

Rosenbauer – General Division

One (1)

CHASSIS

MODEL YEAR

2005,

MAKE

Navistar 7400 SFA, 4X4 (SR525)

WHEELBASE

181" wheelbase, 62.1" CA and 75" axle to frame.

TOW HOOKS

Two (2) front frame mounted.

FRAME RAILS

Heat treated alloy steel (120,000 PSI yield) 10.250" X 3.160" X 0.375" (260.4mm X 91.7mm X 9.5mm); 456.0" (11582mm) maximum OAL.

BUMPER

Front, Full width, aerodynamic, chrome plated steel; 0.189" material thickness.
Bumper Extension, front 20.0"

AXLE

Front Driving Type, (Meritor MX-12-120)

Includes:

Single reduction, 12,000-lb capacity.
Drain plug, driving front axle, magnetic.
Lube (EmGard 75w-90) synthetic oil.

SUSPENSION

Front, spring Parabolic, taperleaf, 12,000-lb capacity with shock absorbers.

Includes:

Spring Pins rubber bushings, maintenance-free.

WHEELS/TIRES

22.5" painted steel, 10-stud (285.75mm BC) hub piloted, flange nut, metric mount,
8.25" DC rims with steel hubs.
Wheel seals, front oil lubricated including wheel bearings.
(2) 12R22.5 Unisteel G328 (Goodyear) 496 rev/mile load range G, 14 ply.

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BRAKE SYSTEM

Air Dual System for straight truck application.

Includes:

Air compressor air supply line through air cleaner.
Brake chambers, spring (2) rear parking.
Brake lines color coded nylon.
Dust shields, front and rear brakes.
Slack adjusters, automatic, front and rear.
Parking brake valve color coded yellow knob, located on instrument panel.
Drain valve, twist type.
Spring brake modular 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

Meritor-Wabco system saver 1200 mounted in standard location.

BRAKES

Front, air cam S-cam, 16.5" X 5.0", includes 20 sq in MGM long stroke brake chambers.

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" diameter, Black.

STEERING GEAR

Sheppard M-110, power.

MAINSHAFT

SPL 140 in lieu of 1710 series.

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ELECTRICAL SYSTEM

12volt, 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 Dual.

Parking light, integral with front turn signal and rear tail light.

Stop, Turn, Tail and Back up lights, dual rear combination reflectors.

Starter switch Keyless.

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 and intermittent feature.

Wiring, chassis color coded and continuously numbered.

Cigar lighter.

POWER SOURCE

Cigar type receptacle without plug or cord.

ALTERNATOR

Leece-Neville 4867 JB brush type, 12 volt, 270 ampere capacity with self excite, includes a 1-gauge charging circuit.

ALTERNATOR PULLEY

2.4" diameter for increased alternator output at idle, for fire truck application.

BODY BUILDER WIRING

To rear of frame, with stop, tail, turn, and marker lights circuit, ignition controlled auxiliary feed and ground, less trailer socket.

BATTERY SYSTEM

(3) International maintenance free 12 volt 1950 CCA total.

BATTERY SWITCH

Joseph Pollack lever operated.

JUMP START STUDS

Remote mounted.

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AIR HORNS

Grover, black, single trumpet, air solenoid operated, mounted behind bumper on right rail.

SWITCH, AIR HORN

Passenger side located switch in instrument panel close to passenger, driver also to activate switch at steering wheel.

COURTESY LIGHT

Two front mounted under instrument panel and two rear doors, one each side.

BODY CIRCUITS

Rear for body builder with 6 switches in instrument panel, one power module with 6 channels, 20 amp per channel and 80 amp maximum output, switches control the power modules through multiplex wiring mounted at rear on frame.

STARTING MOTOR

Leece-Neville MS2, 12 volt, less thermal over crank protection.

CIRCUIT BREAKERS

Manual reset main panel SAE Type III with trip indicators, replaces all fuses except for 5-amp fuses.

FENDER EXTENSIONS

Injection molded TPO.

GRILLE

Stationary.

FRONT END

Tilting, fiberglass, with three piece construction.

PAINT SCHEMATIC

PT-1, design 214.

PAINT TYPE

Base coat/clear coat 1-tone.

PAINT CLASS

Single custom color.

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KEYS

All alike, ID Z-001.

ENGINE

Diesel, International DT-466 standard torque, electro-hydraulic fuel system, 50 state, 245 HP @ 660 lb/ft torque @ 1400RPM, 2400 RPM governed speed, includes #2 bell housing.

Includes:

Cruise control electronic, controls integral to steering wheel.

Wet type cylinder sleeves.

Engine shutdown electric switch operated.

Governor, road speed, electronic.

Engine oil drain plug magnetic.

Oil filter engine spin on type.

Engine oil change system, 30 quart capacity.

Damper, crankshaft viscous.

Fan, optimized position.

Fuel filter engine mounted.

EXHAUST SYSTEM

Single, horizontal muffler, vertical tail pipe, aluminized steel.

Includes:

Tail pipe guard, frame mounted right side under cab, outside rail.

ENGINE BRAKE

PacBrake for International I-6 engine.

AIR CLEANER

Single element.

ENGINE CONTROL

Remote mounted provision for, includes wiring for body builder installation of PTO controls, with ignition switch control.

Hand control, engine speed control for PTO, electronic, stationary pre-set, two speed settings, mounted on steering wheel.

ENGINE COOLER

Sendure auxiliary for use with fire trucks.

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FAN DRIVE

Horton Drivemaster automatic on/off type control, with normally closed temperature control, use with International I-6 engine.

Includes:

Nylon fan.

RADIATOR

Cross flow, series system, CuBrass radiator core, with transmission cooler, 940 sq in area and 1025 sq in charge air cooler.

Includes:

Anti-freeze Shell Rotella extended life coolant -40F

Deaeration system with polypropylene tank

Radiator hoses, premium rubber.

WATER FILTER

Heavy duty, extended life coolant filter can, for International DT570 I-6 engines.

TRANSMISSION

Automatic, Allison 3500EVS-P, wide ratio, 5-speed, includes oil level sensor, with provision for PTO less retarder.

Includes:

Transmission oil pan plug, magnetic.

Allison WT spare input/output for fire truck application.

TRANSMISSION SHIFT

Allison push button type.

TRANSFER CASE

Meritor T-4208, 2 speed, 8,300 lb/ft total capacity, with provision for PTO, with electric over air control.

TRANSFER CASE LUBE

Emgard 50w, synthetic.

REAR AXLE

Single, Meritor RS-21-160, single reduction, 21,000 lb capacity includes driver controlled main locking differential and 200 wheel ends.

Includes:

Rear axle drain plug, magnetic.

Suspension, RR spring, single Varirate, 21,000 lb capacity, includes 4500 lb capacity multileaf auxiliary.

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GEAR RATIO

5.38 TO 1.0

WHEELS/TIRES

Dual, 22.5" painted steel, 10-stud (285.75mm BC) hub piloted, flanged nut, metric mount, 8.25" DC rims with steel hubs.

Wheel seals rear oil lubricated including bearings.

