCH, AIR HORN, PASSENGER Fire Truck Application; Switch Located in Instrument Panel Close to Passenger, Driver Also to Activate Switch at Steering Wheel.

HEADLIGHTS Long Life Halogen: for Two Light System

Includes

:RUNNING LIGHT (2) Daytime

COURTESY LIGHT (4) Two Front Mounted Under Instrument Panel and Two for Rear Doors, (One Each Side)

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

FENDER EXTENSIONS Injection Molded TPO

GRILLE Stationary, Chrome

FRONT END Tilting, Fiberglass, With Three Piece Construction

GRILLE EMBER SCREEN Mounted to Grille to Keep Hot Embers out of Engine Air Intake System

PAINT SCHEMATIC, PT-1 Single Color, Design 100

Includes

:PAINT SCHEMATIC ID LETTERS "GM"

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

PAINT CLASS Single Custom Color.

KEYS,-ALL ALIKE, ID Z-001

CLUTCH Omit Item (Clutch & Control)

BLOCK HEATER, ENGINE (Phillips) 120 Volt/1250 Watt

Includes

:BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door

## Fall River Mills F.P.D., CA

ENGINE, DIESEL {International DT570} 50 State, 330 HP, 950 lb-ft Torque @1200 RPM, 2200 RPM Governed Speed, #2 Bell Housing

Includes

:FUEL/WATER SEPARATOR Mounted on Engine and FUEL FILTER in a Single Assembly  
:COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control  
:WET TYPE CYLINDER SLEEVES  
:CRUISE CONTROL Electronic; Controls Integral to Steering Wheel  
:ENGINE SHUTDOWN Electric, Key Operated  
:GOVERNOR Road Speed, Electronic  
:ENGINE OIL DRAIN PLUG Magnetic  
:OIL FILTER, ENGINE Spin-On Type  
:DAMPER, CRANKSHAFT Viscous  
:FAN Optimized Position

FAN DRIVE {Horton Drivemaster} "Two Speed" Type, With Residual Torque Device for Disengaged Fan Speed, Use With International I6 Engine

Includes

:FAN Nylon

RADIATOR Cross Flow, Series System; 940 Sq in Charge Air Cooler

Includes

:ANTI-FREEZE Shell Rotella Extended Life Coolant -40F (-40C)  
:DEAERATION SYSTEM with Surge Tank  
:RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element

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

ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of Remote Engine Speed Control, With SAE J1939 Communication

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

TRANSMISSION, AUTOMATIC {Allison EVS3500\_P} Wide Ratio, 5-Speed; Includes Oil Level Sensor, With Provision for PTO, Less Retarder

Includes

:TRANSMISSION OIL PAN Magnet in Oil Pan

TRANSFER CASE (Meritor T-4210 2) 2 Spd, 10,000 lb-ft Total Capacity, with Provision for PTO, with Electric Over Air Control

OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil, for Allison or CEEMAT Transmission

TRANSMISSION SHIFT CONTROL (Allison) Push Button Type; for Allison MD & HD Transmissions

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TRANSFER CASE LUBE (EmGard 50W) Synthetic; 1 thru 14.99 Pints

TRANSMISSION OIL (Castro TranSynd) Synthetic; 29 thru 42 Pints

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

AXLE, REAR, SINGLE {Meritor RS-23-161} Single Reduction 23,000-lb Capacity with 200 Wheel Ends: Gear Ratio: 4.89

Includes

:REAR AXLE DRAIN PLUG (1) Magnetic

SUSPENSION, RR, SPRING, SINGLE Vari-Rate; 23,500-lb Capacity, Includes 4500-lb Capacity Multileaf Auxiliary

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

Includes

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

CAB Conventional Steel; 5-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 (4) Front and Rear of "B" Pillar, Two Each Side

:GRAB HANDLE, CAB INTERIOR (2) "A" Pillar Mounted, One Each Side

:STEP (4) Two Steps Per Door

:GLASS, ALL WINDOWS Tinted

GAUGE CLUSER 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)

:GAUGE CLUSER GAUGES (6) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter, Washer Fluid Level

GAUGE, OIL TEMP, ALLISON TRAN

GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} With Black Bezel Mounted In Instrument Panel

SEAT, DRIVER {M.O. Bostrom Sierra Air 140} Air Suspension, High Back, Vinyl with Covered Back and International on Headrest

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Includes

:SEAT BELT 3-Point, Lap and Shoulder Belt Type

SEAT, PASSENGER {Gra-Mag} non-Suspension, High Back, with Integral Headrest, Vinyl, With Fixed Back

Includes

:SEAT BELT 3-Point, Lap and Shoulder Belt Type

SEATS, REAR (2) {H.O. Bostrom Tanker 400Ct} for SCBA; Two Individual Seats on Individual Risers, Non Suspension, High Back, Vinyl, With Covered Back and International on Head Rest

Includes

:SEAT BELT (2) Two 3-Point Shoulder Belts

GRAB HANDLE (2) 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} Styled; Rectangular, 7.09 x 15.75, Brackets Breakaway Type, With 102 Wide Spacing, With Integral Convex Both Sides, With All Heated Heads, Thermostatically Controlled, With Bright Finish Head and Brackets

INSTRUMENT PANEL Center Section, Flat Panel

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

Includes

:REFRIGERANT Hydrofluorocarbon HFC-134A

:FRESH AIR FILTER

:HEATER HOSES Premium

Fresh Air Filter for HVAC

STORAGE POCKET, DOOR (1) Molded Plastic, Smoke Gray, Full-Length; Mounted on Passenger Door

CAB INTERIOR TRIM Delux; 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, Timed Theater Dimming

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- :SUN VISOR (2) Padded Vinyl Integral to Console with Toll Ticket Strap and with Integral Extenders
- :STORAGE POCKET, DOOR (1) Molded Plastic, Smoke Gray, Full-Length; Driver's 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 Oil Lubricated, Includes Wheel Bearings

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.

