

Diamond Springs/El Dorado FPD, CA

One (1)

Y__N__

CAB AND CHASSIS SPECIFICATIONS

APPLICATION: 2006 International 7400 SBA 4x2

MISSION: Requested GVWR: 35000. Calc. GVWR: 35000
Calc. Geared Speed: 76.1 MPH

DIMENSION: Wheelbase: 179", CA: 68", Usable CA: 68", Axle to Frame: 57

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

**TRANSMISSION,
AUTOMATIC:** (Allison 3500EVS_P) Wide Ratio, 6-Speed; Includes Oil Level
Sensor, With Provision for PTO, Less Retarder

CLUTCH: Omit Item (Clutch & Control)

**AXLE, FRONT
DRIVING TYPE:** {Meritor MFS-12-143A} Wide Track, I-Beam Type, 12,000-lb. Capacity

**AXLE, REAR,
SINGLE:** {Meritor RS-23-160} Single Reduction 23,000-lb Capacity Includes Driver
Controlled Main Locking Differential and 200 Wheel Ends
Gear Ratio: 5.38

CAB: Conventional Steel; 6-Man Crew Cab

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

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

**SUPENSION,
RR SPRING, SINGLE:** Vari-Rate; 23,500-lb Capacity, includes 4500-lb. Auxiliary Rubber Spring

Description

Base Chassis, Model 7400 SBA 4X2 with 179" Wheelbase, 68" CA, 68" Usable CA,
and 57 Axle to Frame.

TOW HOOK FRONT (2) Frame Mounted.

FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.250" x 3.610" x
0.375" (260.0mm 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 NON-DRIVING TYPE {Meritor MFS-12-143A} Wide Track, I-Beam
Type, 12,000 Capacity

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

Includes

:SPRING PINS Rubber Bushings, Maintenance-Free

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes

:AIR COMPRESSOR AIR SUPPLY LINE International Engines Naturally-Aspirated

:BRAKE CHAMBERS, SPRING (2) Rear Parking

:BRAKE LINES Color Coded Nylon

: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)

AIR DRYER {Bendix AD-IP} With Heater

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

Includes:

:DUST SHIELDS, FRONT BRAKE

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

STEERING WHEEL 2-Spoke, 18" Diam, Black

STEERING GEAR {Sheppard M-100} Power

EXHAUST SYSTEM Single, Horizontal, Stainless Steel Muffler, With Internal Catalytic Converter, Short Tail Pipe, Frame Mounted Right Side

ENGINE EXHAUST BRAKE, DLOGIC (Diamond Logic) for DT570 and HT570 Engines; Exhaust Brake, Electronically Activated

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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)

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

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

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

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

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

HEADLIGHTS Halogen, Composite Aero Design 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

GRILLE Chrome

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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 "GN"

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

PAINT CLASS Single Custom Color.

CLUTCH Omit Item (Clutch & Control)

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 Engines

Includes

:FAN Nylon

RADIATOR Cross Flow, Series System; 940 Sqin Aluminum Radiator Core and 1025 Sqin Charge Air Cooler

Includes

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

:DEAERATION SYSTEM with Polypropylene Tank

:RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element

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

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

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

EXPANDED ENGINE TEMP EFFECTS to Allow Higher Engine Operating Temperature Range; Includes Nylon Surge Tank and 15 psi Pressure Cap

CHARGE AIR COOLER Heavy Duty, for Increased Temperature and Pressure Capability, for International Engines

TRANSMISSION, AUTOMATIC {Allison EVS3500_P} Wide Ratio, 6-Speed; Includes Oil Level Sensor, With Provision for PTO, Less Retarder

Includes

:TRANSMISSION OIL PAN Magnet in Oil Pan

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

TRANSMISSION SHIFT CONTROL (Allison) T-Bar Type; for Allison 3000 & 4000 Series Transmission

ALLISON SPARE INPUT/OUTPUT for Emergency Vehicle Series (EVS); Fire/Pumper, Tank, Aerial/Ladder

AXLE, REAR, SINGLE {Meritor RS-23-160} Single Reduction, 23,000-lb Capacity Includes Driver Controlled Main Locking Differential and 200 Wheel Ends Gear Ratio: 5.38

Includes

:REAR AXLE DRAIN PLUG (1) Magnetic

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

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

Includes

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

CAB Conventional Steel; 6-Man Crew Cab

Includes

:CLEARANCE/MARKER LIGHTS (5) Flush Mounted

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

:FLOOR COVERING Rubber, Black

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

:GRAB HANDLE, CAB INTERIOR (4) Front and Rear "B" Pillar Mounted, Two Each Side

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

:STEP (4) Two Steps Per Door

:GLASS, ALL WINDOWS Tinted

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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 {National 2000} Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Lumbar Support

Includes

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

SEAT, PASSENGER {National 2000 } Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Lumbar Support

Includes

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

SEAT, REAR BENCH {International} Full Width; With Fixed Back and Two Integral Outboard Headrest