(4) 12R22.5 Unisteel G244 (Goodyear) 480 rev/mile, load range H 16 ply.

FUEL TANK

Top draw, D-style, steel, 50 US gallon, 189L capacity, with quick connect outlet, 16" tank depth, mounted left 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 Rests (2) molded plastic, smoke gray, one each door.

Floor covering, rubber, Black.

Coat hook located rear wall, centered above rear window.

Grab handle, cab interior (4) front and rear of "B" pillar, two each side.

Grab handle, cab interior (2) "A" pillar mounted, one each side.

Step (4) Two steps per door.

Glass, all windows tinted.

Storage pockets in doors molded plastic, smoke gray, full width, mounted on passenger door.

CAB INTERIOR

Trim package-Deluxe.

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.

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 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, drivers and passenger doors.

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CAB SUSPENSION

Air bag type.

GAUGE CLUSTER

English with English electronic speedometer.

Includes:

Odometer display, miles, trip miles, engine hours, trip hours, fault code readout.

Warning system low fuel, low oil pressure, high engine coolant temperature, and low battery voltage, (Visual and audible)

Gauge cluster gauges (6) engine oil pressure (electronic), water temperature (electronic), fuel (electronic), tachometer (electronic), voltmeter, washer fluid level. Gauge, oil temperature, transmission.

Gauge, air cleaner restriction (filter minder) with black bezel mounted in instrument panel.

SEATS

Driver, (H.O. Bostrom Sierra air 140), air suspension, high back, vinyl with covered back and International on headrest including 3-point lap and shoulder seat belt.

Passenger, (H.O. Bostrom Tanker 450) for SCBA, non-suspension, high back, vinyl, 7-degree back angle, with covered back and International on headrest, with adjusters including 3-point lap and shoulder seat belt.

Rear Crew, bench (H.O. Bostrom Tanker 400CT) for SCBA, three (3) individual seats on one riser, non-suspension, high back, vinyl, with covered back and International on head rest including three (3) 2-point lap type seat belts.

GRAB HANDLES

Two (2) chrome, towel bar type with anti-slip rubber inserts, mounted left and right side on exterior, rear of rear doors, with crew cab additional chrome towel bar type anti-slip rubber inserts hand rail mounted left side only.

MIRRORS

Two (2) (Lang Mekra) styled rectangular, 7.09" X 15.75", brackets breakaway type, with 102" wide spacing with integral convex spots both sides with bright finish head and brackets.

CAB INSULATION

Includes dash insulator and engine cover insulator.

One (1)

AIR CONDITIONING

International Blend Air with integral heater and defroster.

Includes:

Refrigerant Hydrofluorocarbon HFC-134A.

Fresh air filter for HVAC.

Heater hoses premium.

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One (1)

VERTICAL CHASSIS EXHAUST

The chassis shall have a vertical exhaust system on the passenger side of the apparatus. There shall be a ventilated protective guard installed around the exhaust pipe.

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CHASSIS ADDITIONS AND MODIFICATIONS

One (1)

BUMPER EXTENSION

The chassis front bumper is to be extended forward approximately 20". 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 .190" aluminum treadplate material. Aluminum fabrications are to be completely bolted in place and removable using stainless steel threaded fasteners with Ny-Lok nut fasteners.

One (1)

CAB STEPS

The existing cab steps shall be used and lined with four way aluminum treadplate for a more pleasing appearance.

One (1)

FRONT MUD FLAPS

One (1) pair of mud flaps shall be installed behind the front wheels of the apparatus using stainless steel brackets with stainless steel threaded fasteners and Ny-Lok nuts.

One (1)

REAR MUD FLAPS

Heavy duty black rubber mud flaps shall be furnished and installed behind the rear wheels of the vehicle. Mud flaps shall extend the full width of the rear duals, and are to be attached to heavy stainless steel angle support brackets with stainless steel threaded fasteners and Ny-Lok nuts.

One (1)

PUMP SHIFT

The PTO pump shall be engaged through an electrically operated Hot Shift control switch located within the truck cab.

One (1)

UL TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per Class A requirements of NFPA #1901 prior to delivery of the completed pumper.

One (1)

HEAT EXCHANGER

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

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

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One (1)

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

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

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

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

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

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

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

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

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

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

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

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

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HIGH PRESSURE RELIEF VALVE

A relief valve shall be plumbed to the high pressure side of the pump to prevent water spiking.

OILESS PRIMING SYSTEM

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" at an altitude of up to 1000 feet.

A high capacity, electrically driven automatic double piston priming pump shall be provided with a manual back up.

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

PUMP REMOVAL

The pump and plumbing shall be of a modular design and shall be completely removable as one unit from the top of the apparatus as a complete unit for future removal if necessary.

One (1)

INTAKE RELIEF VALVE

A 2-1/2" intake relief valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 300 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

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

One (1)

STEAMER

There shall be one steamer inlet furnished. Steamer inlet shall be located on the rear of the body. The suction inlet shall have 6" NST threads. The suction inlet shall have a removable strainer provided inside external inlet.

One (1)

PUMP SUCTIONS

Each gated suction inlet shall include a Class One 3/4" cast bronze 1/4 turn drain valve complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out 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 ID label and located adjacent to the intake fitting.

Each 3" and larger gated pump suction intake shall have an operating mechanism which will not permit changing the position of the flow regulating element of the valve from full close to full open, or vice versa, in less than 3 seconds.

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All specified suction intake caps shall be capable of withstanding a minimum of 500 psi.

One (1)

One (1) 2 1/2" suction located at the rear face of the apparatus body.

One (1)

CAP, REAR SUCTION

The rear suction shall be equipped with a chrome plated long handled design cap capable of withstanding 500 psi.

One (1)

PUMP DISCHARGES

All gated discharge outlets shall include a Class One 3/4" cast bronze 1/4 turn drain valve complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out 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 ID label. Each drain shall be labeled and numbered to correspond to the respective discharge outlet and coloring.

When applicable, front bumper discharges and deck gun discharges shall be provided with a Class 1 automatic drain valve.

All 3" or larger discharge valves shall have an operating mechanism which will not permit changing the position of the flow regulating element of the valve from full close to full open, or vice versa, in less than 3 seconds.

One (1)

STAINLESS STEEL DISCHARGE MANIFOLD & PLUMBING

A discharge manifold and rigid plumbing shall be provided and fabricated with type 304, 1/4" thick stainless steel. The discharge manifold shall be pressure tested prior to installation. The stainless steel discharge manifold assembly shall be bolted to the pump and have stabilizer arms attached to reinforce the discharge manifold.

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

One (1)

REAR MOUNT PLUMBING ASSEMBLIES

One (1)

1" GATED DISCHARGES, CLASS 1

Class 1, 1" ball valve gated discharge line(s) shall be furnished with the valve located adjacent to the booster reel and plumbed using 1" I.D. wire reinforced, high pressure hose. Valve(s) shall be operated using a Class One chrome plated handle control assembly.

One (1)

One (1) discharge line plumbed to the specified booster hose reel.