Includes

:WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearing

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

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

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### **CHASSIS ADDITIONS AND MODIFICATIONS**

- One (1) **FRONT BUMPER GRAVELSHIELD** Y\_\_N\_\_
- There shall be a horizontal gravel shield fabricated from bright 1/8" aluminum treadplate installed at the front bumper to cover the area between the bumper and the cab.
- One (1) **BUMPER EXTENSION** Y\_\_N\_\_
- The chassis front bumper is to be extended forward approximately 18". The area between the bumper and the front of the chassis grille is to be reinforced and covered on the top and both sides with aluminum treadplate material. Aluminum fabrications are to be completely bolted in place and removable.
- One (1) **CHASSIS STEP OVERLAY** Y\_\_N\_\_
- The commercial chassis step area on the driver's side shall have slip resistant overlay material installed on each step surface.
- One (1) **CHASSIS STEP OVERLAY** Y\_\_N\_\_
- The commercial chassis step area on the passenger side shall have slip resistant overlay material installed on each step surface.
- One (1) **STEP TYPE FUEL TANK** Y\_\_N\_\_
- There shall be a step type fuel tank furnished with the chassis.
- One (1) **FRONT MUD FLAPS** Y\_\_N\_\_
- Heavy-duty, black 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) **REAR MUD FLAPS** Y\_\_N\_\_
- Heavy-duty, black 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) **HORIZONTAL CHASSIS EXHAUST** Y\_\_N\_\_
- The chassis exhaust system shall be extended to the front of the right rear wheel.
- Two (2) **SCBA BRACKETS IN CAB** Y\_\_N\_\_
- There shall be an SCBA bracket with collision restraint strap mounted in each chassis seating position as specified by the Fire Department.

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One (1)

Y\_\_N\_\_

### **ALTERNATOR**

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

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### PUMP AND PLUMBING

One (1)

Y\_\_\_N\_\_\_

#### **1000 GPM COMBINATION NORMAL & HIGH PRESSURE PUMP SYSTEM W/ PTO DRIVE SYSTEM**

A Rosenbauer Model NH40 fire pump shall be rear mounted with a rated capacity of 1000 GPM. In addition to meeting NFPA 1901 requirements, it shall be constructed and mounted in accordance with the following specifications.

Pump shall deliver the percentage of rated discharge at pressures indicated below:

- 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 pump shall incorporate a high pressure, three-stage pump. The high-pressure side shall be capable of developing 100 GPM at 600 PSI simultaneously while pumping the rated volume specified above.

The high-grade light alloy impellers shall be accurately balanced and mounted on a stainless steel pump shaft. The shaft shall be supported by three roller bearings; two located in the gearbox and one in the suction inlet. Bearings shall be protected from water and sediment by maintenance free self-adjusting mechanical seals.

The main pump body shall be easily removable without disturbing setting of the pump on the chassis.

The pump body is to be of high quality seawater resistant light alloy. All parts that come into contact with water to be special treated light alloy or stainless steel.

The pump manufacturer shall test the pump for 10 minutes hydrostatically at a pressure of 500 psig. Hydrostatic Certification by the pump manufacturer shall be provided.

Fire pump shall incorporate high strength helical gear drive single stage transmission. Pump drive system shall be with a heavy-duty PTO system bolted directly to the chassis transmission. There shall be a heavy-duty driveline assembly with hanger bearings furnished from the PTO to the rear mounted pump transmission.

The pump shall be provided with a plate giving the rated flow at "capacity" and "pressure" test pressures, together with the R.P.M. Of the engine at those pressures and deliveries and mounted in clear view of the pump operators panel. Data plate shall include model and serial numbers of the pump body and chain transmission, hydro and discharge test pressures, and the date of pump and transmission manufacture.

#### **PRIMING SYSTEM-AUTO PRIME**

The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose

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of appropriate size. It shall be capable of developing a vacuum of 22" at an altitude of up to 1000 feet.

The priming system shall not require an oil reservoir tank and shall not discharge any oil to the environment. The priming system is hands free.

The primer pump shall be a double acting piston pump design and be powered by the main fire pump shaft by means of a belt. This belt shall automatically engage when the pump is started and disengage when positive pump pressure is achieved.

Manual override is furnished with control on the pump operator's panel.

A vacuum test with a capped suction of at least 20' long shall develop 22" of vacuum and hold a vacuum with a drop not in excess of 10" in five minutes.

One (1)

Y\_\_N\_\_

### CLASS ONE GOVERNOR

Class 1, pressure governor for electronic engines shall be furnished and installed on the apparatus. The system shall include an alpha/numeric display to show pump pressure and engine RPM. The control panel shall include a RPM/PSI mode switch, an on/off power switch, increase and decrease switches for throttle control, a preset switch to select preset pressure or RPM, and an idle switch to return to idle. The pressure governor shall be connected to the electronic engine and maintain the specified preset discharge pump pressure or a preset engine speed.

The device will be furnished, installed and tested by the apparatus body builder.

One (1)

Y\_\_N\_\_

### 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)

Y\_\_N\_\_

### PUMP COOLING LINE

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)

Y\_\_N\_\_

### 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.

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One (1)

### MANIFOLD DRAIN

Y\_\_N\_\_

A Class One manifold drain valve with individual, isolated, drain ports 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 shaft with a bronze body.

A control handle shall be provided and located below the pump panel properly identified as MASTER DRAIN.

One (1)

### PUMP SHIFT INDICATOR LIGHTS

Y\_\_N\_\_

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.

The driveline shall be routed from the transmission mounted PTO to the rear mounted pump with the appropriate number of hanger bearings and slip shafts.

One (1)

### ROSENBAUER PTO PUMP INSTALLATION

Y\_\_N\_\_

The Rosenbauer 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.

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One (1) Y\_\_N\_\_

### **INTAKE RELIEF VALVE**

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 running boards, 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) Y\_\_N\_\_

### **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) Y\_\_N\_\_

### **REAR STEAMER INLET**

There shall be one (1) steamer inlet furnished on the rear pump panel. The suction inlet shall have 5" 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 rear of the body.

One (1) Y\_\_N\_\_

### **REAR SUCTION CAP**

The rear suction inlet shall have a chrome-plated, long handled, cap capable of withstanding 500 PSI.

One (1) Y\_\_N\_\_

### **2-1/2" GATED SUCTION INTAKE DRIVER SIDE REAR**

A 2-1/2" independent gated suction intake shall be provided on the driver's side rear of body. Intake shall be provided with a quarter-turn valve and control handle. The intake shall have a 1/4 turn bronze flange mounted 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.

