

One (1) == Mini Pumper - CrewCab (300 or 400 gal Tank) - 4.001 ==

One (1)
00-00-940C Details of Construction - Order Confirmation

ORDER CONFIRMATION

Details of construction such as, but not limited to mounting positions for siren heads, grab handles, switches, labeling and materials where not otherwise specifically detailed in the written specifications at time of order, shall be left to the discretion of the HME as the manufacturer who shall be solely responsible for the design, construction and placement of the components.

A drawing is provided as part of the order confirmation. The drawing is an overall representation of the apparatus proposed and not an exact representation of the apparatus to be built. The exact dimensions, locations of accessories and/or components may be revised pending complete engineering of the custom requirements of the individual apparatus order. If there is a discrepancy between the drawing and the written order confirmation; the specifications within this order confirmation prevail.

One (1)
10-10-0321 2020 Ford F-550 Chassis, 4x4 SD Crew Cab XLT - Four Standard Side Doors

2020 F-550 Chassis, SD Crew Cab
4x4 SD Crew Cab

Powertrain

Powerstroke 330hp 6.7L OHV 32 valve intercooled turbo V-8 engine with diesel direct injection *
Recommended fuel : diesel * federal * TorqShift 6 speed automatic transmission with overdrive * Part-time
* Limited slip differential * Fuel Economy Cty: N/A * Fuel Economy Highway: N/A

Suspension/Handling

Front Mono-beam non-independent suspension with anti-roll bar, HD shocks * Rear DANA 130 rigid axle leaf spring suspension with anti-roll bar, HD shocks * Firm ride Suspension * Hydraulic power-assist re-circulating ball Steering * Front and rear 19.5 x 6 polished forged aluminum wheels * LT225/70SR19.5 GBSW AT front and rear tires * Dual rear wheels

Body Exterior

4 doors * Conventional left rear passenger * Conventional right rear passenger * Driver and passenger power remote heated folding door mirrors with turn signal indicator * Turn signal indicator in mirrors * Black door mirrors * Chrome bumpers * Trailer harness * Clearcoat paint * Front and rear 19.5 x 6 wheels * 2 front tow hook(s)

Convenience

Manual air conditioning with air filter * Cruise control with steering wheel controls * Power windows * Driver and passenger 1-touch up * Driver and passenger 1-touch down * Remote power door locks with 2 stage unlock and illuminated entry * Extra FOB controls PowerCode remote engine start * Manual tilt steering wheel * Manual telescopic steering wheel * Daynight rearview mirror * Power adjustable pedals * Internet access * 911 Assist emergency S.O.S * Wireless phone connectivity * Integrated navigation system * 2 1st row LCD monitors * Front and rear cupholders * Dual visor mirrors * Full overhead console * Driver and passenger door bins * Rear door bins *Upfitter switches

Seats and Trim

Seating capacity of 6 * Front 40-20-40 split-bench seat * 8-way 6-way power driver seat adjustment * Manual driver lumbar support * Power height adjustable driver seat * 4-way passenger seat adjustment * Manual passenger lumbar support * Center front armrest with storage * 60-40 folding rear split-bench seat * Cloth seat upholstery * Metal-look instrument panel insert

Entertainment Features

SiriusXM AM/FM/Satellite radio with radio data system * SYNC external memory control * Steering wheel mounted radio controls * 7 speakers * Streaming audio * Fixed antenna

Lighting, Visibility and Instrumentation

Halogen aero-composite headlights * Delay-off headlights * Fully automatic headlights * Variable intermittent front windshield wipers * Deep tinted windows * Front and rear reading lights * Tachometer * Compass * Outside temperature display * Camera(s) - rear * Trip computer * Trip odometer * Configurable digital/analog gauges

Safety and Security

4-wheel ABS brakes * Brake assist * 4-wheel disc brakes * Driveline traction control * Dual front impact airbag supplemental restraint system * Dual seat mounted side impact airbag supplemental restraint system * Safety Canopy System curtain 1st and 2nd row overhead airbag supplemental restraint system * Remote activated perimeter/approach lighting * Power remote door locks with 2 stage unlock and panic alarm * Security system with SecurILock immobilizer * MyKey restricted driving mode * Manually adjustable front head restraints with tilt * 3 manually adjustable rear head restraints

Selected Options

XLT Value Package
Tires: 225/70Rx19.5G BSW
Wheels: 19.5" Forged Polished Aluminum Wheels
Cloth 40/20/40 Split Bench Seat
Radio: SiriusXM AM/FM/Satellite radio with radio data system
50-State Emissions System
SYNC Communications & Entertainment System
Integrated Navigation System with Voice Activation
SiriusXM Satellite Radio
Rear View Camera & Prep Kit
4x4 Electronic-Shift-On-The Fly (ESOF)
Medium Earth Gray
Ambulance Prep Pkg w/Special Emissions (LPO)
Engine: 6.7L 4V OHV Power Stroke V8 Turbo Diesel B20
Transmission: TorqShift 6-Speed Automatic
Dual 78-AH 750 CCA Batteries
Dual Extra Heavy-Duty Alternators (Total 377-Amps)
Operator Commanded Regeneration (OCR)
GVWR: 22,000lb Payload Plus Upgrade Package with Aeon Spring