One (1)

Two (2) discharges located at rear of the body plumbed with 2 1/2" I.D. schedule 40 pipe, with chrome plated discharge extension adapters with 2 1/2" NST male, 30 degree chrome plated elbows, with 2 1/2" NST chrome plated caps with chains.

One (1)

Two (2) discharges located one (1) each side upper rear face of the body just below the hose bed, with 1 1/2" NST male outlet.

Two (2) upper rear face pre-connects with 1-1/2" NST male outlet.

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One (1)

1" GATED DISCHARGES, ELECTRIC (CAB CONTROLLED)

A 1" stainless steel ball valve gated discharge line shall be furnished and controlled from within the cab with the valves plumbed using 1" I.D. wire reinforced, high pressure hose. Valves shall be operated with electric actuators with open/close switches located in the cab.

One (1)

GROUND SWEEPS

3/4" ground sweep nozzles shall be provided and located one (1) each side ahead of the front and rear wheels.

Four (4) ground sweeps shall be provided, one (1) each ahead of front and rear wheels.

One (1)

One (1) discharge located at the front bumper for the bumper turret, plumbed using 1" I.D. wire reinforced, high pressure hose.

One (1)

2 1/2" GATED DISCHARGES, AKRON

Akron model #8625, 2 1/2" ball valve gated discharge lines shall be furnished, operators panel controlled with the valves located within the enclosed pump compartment. Valves shall be operated using Class One chrome plated locking "T" handle control assemblies which are aligned in a straight horizontal row directly below the corresponding line pressure gauge.

One (1)

REDUCERS, CAPS AND CHAINS

Two (2) 2-1/2" discharges shall be equipped with 2-1/2" x 1-1/2" chrome plated reducer(s), 1-1/2" chrome plated cap(s) and chain(s).

One (1)

BUMPER TURRET

An Akron model 3463 Fire Fox 12 volt electrically controlled monitor with a Task Force Tips model B-TO-ER electric nozzle with a flow rate of 10-100 gpm shall be furnished and installed on the front bumper of the apparatus. The unit shall have a one (1") inch waterway and be capable of flowing up to 125 GPM. Controls for the monitor shall be mounted inside the chassis cab. The monitor shall be plumbed with one (1") inch flexible hose with stainless steel couplings and have a one (1") valve. The valve shall be electrically operated with valve control located in chassis cab. There shall be a 3/4" drain furnished in the supply line to the monitor.

When a bumper turret is required, proper switching shall be provided in the cab for operation of high pressure water to the turret within reach of the Driver and Officer.

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Turret shall have a TFT model B-TO-ER nozzle.

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One (1)

FOAM SYSTEM

A Rosenbauer Fix Mix combination high pressure/normal pressure automatic foam proportioning system shall be provided and direct mounted to the water pump.

The system shall be capable of providing a constant proportioning and shall deliver foam at a proportioning rate from 0.5% or 1% manually selectable at the pump.

Controls for the foam system shall be provided on the pump panel and in the cab.

When a bumper turret is required, proper switching shall be provided in the cab for operation of high pressure water to the turret within reach of the Driver and Officer.

Foam shall be plumbed to all discharges.

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The system shall be capable of providing a constant proportioning and shall deliver foam at a proportioning rate from 0.5% or 1% manually selectable at the pump.

Controls for the foam system shall be provided on the pump panel and in the cab.

Foam shall be plumbed to all discharges.

One (1)

FOAM CONCENTRATE TANK

One (1) 30 gallon polypropylene foam concentrate tank shall be provided and installed within the main booster water tank, unless otherwise specified, to allow easy access for filling. Tank shall be plumbed to the on board foam system.

One (1)

HIGH PRESSURE VALVE

A 1 1/2" electrically operated valve shall be provided to feed the high pressure manifold. The valve shall be controlled from the cab and shall be properly labeled.

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Four (4)

PRESSURE GAUGES

Class 1, 2 1/2" diameter liquid filled pressure gauges 30-600psi shall be provided. Gauges are to have white faces with black lettering. Line pressure gauges shall be individually identified with engraved labels.

Individual line pressure gauges are to be aligned in a straight horizontal row across the lower portion of the gauge panel, directly in line with, and above the corresponding discharge valve control.

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Four (4) line gauges shall be provided, one (1) each for the two rear discharges and for the rear face pre-connects.

One (1)

CAB MOUNTED PRESSURE GAUGE

A Class 1 model PSIS digital pressure gauge shall be mounted within the truck cab, within easy view of the driver, to monitor the pump pressure for Pump-And-Roll operations.

One (1)

PSG GOVERNOR/ENGINE MONITORING SYSTEM

A Fire Research model INCONTROL pressure governor and all-in-one instrument monitoring module shall be provided and mounted on the pump gauge panel. The unit shall maintain a steady pump discharge pressure by controlling engine speed or hold a selected engine RPM. It shall offer complete engine control and remote display in a single compact unit. The INControl shall operate in one of two modes, pressure or RPM. In pressure mode the INControl shall maintain a constant pump discharge pressure. The discharge pressure shall be monitored and compared to the selected pressure setting, the engine RPM shall vary to keep the discharge pressure at the selected setting. In RPM mode the INControl shall maintain a constant engine RPM. The pump discharge pressure shall be monitored and can vary but, as a safety feature it will be limited to an increase of 30 PSI. If the discharge pressure increases 30 PSI the governor will automatically lower the engine RPM to prevent a high pressure surge. The module shall have three (3) 4-digit LED displays for pump discharge, pump intake, and engine RPM. An LED bar graph shall be provided to show PSI or RPM setting depending on the mode, and three (3) LED bar graphs that provide a constant display of the battery voltage, engine coolant temperature, and engine oil pressure.

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

Features:

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

One (1)

UL TEST CONNECTION

An Elkhart Brass model #471 pump pressure and vacuum checking assembly shall be provided and mounted at the pump operators control panel. Assembly shall include plug type caps.

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One (1)

DATA PLATE AND PLACARDS

The manufacturer will provide at time of delivery the following placards and signage as specified by the purchaser and required by the specified governing bodies.

A test data plate will be provided at the pump operator's position which gives the rated discharges and pressures together with the speed of the engine as tested for the proposed unit. Plate will comply with requirements of NFPA #1901.

A permanent data plate will be affixed in the driver's compartment specifying the quantity and type of the following fluids used in the completed vehicle when equipped with the specified component.

1. Engine Oil
2. Engine Coolant
3. Chassis Transmission Fluid
4. Pump Transmission Lubrication Fluid when applicable
5. Pump Primer Fluid when applicable
6. Drive Axle Lubrication Fluid
7. Air Conditioning refrigerant
8. Air Conditioning lubrication oil
9. Power steering fluid
10. Cab tilt mechanism fluid when applicable
11. Transfer case fluid
12. Hydraulic ladder rack fluid when applicable
13. Air compressor system lubricant
14. Generator system lubricant when applicable

Permanent placards will be affixed and visible to all seated occupants instructing the occupants to wear their seat belts.

A permanent placard will be affixed to the rear step area to instruct that riding on the rear step is prohibited.