One (1) Y\_\_N\_\_

### **SUCTION VALVE CONTROL**

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

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One (1)

### STAINLESS STEEL DISCHARGE MANIFOLD

Y\_\_N\_\_

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.

One (1)

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

Y\_\_N\_\_

### 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)

### STAINLESS STEEL PLUMBING

Y\_\_N\_\_

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

Two (2)

### DRIVER SIDE REAR DISCHARGE OUTLET

Y\_\_N\_\_

There shall be one (1) 2-1/2" discharge outlet located on the driver's side rear of the body below the hose bed. 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.

Two (2)

### MANUAL VALVE

Y\_\_N\_\_

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

Two (2)

### MANUAL DRAIN VALVE

Y\_\_N\_\_

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

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Two (2) Y\_\_N\_\_

### **PASSENGER SIDE REAR DISCHARGE OUTLET**

There shall be one (1) 2-1/2" discharge outlet located on the passenger's side rear of the body below the hose bed. 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.

Two (2) Y\_\_N\_\_

### **MANUAL VALVE**

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

Two (2) Y\_\_N\_\_

### **MANUAL DRAIN VALVE**

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

Two (2) Y\_\_N\_\_

### **2-1/2" CAPS AND CHAINS**

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

Two (2) Y\_\_N\_\_

All 2-1/2" discharges shall have chrome plated caps and chains.

### **REDUCERS, CAPS AND CHAINS**

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

One (1) Y\_\_N\_\_

The two (2) upper rear 2-1/2" discharges.

### **AKRON FIREFOX ELECTRIC MONITOR**

An Akron "FireFox" electrically controlled remote monitor shall be furnished and installed on the front bumper of the apparatus. The 375 GPM rated monitor is to be an all electric single waterway monitor constructed of lightweight pyrolite. The monitor shall have a fully enclosed 12-volt motor and gears with a manual override for both horizontal and vertical rotation and may be operated simultaneously. The vertical travel shall be from 45-degrees below to 90-degrees above horizontal with adjustable stops at -20 degrees and +45 degrees. The horizontal rotation shall be 320-degrees with adjustable stops at +-90-degrees. The logic box shall include coated, solid state components to resist water corrosion. The control box shall control the vertical and horizontal rotation of the monitor and the pattern of the nozzle. The nozzle shall have a fixed or adjustable gallonage baffle and an electric flush feature. The controls for the deck gun shall be mounted inside the chassis cab. The monitor shall be plumbed with two (2") inch flexible hose with stainless steel couplings and have a two (2") valve. The valve shall be electrically operated with valve control located in chassis cab. There shall be a 3/4" drain furnished in the supply line to the monitor.

Plumbed to high pressure.

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One (1) A TFT electric nozzle to be provided. Y\_\_N\_\_

**"FIREFOX" JOYSTICK CONTROLS**

The "FireFox" monitor shall include a weather-tight enclosure for the joystick controls suitable for mounting inside or outside the apparatus. The joystick control shall include a valve trigger.

Water Valve: ON/OFF  
Monitor: RIGHT/LEFT  
Monitor: UP/DOWN  
Pattern Control: STRAIGHT/FOG

Two (2) Y\_\_N\_\_

**BOOSTER HOSE REEL**

There shall be a Hannay booster hose reel with leak proof ball bearing swing joint, adjustable friction brake and electric rewind furnished. The reel shall be plumbed with wire reinforced; high pressure hose coupled with brass fittings, and have one inch (1") swing out, ball valve with control on pump operator's panel.

Booster hose reel is to be mounted below the crew cab door of the chassis

Two (2) reels shall be provided, one on each side of the cab under the rear crew area.

Two (2) Y\_\_N\_\_

**MANUAL VALVE**

Discharge valve shall have manual control handle located on pump operator's panel.

Two (2) Y\_\_N\_\_

**BOOSTER REEL PLUMBED TO HIGH-PRESSURE SIDE OF PUMP**

The booster reel shall be plumbed to the high-pressure side of the pump using high-pressure flexible hose with stainless steel fittings.

Two (2) Y\_\_N\_\_

**PAINTED BOOSTER REEL**

Each booster reel shall have a steel frame and drum assembly with side discs. The frame, drum, drive chain, sprocket, hub assembly swivel joint and fasteners shall be painted silver. The booster reel assembly shall be Hannay model F.

Two (2) Y\_\_N\_\_

**ROLLER ASSEMBLY FOR BOOSTER REEL**

The booster hose reel shall be equipped with a heavy-duty, stainless steel roller assembly.

Two (2) Y\_\_N\_\_

**BOOSTER HOSE**

One hundred-fifty (150) foot length of 1-inch rubber covered booster hose, high-pressure type at least 400 lbs test, coupled and installed on the specified booster hose reel.

150' of 1" booster hose shall be provided on both reels.

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Two (2)	<b>REEL AIR BLOW OUT</b>  A quick disconnect air chuck fitting shall be provided adjacent to the booster reel to charge booster hose and plumbing with compressed air to eliminate water and prevent freezing.	Y__N__
Two (2)	<b>HOSEREEL REWIND SWITCH</b>  A bush button hose reel rewind switch shall be located adjacent to the hose reel.	Y__N__
One (1)	<b>FOAM SYSTEM</b>  A built in Rosenbauer Fix Mix around the pump foam system shall be provided for class "A" foam. The around the pump foam system shall be plumbed into the pump system and be capable of flowing foam through all high pressure discharge outlets. There shall be a metering valve with identification plate and control mounted on the pump operator's panel. The system shall include a foam flush line and shall be plumbed to the on board class "A" foam tank.  The foam system shall be plumbed to the front bumper turret and the two (2) booster reels.  The controls for the foam system shall be located on the center console inside the cab.	Y__N__
One (1)	<b>FOAM SYSTEM</b>  A Foam Pro Model #1600 built in foam injection system shall be provided with the controls at the operator's panel.  The foam system shall be a fully automatic, electronic, direct injection foam proportioning system. The system shall be capable of Class A foam concentrate. The foam proportioning operation shall be based on an accurate direct measurement of water flows with no water flow restriction. The foam system shall be installed in accordance with the manufacturer's recommendations.  The system shall be equipped with a control module. It shall be installed on the pump operator's panel and enable the pump operator to perform the following functions;  1. Activate the foam system  2. Change foam concentrate proportioning rates of .1% to 1%.  3. Flash a "low concentrate" warning light when the foam concentrate tank runs low of concentrate and in two minutes if foam concentrate is not added to tank, shut the foam concentrate pump down.  The foam system shall have a 12-volt, 1/3-hp electric motor driven positive displacement piston type foam concentrate pump with a rated capacity of .01 to 1.6 gpm with operating pressures up to 400 psi.	Y__N__

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The FoamPro system shall be plumbed to the following discharge outlet.