SHOP NOTE

add in updated spec and update the price

22k GVWR upgrade package

One (1)
10-40-SA02

Ford Standard Crew Seating

23357-0002

Interior and Seating

Full cloth headliner, full vinyl/rubber floor covering, plastic/rubber gear shift knob, chrome interior accents. Center armrest, cupholder and storage.

Seating capacity of 5

Driver Position

40-20-40 split-bench front seat with adjustable head restraints, center armrest with storage
4-way adjustable driver seat includes lumbar support
Vinyl faced front seats with vinyl back material

Officer Position

4-way adjustable passenger seat
Vinyl faced front seats with vinyl back material

Crew Seating Positions

60-40 folding rear split-bench seat with fold-up cushion, 2 fixed rear head restraints
Vinyl faced rear seats with carpet back material

One (1)
10-40-SD00

Cab Console (Ford and RAM)

The driver/officer 40-20-40 split-bench front seat center seating position is removed to allow the installation of the center console.

CAB CONSOLE

A heavy duty angled console shall be installed in the cab between the driver and officer seats. The console shall be finished in black powder coat for durability and low reflection. The console shall be designed with a versatile mounting rail system that accommodates commercially available panels for installation of items such as radio equipment. The design shall allow for a total of sixteen (16) inches of mounting space. This option requires the center seating position to be removed from the cab.

The console shall contain the following items as standard:
Siren control head in a 3" Equipment Mounting Plate
Pump Shift in a 4" custom laminate panel
Three (3) Blank 3" Filler Plates

One (1)
10-40-SD04

Console Options

The following items shall be installed on the console:

12VDC POWER CIRCUIT

A circuit protected 30 amp battery "hot" circuit, a circuit protected 30 amp battery switched circuit, and a ground circuit with the proper wire size to handle the current shall be provided. These circuits are provided for two-way radio and/or accessory wiring. This shall be located under center console

SHOP NOTE

Note: Added 12v power

One (1)

Cup Holders, Dual Port USB, Console Front (2)

10-40-SD22

Two (2) cup holders in the forward flat section of the console.
One (1) Kussmaul 091-219 Dual Port USB charging port adjacent to the cup holders.

One (1) Back-Up Camera - Ford chassis supplied
10-40-SE14

BACK-UP CAMERA

The Ford chassis shall be supplied with a rear back-up camera system. The camera shall be mounted immediately below the hosebed.

SHOP NOTE

Note: Ford camera

One (1) Tire Pressure Monitoring Device - 2 Axles - LED Alert
14-10-GW01

TIRE PRESSURE MONITORING DEVICE

Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions. The LED will flash when the tire drops 8 psi below the factory setting.

One (1) Drivelines
14-14-W010

DRIVELINES

Universal joints and driveshafts shall be modified for midship pump installation. The driveshaft slip joints shall be coated to reduce sliding friction and thrust under high torque loads. Shafts shall be balanced to prevent vibration.

One (1) Buckstop Front Bumper / Brush Guard
14-40-A015

FRONT BUMPER / BRUSH GUARD / WINCH RECEIVER

The front of the chassis shall be equipped with a Buckstop, heavy duty plate 'ranch' style bumper. The black hammertone powdercoated assembly features a full replacement bumper with full grill guard and outback grill. There shall be two 6" round light mounts and a standard winch mount for up to a 16,500 lb winch beneath a winch access cover plate. The OE tow hooks shall be installed on the new bumper arrangement.

One (1) Fog lamps, (2) Maxxima, MWL-01HP, 1200 Lument, MtdBumper
58-24-0400

Bumper Fog lamps

Two (2) 12-volt Maxxima model MWL-01HP, 1200 lumen, fog lamps shall be provided, mounted inset within the round cutouts of the bumper.

SHOP NOTE

Note: Special mounting location

One (1) Stainless Cab Entrance Bars

23357-0002

14-40-AB22

CAB SIDE ENTRANCE BARS

Beneath the cab doors three (3) inch round stainless steel side [nerf] bars with polyethylene step pads shall be installed.

One (1) Electronic Siren - Whelen - Model 295SLSA1
14-40-H200

ELECTRONIC SIREN

A Whelen electronic siren control, model 295SLSA1 full feature with 17 Scan-Lock siren tones including Radio Rebroadcast, Public Address, Manual, Wail, Yelp, Air Horn, Electronic Mechanical Siren tones and Piercer tones and hard wired microphone, shall be provided.

