

Canby Fire Protection District

One (1)

Y__N__

FORD F-550 CHASSIS

A Ford F550 chassis per the following specifications shall be furnished:

2004 Ford Super Duty 550, 4x4, 4 Door Cab

176" Wheelbase with 60" cab to axle

17,500 GVW

Standard XL Equipment Package includes:

Aft of Axle 36 gallon fuel tank

4 Wheel ABS Brakes

Trailer Towing package

Telescoping Mirrors

Roof Clearance Lights

Optional Heavy Duty Vinyl Bucket Seats

6.0L Power Stroke Diesel Engine with Block Heater

6-Speed Manual Transmission w/PTO provision

Ambulance Prep Package includes:

Air Conditioning

Dual 130 Amp Alternators

Driver & Passenger Air Bags

4.88 Limited Slip Rear Axle

Front & Rear Stabilizer Bars

Full Function Electronic Engine Idle Control with Charge Protect

LCD Readout

Convenience Package includes:

Tilt Steering Wheel

Speed Control

AM/FM Stereo with Cassette and Clock

XL Decor Package includes:

Chrome Front Bumper

Jewel Halogen Headlights

LT 225/70Rx19.5 Traction Tires (All Season Standard)

Color to be Red

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CHASSIS ADDITIONS AND MODIFICATIONS

- One (1) **ELECTRIC WINCH** Y__N__
- A Warn, model M12000, 12-volt electric winch, with 12,000 lb. capacity shall be provided and mounted behind the front bumper of the chassis. The winch shall be secured directly to the chassis frame rails by a heavy steel support structure designed to with stand the pulling force of the winch.
- The winch shall include 100 ft. 3/8" galvanized cable with clevis hook, 12-foot remote control pendant, 4-way roller fairlead through the bumper.
- Access shall be provided in the top of the front bumper gravel shield to access the winch controls.
- One (1) **BRUSH GUARD** Y__N__
- There shall be a brush guard installed on the front bumper of the truck.
- A skid plate shall be furnished under front bumper area to protect the bottom of the winch.
- One (1) **ALUMINUM RUNNING BOARDS** Y__N__
- There shall be a set of aluminum running boards furnished on each side of the four-door commercial chassis that extend from behind the front wheel to the rear of the four-door cab. The running boards shall have slip resistant overlay material installed on each step surface.
- One (1) **REAR MOUNT FUEL TANK** Y__N__
- There shall be a rear mounted fuel tank furnished with the chassis. The fuel fill shall be located on the left rear of the apparatus.
- One (1) **HORIZONTAL CHASSIS EXHAUST** Y__N__
- The chassis exhaust system shall be extended to the rear of the right rear wheel.
- One (1) **ALTERNATOR** Y__N__
- The alternator shall be of adequate size to meet the NFPA requirements and to accommodate the specific apparatus electrical load.

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PUMP AND PLUMBING

One (1)

Y__N__

WATEROUS PUMP

The pump shall be a Waterous, **High Capacity** model CPK-3 two stage centrifugal type with integral speed increasing gearbox.

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

500 GPM @ 150 PSI (Volume mode).
60 GPM @ 500 PSI (Pressure mode).

The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump dry, through 20 feet of suction hose of appropriate size. It shall be capable of developing a vacuum of 22 inches with a capped suction and hold the vacuum with a drop not to exceed 10 inches in 5 minutes.

Pump body shall be close-grained gray iron and be vertically split in two sections for easy removal of the entire impeller shaft assembly.

Impellers shall be bronze, double hubbed and accurately balanced (mechanically and hydraulically). Wear rings shall be bronze, and shall be easily replaceable to restore original pump efficiency and eliminate the need for replacing the entire pump casing due to wear.

Impeller shaft shall be stainless steel, heat-treated, accurately ground to size, and supported by oil lubricated, anti-friction ball bearing for rigid and precise support. Bearing shall be protected from water and sediment by mechanical water seal, flinger rings and oil seals.

The pump shall be equipped with self-adjusting, maintenance free mechanical shaft seals. Packing is not required and shall not be used.

Transfer valve shall be manually operated push-pull type with control on pump operator's panel. Transfer valve shall be bronze in a removable bronze housing.

Pump transmission shall be rigidly attached to the pump body assembly and have an integral speed increasing gearbox. Pump transmission shall have helical, precision cut, crown shaven gears for proper load distribution and quiet operation.

The pump to be driven by a PTO attached to the chassis transmission. PTO to have engagement switch in cab.