All warning placards required by NFPA 1901 standards and required by the purchaser's specifications for the apparatus will be provided and installed.

One (1)

PUMP PANEL IDENTIFICATION TAGS

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, colored according to NFPA recommended standards.

One (1)

REAR MOUNTED OPERATORS CONTROL PANEL

The fire pump shall be located in the rear compartment of the apparatus body. All NFPA required gauges and controls shall be furnished on individual panels located next to each discharge valve.

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

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A full panel width extruded aluminum bolted in place and removable light hood with a minimum of three (3) sealed light assemblies shall be provided to illuminate the entire pump operators control panel. Lighting shall be provided with a pump operator's panel mounted switch.

One (1) pump operator's panel light shall illuminate whenever the Fire Pump is engaged.

One (1)

REAR PUMP PANEL ROLL UP DOOR

A roll up door shall be provided and installed around the opening of the pump to prevent road grime from entering the pump area.

One (1)

PUMP COMPARTMENT ACCESS DOOR

The right side rear compartment shall be provided with a pump compartment access panel utilizing stainless steel fasteners. This door shall be approximately 18" high and as wide as possible, and shall be constructed of the same material as the body.

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One (1)

UPF BOOSTER TANK

One (1)

A 500 gallon capacity polypropylene booster tank shall be provided.

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.

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 8" outer perimeter. The tower shall be located in the left front corner of the tank. The 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.

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 which shall be a 1 1/2" N.P.T. coupling. 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.

BALL VALVE TANK TO PUMP

A 4" air operated butterfly style suction valve with controls on the pump operator's panel and in the cab shall be furnished from the tank to the pump, complete with a flexible connection and enclosed in the pump compartment.

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

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

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One (1)

ELECTRIC TANK FILL/RECIRCULATING LINE

One (1) 1 1/2" electrically operated stainless steel tank refill and pump recirculating line shall be provided with controls located at the pump panel and in the cab.

One (1) 1 1/2" electrically operated stainless steel tank refill and pump recirculating line shall be provided with controls located at the pump panel and in the cab.

One (1)

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 air operated 2-1/2" Akron ball valve with a chrome plated female swivel, plug and chain with switch located on the pump operators panel.

One (1)

TANK LEVEL LIGHTS

There shall be one (1) Whelen model PSTANK (LED) tank level light mounted on each side of the body. The lights shall be 1-3/8" wide X 11-1/2" long in diameter and connected to the water tank sending unit. The lights shall activate with the park brake switch.

The lights shall be wired to read the tank level as follows:

- All four lights illuminated: Tank Full
- Three lights illuminated: Tank 3/4 Full
- Two lights illuminated: Tank 1/2 Full
- One light illuminated: Tank 1/4 Full

One (1)

PUMP PANEL TANK LEVEL GAUGE

A Class One Intelli -Tank LED water level gauge shall be provided on the pump operators panel.

One (1)

CAB TANK LEVEL GAUGE

A Class One Intelli -Tank LED water level gauge shall be provided on the dash of the cab.

One (1)

PUMP PANEL FOAM TANK LEVEL GAUGE

A Class One Intelli -Tank LED foam level gauge shall be provided on the pump operators panel.

One (1)

CAB FOAM TANK LEVEL GAUGE

A Class One Intelli -Tank LED foam level gauge shall be provided on the dash of the cab.

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One (1)

BOOSTER HOSE REEL

One (1) Hannay booster hose reel with leak proof ball bearing swing joint, adjustable friction brake and electric rewind shall be furnished. Reel shall be individually ball valve gated from the discharge side of the pump and plumbed to the booster reel using wire reinforced, high pressure hose coupled with reusable stainless steel fittings.

Booster hose reel is to be mounted in an enclosed compartment of the right side cab step at running board level.

One (1)

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

Three (3)

Three (3) 50 foot lengths of 3/4 inch rubber covered booster hose, high pressure type at least 800 lbs test, coupled with chrome plated Bar-Way couplings shall be furnished and installed on the specified booster hose reel.

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One (1)

APPARATUS BODY MATERIALS

STRUCTURAL DESIGN

To prevent possible interaction of dissimilar metals and to reduce the weight of the completed apparatus, the body and ALL STRUCTURAL SUPPORTS shall be constructed entirely of aluminum sheet and aluminum extrusions.

Aluminum extrusions or sheet aluminum of smaller thicknesses or lesser grades to those specified herein are not acceptable.

All extrusions utilized in the body super-structure, sub-structure and framing shall be 6061-T6 alloy aluminum of the specified thickness and size.

For strength and rigidity all aluminum sheet material utilized in the apparatus body, hose body and compartment sides shall be a minimum of 1/8" 5052-H32 alloy aluminum sheet.

All extrusions shall be beveled at each joint and all seams shall be electrically seam welded using #5356 alloy aluminum wire.

FASTENERS

All threaded fasteners used in the apparatus body shall be attached with Ny-Lok type nuts.

All aluminum and stainless steel components shall be attached using stainless steel fasteners. Zinc or cadmium plated fasteners are not acceptable for use with any aluminum or stainless steel components on the vehicle.

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

3/16" diameter fasteners shall only be used in non-structural areas such as; door locks, trim moldings, gauge mountings, etc.

One (1)

APPARATUS BODY SUB-FRAME

The surface of the chassis frame rails shall be isolated from the apparatus substructure by an elastomeric isolator.

The main body sub-frame shall be fully welded to the longitudinal chassis extrusions.

The main body sub-frame shall be constructed of not less than four (4) 4.00" by 2.50" tubular, 6061-T6 aluminum, "I" beams with a .375" vertical main body cross members. A minimum of four (4) cross members shall be provided two ahead of and two behind the rear axle forming the main body support cross members.

The main cross tubes shall be routed through and fully welded to the vertical and horizontal extrusions forming the body super-structure.

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For added strength and rigidity, no less than six (6) intermediate body cross members shall be provided constructed of solid aluminum structural "I" beams 4.00" high by 3.00" wide with a minimum .29" flange thickness. If necessary, additional cross members shall be provided, to meet the minimum booster tank mounting requirements, as published by the manufacturer of the booster tank provided.

The intermediate structural "I" beam cross members shall be interconnected and welded to the main body tubular cross members forming a fully welded support grid for the body super-structure compartments and booster tank. No Exception.

One (1)

TOW EYES

Two (2) tow eyes shall be furnished under the rear of the body and attached directly to the chassis frame. Tow eyes are to be constructed of 1/2" plate steel with a 3" I.D. hole, large enough for passing through a tow chain end hook.

One (1)

HOSEBED FLOORING

Floors of the specified 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.

One (1)

CHASSIS FRAME AND BODY INTERFACE

The surface of the chassis frame rails shall be isolated from the apparatus body sub-structure by an elastomeric isolator.

Two (2) 6061-T6 aluminum longitudinal extrusions shall be provided, one (1) on each chassis frame rail running full length beneath the apparatus body. A minimum .50" extruded wall thickness shall be provided on the top flange of the chassis frame rail. Each extrusion shall be designed to cover the complete top flange and outside radius of the chassis frame rail extending down the outside web of the frame rail a minimum of 1.25" to prevent side to side shifting of the apparatus body.