Includes

:SEAT BELT (3) Two 3-Point Shoulder Belts and One 2-Point Lap Belt (Center Position)

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

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

MIRRORS (2) {Lang Mekra} Styled; Rectangular, 7.09 x 15.75, Brackets Breakaway Type, With 102 Wide Spacing, With Integral Convex Both Sides, With Bright Finish Head and Brackets

SEAT BELT All Red; 4 to 6

INSTRUMENT PANEL Center Section, Flat Panel

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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

CAB INTERIOR TRIM Deluxe; for Crew Cab

Includes

:CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets and Retainer Nets and CB Radio Pocket; Smoke Gray with Black Netting Over Storage Pockets
:"A" PILLAR COVER Molded Plastic, Smoke Gray
:HEADLINER Printed Cloth
:INSTRUMENT PANEL TRIM Molded Plastic, Drawbridge Gray with Black Center Section, Hidden Cup Holder and Ash Tray (Pull-Out)
:DOME LIGHT, CAB Rectangular, Center Mounted, Integral to Console Door Activated, Timed Theater Dimming
: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" Polished Aluminum, 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" Polished Aluminum, 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

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

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

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CHASSIS ADDITIONS AND MODIFICATIONS

One (1) Y__N__

FRONT BUMPER GRAVELSHIELD

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) Y__N__

BUMPER EXTENSION

The chassis front bumper is to be extended forward approximately 12". 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) Y__N__

CENTER HOSEWELL

A recessed style hose well for storage is to be provided in the center of the front bumper extension. Hose well shall be constructed of .125 #5052 aluminum treadplate material and have a smooth interior surface.

One (1) Y__N__

HOSEWELL COVER

A hinged aluminum treadplate cover, with latches, is to be provided and installed over the center front hose well.

One (1) Y__N__

The depth of the bumper shall be as large as practical (minimum 5" front to rear). A notch shall be provided in the cover for a pre-connected hose. The hinge shall be mounted on the rear.

CHASSIS STEP OVERLAY COMPARTMENTS

Step under the driver's side cab entrance doors shall be provided with fully enclosed, storage compartments designed as large as possible and constructed of the same material as the running boards. The step surface of the compartment shall have slip resistant overlay material installed. A vertically hinged door with stainless steel D-handle latch shall be provided under the crew compartment door and a flip down door for access to the batteries shall be provided under the driver door.

One (1) Y__N__

A flip down battery access door shall be provided. The storage compartment door shall be as large as practical.

CHASSIS STEP OVERLAY COMPARTMENTS

Step under the passenger side cab entrance door shall be provided with fully enclosed, storage compartment designed to be as large as possible and constructed of the same material as the running boards. The step surface of the compartment shall have slip resistant overlay material installed. A vertically hinged door with stainless steel D-handle latch shall be provided for each compartment.

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One (1) The storage compartment door shall be as large as practical. Y__N__

STEP TYPE FUEL TANK

One (1) There shall be a step type fuel tank furnished with the chassis. Y__N__

HORIZONTAL CHASSIS EXHAUST

One (1) The chassis exhaust system shall be extended to the front of the right rear wheel. 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)

HALE PSD-750 GPM SINGLE STAGE FIRE PUMP

Y___N___

The centrifugal type fire pump shall be a Hale model PSD, rear mounted with a rated capacity of 750 GPM. The pump shall meet NFPA 1901 requirements.

One (1)

SINGLE STAGE FIRE PUMP

Y___N___

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

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

100% of rated capacity at 150 pounds net pressure.

70% of rated capacity at 200 pounds net pressure.

50% of rated capacity at 250 pounds net pressure.

100% of rated capacity at 165 pounds net pressure.

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

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

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

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

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

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

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PRIMING PUMP

One (1) The priming pump shall be a positive displacement vane type, electrically driven, and conform to standards outlined in NFPA Pamphlet no. 1901. One priming control shall both open the priming valve and start the priming motor. Y__N__

OILLESS PRIMER

One (1) The pump shall be furnished with the Hale ESP oil-less priming system. Y__N__

CLASS ONE GOVERNOR

One (1) 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. Y__N__

MANIFOLD DRAIN

One (1) A Hale manifold drain valve shall be furnished with all pump drains connected to it so that the entire pump system may be drained by one control. Drain valve assembly shall consist of a stainless steel plunger and a bronze body. A push-pull control with handle is to be provided and located at the driver's side of the pump house, properly identified PUMP DRAIN. Y__N__

UL TEST

One (1) 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. Y__N__

ALTITUDE REQUIREMENTS

One (1) The apparatus shall be designed to meet the specified rating at 2000 feet altitude. Y__N__

PUMP COOLING LINE

One (1) 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. 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.

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

One (1)

Y__N__

THERMAL PROTECTION

The pump shall be equipped with a thermal protection device that monitors the water temperature of the pump and relieves water when the temperature inside the pump exceeds 120 degrees Fahrenheit.