One (1)

Y__N__

MANUAL CONTROL PRIMING PUMP

Priming pump shall be activated by a mechanical/electric valve with a single pull control located at the pump operator's panel area. Valve actuation may be accomplished while the main pump is operational, if necessary to assure a complete prime.

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PRIMING SYSTEM

The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 45 seconds with the pump dry, through 20 feet of suction hose of appropriate size. It shall be capable of developing a vacuum of 22" at an altitude of up to 1000 feet.

A high capacity, electrically driven Waterous model VPE rotary vane priming pump shall be provided which is rigidly attached to the pump transmission.

The priming system shall include a one-gallon oil reservoir tank that is conveniently located behind a hinged access door. Priming tank shall be properly vented so as to provide priming pump lubrication.

A vacuum test with a capped suction of at least 20' long shall develop 22" of vacuum and hold a vacuum with a drop not in excess of 10" in 5 minutes.

One (1)

Y__N__

DISCHARGE PRESSURE RELIEF VALVE

Pump pressure shall be controlled by a Waterous Fire Pump Company automatic relief valve that is capable of operation over a range of 75 to 300 psi net pump pressure. The Relief Valve shall be controlled at the pump operator's position. Relief valve shall have two controls, one for pressure adjustment and the other an on/off control. Pilot valve shall maintain set pressure until manually reset by the pump operator. Relief valves requiring pressure reset after each use of the pump are not acceptable.

Relief pilot valve orifice shall be protected from malfunction due to sand or other sediment in the water by a strainer that can be removed, cleaned, and replaced at the operator's panel while the pump is operating. Relief valves which require orifice cleaning within or below the pump enclosure are not acceptable.

Operators panel mounted relief valve indicator lights shall be provided. Lights shall include two color-indicating lights to show position of relief valve. A green light shall indicate a fully closed relief valve and an amber light shall display when the valve begins to open.

Relief valves requiring pressure reset after each use of the pump does not meet the technical fire ground operational requirement of these specifications.

One (1)

Y__N__

MANIFOLD DRAIN

A manifold drain valve shall be furnished with all pump drains connected to it so that the entire pump system may be drained by one control.

Drain valve assembly shall consist of a stainless steel plunger and a bronze body rigidly attached to the fire pump transmission.

A push-pull control with chrome plated "T" handle is to be provided and located at the drivers side of the pump house, properly identified as MASTER DRAIN.

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One (1) Y__N__

PTO DRIVE ASSEMBLY

There shall be a PTO drive assembly furnished and installed on the chassis transmission. The PTO drive assembly shall include the PTO, driveline, and all necessary mounting hardware. The PTO shall be engaged through an electric/hydraulic operated Hot Shift control switch located within the truck cab. There shall be a green light furnished in the chassis cab to indicate when the PTO is engaged.

One (1) Y__N__

HEAT EXCHANGER

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

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

One (1) Y__N__

DRIVERS SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the driver's side of pump panel. The suction inlet shall have 4" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

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

One (1) Y__N__

PASSENGER SIDE STEAMER INLET

There shall be one (1) steamer inlet furnished on the passenger side of pump panel. The suction inlet shall have 4" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.

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

One (1) Y__N__

2-1/2" GATED SUCTION INTAKE DRIVER SIDE

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

One (1) Y__N__

SUCTION VALVE CONTROL

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

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One (1)

PUMP DISCHARGES

Y__N__

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)

GALVANIZED PLUMBING

Y__N__

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

One (1)

DRIVER SIDE DISCHARGE OUTLET

Y__N__

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

One (1) 2-1/2" discharge shall be provided on the driver's side pump panel.

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)

PASSENGER SIDE DISCHARGE OUTLET

Y__N__

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

One (1) 2-1/2" discharge shall be provided on the passenger's side pump panel.

One (1)

MANUAL VALVE

Y__N__

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

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Two (2) Y__N__

2-1/2" CAPS AND CHAINS

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

Two (2) Y__N__

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

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

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

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

Two (2) Y__N__
Two (2) 1-2/3" crosslays shall be provided.

MANUAL VALVE

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

Two (2) Y__N__

MANUAL DRAIN VALVE

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

One (1) Y__N__

FOAM SYSTEM

A Foam Pro Model #1600 built in foam injection system shall be provided with the controls at the operator's panel.

The foam system shall be a fully automatic, electronic, direct injection foam proportioning system. The system shall be capable of Class A foam concentrate. The foam proportioning operation shall be based on an accurate direct measurement of water flows with no water flow restriction. The foam system shall be installed in accordance with the manufacturer's recommendations.

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

1. Activate the foam system
2. Change foam concentrate proportioning rates of .1% to 1%.

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3. Flash a "low concentrate" warning light when the foam concentrate tank runs low of concentrate and in two minutes if foam concentrate is not added to tank, shut the foam concentrate pump down.