The foam system shall be plumbed to all discharges on the normal pressure side of the pump.

One (1) The controls for the foam system shall be located at the rear operator's panel. Y\_\_N\_\_

### **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) Y\_\_N\_\_

### **FOAM TANK**

A 30-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 FOAM TANK FILL"

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

One (1) Y\_\_N\_\_

### **BALL VALVE TANK TO PUMP**

A 3" electric operated suction valve with control on pump operator's panel 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 thru 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) The controls for the tank to pump valve shall be located at the rear operator's panel and on the center console inside the cab. Y\_\_N\_\_

### **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. The electric operator shall be a worm gear drive for smooth and easy operation. Valve shall have 12-volt

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electric operator with valve controller located on pump operator's control panel. The valve controller shall have two weather tite push buttons with three lights to indicate valve position. The valve is to be one and one half inch (1-1/2"), swing out type ball valve and be plumbed to tank with flexible type hose.

The controls for the tank fill/pump cooling valve shall be located at the rear operator's panel and on the center console inside the cab.

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One (1)

Y\_\_N\_\_

### **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.

One (1)

Y\_\_N\_\_

The tank shall carry a lifetime warranty from its manufacturer.

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

One (1)

Y\_\_N\_\_

### **BOOSTER TANK**

A 750-gallon capacity polypropylene booster tank shall be provided.

One (1)

Y\_\_N\_\_

### **HOT DIP GALVANIZED BOOSTER TANK SUBFRAME**

The booster tank shall be mounted on a steel sub frame. Steel sub frame 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 cross member channels shall be installed to support the floor of the booster tank. The cross members shall have a maximum spacing of 20" for the polypropylene tanks. There shall be an additional full-length longitudinal member

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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 sub frame.

One (1) The booster tank sub frame shall be hot dip galvanized after fabrication. Y\_\_N\_\_

### **ROSENBAUER CENTER REAR MOUNTED PUMP OPERATORS CONTROL PANEL**

The fire pump shall be located in the center rear compartment of the apparatus body.

All pump suction and discharge controls are to be mounted in the center pump operator's panel so as to permit operation of the pump from a central location.

All of the pump controls shall be clearly identified with permanently engraved plate type labels.

Lights shall be provided to illuminate the entire pump operator's control panel.

### **GAUGE PANEL**

Gauges and controls shall be mounted on an integral pump panel supplied with the Rosenbauer pump assembly. The backside of the gauge panel shall be removable allowing access to the backside of the gauges and electrical cables. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

Additional controls and gauges as required shall be mounted on a separate control panel mounted adjacent to the integral Rosenbauer pump operator's panel.

### **PUMP COMPARTMENT ACCESS DOORS**

The fire pump and controls shall be located in the rear compartment and enclosed by a roll up style door.

There shall be two access panels furnished for access to the center rear mounted pump, one in each rear side compartment. Each panel shall be approximately 18" high and as wide as possible, and shall be constructed of polished aluminum treadplate. The access panels shall be removable, and have two (2) flush mounted, push type latches to hold the access panel in place.

One (1) PUMP PANEL PUMP ENGAGEMENT LIGHT Y\_\_N\_\_

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) PUMP OPERATORS PANEL Y\_\_N\_\_

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

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One (1)

### MASTER GAUGES

Y\_\_N\_\_

Class One #LFP410, 4-1/2" diameter liquid filled pressure gauge registering up to 600-lbs per square inch with 1/4" pipe thread connection. The gauge shall be of the type that will not be injured when subjected to a vacuum. The gauge is to have a white face with black lettering. The gauge is to be located at the right of the gauge panel and labeled "DISCHARGE" with an engraved label.

Class One #LFP410, 4-1/2" diameter liquid filled compound gauge shall be provided on the suction side of the pump registering at least 600-lbs pressure and 30-inches of vacuum. The gauge shall have a white face with black lettering. The gauge is to be located to the left of the master discharge gauge and labeled "INTAKE" with an engraved label.

One (1)

### PRESSURE GAUGES

Y\_\_N\_\_

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.

Four (4)

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

Y\_\_N\_\_

One (1)

### CAB MOUNTED PRESSURE GAUGE

Y\_\_N\_\_

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)

### CLASS ONE GOVERNOR

Y\_\_N\_\_

Class 1, pressure governor for electronic engines shall be furnished and installed on the apparatus. The system shall include an alpha/numeric display to show pump pressure and engine RPM. The control panel shall include a RPM/PSI mode switch, an on/off power switch, increase and decrease switches for throttle control, a preset switch to select preset pressure or RPM, and an idle switch to return to idle. The pressure governor shall be connected to the electronic engine and maintain the specified preset discharge pump pressure or a preset engine speed.

The device will be furnished, installed and tested by the apparatus body builder.

One (1)

### INFORMATION CENTER

Y\_\_N\_\_

A Class 1 Enfo IV master engine gauge and warning device shall be furnished and installed on the pump operator's panel. The Class 1 Enfo IV is equipped with super bright displays for maximum visibility during daytime hours. The device will monitor the following engine systems;

- Engine RPM display
- System voltage display

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- One (1)      -Engine oil pressure display  
                 -Engine water temperature display      Y\_\_N\_\_
- PUMP PANEL IDENTIFICATION LABELS**
- One (1)      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.      Y\_\_N\_\_
- PUMP PANEL WATER TANK LEVEL GAUGE**
- One (1)      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.      Y\_\_N\_\_
- WATER TANK LEVEL GAUGE IN CHASSIS CAB**
- One (1)      A Class One ITF Intelli-tank water tank level gauge shall be provided in the chassis cab. 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.      Y\_\_N\_\_
- PUMP PANEL FOAM TANK LEVEL GAUGE**
- One (1)      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.      Y\_\_N\_\_
- CHASSIS CAB FOAM TANK LEVEL GAUGE**
- One (1)      A Class One ITF Intelli-tank foam tank level gauge shall be provided in the chassis cab. 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.      Y\_\_N\_\_
- UL TEST CONNECTIONS**
- One (1)      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.