One (1) Speaker, Siren - 100w
14-40-H202

SIREN SPEAKER

Behind the grille there shall be a Whelen model SA315 100 watt siren speaker.

One (1) Ford Single Color Paint
14-40-Q001

CAB PAINT

The cab on the vehicle shall be painted by the factory at Ford.

SHOP NOTE

Note: Vermillion Red

One (1) 40 Amp - BatteryCharger - ProMariner 1240
14-45-T010

BATTERY CHARGER

A PRO MARINER / ON BOARD SOLUTIONS, 1240, advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, under the driver's seat.

Since shoreline power is not always stable the charger shall be equipped with Auto-Ranging AC Input to automatically accept global voltages of 90 VAC to 270 VAC at 45-440 Hz.

Field Selectable - Use with lead/acid or gel batteries (AGM factory option). Select length of absorption charge cycle based on size of batteries.

In the 4-step charging system the charger will provide the following sequence.

Step 1: Fast Charge - Charger will deliver its maximum amperage rating to the connected batteries for the fastest charge (current regulation mode) until battery voltage is raised to 14.6V (lead acid factory setting). At this time, the ProTech will shift to step 2.

Step 2: Absorption Charge - Maximizes charge and holds voltage (voltage regulation mode) at 14.6V (lead acid factory setting) for 1 to 4 hours (selectable based on battery size), while letting the batteries determine the amount of amps they can accept. This mode creates activity in the batteries, reducing

sulfate buildup, and conditions the batteries for an extended life. After the programmed 1 to 4 hours have elapsed, the ProTech will shift to step 3.

Step 3: Float Mode - A precision 13.3V (lead acid factory setting) finishing voltage that maintains each battery (step-down voltage regulation mode), which is perfect for short or long storage periods and will never overcharge your batteries. ProTech will deliver its full rated output for house loads including: lighting, electronics and pumps.

Step 4: Recycle - If there are very large loads on the battery while the charger is on, the unit will recycle to the first step, ensuring that batteries stay fully charged.

One-Year Warranty - Includes lifetime repair guarantee.

Certified to - UL Marine 1236/SA

The charger shall be mounted on the ceiling of the L1 compartment.

One (1)
14-45-T012

Kussmaul 20 AMP - 120v - Super Auto Eject

SHORELINE AUTO-EJECT

A KUSSMAUL Super Auto Eject, model 091-55-20-120, with a yellow weatherproof cover shall be provided.

The Super Auto Eject is to be completely sealed to prevent internal contamination of the working components.

The internal switch arrangement of the Super Auto Eject shall be designed to close and open the 120-volt AC circuit after the mating connector is inserted and before the connector is removed. This design shall prevent arcing at the connector contacts to provide long life.

The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.

The auto eject shall be mounted high on the front exterior wall of the L1 compartment.

One (1)
20-02-0100

HydraTechnology, Pump House Design Requirement

HYDRA TECHNOLOGY

The pump module must employ Hydra Technology. Due to the design a pump module manufactured with Hydra Technology is compact in size; massive in performance.

Each component in the module must undergo a selection and placement analysis staff engineers. Utilizing advanced 3D software the engineers goals must provide component placements for ergonomics with a completed module that produces maximum water flow with optimum versatility. Only after the complete analysis and build of the module in the computer can the build of the hardware in the shop begin.

Pump module design beginning with a foundation; cage framework assemblies that are precision manufactured from strong corrosion free heavy wall stainless steel tubing. This framework mounts to the

truck frame through a mounting design complimented with iso-mount elastomer cushions. The result shall be a mounting system that allows for the twisting movement of the truck frame without undue stress loading of the pump module.

Next assembled shall be the stainless side panels. Brushed, mirror polished or power coated the stainless steel side panels provide strength and durability. Precise engineering allows each panel to be laser machined before assembly; instead of drilling holes technicians shall spend their time on assembly techniques that provide installations that breeze through strict quality assurance.

A thorough review of the valve control placements on a control module shall result in a neat and orderly layout. Open the access door on a side control module and peer inside. The horizontal control rods appear neat and orderly. The appearance is only a portion of the requirement. The same neat and orderly appearance after countless hours of engineering design and ergonomic study provide a smooth trouble free linkage for valve operation. Another by product of the low profile control rod placement is the ability to offer ladder through the tank storage designs.

On a top control module mount valve controls are attached to the valves through high performance stainless steel aircraft type cable assemblies. Cables eliminate the inefficiencies of control rods connected to a valve. Operate a cable controlled top panel and you will feel the difference; smooth and precise across the full valve operation.

The gauge panel door shall be an expansive double wall stainless door supported by a 3/8 inch diameter hinge pin. The double wall door provides unsurpassed strength and gauge protection while thwarting the casual attempt of tinkering. Authorized servicing of the components within the door is simplified with a bolt on access panel.