The Thermal Relief Valve shall be a Hale TRV.

One (1)

Y__N__

FIRE PUMP WARRANTY

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

One (1)

Y__N__

PUMP SHIFT INDICATOR LIGHTS

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

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

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.

The PTO shall disengage at 8 mph.

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One (1) Y__N__

HALE PTO PUMP INSTALLATION

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

One (1) Y__N__

HOT DIP GALVANIZED INTAKE MANIFOLD

The suction manifold shall be fabricated from heavy-duty tubular steel. The suction manifold shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to the galvanizing process. After testing the entire suction manifold shall be hot dip galvanized to minimize corrosion. The hot dip galvanized suction manifold shall be attached to the pump intake volute with a heavy-duty, flexible victaulic coupling.

One (1) Y__N__

The hot dip galvanized manifold assembly shall have a ten (10) year warranty.

REAR STEAMER INLET

There shall be one (1) steamer inlet furnished on the rear pump panel. The suction inlet shall have 4-1/2" 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__

5" pipe shall be used for the suction manifold.

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 PASSENGER SIDE REAR

A 2-1/2" independent gated suction intake shall be provided on the passenger'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.

One (1) Y__N__

HOT DIP GALVANIZED DISCHARGE MANIFOLD

The discharge manifold shall be fabricated from heavy-duty tubular steel. The discharge manifold shall be fabricated, welded, all fittings attached and pressure tested prior to the galvanizing process. After testing the entire suction manifold shall be hot dip galvanized to minimize corrosion. The hot dip galvanized discharge

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manifold assembly shall be bolted to the pump and have stabilizer arms attached to reinforce the discharge manifold.

One (1) The hot dip galvanized 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) The three (3) rear discharges shall be controlled at the valve. Y__N__

GALVANIZED PLUMBING

All rigid piping five-inch diameter or less shall be galvanized type with tapered thread or victaulic type couplings.

A Stainless Steel discharge manifold shall be provided. All discharges will be foam capable.

Three (3) Y__N__

REAR DISCHARGE OUTLETS

There shall be three (3) 2-1/2" discharge outlets located on the rear of the body below the hose bed. Each discharge outlet shall have a 2-1/2" quarter turn, swing-out valve with control at the valve. Each discharge shall have a chrome-plated 2-1/2" NST adapter that extends through the rear of the body. Each discharge shall be provided with a chrome-plated 30-degree discharge elbow.

Three (3) Three (3) 2-1/2" rear discharge outlets shall be provided and controlled at each valve. 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__

2-1/2" CAPS AND CHAINS

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

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- One (1) **GATED WYE ADAPTER** Y__N__
- The far right rear discharge outlet shall be equipped with a gated wye, 2-1/2" x 1-1/2" x 1-1/2".
- One (1) The gated wye shall be an Akron brand. Y__N__
- PASSENGER SIDE HOSEBED PRECONNECT**
- One (1) 1-1/2" discharge outlet located at the passenger's side at the rear. Discharge shall be plumbed with two-inch pipe and two-inch quarter turn swing out valve with control on pump operator's panel. The discharge outlet shall have 1-1/2" NST male fitting.
- One (1) **MANUAL VALVE** Y__N__
- Discharge valve shall be swing out type with manual control handle located on pump operator's panel.
- One (1) **MANUAL DRAIN VALVE** Y__N__
- The passenger's side hose bed 1-1/2" preconnect shall have a 3/4" drain with individual control on side pump panel.
- One (1) **1-1/2" FRONT DISCHARGE** Y__N__
- One and one half (1-1/2") discharge located at front bumper. Front discharge shall be plumbed using two-inch (2") pipe and wire reinforced high-pressure hose coupled with stainless steel fittings. Front discharge outlet shall have two-inch quarter turn swing out valve with control at discharge. The front discharge shall be provided with a 1-1/2" brass 90-degree swivel adapter with 1-1/2" NST male outlet.
- One (1) **MANUAL VALVE** Y__N__
- Discharge valve shall be swing out type with manual control handle located under the front bumper gravel shield with the control handle extending upward.
- One (1) The valve shall be mounted and controlled at the front bumper. Y__N__
- MANUAL DRAIN VALVE**
- Front discharge outlet shall have a 3/4" drain with individual control on side pump panel. There shall be additional 1/4 turn drains furnished as required to drain the plumbing system between the pump and the front discharge connection.
- 1/4 turn drains shall be provided at all low points and at the front bumper in addition to the drain on the control panel.