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### **APPARATUS BODY SPECIFICATIONS**

One (1)

#### **HOSEBODY**

Y\_\_N\_\_

The apparatus hose body 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 hose body 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)

#### **HOSEBED CAPACITY**

Y\_\_N\_\_

The hose bed will be configured to be 55 cubic feet, unless the desired hose load requires more area.

Exact hose bed requirements shall be determined prior to construction.

One (1)

#### **HOSEBED FLOORING**

Y\_\_N\_\_

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

Two (2)

#### **MAIN HOSEBED DIVIDER**

Y\_\_N\_\_

Adjustable hose bed dividers shall be provided in the main hose bed.

The hose bed divider(s) shall be fabricated of 1/4" smooth aluminum sheet stock, welded into a "T" shaped aluminum extrusion for added strength along the bottom edge of the divider.

The divider shall be fully adjustable, mounted using aluminum "C" channel tracks at the front and rear of the divider for full side to side adjustment.

Two (2) adjustable hose bed dividers shall be provided.

One (1)

#### **HINGED ALUMINUM HOSEBED COVERS**

Y\_\_N\_\_

Polished aluminum treadplate hose bed covers shall be furnished, extending the full-length and width of the main hose bed.

Covers shall be fabricated of polished aluminum treadplate with cross bracing for maximum strength, and to support the weight of a firefighter standing on the covers when closed. The covers shall be of the sloped design for proper water runoff. Each cover to be equipped with a full length stainless steel piano hinge with chrome plated

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- grab handles at front and rear of each cover. Hose bed covers shall include heavy-duty stops to support them when in the opened position.
- One (1) Y\_\_N\_\_
- REAR VINYL FLAPS FOR ALUMINUM COVER**
- There shall be a vinyl flap attached to each aluminum hose bed cover. The vinyl flaps shall cover the area on the rear of the hose bed from top to bottom. The flaps shall be independent of each other but attachable with velcro in the center. The bottom edge of the flap shall be weighted and also have an eyelet on each outer corner.
- One (1) Y\_\_N\_\_
- The rear hose bed cover flaps shall be red in color.
- LADDER STORAGE**
- An open ladder storage area shall be provided within the main hose bed area. Compartment shall be provided with individual scratch resistant racks for each ladder. Racks shall be designed so that any ladder or tool may be removed without disturbing the other equipment.
- One (1) Y\_\_N\_\_
- GROUND LADDERS FURNISHED BY BODY BUILDER**
- The body builder shall furnish the ground ladders. See equipment section of this document for make and model of ladders.
- One (1) Y\_\_N\_\_
- HARD SUCTION HOSE TRAYS**
- Hard suction hoses shall be mounted in extruded aluminum, self-draining carrier trays with hold down device. The carrier trays shall be mounted one on each side of body.
- One (1) Y\_\_N\_\_
- HARD SUCTION HOSE FURNISHED BY BODY BUILDER**
- The hard suction hose shall be furnished by the body builder. See equipment section of this document for make and model of hard suction hose.
- Two (2) Y\_\_N\_\_
- PIKE POLE(S) MOUNTED IN LADDER COMPARTMENT**
- There shall be room for the pike pole(s) to be mounted in the compartment, along with the specified ladders.
- Two (2) mounting tubes shall be provided for the specified pike poles.
- One (1) Y\_\_N\_\_
- 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.

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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, hose beds, and floors. All aluminum material shall be welded together using the latest mig spray pulse arc welding system.

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

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)

Y\_\_N\_\_

### 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)

Y\_\_N\_\_

### COMPARTMENT FLOORS

The compartment floors shall be constructed of smooth aluminum material, to match the compartment interior walls.

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One (1)

Y\_\_N\_\_

### **BODY DIMENSIONS**

Apparatus body shall be up to 144" long and 96" wide, reference the drawing for actual body length. Body compartments shall be divided into upper and lower areas with the upper area approximately thirteen-inches in depth, and the lower area approximately twenty-three inches in depth. The hose bed shall be 68" wide.

One (1)

Y\_\_N\_\_

### **APPARATUS BODY SUB-FRAME**

The apparatus body sub frame 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 sub frame and sides of the water tank cradle. Sub frame cross members shall be fabricated with three inch (3") 4 pound per foot heavy steel channel cross members welded to the longitudinal body sub frame 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 sub frame and rest on top of the chassis frame rails for proper frame weight distribution.

The steel frame pads, longitudinal steel channels and sub frame cross members shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the sub frame and body assembly from the chassis. There shall be a barrier provided between the sub frame and body to prevent electrolysis.

The rear sub frame 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 sub frame 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 sub frame rails.

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

One (1)

Y\_\_N\_\_

### **COMPARTMENT VENTS**

All body compartments shall have a minimum of one (1) louvered panel bolted into a wall to provide the proper airflow inside the compartment. There shall be a filter installed behind the louvered panel. The filter shall be accessible for cleaning by removing the louvered panel on the interior of the compartment.

One (1)

Y\_\_N\_\_

### **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.

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One (1) 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. Y\_\_N\_\_

### REAR TOW EYES

One (1) 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. Y\_\_N\_\_

### APPARATUS COMPARTMENTATION

There shall be large enclosed compartments on both sides of the body, starting at the front of the hose body 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.

One (1) Lower or rear face compartments, if specified shall be provided with polished aluminum drip rails. Y\_\_N\_\_

### HINGED COMPARTMENT DOOR CONSTRUCTION

Any hinged compartment doors shall be of the flush style so that the entire door fits flush against the apparatus body sides. The doors shall be designed, in the closed position, to have the painted edges protected from damage on the tops by forming the treadplate compartment tops into an extended drip edge, on the bottoms by the rub rail.