Inside the access door; there shall be a clean well build appearance. Stainless steel piping, stainless steel panels, and a stainless steel framework all to provide years of trouble free service. Pipe threads are not allowed on plumbing larger than 1-1/2 inch in diameter. The pump module design shall employ Victaulic coupling connections in the pump module to save time when servicing a component. Installation of components without the use of pipe threads allows for "drop-out" maintenance of critical components without disassembly of entire piping systems. Drop in valves and manifolds with Victaulic couplings are only the start of the serviceability designed into this pump module.

Apparatus taking exception to any portion of this requirement will not be acceptable.

One (1)
20-02-0204

Pump Enclosure, Side Mount, 24" Wide

PUMP COMPARTMENT

For durability the pump compartment shall be constructed entirely of brushed stainless steel.

One (1)
20-04-0100

Running Boards, L/S, R/S w/Laser Grip S/S Step Surface

RUNNING BOARDS

The running board step surface shall be covered in Laser Grip stainless steel meeting the current revision of NFPA 1901 for step requirements.

Bolt on running boards and support structure shall be provided to provide field service of the running board without major repairs to the pump compartment in the event of an accident.

One (1)
20-14-0104

Pump Service Access

PUMP SERVICE ACCESS

The intake panels on the sides of the pump module shall be fastened with quick release latches to provide access to the pump at the intake piping area.

The floor of the crosslays shall be removable for access to the top of the pump module.

One (1)
20-14-0306

Control Panel, Side MountModule

PUMP CONTROL PANEL

All pump controls and gauges shall be located at the left (street) side of the apparatus and properly identified. The layout of the pump control panel shall be ergonomically efficient and systematically organized.

All push-pull valve controls shall have quarter turn locking control rods with chrome plated zinc tee handles. Guides for the push-pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push-pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.

One (1)
20-15-0110

Identification Labels - Metal Tags

PUMP PANEL IDENTIFICATION TAGS

The identification tag for each valve shall be recessed in the face of the control handle. All discharges shall have color-coded metal identification tags, with each discharge having its own unique color scheme. Color-coding shall include the labeling of the outlet and the drain for each corresponding discharge.

One (1)
20-16-0200

Pump Panel Finish, Brushed Stainless Steel

PUMP PANEL FINISH

All stainless panels used in the construction of the pump house shall have a brushed finish.

One (1)
20-18-0404

Controls & Gauges, Side Mount

CONTROLS AND GAUGES

The following shall be provided on the pump and gauge panels in a neat and orderly fashion. The gauge panel shall include the following:

One (1)
20-18-1420

FRC In Control 400 Pressure Governor, Engine Monitor and Pressure Display

PRESSURE GOVERNOR, MONITORING, and MASTER PRESSURE DISPLAY

Fire Research InControl series TGA400-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1-3/4" from the front of the control module. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

Pump discharge; shown with four daylight bright LED digits more than 1/2" high

Pump Intake; shown with four daylight bright LED digits more than 1/2" high

Pressure / RPM setting; shown on a dot matrix message display

Pressure and RPM operating mode LEDs

Throttle ready LED

Engine RPM; shown with four daylight bright LED digits more than 1/2" high

Check engine and stop engine warning LEDs

Oil pressure; shown on a dual color (green/red) LED bar graph display

Engine coolant temperature; shown on a dual color (green/red) LED bar graph display

Transmission Temperature; shown on a dual color (green/red) LED bar graph display

Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

High Battery Voltage

Low Battery Voltage (Engine Off)

Low Battery Voltage (Engine Running)

High Transmission Temperature

Low Engine Oil Pressure

High Engine Coolant Temperature

Out of Water (visual alarm only)

No Engine Response (visual alarm only)

The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

One (1)
20-18-1550

2-1/2" Pressure Gauges, 0-400 psig -English

PRESSURE GAUGES

Each line pressure gauge shall be mounted immediately above the control for the corresponding valve. The individual line pressure gauges for the discharges shall be 2-1/2" in diameter with white dial face gauges with black lettering and markings. The gauges shall be a compound style gauge with a vacuum/pressure range of 0 - 400 psig.

The gauges shall be fluid filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to -40 degrees F. The cases shall be temperature compensated with an internal breathing diaphragm to permit fully filled cases and to allow a rigid lens with a distortion free viewing area. The gauge accuracy for the gauge shall be plus or minus 2% mid-scale, plus or minus 3% balance, per ANSI B40.1, Grade 1A.

To prevent internal freezing and to keep contaminants from entering the gauge, the stem and bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.

All line pressure gauges shall be mounted adjacent to the corresponding discharge control tee handles.