A minimum of six (6) U-bolts shall be provided to secure the body sub-structure to the chassis frame. The forward two (2) U-bolts shall be shock absorbing spring tension type to allow for flexing without placing stress on the apparatus body or chassis frame rails.

One (1)

BODY SUPERSTRUCTURE

All vertical and horizontal structural members of the outer apparatus body shall be constructed of no less than 4.00" by 12.00", 6061-T6 aluminum extrusions with a minimum .200" wall thickness fully welded together forming a unitized support system for the body and compartments. In order to provide a complete internal and integrated body super-structure, full height extruded structural members shall be provided at each corner of the apparatus and between each exterior equipment compartment.

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Bidder is to provide with their bid proposal illustrations and drawings of the body structure to show compliance with this requirement. No Exception.

One (1)

EXTERIOR COMPARTMENT CONSTRUCTION

Compartment sides and walls shall be welded to the super-structure. Seams shall be sealed using an engineered grade polyurethane adhesive-sealant.

Rear compartments on apparatus equipped with rear fuel tanks shall be provided with a minimum 13" wide x 38" removable access panel on the rear wall to enable the fuel tank sending unit to be removed for repair or replacement.

Full height access panels fastened with stainless steel fasteners shall be provided to access all wiring routed through vertical super-structure extrusions. There shall be no exposed wiring allowed within the compartment interiors. No Exception.

A minimum of forty-five square inches of removable louvered ventilation shall be provided in each compartment.

Compartment flooring shall be smooth aluminum welded in place to the extruded aluminum framework.

There shall be no floor welds visible from the interior of the equipment compartments. No Exception.

The tops of the side exterior compartments shall be constructed of 3003-H14 alloy aluminum treadplate fastened to the body with stainless steel fasteners. Compartment tops that are welded in place do not meet the serviceability intent of this requirement.

Compartment floors shall be smooth aluminum.

One (1)

BODY WIRING RACEWAYS

Due to the possibility of damage by shifting equipment, exposed wiring shall not be permitted in the equipment compartments. The main body wiring harness shall not be routed beneath the apparatus body where it may be exposed to road debris and the elements of weather.

The body shall be designed to provide easily accessible recessed raceways to fully protect all body wiring. Bolted on access panels shall be provided for all wiring routed through the body. Access panels shall be removable with common hand tools. Hollow tubes with wiring routed through the same that is only accessible by disconnecting wiring and manually pulling the same through the tube does not meet the intent or the technical requirements of this specification in providing accessible wiring. Open faced channels with wiring held in place by clips or tie downs does not meet the intent or technical requirement of providing protected wiring.

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One (1)

SHELVING TRACKS

The vertical extrusions forming the framework of the side exterior compartmentation shall be designed to incorporate FULLY RECESSED adjustable shelving standards. Shelving tracks shall run full height of **ALL** side exterior equipment compartment.

The intent of this requirement is to allow full use of the available storage areas without the interference of shelving tracks extending into and reducing the interior widths of the compartments which will allow equipment to be stored within the full width of the compartment interiors.

Shelving, when specified, shall have a width of no less than .25" of the overall compartment width.

Adjustable shelving tracks welded or bolted onto interior walls of the compartments do not meet the intent of these specifications.

One (1)

RECESSED COMPARTMENT LIGHTING

All side exterior equipment compartments shall be provided with one (1) fully recessed rubber shock mounted sealed and weather tight clear compartment light. The light shall be totally enclosed (not exposed to the environment) and side wall recessed mounted within 12.00" of the compartment ceiling. When two (2) compartment lights are specified, the second light shall be mounted approximately one half the distance between the upper light and the compartment floor.

The lights shall be a minimum of 4.00" diameter and shall not protrude into the compartment, use recessed wiring, and are to be equipped with wire plugs for ease of removable or replacement.

Four (4)

Four (4) additional compartment lights shall be provided, one (1) each in the full height compartments.

One (1)

HOSE BODY CONSTRUCTION

To maintain strength and rigidity, the main hose body shall be completely framed with a minimum of 2.00" X 3.00" 6061-T6 alloy aluminum extrusions with a .281 nominal wall thickness. The hose body extrusions shall be welded to the super-structure framework, becoming an integral portion of a complete unitized support system. Sheet metal or sheet aluminum with double or triple formed breaks, does not meet the technical requirement of the specification in providing a complete hose body framework and are not acceptable.

Sides shall be constructed of no less than .125" 5052-H32 alloy aluminum sheet welded to the framework. There shall be no visible welds on the exterior of the hose bed side sheets.

One (1)

WHEEL WELL LINER AND FENDERETTES

For ease of accessibility and maintenance, wheel well panels shall be polished aluminum treadplate.

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To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 24.00") radius wheel well liner constructed of exterior grade .25" black polyethylene sheet shall be provided. For ease of removal, the liner shall be held in place via means of a self-tension retention system. Due to possible corrosion and contamination by road debris in the wheel well area, mechanical fasteners shall not be used to secure the wheel well liner.

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

One (1)

APPARATUS COMPARTMENTATION

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

The aluminum treadplate compartmentation tops on each side of the body shall be extended out and downward 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.

All high side compartment tops shall be NFPA approved non-slip treadplate.

One (1)

SIDE BODY COMPARTMENT ROLL-UP DOOR CONSTRUCTION

Exterior side equipment compartments shall be equipped with roll up style doors.

One (1)

SIDE AND REAR OVERLAYS

.125" polished aluminum treadplate overlays and panels shall be provided and installed in the following areas:

The front face of each side compartment and center rear panel of the apparatus body.

Overlays shall be bolted in place and sealed to prevent any moisture entry between the overlay and the body structure.

One (1)

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the right and left body sides. There shall be a bolt on aluminum corner casting on each rear corner to blend the rear tail board assembly with the side rub rails.

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

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One (1)

COMPARTMENTS LEFT SIDE

The left side compartment interior ahead of the rear wheels shall be 24" wide x 63" high and equipped with a large 21" wide by 63" high clear door opening.

The left side compartment interior above the rear wheels shall be 52" wide x 32" high, with a 49" wide by 32" high clear door opening.

The left side compartment interior behind the wheels shall be 44" wide x 63" high and have a 41" wide by 63" high clear door opening.

The compartments on the left side shall be provided with roll-up doors.

One (1)

All left side compartments shall have a useable depth of 24" with the specified doors in the closed position, the full height of the compartment, to provide the maximum amount of storage area.

One (1)

COMPARTMENTS RIGHT SIDE

The right side compartment interior ahead of the rear wheels shall be 24" wide x 63" high with a 21" wide by 63" high clear door opening.

The right side compartment interior above the rear wheels shall be 52" wide x 32" high with a 49" wide by 32" high clear door opening.

The right side compartment interior behind the wheels shall be 44" wide x 63" high with a 41" wide by 63" high clear door opening.

The compartments on the right side shall be provided with roll-up doors.