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- One (1) **FRONT DISCHARGE HOSE CONNECTION** Y__N__
- The hose connection for the front discharge outlet shall be located on top of the front bumper extension. The hose connection shall have a continuous swivel adapter located on top of the front bumper extension.
- One (1) **BOOSTER HOSE REEL** Y__N__
- There shall be a Hannay booster hose reel with leak proof ball bearing swing joint, adjustable friction brake and electric rewind furnished. The reel capacity shall be at least 200 feet of 1" booster hose. 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 in the hose bed of the apparatus.
- The capacity of the reel to be 1" x 200' for future use. 3/4" x 200' will be supplied by the manufacturer.
- One (1) **MANUAL VALVE** Y__N__
- Discharge valve shall have manual control handle located on pump operator's panel.
- The control handle shall be reversed so that the valve is open when the handle is 'IN'.
- One (1) **PAINTED BOOSTER REEL** Y__N__
- 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.
- One (1) **ROLLER ASSEMBLIES FOR BOOSTER REEL** Y__N__
- The booster hose reel shall be equipped with two (2) heavy-duty, stainless steel roller assemblies, setup to payout hose to each side of the apparatus.
- Provide two (2) reel rewind buttons. Mount one per side inside the front compartments (L1 and R1) on the door hinge side of the compartment.
- Two (2) **BOOSTER HOSE** Y__N__
- One hundred (100) foot length of 3/4-inch rubber covered booster hose, high-pressure type at least 800 lbs test, coupled and installed on the specified booster hose reel.
- Two (2) 100' lengths of 3/4" booster hose shall be provided.
- One (1) **FOAM SYSTEM** Y__N__
- The apparatus shall be equipped with a FoamPro 2001, electronic, fully automatic, direct injection, discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrates and most Class B foam concentrates.

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The foam proportioning operation shall be based on direct measurement of water flows with no water flow restriction. The proportioning system shall meet NFPA Standards for foam proportioning systems and the design shall have passed testing against SAE automotive reliability standards appropriate for the application. The foam system shall be installed in accordance with the manufacturer's recommendations.

The system shall be equipped with a digital electronic control display, suitable for installation on the pump panel.

The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

1. Activate the foam system.
2. Provide foam concentrate proportioning rates from 0.1% to 3.0% in 0.1% increments.
3. From discharges plumbed after the paddlewheel type flow meter: show current flow in gpm, show total volume of water pumped, show total amounts of foam concentrate used.
4. Provide simulated flow for manual operation.
5. Perform setup and diagnostic functions.
6. Flash a "low concentrate" warning for two minutes when the foam concentrate tank(s) run low of concentrate.
6. Flash "no concentrate" warning if foam concentrate tank was not changed or foam concentrate was not added to the low tank and shut down foam concentrate pump.

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

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

The foam system shall have a 12-volt 1/2 h.p. "TENV" electric motor designed for wet and high humidity environments, direct coupled to a positive displacement piston type foam concentrate pump with a rated capacity of .01 to 2.6 gpm with operating pressures up to 400 psi.

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

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

One (1) The foam system shall be plumbed to all discharges. 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 20-gallon foam concentrate tank shall be furnished as an integral component of the booster tank. The foam tank shall have a separate fill tower provided in a location to allow easy access for filling. Fill tower shall be equipped with a pressure/vacuum vent and have a sealed airtight cover. Tank shall be plumbed to the on board "Class A" foam system. A valved drain shall be provided at the lowest point of the foam tank. The drain shall be plumbed to drain directly to the surface below the apparatus without contacting other body or chassis components.

The following labels shall be attached to the foam tank:

"CLASS A FOAM TANK FILL"
"WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM"

One (1) The foam tower shall be placed behind the water fill tower. The foam tower shall be 2 1/2" lower than standard. Y__N__
TANK TO PUMP PLUMBING

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

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

One (1) 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. 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. Valve shall have control on the operator's panel. 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.

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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)

The tank shall carry a lifetime warranty from its manufacturer.

Y__N__

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)

The water and foam fill towers shall be located behind the booster reel on the driver's side of the hose bed.

Y__N__

BOOSTER TANK

A 500-gallon capacity polypropylene booster tank shall be provided.

One (1)

A notch in the upper driver's side section of the water tank shall be provided for a supply hose for the booster reel.

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

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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 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__

EXTERNAL TANK FILL

An external tank fill shall be provided and installed at the rear of the body. The tank fill shall include a quarter turn 2-1/2" Akron ball valve with a chrome-plated female swivel, plug and chain.

One (1) Y__N__

CENTER REAR MOUNTED PUMP OPERATORS CONTROL PANEL

The fire pump shall be located in the center rear area of the apparatus body. All NFPA required gauges and controls shall be installed on the center rear panel.

All pump suction and discharge controls are to be mounted in the 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.

A full panel width polished light hood with a minimum of three light assemblies shall be provided to illuminate the entire pump operator's control panel.

GAUGE PANEL

All gauges shall be suitably enclosed and mounted on a full pump compartment width gauge panel constructed of the same material as the pump operator's control panel. The gauge panel shall be removable allowing access to the backside of all gauges and gauge lines. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

PUMP ACCESS DOORS

There shall be two access panels furnished for 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) Y__N__

PUMP PANEL PUMP ENGAGEMENT LIGHT

There shall be one light on the operator's panel that will come on with a successful pump engagement.