One (1)
20-18-1558

2-1/2" Pressure Gauge LED Lighting

LED GAUGE LIGHTING

The 2-1/2" pressure gauges shall be equipped with LED back lighting.

One (1)
20-18-1570

Pump Panel LED Lighting -WHITE/RED

PUMP PANEL LIGHTING

The pump operator's panel shall be supplied with a LED light system. LED strip lights with a stainless steel hood shall be mounted across the top of the pump panel gauges and controls.

LED strip lights with a stainless steel hood shall be provided on each side of the pump module above the side panels.

All pump module lighting shall illuminate when the parking brake is engaged. There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1)
30-26-0410

Gauge, (1) Water Tank Level - FRC Tank Vision

WATER TANK INDICATOR

Fire Research TankVision model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the

volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1)
20-21-2300

Pump, Midship, Hale "DSD", 750-1500GPM

PUMP MANUFACTURER AND MODEL

The pump shall be a Hale DSD model midship pump.

PUMP CONSTRUCTION AND ASSEMBLY

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance specs as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving metal parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be vertically split on a single plane for easy removal of entire impeller assembly including wear rings and bearings without disturbing piping or the mounting of the pump in chassis. Pump shaft to be rigidly supported by three bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand ground, and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Removable, non-corrosive material clearance rings shall be provided.

The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

PUMP TRANSMISSION

The pump transmission shall be assembled and tested at the pump manufacturer's factory. Pump transmission shall be of sufficient size to withstand up to 16,000 lbs. ft. of torque in road operating conditions. The pump transmission shall be designed with ample capacity for lubrication reserve and to maintain the proper operating temperature.

The transmission drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4 inches in diameter on both the input and output drive shafts. They shall withstand the full torque of the engine. All gears drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated, shaved, hardened and ground to give an extremely accurate gear for long life, smooth quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. If gearbox is equipped with a power shift, the shifting mechanism shall be a heat-treated, hard-anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump.

Three green warning lights shall be provided to indicate to the operator when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operator's panel adjacent to the throttle control. All lights to have appropriate identification/instruction plates.

One (1)
20-26-1000

Pump Rating, Hale, 1500 GPM

PUMP RATING AND TEST REQUIREMENTS

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA 1901 rated performance. The pump shall deliver the percentage of rated discharge at pressures indicated below:

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

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

One (1)
20-27-0100

Altitude Requirements, 0' to 2000 Feet Above Sea Level

ALTITUDE REQUIREMENTS

The apparatus shall be designed to meet the specified rating at 0 to 2000' altitude.

One (1)
22-06-0400

Primer, Oil-less, Hale ESP

PRIMING PUMP

The priming pump shall be a positive displacement vane type, oil-less, electrically driven, and conform to standards outlined in NFPA 1901. One priming control shall both start the priming motor and open the priming valve.

One (1)

Pump Shift, Pneumatic w/Label, Indicator Lgts, Mtd Cab/PPnl

22-08-0200

PNEUMATIC PUMP SHIFT

The pump shift shall be air operated and shall incorporate an air double action piston to shift from road to pump and back. A manual or electric operated pump shift mechanism is not acceptable. The pump shift switch shall be mounted in the cab and identified as "AIR PUMP SHIFT" and include instructions permanently inscribed on the pump shift switch plate. The in-cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved.

The pump shift control assembly shall incorporate an indicating light system, which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is in correct pumping gear.

The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position. An additional indicator light shall be provided adjacent to the throttle control at the pump operator's panel to indicate a completion of the pump shift.

One (1)
22-08-0600

Pump Shift Override, Manual, Mtd PumpPanel

PUMP SHIFT OVERRIDE

There shall be a manual override on the pump shift. The override control shall be activated from the lower left side of the pump panel.

One (1)
22-10-0825

Mechanical Seal, Inboard Side, Spring Loaded, Self Adjusting

MECHANICAL SEAL

The fire pump shall be provided with a mechanical pump seal. One (1) only required on the suction, inboard, side of the pump. The mechanical seal shall be two inches in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with Teflon backup seal.

One (1)
22-11-0200

Anode, Water Pump, Indicator Weep Hole

ANODE SYSTEM

To reduce the effect of galvanic action the pump shall be equipped with two alloy (2) anodes. One anode is to be installed on the inlet (suction) side of the system and one anode is to be installed on the pressure (outlet) side of the system.

The anode brass cap is to be drilled with a 1/8" diameter hole to provide an indicator when the anode alloy element is to be replaced.

One (1)
22-14-1000

Thermal Relief Valve, TRV-L, Automatic

THERMAL PROTECTION

23357-0002

The pump shall be equipped with a TRV-L, thermal protection device, which monitors the water temperature of the pump and relieves water when the temperature inside the pump exceeds the preset value of the relief valve (120 degrees F / 49 degrees C).