The foam system shall have a 12-volt, 1/3-hp electric motor driven positive displacement piston type foam concentrate pump with a rated capacity of .01 to 1.6 gpm with operating pressures up to 400 psi.

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

The foam system shall be plumbed to the two crosslays.

One (1)

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)

Y__N__

BALL VALVE TANK TO PTO PUMP

A 2-1/2" *Akron* ball type gated suction valve, operator's panel controlled, shall be furnished from the tank to the PTO pump, complete with a flexible connection and enclosed in the pump compartment.

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

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

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One (1)

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)

Y__N__

The tank shall carry a lifetime warranty from its manufacturer.

FILL TOWER

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of polypropylene and with a minimum dimension of 10" x 10" outer perimeter. The fill tower shall be located in the left front corner of the tank. The fill tower shall have a polypropylene screen and a polypropylene hinged cover. Inside the fill tower, shall be fastened a combination vent overflow pipe. The vent overflow shall be polypropylene pipe that is designed to run through the tank and shall be piped behind the rear wheels.

One (1)

Y__N__

BOOSTER TANK

A 300-gallon capacity polypropylene booster tank shall be provided.

One (1)

Y__N__

DRIVER SIDE MOUNTED OPERATOR'S CONTROL PANEL

All pump suction and discharge controls are to be mounted on the driver side 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.

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

An additional polished light hood with a minimum of two Weldon model 2025 light assemblies shall be provided to illuminate the right side pump panel. Lights shall be controlled by the operator's panel light switch.

GAUGE PANEL

All gauges shall be suitably enclosed and mounted on a full pump compartment width "hinged" gauge panel constructed of the same material as the pump operators control panel, allowing access to the backside of all gauges and gauge lines. Panel is to include a stainless steel piano hinge, flush mounted chrome plated trigger latch, and stainless steel cable end stops. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

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.

One (1)

Y__N__

PUMP PANELS

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

One (1)

Y__N__

PUMP COMPARTMENT ACCESS DOOR

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

One (1)

Y__N__

ENGINE THROTTLE

An electronic vernier engine control throttle shall be provided on the pump operator's control panel for the Cummins electronic engine. The electronic throttle shall be positive locking, crank operated and have a quick release center button. There shall be an engraved identification label provided that reads **THROTTLE**.

One (1)

Y__N__

INFORMATION CENTER

A Class 1 Enfo III master engine gauge and warning device shall be furnished and installed on the pump operator's panel. The device will monitor the following engine systems:

- Engine RPM display

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- System voltage display and alarm
- Engine oil pressure display and alarm
- Engine water temperature display and alarm.

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.

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__

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__

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

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

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

One (1)

HOSEBED CAPACITY

Y__N__

Exact hose bed requirements shall be provided by the fire department prior to construction.

One (1)

HOSEBED FLOORING

Y__N__

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

One (1)

MAIN HOSEBED DIVIDER

Y__N__

Adjustable hosebed dividers shall be provided in the main hosebed.

The hosebed 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 edge of the divider.

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

One (1)

LADDER MOUNTING

Y__N__

The ladders shall be mounted above the passenger side of the body, directly above the full height side compartments. The ladders shall rest on poly slides and have rear roller for easy removal. The ladders shall be held in place with spring loaded, chrome-plated, quick release type clamps.

One (1)

GROUND LADDERS FURNISHED BY BODY BUILDER

Y__N__

The body builder shall furnish the ground ladders. See equipment section of this document for make and model of ladders.

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Two (2)

HARD SUCTION HOSE TRAYS

Y__N__

Hard suction hoses shall be mounted in extruded aluminum, self-draining carrier trays with hold down device. The carrier tray(s) shall be mounted on the driver's side of the body.

One (1)

HARD SUCTION HOSE FURNISHED BY BODY BUILDER

Y__N__

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)

ALUMINUM BODY

Y__N__

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

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

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

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

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

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

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.

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FASTENERS

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

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

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

One (1)

Y__N__

CS 1/8" ALUMINUM BODY

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

One (1)

Y__N__

BODY DIMENSIONS

Apparatus body shall be up to 116" long and 95" wide, reference drawing for actual body length. Body compartments shall be full depth from top to bottom. Each compartment shall be approximately twenty-three and one-half inches in depth. The area between the body sides shall be 48" wide.

One (1)

Y__N__

ALUMINUM SUB-FRAME

The main body sub-frame shall be extruded aluminum and be fully welded to the longitudinal frame rail extrusions that are mounted parallel to the chassis frame rails.