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- One (1) **PUMP PANEL** Y__N__
- The rear mount pump panel shall be constructed entirely of aluminum, and be coated with black thermo-plastic material. The panel shall be completely "bolted" in place for ease of removal.
- One (1) **PUMP OPERATORS PANEL** Y__N__
- The following equipment shall be installed on the pump operator's panel.
- One (1) **MASTER GAUGES** Y__N__
- Class One #LFP410, 3-1/2" 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, 3-1/2" 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.
- One (1) There shall be one (1) pressure gauge for each 1-1/2" discharge outlet. Y__N__
- Three (3) There shall be one (1) pressure gauge for each 2-1/2" discharge outlet. Y__N__
- One (1) There shall be one (1) pressure gauge for each booster hose reel. Y__N__
- 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.

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One (1) Y__N__

INFORMATION CENTER

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 Enfor 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
- Engine oil pressure display
- Engine water temperature display

One (1) Y__N__

PUMP PANEL IDENTIFICATION LABELS

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.

All discharges to be labeled /Foam after the discharge number.

One (1) Y__N__

PUMP PANEL WATER TANK LEVEL GAUGE

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

One (1) Y__N__

WATER TANK LEVEL GAUGE IN CHASSIS CAB

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.

One (1) Y__N__

PUMP PANEL FOAM TANK LEVEL GAUGE

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

One (1) Y__N__

UL TEST CONNECTIONS

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

One (1) Y__N__

PUMP PANEL MOUNTED TRANSMISSION TEMPERATURE GAUGE

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

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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.

Four (4)

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, pressed into a "T" shaped aluminum extrusion for added strength along the bottom and front edges 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.

One (1)

Four (4) hose bed dividers shall be provided.

Y__N__

HOSEBED DUNNAGE

There shall be a hinged door provided on the far left hose bed divider to provide a dunnage area in the hose bed. The door shall be aluminum treadplate with two (2) push button latches.

The door shall seal as much as possible.

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One (1)

Y__N__

HINGED ALUMINUM HOSEBED COVERS

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 3/16" 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 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.

The passenger side hose bed cover shall stop at the hose reel. The cover shall not cover the hose reel. An access door shall be provided over the water fill tower only.

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.

Nylon straps shall be provided with quick disconnect buckles on the rear vinyl flaps. Footman loops shall be provided to secure the straps to the rear face. Vinyl flaps shall be red in color.

One (1)

Y__N__

LIGHTS BELOW ALUMINUM HOSE BED COVER

There shall be two lights furnished below each hose bed cover. The lights shall switch on automatically when the hose bed cover is opened. The lights shall also be connected to the hazard light in the chassis cab to indicate when the hose bed covers are in the open position.

One (1)

Y__N__

BACKBOARD STORAGE FOR ALUMINUM COVER

There shall be storage two (2) backboards underneath the aluminum hose bed cover.

Storage shall be provided for two (2) backboards, one under each hose bed cover. Minimum inside dimensions shall be 19"W x 3 1/2"H x 74"L.

The rear vinyl flaps shall keep the backboards contained.

One (1)

Y__N__

LADDER STORAGE COMPARTMENT

An enclosed ladder storage compartment shall be provided within the main hose bed area with access provided at the rear of the compartment. Compartment shall be provided with individual scratch resistant racks for each ladder and pike pole. Racks shall be designed so that any ladder or tool may be removed without disturbing the other equipment. The rear be open with no door. Provide a nylon containment strap with quick disconnect buckle.

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The compartment shall be large enough to accommodate a 24-foot 3-section ladder and a 12-foot roof ladder. The ladders shall be stored on end.

No rear door is required. A nylon strap with a quick disconnect buckle shall be provided to secure the ladders.

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.

Two (2)

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 on the driver's side of the body.

Two (2) hose trays shall be provided.

One (1)

Y__N__

PIKE POLE/ATTIC LADDER STORAGE

There shall be room for a pike pole, trash hook and the attic ladder to be mounted above the passenger side compartments.

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.

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.

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.

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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.

Smooth aluminum, natural finish compartment floors shall be provided.

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__

BODY DIMENSIONS

Apparatus body shall be up to 136" 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

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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.

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

One (1)

Y__N__

REAR TOW EYES

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

The rear of the body and tow eyes shall be raised 4" above standard to stay within the angle of departure.

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One (1)

RECEIVER HITCH

Y__N__

There shall be a 2" receiver hitch assembly attached to the rear of the apparatus directly below the rear step. The receiver shall be connected to the chassis and body sub frame assembly.

No electrical trailer connection is required.

One (1)

APPARATUS COMPARTMENTATION

Y__N__

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.

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

One (1)

HINGED COMPARTMENT DOOR CONSTRUCTION

Y__N__

All hinged compartment doors shall be of the flush style so that the entire door fits flush against the apparatus body sides. 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 a extended drip edge, on the bottoms by the rub rail.