The doors shall be a minimum 2" thick, fabricated of a minimum of .125 smooth aluminum. Full panel inner compartment door liners shall be provided and constructed of smooth aluminum. The compartment doors shall have a foam panel glued in place between the exterior and interior door skin. Exterior door panels shall be smooth with no welds visible on the exterior skin. Double door compartments shall be equipped with a secondary latch to hold the secondary door in position.

All compartment door hinges shall be full-length piano type constructed of a minimum 14-gauge type 304 polished stainless steel with 3/16" stainless steel hinge pin with dual directional bolt holes for ease of adjustment.

When horizontally hinged lift-up doors are specified, they shall be equipped with heavy-duty gas filled props to hold the doors in the open position. All other hinged doors shall be equipped with spring loaded hold open device specifically designed for use on vertically hinged doors. Door holders shall be bolted in position. The door ajar switches shall be fully enclosed within structural members and shall not extend into the clear door opening.

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All compartment doors shall be provided with hollow core weather stripping to provide a weather tight seal at the door opening and to prevent road spray and debris from entering the compartment.

### COMPARTMENT ROLL-UP DOOR CONSTRUCTION

Any 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. Pendent plates supporting the door roll assembly shall be bolted in place, adjustable and capable of being removed with common hand tools. Pendent plates and supports that are welded in place do not meet the maintenance and service criteria of these specifications.

All side compartment doors shall be hinged type. The rear compartment shall have a roll-up type door.

One (1)

Y\_\_N\_\_

### EXTERIOR DOOR LATCHES

Side exterior compartment doors shall be furnished with a large stainless steel spring loaded D-handle with slam type latches. D-handles shall have the large "bent" D-ring for ease of grabbing the handle even when wearing mitts or gloves.

A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

One (1)

Y\_\_N\_\_

### 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.

The rear compartment containing the pump and controls shall have a roll-up type door and left in the natural aluminum finish.

One (1)

Y\_\_N\_\_

### DRIVER SIDE COMPARTMENTS

Three body compartments shall be furnished as follows:

- One compartment ahead of the rear wheels with full height single hinged door.
- One compartment above rear wheel with one lift-up door.
- One compartment behind the rear wheels with full height double hinged doors.

One (1)

Y\_\_N\_\_

### PASSENGER SIDE COMPARTMENTS

Three body compartments shall be furnished as follows:

- One compartment ahead of the rear wheels with full height single hinged door.

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- One compartment above rear wheel with one lift-up door.
- One compartment behind the rear wheels with full height double hinged doors.

One (1)

Y\_\_N\_\_

### **REAR BODY CONFIGURATION**

Rear apparatus body compartments shall be as follows:

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

One (1)

Y\_\_N\_\_

### **FLAT BACK BODY**

The rear vertical surface of the body shall be flat from side to side.

Six (6)

Y\_\_N\_\_

### **ADJUSTABLE SHELVES**

Compartment shelves shall be constructed of .125" smooth Aluminum. Shelves shall have formed edges on three sides for added strength. Shelves shall be fully adjustable, with extruded aluminum unistrut channels provided on the front and rear compartment walls.

Six (6) adjustable shelves shall be provided. Locations of the shelves shall be determined during the pre-construction conference.

Four (4)

Y\_\_N\_\_

### **SLIDE-OUT TRAY**

Slide-out trays shall be constructed of 3/16" aluminum material. Trays shall have with heavy-duty roller bearing slides with a latch to hold the tray in the "open" and "closed" positions. Tray shall have capacity of 500 pounds.

Four (4) slide-out trays shall be provided. Exact locations of the slide out trays to be determined during the pre-construction conference.

Two (2)

Y\_\_N\_\_

### **DRIVER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL**

SCBA storage compartment shall be provided and located in the driver side rear wheel well 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) SCBA storage tubes shall be provided on the driver's side of the body.

Two (2)

Y\_\_N\_\_

### **PASSENGER SIDE AIR BOTTLE COMPARTMENTS IN WHEELWELL**

SCBA storage compartment shall be provided and located in the passenger side rear wheel well 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) SCBA storage tubes shall be provided on the passenger's side of the body.

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One (1)

Y\_\_N\_\_

### **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.

One (1)

Y\_\_N\_\_

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

### **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 hose bed.
- Driver's 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.

One (1)

Y\_\_N\_\_

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

### **POLISHED COMPARTMENT TOP WELDS:**

One (1)

Y\_\_N\_\_

The compartment top welds to be polished.

### **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)

Y\_\_N\_\_

### **REAR STEP/RUNNING BOARDS**

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.

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One (1) Y\_\_N\_\_

### **REAR STEP/TAILBOARD**

A single piece .188 rear step/tailboard shall be furnished that is a minimum of 8.00" deep and full width of the apparatus body, from rub rail to rub rail. The tailboard shall be provided with a removable casting on each corner for a pleasing appearance.

One (1) Y\_\_N\_\_

### **FULL WIDTH FOLD DOWN REAR STEP**

A full width, fold down rear step shall be furnished on the rear of the apparatus. The fold down step shall have a specially designed off set, eccentric type bracket and be attached with stainless steel fasteners on each side. The step shall not protrude past the rear tailboard when in the upper stowed position. In the down position, the step shall reduce the height of the first step approximately 8"-10". Step shall have slip resistant surface.

One (1) Y\_\_N\_\_

### **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) Y\_\_N\_\_

### **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.

Six (6) Y\_\_N\_\_

### **FOLDING ACCESS STEPS**

NFPA approved folding steps shall be provided and mounted as specified below. 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.

Six (6) folding steps shall be provided. Locations of the folding steps shall be determined during the pre-construction conference.

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One (1)

### **ELECTRICAL**

Y\_\_N\_\_

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.

One (1)

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

Y\_\_N\_\_

### **WIRING SYSTEM**

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.

One (1)

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

Y\_\_N\_\_

### **TAIL & STOP LIGHTS**

Two (2) Weldon #2010 rectangular red stop/tail lights shall be provided and mounted at the rear of the body, one on each side.