One (1)

All right side compartments shall have a useable depth of 24" with the specified doors in the closed position, the full height of each compartment, to provide the maximum amount of usable storage area.

One (1)

REAR BODY (ANGLE OF DEPARTURE)

The lower portion of the rear body shall be raised approximately 4 1/2" to provide a 30 degree angle of departure for off road use.

One (1)

REAR BUMPER

A single piece rear bumper shall be furnished full width of the apparatus body. Bumper is to be bolted in place and removable for ease of repair or replacement. No Exception.

One (1)

COMPARTMENT FLOOR COVERING

All enclosed compartment floors of the apparatus body shall be covered with black colored ridged Turtle Tiles for improved ventilation, and added scuff protection.

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Four (4)

ADJUSTABLE SHELVES

Four (4) compartment shelve(s) shall be provided and constructed of .190" smooth Aluminum, and are to have formed upward breaks on front and rear with TIG welded corners for added strength. Shelve(s) shall be fully adjustable within the compartments. Lighter gauge shelf materials are not acceptable.

Shelve(s) shall extend full width of the compartments, within .25" of the overall width, and adjust up and down in the integral shelf tracks.

Four (4) adjustable shelves shall be provided, one (1) each in the full height compartments.

Six (6)

ROLL UP DOORS

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

Six (6)

ROLL UP DOOR FINISH

The roll up doors provided shall be left a satin anodized natural finish.

Six (6)

PULL DOWN STRAPS

Black in color nylon straps shall be provided and installed on the side portion of each roll up door and attached midway alongside the interior compartment which will allow the strap to automatically tuck inside the compartment when closed.

One (1)

A 12" long access rail shall be provided and installed on the left side topside of the rear hose bed for access to the hose bed area and mounted on the officer's side.

One (1)

REAR ACCESS LADDER

The top of the apparatus shall be accessible from the ground by a ladder. The ladder shall be an all welded construction of aluminum tubing and extrusions with the steps having a non-slip surface.

The bottom 12" of the ladder shall fold up in a secured position when not in use to maintain a high angle of departure.

The ladder will be located on the driver's side rear of the apparatus.

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One (1)

PAINT PROCESS

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

Tacked free of any dust particles, the body and all parts shall be individually sprayed using the following minimum procedure and materials:

- One (1) coat of self etching primer
- Two (2) coats of urethane primer
- Two (2) color coats of the specified color
- Three (3) coats of clear urethane

When a fire pump is provided, the fire pump, pump compartment structural components, and all rigid discharge and suction plumbing is to be painted Silver in color unless otherwise specified by the customer. No exceptions.

While constructing the truck body, all aluminum parts shall be properly fitted on the body and then removed. The back side 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. Zinc or 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)

INTERIOR COMPARTMENT FINISH

The interior body compartments shall be left unpainted and have natural finish.

One (1)

WHEEL PAINTING

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

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

One (1)

TOUCH-UP PAINT

One quart of touch-up paint shall be furnished with the completed truck at final delivery.

One (1)

STRIPING

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 50% of the perimeter length

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of each side and width of the rear, and at least 25% of the perimeter width of the front of the vehicle shall have reflective stripe.

The side stripe shall be applied in a "Z" design.

The stripe shall be white in color.

One (1)

CHEVRON STRIPING

The rear treadplate face of the body between the beavertails shall be replaced with smooth aluminum plate and shall have a 3M reflective red and white chevron style striping installed and placed at a 45 degree angle towards the center upper portion of the rear face.

One (1)

SIGN PANEL

A sign panel shall be provided and installed above each side body compartment for lettering purposes.

Panels shall be painted body color and be fastened using stainless fasteners.

One (1)

DOOR WARNING - CHEVRON

Reflective chevron signs shall be installed on the lowest portion of the inner cab door panels, one (1) on each cab door. A stripe of reflective tape shall be installed at the outer edge of each door.

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One (1)

ELECTRICAL

The apparatus shall have the ability to function in an electromagnetic environment most common to fire ground operations. The electrical system shall be designed for full compatibility with low level control frequencies and any high powered two-way radio systems.

All wiring shall be protected by circuit breakers or fuses. Circuit breakers shall be the automatic reset type unless operational requirements and/or safety concerns dictate manual reset type. Automotive type fuses shall be used when required to protect delicate electronic equipment. All circuit protection devices shall conform to the Society of Automotive Engineers (SAE) standards. All circuit protection devices shall be sized according to 125% of the anticipated load to prevent any wire and/or component damage when subjected to extreme current overload.

All apparatus builder supplied wiring (excluding battery cables) shall be GXL high temperature (250 degrees minimum) type, color and number coded and imprinted with circuit function every 2 inches. Wiring connectors shall be the crimp type with plastic sleeve or shrink tube insulation covering the crimped area to prevent accidental grounding. In-line connectors shall also utilize shrink tubing for a weatherproof connection.

All externally exposed, non-plug type, electrical connections shall be given a hand applied or sprayed application of an industrial standard insulation coating with a minimum rating of 2100 volts per mil thickness. Insulation shall protect the connection from water induced electrical corrosion and accidental short-circuiting. Should the connection be loosened or removed during the manufacturing process another coating shall be applied after it has been refastened or replaced.

All solenoids, relays, terminal blocks and circuit breakers shall be protected against corrosion, excessive heat, vibration, physical damage and water spray.

Any electrical component or device installed in an exposed area on the outside of the cab or body shall be mounted in such a manner, or protected by a gasket, caulking or other means, so that moisture will not accumulate in it.

All exposed electrical wiring shall be run in an automotive type split plastic conduit or woven fabric type loom and shall have rubber grommets installed wherever the harness passes through any sheet metal panels.

An operational test shall be conducted to ensure that all installed electrical equipment is properly connected and is in working order. Additionally all warning lights shall be run continuously for not less than three (3) hours.

Wiring data shall be provided with the completed apparatus.

Exposed wiring will be not be allowed in compartment interiors. No Exception.

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

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REAR STEP LIGHTS

Two (2) Weldon model 9186 chrome plated lights shall be provided and installed on the rear face of the body to illuminate the rear step area. Lights shall be wired to the panel light switch at the pump operator's panel.

One (1)

CLEARANCE LIGHTS

Truck-Lite halogen vehicle clearance marker lights with reflectors mounted in accordance with Highway Safety Standards shall be furnished and installed. Clearance and marker lights shall be recess mounted within the center tailboard/step.

MID BODY TURN SIGNALS

Halogen mid mounted body turn signals shall be installed recess mounted in the vehicle rub rails.

One (1)

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

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excessive battery discharge for more than 120 seconds. Any loads not listed in the minimum electrical load may be load managed in order to pass the test.

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

One (1)

BACKUP ALARM

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

One (1)

TAIL & BACKUP 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)

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.

One (1)

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

One (1)

OPEN COMPARTMENT 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. Light shall be properly marked and identified.

One (1)

ELECTRONIC SIREN

A Code 3 Model 3692 V-CON, 200 watt electronic siren with HyperYelp and hardwired microphone shall be provided and mounted on top of the cab dash unless stated otherwise, elsewhere in these specifications.