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 .125" polished aluminum treadplate. 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.

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.

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One (1) Swirled smooth aluminum door skins shall be provided. 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.

Eight (8) A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel. Y__N__

EXTERIOR DOOR LOCKS

One (1) The hinge door(s) shall be equipped with a keyed locking device. Y__N__

DRIVER SIDE

One (1) The driver side of the apparatus body shall consist of the following configuration. 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 single hinged door.

One (1) A removable pump access panel shall be provided in the rear wall of the compartment behind the rear wheels and be as large as possible. Y__N__

PASSENGER SIDE COMPARTMENTS

One (1) The passenger side of the apparatus body shall consist of the following compartment configuration. 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.
- One compartment above rear wheel with one lift-up door.
- One compartment behind the rear wheels with full height single hinged door.

A removable pump access panel shall be provided in the rear wall of the compartment behind the rear wheels and be as large as possible.

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One (1) **REAR BODY CONFIGURATION** Y__N__

Rear apparatus body shall be flat with no compartment doors.

One (1) **FLAT BACK BODY** Y__N__

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

Eight (8) **ADJUSTABLE SHELVES** Y__N__

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.

Eight adjustable shelves shall be provided and located as follows:

- Two (2) in the front compartment on the driver's side (L1). A shelf shall be provided in the shallow and deep portion of the compartment.
- Two (2) in the rear compartment on the driver's side (L3). A shelf shall be provided in the shallow and deep portion of the compartment.
- Two (2) in the front compartment on the passenger's side (R1). A shelf shall be provided in the shallow and deep portion of the compartment.
- Two (2) in the rear compartment on the passenger's side (R3). A shelf shall be provided in the shallow and deep portion of the compartment.

Four (4) **SLIDE-OUT TRAY** Y__N__

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 250 pounds.

- Four (4) slide-out trays shall be provided and located as follows:
- One (1) floor mounted in the front compartment on the driver's side (L1).
- One (1) floor mounted in the rear compartment on the driver's side (L3).
- One (1) floor mounted in the front compartment on the passenger's side (R1).
- One (1) floor mounted in the rear compartment on the passenger's side (R3).

One (1) **ALUMINUM ON BACK WALL OF COMPARTMENT** Y__N__

There shall be aluminum panel furnished on the back wall of the compartment for mounting equipment. The panel shall be bolted to the back wall of the specified compartment.

The aluminum panel shall be mounted in the compartment over the rear wheels on the passenger's side of the body (R2).

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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 fender area. 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 fender area. Y__N__

SCBA COMPARTMENT WITH O-RING GASKET

All SCBA compartments mounted in the wheel well area shall have an o-ring gasket with push button latch assembly.

Four (4) Y__N__

SCBA BRACKETS

SCBA mounting bracket(s) shall be provided and mounted in the enclosed storage compartments as per instructions of Fire Department.

Four (4) SCBA brackets shall be provided and mounted in the compartment over the rear wheels on the driver's side of the body (L2). 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.

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

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.

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- Front face of hose bed above booster tank.

One (1) Overlay shall be installed with "Aluminized" stainless steel bolts to prevent corrosion. Y__N__

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.

One (1) Y__N__

REAR STEP/TAILBOARD

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

One (1) Y__N__

HOSE HOOKS

Two (2) removable hose carriers shall be provided on the rear of the body, one (1) per side on the bolt on intermediate rear step. These carriers shall extend approximately 12" beyond the rear step and have a receiver style bracket with locking pins to hold in place. Carriers are to be made of 1/2" x 3" aluminum stock.

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 and locking nuts. 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.

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One (1) The hand rails shall be mounted outboard near the edge of the body. Y__N__

HANDRAILS

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

One (1) The exact location of the hand rail shall be determined prior to construction. Y__N__

REAR FOLDING STEPS

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

One (1) Y__N__

FULL WIDTH INTERMEDIATE STEP

There shall be a full width intermediate step furnished and installed on the rear of the apparatus body. The top surface to the intermediate step shall have a slip-resistant surface meeting NFPA requirements. The intermediate step shall be fabricated of polished aluminum treadplate material and be bolted to the rear of the apparatus body.

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One (1)

Y__N__

ELECTRICAL

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

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

Wiring data shall be provided with the completed apparatus.

One (1)

Y__N__

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

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)

Y__N__

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

TAIL LIGHTS WHELEN LED 64 (RECT)

Two (2) Whelen #64 LED rectangular red stop/tail lights shall be provided and mounted at the rear of the body, one on each side.

One (1)

Y__N__

DIRECTIONAL LIGHTS WHELEN LED 64 (RECT)

Two (2) Whelen Model 64 amber arrow directional signal LED lights shall be provided and mounted at the rear of the body, one on each side below the stop/tail lights.