One (1)

### **DIRECTIONAL LIGHTS WELDON 2010**

Y\_\_N\_\_

Two (2) Weldon #2010, 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)

### **BACKUP LIGHTS WELDON 2010 (RECT)**

Y\_\_N\_\_

Two (2) Weldon #2010, 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)

### **CLEARANCE LIGHTS**

Y\_\_N\_\_

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)

### **LICENSE PLATE BRACKET**

Y\_\_N\_\_

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.

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One (1) Y\_\_N\_\_

### **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.

One (1) Y\_\_N\_\_

### **LOAD MANAGER**

The apparatus shall be equipped with a Kussmaul model 091-79 Automatic Load Shedding System for performing continuous electrical load management. The Load Manager shall have the following features:

- Monitor 12-volt system and detect low voltage.
- Capability to control two (2) loads.
- Automatic reset when voltage rises.
- Adjustable voltage setpoint.

The load manager shall be protected against reverse polarity and shorted outputs, and be enclosed in a enclosure to enhance EMI/RFI protection. CSFA shall provide for all electrical loads in excess of the NFPA minimum electrical requirements that exceed the alternator output.

One (1) Y\_\_N\_\_

### **HIGH IDLE SYSTEM**

There shall be a high idle system furnished and installed on the apparatus. The high idle system shall have an on/off switch located in the chassis on the switch console. The system shall have an interlock that will disable the solenoid if the parking brake is not completely set.

Six (6) Y\_\_N\_\_

### **COMPARTMENT LIGHTING**

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

One (1) Y\_\_N\_\_

### **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.

Six (6) Y\_\_N\_\_

### **ADDITIONAL COMPARTMENT LIGHTS**

Additional sealed lights shall be provided and installed for compartments with shelves, as directed by the Fire Department. Additional lights shall be mounted to a bracket attached to the unistrut shelf standard. Lights mounted to the shelf brackets shall have additional wire to allow the light to be adjusted with the shelf. Lights shall be wired to switch on and off with the automatic door jamb switch.

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- One (1) The lights shall be located below the adjustable shelves and roll-out & tilt down trays. Y\_\_N\_\_
- 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) Y\_\_N\_\_
- 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) A "Battery-On" pilot light shall be provided, visible to the driver. Y\_\_N\_\_
- ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL**
- An electrical console shall be constructed of .125" smooth aluminum material and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.
- 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.
- A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. The emergency lights shall be activated by a single "MASTER SWITCH" on the electrical console.
- One (1) Y\_\_N\_\_
- MAP LIGHT**
- One (1) flexible "gooseneck" type map light shall be provided and mounted on the cab dash panel complete with a switch on the light fixture base.
- One (1) Y\_\_N\_\_
- 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) Y\_\_N\_\_
- ENGINE COMPARTMENT WORK LIGHT**
- An engine compartment work light shall be provided complete with a switch mounted on the light head.

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One (1) **PUMP COMPARTMENT WORK LIGHT** Y\_\_N\_\_

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) **UNDER CAB LIGHTING** Y\_\_N\_\_

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) **UNDER BODY LIGHTING** Y\_\_N\_\_

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.

One (1) **UNDER BODY LIGHTING REAR STEP** Y\_\_N\_\_

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.

Two (2) **REAR SCENE LIGHT** Y\_\_N\_\_

There shall be a Weldon Model 2010, 12-volt 50-watt Scenelight provided and mounted at the rear of the body. Light shall be mounted on an 18-degree downward angled, polished aluminum casting. The light shall be wired through a switch in the chassis cab and be labeled "Rear Scene Light".

Two (2) **DRIVER SIDE SCENE LIGHT** Y\_\_N\_\_

Two (2) scene lights shall be located at the rear of the body, one each side.

There shall be a Weldon Model 2010, 12-volt 50-watt Scenelight provided and mounted on the driver side of the body. Light shall be mounted on an 18-degree downward angled, polished aluminum casting. The light shall be wired through a switch in the chassis cab and be labeled "Driver's Side Scene Light".

Two (2) **PASSENGER SIDE SCENE LIGHT** Y\_\_N\_\_

Two (2) scene lights shall be provided on the driver's side of the body; one at the front and one at the rear.

There shall be a Weldon Model 2010, 12-volt 50-watt Scenelight provided and mounted on the passenger side of the body. Light shall be mounted on an 18-degree downward angled, polished aluminum casting. The light shall be wired through a switch in the chassis cab and be labeled "Passenger's Side Scene Light".

Two (2) scene lights shall be provided on the passenger's side of the body; one at the front and one at the rear.

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One (1) Y\_\_N\_\_

### **AIR HORNS**

Two (2) chrome-plated Grover "Stuttertone" air horns shall be provided and recess mounted in the front bumper extension. A pressure protection valve to prevent the use of air horns or other air operated accessories when the system air pressure drops below 80 psi shall be provided.

Air horns shall be controlled from the following switch positions.

A switch shall be provided on the dash for switching from the truck horn to the air horn. The air horn shall be operated from the horn ring button on the steering wheel. Provisions for this operation shall be provided with the chassis.

One (1) Y\_\_N\_\_

One (1) foot switch shall be provided on the passenger's side floor for activation of the air horn.

One (1) Y\_\_N\_\_

### **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) Y\_\_N\_\_

### **SPEAKER**

DYNAMAX, 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) Y\_\_N\_\_

### **RED LIGHT**

There shall be a steady burning red light furnished on the chassis cab.

The additional red light shall be provided to meet California DMV requirements.

One (1) Y\_\_N\_\_

### **HEADLIGHT FLASHER**

The headlight circuit of the chassis shall be provided with a heavy-duty headlight flasher system designed for emergency vehicles. Flasher shall include override for high beam headlights and controlled by switch located on the electrical module in the chassis cab. Headlight flasher to be turned off when the park brake is set.

One (1) Y\_\_N\_\_

### **EMERGENCY LIGHTING**

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

One (1) Y\_\_N\_\_

### **LIGHT BAR**

One (1) Code 3 model 556A3 56" mounted on chassis cab roof to meet the NFPA upper zone A lighting requirement. Light bar to have the following equipment.