The TRV shall automatically dump a controlled amount of water to the atmosphere when the pump water temperature exceeds the preset value. The valve shall automatically close when the water temperature cools to below the preset value.

An aluminum composite panel placard with a visual warning lamp and test button shall be provided on the operator's panel. The warning light shall illuminate when the Thermal Relief Valve is open and discharging water.

One (1)
22-14-1700

Intake Pressure Relief Valve, TFT

SUCTION PRESSURE RELIEF VALVE

Task Force Tips model #A1820 pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI in 90, 125, 150, 200, 250, 300 PSI increments. For corrosion resistance the cast aluminum valve shall be hardcoat anodized with a powder coat interior and exterior finish. The valve shall be configured for either a Waterous or Hale pump, and have a 2" male NPT threaded discharge outlet. The unit shall be covered by a five-year warranty.

The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.

One (1)
22-18-0400

Master Drain, Class 1, Manual Mtd PumpPanel

MASTER DRAIN

The apparatus shall be equipped with a Class 1 Manual Master Pump Drain for draining of the lower pump cavities, volute and selected water-carrying lines and accessories. The all brass and stainless steel construction allows for operation up to 600 psi.

One (1)
22-20-0100

Certified NFPA Pump Test, Completed Apparatus Certificate

PUMP CERTIFICATION TEST

The pump shall undergo pump test with line and/or low voltage requirements of NFPA 1901 prior to delivery of the completed apparatus. The certificate shall be furnished with the apparatus on delivery.

One (1)
22-24-0200

Pump Warranty, Hale, Five Year

FIRE PUMP WARRANTY

Standard 5 year warranty (Parts and Labor for the first two years, parts only years 3 - 5). See Hale warranty for full details.

One (1)
22-30-0200 Electronic Manuals, Pump Service and Operation

ELECTRONIC PUMP MANUALS

Two (2) sets of electronic fire pump service and operation manuals shall be provided with the completed apparatus.

One (1)
24-02-0400 Steamer Inlet, 6" NST Thread, L/S w/Strainer - No Intake Valves

LEFT SIDE STEAMER INLET

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

One (1)
30-40-1060 Cap, 6" Long Handle - HME Logo

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

One (1)
24-02-0500 Steamer Inlet, 6" NST Thread, R/S w/Strainer - No Intake Valves

RIGHT SIDE STEAMER INLET

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

One (1)
30-40-1060 Cap, 6" Long Handle - HME Logo

LARGE DIAMETER CAP

A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.

One (1)
24-21-0034 Pump Side Intake, Left Side

LEFT SIDE INTAKE

There shall be an intake located on the left (street) side of the pump and shall contain:

One (1)
24-21-0426 Suction Inlet, Side 2.5" - Side Operated Module

A 2-1/2" intake shall be provided. The inlet shall have a 2-1/2" quarter-turn swing-out valve. The inlet shall be provided with a 2-1/2" NST female swivel that extends through the pump panel.

One (1) Suction Valve Control, Swing Type, Side, Adj To Valve
24-21-1055

The inlet valve shall have a swing type control handle located adjacent to the valve.

One (1) Intake Plug, (Qty) 2.5" w/Cap & Chain
30-40-1125

One (1) 2-1/2" chrome plated rocker lug plug with chain shall be supplied.

One (1) Discharge, Left Side
26-03-0190

LEFT SIDE DISCHARGE #2

The second from the forward discharge on the left (street) side of the pump panel shall contain:

One (1) Discharge, Side, 2.5" - 30 degree Elbow - Manual Control
26-03-0425

A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.

One (1) Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain
30-41-5025

DISCHARGE CAP

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

One (1) Discharge, Right Side Front
26-03-0300

RIGHT SIDE FRONT DISCHARGE

The forward discharge on the right (curb) side of the pump panel shall contain:

One (1) Discharge, Side, 3" - 30 degree Elbow - Manual Control
26-03-0430

A 3" discharge shall be provided. The discharge outlet shall have a 3" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel.

One (1) Discharge Cap, (Qty) 3" Chrome Vented Rocker Lug w/Chain
30-41-5030

DISCHARGE CAP

One (1) chrome plated, Class 1, 3" rocker lug cap with lug vent and chain shall be furnished.

One (1) Discharge, Right Side Rear
26-03-0340

RIGHT SIDE REAR DISCHARGE

The second from the forward discharge on the right (curb) side of the pump panel shall contain:

One (1)
26-03-0440 Discharge, Side, 4" - Straight - Electric Control

A 4" discharge shall be provided. The discharge outlet shall have a 4" quarter-turn swing-out valve. The discharge shall be provided with chrome plated straight discharge with 4" NST male threads that extends through the pump panel.

Control of the outlet shall be accomplished using an electric controller. There shall be an LED indicator on the controller to indicate the valve position.