One (1)

Y__N__

BACKUP LIGHTS WHELEN LED 64

Two (2) Whelen Model 64 rectangular clear backup halogen 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)

Y__N__

TAIL LIGHT TRIM

A polished cast aluminum four (4) hole taillight bezel/housing shall be provided. The specified rear lighting units shall be installed in the bezel/housing and secured. The completed assembly is to be bolted to the apparatus body, one each side.

One (1)

Y__N__

CLEARANCE LIGHTS

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

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One (1)	LICENSE PLATE BRACKET A license plate mounting bracket shall be provided complete with a chrome-plated shielded indirect type light. Bracket shall be mounted at the rear of the apparatus body.	Y__N__
One (1)	MANUAL SWITCH FOR BACKUP LIGHTS A switch shall be provided on the rear of the truck to manually activate the backup lights. Wiring between the lights and the switch shall include a diode to prevent activation of the reverse alarm when the switch is activated.	Y__N__
One (1)	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.	Y__N__
One (1)	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: <ul style="list-style-type: none">• 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 metal 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.	Y__N__
One (1)	The two (2) 12 volt Focus tele-lights shall be wired through the load manager.	Y__N__
One (1)	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.	Y__N__
Six (6)	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.	Y__N__

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Eight (8)

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.

Eight (8) additional compartment lights shall be provided. One (1) light shall be provided below each adjustable shelf.

One (1)

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.

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

One (1)

Y__N__

BATTERY CONDITIONER

A 110-volt Kussmaul Auto-Charge 12, single system, 12-amp automatic battery charger shall be provided and installed within the chassis cab and wired to the battery system. Battery charger shall be designed to automatically charge the battery system when shoreline power is connected. The charger shall be equipped with an amp meter on the face of the charger to indicate the charge rate, and a remote voltage sensing device to compensate the charger output for the voltage drop in the charging wires.

One (1)

Y__N__

AUTO-EJECT

A Kussmaul "Auto-Eject" automatic disconnect device shall be provided and installed on the 110-volt shoreline connection complete with weatherproof cover and matching plug. The Auto-Eject shall be activated by the chassis starter switch to disconnect the plug.

The cover shall be blue. The receptacle shall be mounted below the driver's door.

One (1)

Y__N__

DASH MOUNTED EMERGENCY ELECTRICAL SWITCH PANEL

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

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SWITCHES

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

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

One (1)

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.

Three (3) recessed lights shall be provided under the bolt on intermediate rear step for pump panel illumination. The center light will come on with pump engagement.

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.

One (1)

Y__N__

PUMP COMPARTMENT WORK LIGHT

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

One (1)

Y__N__

UNDER CAB LIGHTING

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

One (1)

Y__N__

UNDER BODY LIGHTING

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 the park brake switch. When the park brake is engaged, the lights will come on and when the park brake is released the lights will go off.

Two (2)

Y__N__

TELESCOPING 12 VOLT SPOT/FLOODLIGHTS

Fire Research FOCUS 12-volt spot/flood light Model FC540-D30 shall be provided and mounted on a side mount/top raise type telescopic pole. The light shall be mounted on the front of the body area of the apparatus body. The lights shall be wired to the chassis 12-volt system with a switch provided on the light.

The lights shall be wired through the load manager.

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- One (1) **AIR HORN** Y__N__
- There shall be one (1) 24-inch air horn provided and plumbed to the chassis supplied air horn system.
- The air horn shall be mounted on the driver's side of the hood.
- One (1) **MECHANICAL SIREN** Y__N__
- A Federal model Q2B electro-mechanical siren shall be furnished with mounting rigidly reinforced. Siren controls and siren brake shall be accessible from the following switch control location.
- One (1) One (1) foot switch shall be provided on the driver's side floor for activation of the Q2B siren. Y__N__
- One (1) **Q2B SIREN BRAKE SWITCH** Y__N__
- There shall be a momentary switch installed on the operator's switch console to activate the Q2B siren brake.
- One (1) **Q2B MOUNTING LOCATION** Y__N__
- The Q2B shall be recessed mounted in the front bumper.
- The siren shall be mounted on the driver's side of the front bumper.
- One (1) **ELECTRONIC SIREN** Y__N__
- 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) **SPEAKER** Y__N__
- 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.
- The speaker can be mounted behind the chassis grille if required.
- One (1) **OPTICOM** Y__N__
- A 3M "Opticom" signaling device shall be provided and installed on the cab roof. Control switch shall be provided on the chassis electrical module. The "Opticom" shall be turned off when the park brake is set.
- One (1) **RED LIGHT** Y__N__
- There shall be a steady burning red light furnished on the chassis cab.
- The red light shall be provided to meet California DMV requirements

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Two (2) **RADIO ANTENNA** Y__N__

There shall be a universal base for the radio antenna installed on the chassis cab roof. The power and ground wires for the radio shall also be installed.

Two (2) antenna bases shall be provided.