One (1)

SPEAKER

One (1) Cast Products Model SA2401, 100 watt speaker shall be provided and recess mounted in the front bumper of the truck and connected to the electronic siren control unit.

One (1)

NFPA REQUIRED LIGHTING

One (1)

The following Code 3 warning lights shall be provided and installed on the apparatus to meet NFPA requirements:

One (1)

LIGHT BAR

One (1) Code 3 model 758NFPA1 58" mounted on chassis cab roof to meet the NFPA upper zone A lighting requirement. Light bar to have the following equipment.

- (6) 50 watt standard rotators
- (2) diamond mirrors centered between rotators
- Red lenses

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- (4) intersection lights
- (6) 28 watt stat flashers
- Clear lower lens

One (1)

ZONE A FRONT LIGHTS

There shall be two (2) Code 3 model 65BZR red LED lights furnished on the front grill to meet the NFPA Zone A lower level lighting requirement. The lights shall be activated through a switch located on the electrical console.

One (1)

ZONE B & D INTERSECTOR SIDE LIGHTS

There shall be two (2) Code 3 model 65BZR red LED lights furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. One light each side mounted as far forward as possible. The lights shall be activated through a switch located on the electrical console.

One (1)

LOWER ZONE B & D SIDE LIGHTS

There shall be one (1) Code 3 model 65BZR red LED flashing lights furnished on each side of the apparatus to meet the NFPA Zone B & D lower level lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console.

One (1)

UPPER REAR LIGHTS

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
- Amber lens
- Red lens

One (1)

LOWER ZONE C REAR LIGHTS

There shall be two (2) Code 3 model 65 BZR red LED flashing lights furnished on the rear of the apparatus body to meet the NFPA Zone C lower level lighting requirement. The lights shall be activated through the master emergency light switch located on the electrical console.

One (1)

ELECTRICAL CONSOLE

An electrical console shall be constructed of .190" smooth aluminum material and mounted in the cab of the truck chassis. Console shall be designed and installed accessible from the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be

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provided and installed adjacent to each rocker switch with backlighting provided behind the label.

A paddle style internally lighted switch shall be provided and wired through a heavy duty relay to activate power to the individual rocker switches for the emergency lights. Switch shall allow for pre-selection of emergency lights and shall be identified; MASTER SWITCH.

One (1)

EMERGENCY LIGHT SWITCH

A lighted rocker switch shall be provided on the electrical console and shall activate all warning lights.

All warning lights shall be activated by one Master Warning Light switch located in the electrical console.

One (1)

SIDE SCENE LIGHTS

Four (4) Code 3 model 41Z12 scenelight 12 volt floodlights shall be provided and mounted, two on each side of the body. Lights shall be complete with 12 degree lens optics and with two (2) switches provided in the electrical console to activate the side scene lights, one (1) switch for each side.

The scene lights shall be mounted in polished aluminum housings.

Two (2) switches shall be provided in the electrical console to activate the side scene lights, one (1) switch for each side.

One (1)

REAR SCENE LIGHTS

Two (2) Code 3 model 81Z12 scenelight 12 volt floodlights shall be provided and mounted, one each side at the rear of the body. Lights shall be complete with 12 degree lens optics and with one (1) switch provided in the electrical console to activate the rear scene lights. The lights shall also come on when the vehicle is placed in reverse.

The scene lights shall be mounted in polished aluminum housings.

One (1) switch shall be provided in the electrical console to activate the rear scene lights. The lights shall also come on when the vehicle is placed in reverse.

One (1)

ENGINE COMPARTMENT WORK LIGHT

One (1) Truck-Lite model #80351 engine compartment work light(s) shall be provided complete with a push button activation switch mounted on each light head.

One (1)

PUMP COMPARTMENT WORK LIGHTS

Four (4) Weldon brand pump compartment work light(s) shall be provided and installed within the pump compartment area activated by the rear door switch.

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One (1)

UNDERBODY LIGHTS

Truck-Lite model 40003, underbody lights meeting NFPA requirements shall be provided and mounted below running board level, each side of the body controlled by the park brake switch. Lights are to be a minimum 4" diameter sealed and weather tight. Fixtures are to be mounted in bolt on brackets using shock absorbing rubber grommet mounts for ease of repair or replacement.

One (1)

UNDERCAB LIGHTING

Under cab lights meeting NFPA requirements shall be provided and mounted below each cab door controlled by the park brake switch. Lights are to be a minimum 4" diameter sealed and weather tight. Fixtures are to be mounted in bolt on brackets using shock absorbing rubber grommet mounts for ease of repair or replacement.

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.

One (1)

REAR VIEW SYSTEM

A Safety Vision model SV-CLCD65 rear vision system with color monitor shall be installed on the apparatus.

All components shall be installed as directed by the fire department.

One (1)

BATTERY DISCONNECT SWITCH

A green lighted master switch shall be provided and mounted in a convenient location to the driver, connected to a heavy duty solenoid to disconnect the batteries from all chassis and body accessories.

IGNITION SWITCH

A non-removable ignition key shall be provided.

One (1)

ADDITIONAL EQUIPMENT

The following equipment shall be provided on the completed apparatus by the apparatus manufacturer.

One (1)

The following applicable documentation shall be supplied upon delivery:

MANUALS AND CERTIFICATES

Two (2) copies of Operation/Service manual of the apparatus operations and service manuals supplied by components manufacturers.

Pump certification when applicable including manufactures record of apparatus construction details.

Certificate of compliance to Electrical Warning System Low Voltage test.

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Water tank capacity certificate when applicable.
Line Voltage Electrical System test certificate.
(NFPA 19-14.4.1 - 19.14.4.2)
Certificate of approval for stationary pumping when applicable.

BOOSTER NOZZLE

One (1)

One (1) Rosenbauer model Nepiro pistol grip combination fog and straight stream high pressure nozzle with aeration foam tubes shall be provided with the apparatus for booster reel application.

CHOCK BLOCKS

One (1)

One (1) pair of Zico Model SAC-44 Quic-Chok NFPA compliant wheel chocks shall be provided and mounted under the apparatus running boards in model SQCH-44-H horizontal mounting brackets.

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One (1)

FIRE APPARATUS WARRANTY

The Rosenbauer (General Division) warrants each new motorized fire apparatus manufactured by General Safety Equipment for a period of ONE YEAR from the date of delivery, except for the chassis and other components noted herein which are covered by a separate manufacturers warranty.

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 General Safety Equipment, 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.

All warranty work performed must be completed at the General Safety Equipment factory or a General Safety Equipment approved service center. The expense of any transportation to or from the factory or approved service center shall be borne by the purchaser and is not an item covered under this warranty.

The warranty on the chassis and chassis supplied components, fire pump, water tank, generator, electrical components and other devices not manufactured by General Safety Equipment is limited to the warranty and warranty terms of the manufacturer thereof.

This warranty shall 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 which are usually considered normal maintenance and upkeep services, including, but not limited to, electrical lamps, valve seals, normal lubrication and/or proper adjustment of minor items.