One (1)
30-40-4443 4" NST F to 4" Storz - 30degree - Swvl Rkr Lug - (Qty)

STORZ ADAPTER

One (1) 4" NST Female swivel thread 30-degree down to 4" Storz hard coated aluminum adapter shall be provided. (ref. TFT AH3SP-NP)

One (1)
30-40-5010 (Qty) 4" Storz w/Cap & Lanyard

One (1) 4" Storz cap and lanyard with a suction gasket shall be provided. (ref. TFT A01SP)

One (1)
28-11-0810 Pump House Crosslay, (2) Beds, 1-1/2 double stacks

PUMP CROSSLAYS

There shall be two (2) hose storage crosslay areas mounted on top of the pump module. They shall be arranged in a double stack design with a divider in the center. Each hose storage area shall be provided with dimensions of 9" wide x 57" deep x 13" tall [4 cu. ft. each].

DISCHARGE VALVES

There shall be one (1) discharge outlet in each hose storage compartment.

The discharge outlet shall have a 2" quarter-turn swing-out valve with a push pull type control handle adjacent to the valve. The discharge shall be provided with a swivel head with 1-1/2" NH male threads that extend through the hose compartment floor.

CROSSLAY HOSE GUIDES

Brushed stainless steel hose guides shall be provided on the left and right side of each hose bed.

One (1)
28-12-2800 Cover, Crosslay, Aluminum w/Vinyl Flaps

CROSSLAY HOSEBED COVER

A .125" polished aluminum treadplate hinged cover shall be provided over the crosslay hosebeds, complete with full-length stainless steel piano hinge. Stops shall be provided to protect cab or other adjacent body components. The hinge shall be located on the forward section of the cover, closest to the chassis cab.

VINYL FLAPS

The aluminum treadplate crosslay cover shall be supplied with weighted vinyl end flaps. Each flap shall have a means of securing the flap to prevent hose from falling off the truck.

One (1)
28-14-1000 Vinyl End Flap Color, Crosslay, Vinyl, Midnight Black

The vinyl crosslay end flaps shall be Midnight Black in color. Each flap shall have a means of securing the flap to prevent hose from falling off the truck.

One (1)
30-00-0300 Ball Valves, Elkhart, Brass

ELKHART BALL VALVES

All discharge ball valves shall be Elkhart heavy duty swing out valve with stainless steel ball unless specified otherwise.

One (1)
30-20-0600 Piping, Tank To Pump, 3" w/3" Air Operated Ball Valve

TANK TO PUMP

The tank to pump piping shall be capable of delivering water to the pump at a rate of five hundred (500) gallons per minute. This flow shall be sustained while pumping to a minimum of 80% of the certified tank capacity with the apparatus on level ground.

The tank to pump line shall run from the pump to the front face of the water tank and down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing. The tank to pump line shall be 3" I.D. piping with a 3" ball valve. The valve shall operate in the following fashion, IN = OPEN and OUT = CLOSED.

SHOP NOTE

Note: changed valve control setup

One (1)
30-22-0400 Tank Refill, 2" Line w/ 1/4 Trn BllVlv

TANK REFILL

A 2" tank refill line shall be provided using a 2" quarter-turn full flow ball valve controlled from the pump operator's panel with a manual locking handle. The tank refill shall be plumbed with high pressure flexible piping and high pressure flexible piping stainless steel couplings.

One (1)
20-32-5690 Fire Research "TurboFoam" (Direct Inj 2.6 GPM - Class A Only)

FOAM SYSTEM. DIRECT INJECTION

Fire Research TurboFoam model TFC226-030 direct injection foam proportioning system shall be installed. The system kit shall include a control module, a foam concentrate pump assembly with an electric motor, a discharge flow sensor with mount for a 3.0" pipe, check valves, foam concentrate strainer, cables, and instruction plates including operations, system diagram, and specifications.

The system shall provide the following capabilities:

Foam concentrate pump: 2.6 GPM
Maximum injection pressure: 400 PSI
A Foam Program
Proportioning ratio: 0.1 to 1.0 %

The microprocessor controlled system shall automatically maintain a selected foam percent mixture at the pump discharge regardless of water flow fluctuations. It shall monitor the water flow through the discharge and control the flow rate of foam concentrate from the foam tank. The pump shall inject concentrate under pressure into the discharge side of the pump to create the correct foam solution. Foam concentrate percent shall be displayed. Discharge flow rate, total water flow, and total foam concentrate flow shall be displayed with the push of a button.

The control module shall be pump panel mounted, waterproof, and have dimensions not to exceed 4 1/4" high by 4 1/4" wide by 1 7/8" deep. The push button controls, digital display, and LED indicators shall be located on the front of the control module. A USB port shall be accessed from the rear.