One (1) **EMERGENCY LIGHTING** Y__N__

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

One (1) **LIGHT BAR** Y__N__

One (1) Whelen model 9308NLED 72" light bar mounted on chassis cab roof to meet the NFPA upper zone A lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console. Light bar to have the following equipment:

- (8) LED assemblies
- "V" ends
- PR2OSCCC

One (1) **REAR LIGHTS** Y__N__

Four (4) Whelen model 70R00FRR LED 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. There shall be two (2) lights on the rear and one (1) light each side. There shall be an amber and a red light on the rear and red a light on each side.

One (1) **ZONE A FRONT LIGHTS** Y__N__

There shall be two (2) Whelen model 60R00FRR LED flashing lights furnished on the front face of the apparatus to meet the NFPA Zone A lower level lighting requirement.

One (1) **ZONE B & D SIDE LIGHTS** Y__N__

There shall be two (2) Whelen model 60R00FRR LED flashing lights furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. One LED light mounted as far forward as possible and one LED light mounted as far to the rear as possible. The LED lights shall be connected to a flasher and be activated through the master emergency light switch located on the electrical console. Each light shall have a red lens.

One (1) **ZONE C REAR LIGHTS** Y__N__

There shall be two (2) Whelen model 60R00FRR LED flashing lights furnished on the rear of the apparatus to meet the NFPA Zone C lower level lighting requirement.

The lights shall be mounted in the polished four light bezels.

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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.
- 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.

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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 FINISH

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

One (1)

Y__N__

NO WHEEL PAINTING

The exterior faces of the front and rear wheels shall be as supplied with the chassis.

One (1)

Y__N__

PAINT BODY TO MATCH CHASSIS

The apparatus body to be painted to match the chassis.

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One (1) Y__N__

TWO TONE CAB PAINT

The chassis cab exterior shall be two-tone finish painted. The area to be painted shall be sanded and thoroughly prepared then refinished with PPG Concept paint.

Upper color to be white, #8000.
Lower color to be red, #7384.

One (1) Y__N__

LETTERING

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) Y__N__

LETTERING SHALL BE AS FOLLOWS:

Exact lettering requirements shall be determined prior to construction.

One (1) Y__N__

GOLD LEAF STRIPING

Striping to be gold leaf mylar with black shading placed on both sides of the apparatus body. Striping to be applied to outer perimeter of body and have four (4) scrolls on each side.

One (1) Y__N__

REFLECTIVE SAFETY STRIPE

A 1" x 4" x 1" wide 3M brand Scotchlite #680-10 reflective multi-stripe shall be affixed to the perimeter of the vehicle. There shall be a 1" gap between each of the stripes. 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 in a Large "Z" design

The stripe shall be white in color.

One (1) 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.

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11. Equipment rack fluid.
12. Air compressor system lubricant.
13. Generator system lubricant.

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

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

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

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

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

One (1)

Y___N___

OPERATION/SERVICE MANUALS

The following applicable documentation shall be supplied upon delivery:

- Two (2) copies of Operation/Service manual of the apparatus operations and service manuals supplied by components manufacturers.
- Pump certification including manufactures record of apparatus construction details.
- Certificate of compliance to Electrical Warning System Low Voltage test.
- Water tank capacity certificate.
- Line Voltage Electrical System test certificate.
- (NFPA 19-14.4.1 - 19.14.4.2)
- Certificate of approval for stationary pumping.

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One (1)	ADDITIONAL EQUIPMENT	Y__N__
	The following equipment shall be furnished by the apparatus body builder.	
	LADDERS	
One (1)	A 24-foot, 3-section aluminum fire department extension ladder, ALCO-LITE Model PEL-24, shall be furnished.	Y__N__
One (1)	A 12-foot aluminum roof ladder with folding hooks, ALCO-LITE model PRL-12, shall be furnished.	Y__N__
One (1)	A 10-foot folding aluminum attic ladder, with mounting brackets, ALCO-LITE model FL-10, shall be furnished.	Y__N__
	PIKE POLE	
One (1)	10-foot pike pole with fiberglass handle and steel hook shall be furnished.	Y__N__
	RUBBISH HOOK	
One (1)	One (1) Nupla brand, model RH-6D rubbish hook with a D-style handle shall be furnished.	Y__N__
Two (2)	HARD SUCTION HOSE	Y__N__
	A 10-foot length of 4-1/2" 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 lightweight couplings. Long handles on female and rocker lugs on male couplings.	
	Two (2) 4.5" x 10' suction hoses shall be provided.	
One (1)	SUCTION STRAINER	Y__N__
	A 4-1/2" NST chrome-plated barrel type suction hose strainer shall be provided.	
	WHEEL CHOCKS	
One (1)	A pair of heavy-duty aluminum wheel chocks shall be provided and mounted in underbody slide-out mounting brackets as directed by the fire department. (Non NFPA compliant)	Y__N__
	Both wheel chocks shall be mounted just behind the driver's side rear wheels.	

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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 which 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.

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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 which 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.

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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.