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 General Safety Equipment.

One (1)

PUMP WARRANTY

Rosenbauer America warrants, to the original buyer only, that products and parts manufactured by Rosenbauer America will be free from defects in material and workmanship under normal use and service for a period of two (2) years from the date the product is first placed in service, or two and a half years from the date of shipment by Rosenbauer America, whichever period will be the first to expire; provided the buyer notifies General Safety Equipment in writing, of the defect in said product within the warranty period, and said product is found by Rosenbauer America to be conforming with the aforesaid warranty.

When required in writing by General Safety Equipment, defective products must be promptly returned by the buyer to the General Safety plant or at such other place as may be specified by General Safety with transportation and other charges prepaid.

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An RGA is required for all products and parts and may be requested by phone, fax or mail. The aforesaid warranty excludes any responsibility or liability of the manufacturer for:

(a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes or improper maintenance, or attributable to written specifications or instructions furnished by buyer;

(b) defects in products manufactured by others and furnished by America hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, America will assign to the buyer, if requested by Buyer;

(c) any product or part, altered, modified, serviced or repaired other than by the manufacturer, without its prior written consent.

(d) the cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation.

(e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, etc.)

All other warranties are excluded, whether expressed or implied by operation of law or otherwise, including all implied warranties of merchantability or fitness for purpose. America shall not be liable for consequential or incidental damages directly or indirectly arising or resulting from breach of any of the terms of this limited warranty or from the sale, handling, or use of any other product or part. Rosenbauer America liability hereunder, either for breach of warranty or for negligence, is expressly limited at Rosenbauer America option:

(A) to the replacement at the agreed point of delivery of any product or part, which upon inspection by Rosenbauer America or its duly authorized representative, is found not to conform to the limited warranty set forth above, or

(B) to the repair of such product or part, or

(C) to the refund or crediting to buyer of the net sales price of the defective product or part.

Buyer's remedies contained herein are exclusive of any other remedy otherwise available to the buyer.

One (1)

20 YEAR TRANSFERABLE BODY WARRANTY

The Rosenbauer (General Division) warrants the 3/16" aluminum and 12 gauge stainless steel bodies, fabricated by General Safety Equipment, under normal use and with reasonable maintenance, shall remain structurally sound for a period of TWENTY (20) years.

Warranty coverage is transferable to second owner, if applicable, with proper notification made to General Safety Equipment.

This warranty does not apply to the following items which are covered by a separate warranty: paint finish, hardware, door assemblies, moldings, and other accessories

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attached to the body. In addition, this warranty does not apply to any part or accessory manufactured by others and attached to the body.

GENERAL SAFETY EQUIPMENT MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THE APPARATUS BODY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

General Safety Equipment 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 General Safety Equipment elects to repair this body, the extent of such repair shall be determined solely by General Safety Equipment, and shall be performed solely at the General Safety Equipment factory. The expense of any transportation to or from the factory shall be borne by the purchaser and is not an item covered under this warranty.

General Safety Equipment will not be liable for consequential 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.

General Safety Equipment 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 (12) months from the date the cause of the action occurred.

One (1)

PAINT WARRANTY

The PPG seven year paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of SEVEN (7) 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 GENERAL SAFETY EQUIPMENT:

- 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.

GUARANTEE EXCLUSIONS:

- Paint deterioration caused by blisters or other film degradation due to rust or corrosion originating from the substrate.

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- Hazing, chalking or loss of gloss caused by improper care, abrasive polishes, cleaning agents, heavy duty pressure washing, or aggressive mechanical wash systems.
- Paint deterioration caused by abuse, accidents, acid rain, chemical fallout or acts of nature.
- Custom finishes, exotic finishes or any finish other than standard finish procedures.
- Failures resulting from product misuse or abuse.
- Repairs done over previously refinished areas unless stripped to bare metal or appropriate substrate.
- Claims presented without proper warranty documentation.
- Failure on finishes containing Non PPG or Non PPG finishes approved products.
- Failure on finishes performed by Non PPG Certified Refinish Technicians.
- Failure on finishes performed by Non PPG Certified Repair Centers.
- Failure on finishes performed by PPG Certified refinishes who have allowed their certification to expire.

One (1)

UPF POLY-TANK IIE THE ALL-OUT NO FAULT LIFETIME WARRANTY

UNITED PLASTIC FABRICATION INC. Warrants each UPF POLY-TANK IIE Booster/Foam tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle (vehicle must be actively used in fire suppression). The UPF POLY-TANK IIE must be installed in accordance with the United Plastic Fabricating installation manual. Every UPF POLY-TANK IIE is thoroughly inspected and tested for leaks before leaving our facility. Should any problems develop with your UPF POLY-TANK IIE booster/foam tank and will not meet performance criteria during the service life of the vehicle, notify UPF in writing or call our TOLL FREE SERVICE HOT LINE 1-800-USA-POLY. Provide UPF with the serial number and a description of the problem. If the tank problem would render the truck out of service, UPF will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. (This time period is for North American Only). If the vehicle can remain in service, UPF will dispatch a service technician with a mutually agreed upon time period.

We will repair, or at our option, replace the tank with a new UPF POLY-Tank IIE. UPF will cover customary and reasonable costs to remove and install the UPF POLY-TANK IIE. This warranty will not cover tanks that have been improperly installed, misused or abused, and the serial number must not have, been altered, defaced or removed. UPF will not cover any unauthorized third party repairs or alterations. Any of these actions may void the warranty.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF UNITED PLASTIC FABRICATION, INC.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UNITED PLASTIC FABRICATION, INC. Neither assumes, nor

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authorizes any person supposing to act on its behalf, to change, nor assume for it, any warranty or liability concerning its product.

IN NO EVENT WILL UNITED PLASTIC FABRICATION, INC BE LIABLE FOR AN AMOUNT IN EXCESS OF THE PRESENT RETAIL, PURCHASE PRICE PLUS INSTALLATION AND REMOVAL COST OF THE BOOSTER TANK, FOR ANY LOSS OR DAMAGE, WHETHER DIRECT OR INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHERWISE ARISING OUT OF FAILURE OF ITS PRODUCT.

This warranty give you specific legal rights, and you also may have other rights, which vary from state to state. Some states do not allow exclusion or limitation of incidental of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

One (1)

VEHICLE TILT ANGLE CERTIFICATION

A vehicle tilt angle certification test shall be performed on the completed apparatus upon completion of the unit at the apparatus manufacturer's factory.

The test shall be performed with all requested equipment properly placed and installed.

A metal data plate shall be affixed to the driver's door of the vehicle. This data plate shall list the following: vehicle empty weight, maximum gross weight, the actual front and rear axle loaded weights, and the recorded tilt table angle(s) achieved for both the left and right tilt angles.

This test shall be conducted on a tilt table assembly, meeting SAE J2180, static rollover threshold for heavy trucks.

The vehicle shall be restrained and tilted until the vehicle tilt or slide angle can be positively determined. No Exceptions are allowed to this tilt angle certification requirement.