- (4) 50-watt standard rotators

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- (1) 50-watt fast rotators
- (2) diamond mirrors
- (2) 2-step cascade mirrors

One (1)

Y\_\_N\_\_

### REAR LIGHTS

Four (4) Code 3 model 81X 9"x 7" flashing halogen lights mounted on rear upper corners of 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. Two (2) on rear, one (1) on each side with the following equipment.

- (1) 50-watt halogen bulb.
- (1) Flasher assembly.
- Red lens on each.

One (1)

Y\_\_N\_\_

### ZONE A FRONT LIGHTS

There shall be two (2) Code 3 model 8135BZ halogen flashing lights with bezels furnished on the front grill to meet the NFPA Zone A lower level lighting requirement. The halogen lights shall be activated through the master emergency light switch located on the electrical console.

One (1)

Y\_\_N\_\_

### ZONE B & D SIDE LIGHTS

There shall be two (2) Code 3 model 4135BZ halogen flashing lights with bezels furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. One light mounted as far forward as possible and one light mounted as far to the rear as possible. The halogen lights shall be connected to a flasher and be activated through the master emergency light switch located on the electrical console.

One (1)

Y\_\_N\_\_

### ZONE C REAR LIGHTS

There shall be two (2) Code 3 model 4135BZ halogen flashing lights with bezels furnished on the rear of the apparatus body to meet the NFPA Zone C lower level lighting requirement. The halogen lights shall be activated through the master emergency light switch located on the electrical console.

One (1)

Y\_\_N\_\_

### 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.

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- 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)

Y\_\_N\_\_

### DRIVER SIDE 110 VOLT RECEPTACLES

All 110-volt receptacles shall be provided with weather proof covers. Receptacle shall be mounted on the driver side rear wheel well area of the apparatus body.

The wiring for the receptacle shall be run into the compartment behind the rear wheels on the passenger's side for a fire department supplied generator.

One (1)

Y\_\_N\_\_

### PASSENGER SIDE 110 VOLT RECEPTACLES

All 110-volt receptacles shall be provided with weather proof covers. Receptacles shall be mounted on the passenger side rear wheel well area of the apparatus body.

The wiring for the receptacle shall be run into the compartment behind the rear wheels on the passenger's side for a fire department supplied generator.

Two (2)

Y\_\_N\_\_

### TELESCOPING QUARTZ LIGHTING

A quartz light shall be provided and mounted on the apparatus, wired to the 110-volt power source. The light shall be UL listed as "Scenelights for Fire Service Use". Light shall be controlled by a switch located on the light head.

Light shall be a Fire Research 500W/110V Nightmaster, model LTA-530-S50.

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The light shall be attached to a side mounted, bottom raise telescoping, anodized aluminum pole. The telescoping pole shall have a thirty-inch extension with friction lock mechanism. The telescoping pole shall be prewired with heavy-duty retractile cord with pigtail extending out the bottom of the lower tube.

The telescoping lights shall be located at the front of the body, one each side.

The wiring for the lights shall be run into the compartment behind the rear wheels on the passenger's side for a fire department supplied generator.

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One (1)

Y\_\_N\_\_

### PAINTING

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.

One (1)

Y\_\_N\_\_

### UNDERCOATING

The body sub frame 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 sub frame and all final items have been installed the entire body assembly shall be undercoated

One (1)

Y\_\_N\_\_

### INTERIOR COMPARTMENT PAINT

The interior vertical compartment walls are to be painted white with a black colored spatter finish material.

One (1)

Y\_\_N\_\_

### 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.

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One (1) **PAINT BODY TO MATCH CHASSIS** Y\_\_N\_\_

The apparatus body to be painted to match the chassis.

One (1) **LETTERING** Y\_\_N\_\_

Lettering shall be done in gold leaf mylar letters, shaded in black, and encapsulated in clear mylar. Lettering to be placed on each cab door as directed by fire department. Maximum of fifty (50) letters.

One (1) **LETTERING SHALL BE AS FOLLOWS:** Y\_\_N\_\_

Exact lettering requirements shall be determined during the pre-construction conference.

One (1) **REFLECTIVE SAFETY STRIPE** Y\_\_N\_\_

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.

One (1) The stripe shall be white in color. Y\_\_N\_\_

### **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.

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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)

Y\_\_\_N\_\_\_

### **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.

## Fall River Mills F.P.D., CA

One (1) Y\_\_N\_\_

**ADDITIONAL EQUIPMENT**

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

One (1) Y\_\_N\_\_

**LADDERS**

A 22-foot, 3-section aluminum fire department extension ladder, DUO-SAFETY Model 925A, in which the side rails also act as guides for the fly ladder, shall be furnished.

One (1) Y\_\_N\_\_

A 10-foot aluminum roof ladder with folding roof hooks, DUO-SAFETY Model #775A, shall be furnished.

One (1) Y\_\_N\_\_

A 10-foot aluminum folding ladder with mounting brackets, DUO-SAFETY Model #585A, shall be furnished.

One (1) Y\_\_N\_\_

**PIKE POLES**

6-foot pike pole with fiberglass handle and steel hook shall be furnished.

One (1) Y\_\_N\_\_

10-foot pike pole with fiberglass handle and steel hook shall be furnished.

Two (2) Y\_\_N\_\_

**HARD SUCTION HOSE**

10-foot length of 3" lightweight PVC, flexible fire department suction hose, first quality non-collapsible type, of a design having a low friction loss and which will not collapse under a vacuum of 23".

Hard suction hose to be equipped with 2 1/2" NST lightweight couplings. Long handles on female and rocker lugs on male couplings.

One (1) Y\_\_N\_\_

Two (2) 10' x 3" lengths of suction hose shall be provided.

**SUCTION STRAINER**

A 2-1/2" NST chrome-plated barrel type suction hose strainer shall be provided.

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One (1)

Y\_\_N\_\_

### 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 affect its stability or reliability.

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)

Y\_\_N\_\_

### 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.

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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)

Y\_\_N\_\_

### 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.
- \* 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)

Y\_\_N\_\_

### 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 sub frame (exclusive of paint finish and hardware) is structurally sound and free of all

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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 sub frame; 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 rating 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)

Y\_\_N\_\_

### **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.

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 rating by customer or third parties. If any such conditions are not complied with, this warranty shall become void and unenforceable.

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Should repairs become necessary under the terms of 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.