The main body sub-frame shall be constructed of no less than four (4) extruded aluminum tubes running full width of the apparatus body. A minimum of two (2) full body width tubes shall be provided ahead of and behind the rear axle forming the main body support crossmembers. The main cross tubes shall be fully welded to the vertical and horizontal extrusions forming the body super-structure, described elsewhere herein.

For added strength and rigidity, no less than six (6) intermediate body crossmembers shall be provided constructed extruded aluminum tubes.

The intermediate structural crossmembers shall be interconnected and welded to the main body tubular crossmembers forming a fully welded support grid for the body super-structure compartments.

The subframe crossmembers shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the subframe and body assembly from the chassis. There shall be a barrier provided between the subframe and body to prevent electrolysis.

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

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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 PANELS AND FENDERETTES

For ease of accessibility and maintenance, wheel well panels shall be 3/16" aluminum treadplate that is welded in place.

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.

One (1) Y__N__

APPARATUS COMPARTMENTATION

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

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

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

One (1) Y__N__

HINGED COMPARTMENT DOOR CONSTRUCTION

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 an 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.

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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.

One (1) 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. 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.

One (1) A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel. Y__N__

BODY COMPARTMENTS

Driver side and passenger side compartments shall be furnished as follows:

- Pump operator's panel ahead of rear wheels on each side.
- One compartment above rear wheels with one lift-up door on each side.
- One compartment behind the rear wheels with full height single hinged door on each side.

One (1) Top of all body compartments shall be fabricated of polished aluminum treadplate. Y__N__

REAR BODY CONFIGURATION

Rear apparatus body compartments shall be as follows:

- There shall be one lower compartment with double hinged doors.

FLAT BACK BODY

One (1) The rear vertical surface of the body shall be flat from side to side. 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.

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One (1)

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 hosebed.
- Drivers side and passenger compartment top extending down over side to the compartment doors then forming a drip rail above doors.
- Front face of hose bed above booster tank.

One (1)

Y__N__

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

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 8.00" deep and full width of the apparatus body, from rub rail to rubrail. The tailboard shall be provided with a removable casting on each corner for a pleasing appearance.

One (1)

Y__N__

HANDRAILS

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

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One (1)

REAR HANDRAILS

Y__N__

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

One (1)

REAR FOLDING STEPS

Y__N__

Two (2) NFPA approved folding steps shall be provided and mounted on the rear of the apparatus, one 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.

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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 & STOP LIGHTS

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

One (1) Y__N__
DIRECTIONAL LIGHTS WELDON 2010

Two (2) Weldon #2010, rectangular amber directional signal lights with black arrows shall be provided and mounted at the rear of the body, one on each side below the stop/tail lights.

One (1) Y__N__
BACKUP LIGHTS WELDON 2010 (RECT)

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

One (1) 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.

One (1) Y__N__
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.

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One (1)	<p>BACKUP ALARM</p> <p>An automatic, electronic reverse alarm shall be provided and installed. An alarm shall activate whenever the reverse gear is selected in the transmission.</p>	Y__N__
Five (5)	<p>COMPARTMENT LIGHTING</p> <p>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.</p>	Y__N__
One (1)	<p>OPEN COMPARTMENT/HAZARD WARNING LIGHT</p> <p>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.</p>	Y__N__
One (1)	<p>BATTERY DISCONNECT SWITCH</p> <p>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.</p> <p>A "Battery-On" pilot light shall be provided, visible to the driver.</p>	Y__N__
One (1)	<p>ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL</p> <p>An electrical console shall be constructed of .125" smooth aluminum material and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.</p> <p>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.</p> <p>A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. The emergency lights shall be activated by a single "MASTER SWITCH" on the electrical console.</p>	Y__N__
One (1)	<p>REAR STEP LIGHTS</p> <p>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.</p>	Y__N__

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- | | | |
|---------|---|--------|
| One (1) | <p>ENGINE COMPARTMENT WORK LIGHT</p> <p>An engine compartment work light shall be provided complete with a switch mounted on the light head.</p> | Y__N__ |
| One (1) | <p>PUMP COMPARTMENT WORK LIGHT</p> <p>A pump compartment work light shall be provided and installed within the pump compartment area complete with a switch mounted on the light head.</p> | Y__N__ |
| One (1) | <p>UNDER CAB LIGHTING</p> <p>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.</p> | Y__N__ |
| One (1) | <p>UNDER BODY LIGHTING</p> <p>There shall be two (2) lights furnished below the pump house running board, one on each side. The lights shall be wired to turn on and off with a switch located on the driver's side pump panel.</p> | Y__N__ |
| One (1) | <p>UNDER BODY LIGHTING REAR STEP</p> <p>There shall be two (2) lights furnished below the rear step, one on each side. The lights shall be wired to turn on and off with a switch located on the driver's side pump panel.</p> | Y__N__ |
| One (1) | <p>REAR DECK LIGHTS</p> <p>Two (2) Unity #AG series, chrome-plated, six-inch rear mounted lights with swivel type mounting bracket and individual switches shall be provided.</p> <p>One light shall be a 35-watt 75,000 candlepower spot lamp, and one light shall be a 35-watt 1,100 candlepower flood lamp.</p> | Y__N__ |
| One (1) | <p>ELECTRONIC SIREN</p> <p>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.</p> | Y__N__ |
| One (1) | <p>SPEAKER</p> <p>Cast Products Model GS1004, 100-watt speaker shall be provided and recess mounted in the front bumper of the chassis. The speaker shall be connected to the electronic siren control unit.</p> | Y__N__ |
| One (1) | <p>RED LIGHT</p> <p>There shall be a steady burning red light furnished on the chassis cab.</p> | Y__N__ |

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One (1) The light shall be provided to meet California DMV requirements. Y__N__

HEADLIGHT FLASHER

One (1) The headlight circuit of the chassis shall be provided with a heavy-duty headlight flasher system designed for emergency vehicles. Flasher shall include override for high beam headlights and controlled by switch located on the electrical module in the chassis cab. Headlight flasher to be turned off when the park brake is set. Y__N__

EMERGENCY LIGHTING

One (1) The upper and lower zones "A", "B", "C", "D" of the apparatus shall have the following emergency lighting equipment: Y__N__

LIGHT BAR

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

- (4) 50-watt standard rotators
- (1) 50-watt fast rotator
- (2) diamond mirrors
- (2) 2-step cascade mirrors

One (1) **REAR LIGHTS** Y__N__

Two (2) Code 3 model 550F rotating lights mounted on the rear of the apparatus 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. Each light to have the following equipment.

- (1) 50-watt fast rotator
- 1 Red lens / 1 Amber lens

One (1) **UPPER ZONE "B, C, D" LIGHT MOUNTING** Y__N__

The upper rear lights designated for Upper Zone "B" shall be mounted on cast aluminum stanchions attached to the apparatus body, one on each side.

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

There shall be two (2) Code 3 model 4135BZ halogen flashing lights with bezels furnished on the front grill to meet the NFPA Zone A lower level lighting requirement. The lights shall be connected to a relay be activated through the master emergency light switch located on the electrical console.

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

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

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One (1)

ZONE C REAR LIGHTS

Y__N__

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

One (1)

12-VOLT ELECTRICAL CERTIFICATION

Y__N__

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 cannot 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 subframe shall be undercoated with a heavy-duty automotive type undercoating before the rubber backing and the compartments are attached. After the body has been attached to the subframe and all final items have been installed the entire body assembly shall be undercoated

One (1)

Y__N__

INTERIOR COMPARTMENT PAINT

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

One (1)

Y__N__

WHEEL PAINTING

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

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

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One (1) Y__N__

PAINT BODY TO MATCH CHASSIS

The apparatus body to be painted to match the chassis.

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 information shall be provided by the Fire Department prior to construction.

One (1) Y__N__

REFLECTIVE SAFETY STRIPE

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

The side stripe shall be applied straight across the body.

The stripe shall be white in color.

One (1) Y__N__

IDENTIFICATION & SAFETY LABELS

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

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

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

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

An accident prevention sign stating "DANGER PERSONNEL MUST BE SEATED AND SEAT BELTS MUST BE FASTENED WHILE VEHICLE IS IN MOTION OR

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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:

One (1)

LADDER

Y__N__

A 12-foot, 2-section aluminum fire department extension ladder, DUO-SAFETY Model 1000A shall be furnished.

Two (2)

HARD SUCTION HOSES

Y__N__

Two (2) 8-foot lengths of 4" 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.

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One (1)

Y__N__

WARRANTY

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

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

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

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

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

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

One (1)

Y__N__

5-YEAR ALUMINUM BODY WARRANTY

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

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

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

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

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

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

One (1)

Y__N__

PAINT WARRANTY

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

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

GUARANTEE INCLUSIONS:

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

- * Peeling or delamination of the topcoat and/or other layers of paint.
- * Cracking or checking.
- * Loss of gloss caused by cracking, checking, or hazing.
- * Any paint failure caused by defective PPG Fleet Finishes, which are covered by this guarantee.

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