The foam pump assembly shall have an overall length less than 19 1/2", width less than 10", and a height less than 8 7/8". The components of the assembly shall be mounted to a base and include a pump control box, a pump with an electric motor, a pressure relief valve, and a calibration bypass valve. The pump shall be a triplex plunger pump constructed of a die-cast body with cooling fins, a forged brass head, solid ceramic plungers, and viton seals. The pump shall have a custom electric washguard motor specifically designed for wet environments. The 1/2 hp pump motor shall operate at 12 volts DC and draw 55 amps.

LOW TANK LEVEL SWITCH

A low tank level switch shall be installed in the foam concentrate tank. The low tank level sensor shall be connected to the foam proportioning system to provide protection against dry running of the foam pump. The low tank level sensor shall be mounted on the side of the foam concentrate tank. The low tank level sensor and electrical connections shall be sealed to prevent infusion of foam concentrate into the wiring and possible short circuit of the tank level sensor.

One (1) Class 'A' Foam Operation Only
20-32-5986

FOAM SYSTEM TYPE

The foam system will operate as a Class A system.

A Foam Program
Proportioning ratio: 0.1 to 1.0%

One (1) Foam Tank Refill System, HME Ahrens-Fox System
20-32-7075

SINGLE TANK FOAM TANK REFILL SYSTEM

A truck mounted 12-volt foam tank refill system shall be provided and installed on the apparatus. The refill system shall provide the ability to automatically refill the foam tank from the ground without carrying foam solution up to the foam cell in the hosebed.

The refill system shall be activated by an on/off rocker switch provided on a control panel installed on the pump panel. The foam refill system will automatically shut off when the foam tank is full. The refill system

quick connection shall be located beneath the pump panel running board to prevent foam from spilling onto the running board during connection operations.

System features:

- Weather proof on/of rocker switch with integral green power on indicator light
- Red refill PUMP ON indicator light
- Automatic tank fill shutoff, vertical or side mount float switches
- Thermally protected 12-volt motor
- Relay operated motor power circuit
- 5 gpm capacity @ 8 foot lift
- Self priming pump, can run dry and re-prime itself automatically
- Composite pump head with Buna-N diaphragm
- All corrosion resistant components
- Compatible with Class A or Class B foam concentrates
- Quick connect inlet hose with wand
- Suction inlet strainer

One (1) Foam Syst Outlets - Mini Pumper
20-34-0199

FOAM SYSTEM OUTLETS

The foam system shall be distributed into the following discharge outlets:

- Two (2) 1-1/2" crosslays
- The left side 2-1/2" discharge
- The right side 3" discharge

One (1) Discharge, 2.5" Right Side Body Rear w/cap and chain
26-06-0110

A single 2-1/2" discharge outlet is to be located on the passenger side rear of the body in the lower left corner of the hose bed with the control on the pump operator's panel. The Piping shall be covered with a box from the front of the hosebed to the rear. One (1) chrome plated rocker log cap with lug vent and chain.

One (1) Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain
30-41-5025

DISCHARGE CAP

One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.

One (1) Body Design and Construction, Utility/Mini, Stainless Steel
32-02-0100

PURCHASE INTENT

The apparatus being purchased is expected to have an 18 to 20 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a "like new" condition, with minimal maintenance and upkeep, throughout the intended service life.

Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder / manufacture provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department. The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.

APPARATUS BODY DESIGN AND CONSTRUCTION

The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 95 inches wide. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.

The body design shall be fully tested with proven engineering and test techniques such as finite element analysis, stress coating, and strain gauging. Engineering and test techniques shall have been performed with special attention given to fatigue life and structural integrity of compartments and body support system.

The apparatus body shall be designed with the use of parametric modeling engineering software to ensure proper design of panel cuts and alignment of holes in mating parts. The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.

MODULAR BODY REQUIREMENTS

The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.

All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). This shall greatly enhance assembly and matching of repair parts. The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge stainless steel. The vertical front and rear walls are designed with 14-gauge stainless steel. These front and rear walls are designed as a structural beam with the inclusion of the design.

Interior stainless steel panels shall be #4B finish to eliminate the need for high maintenance painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.

The entire body shall be fabricated using precision holding fixtures to ensure accurate dimensions. Body front and rear vertical flanges shall be triple broken, providing a mounting area for rear hand rails. Major body components shall consist of right and left body sides, and rear facing compartments.

COMPARTMENT ROOF CONSTRUCTION

Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 500 pounds per square foot without permanent roof deformation. The stainless roof sections shall attach the compartment rear wall and compartment vertical sides through a fastened joint creating a full perimeter compartment attachment of the stainless roof section.

One (1)
32-02-9000

Compartment Interior Finish

COMPARTMENT INTERIOR FINISH

For better interior visibility, to reflect light better, ease of maintenance and prevent the masking of poor welds and questionable workmanship the interior of the body compartments shall remain uncoated.

One (1)
46-18-0894

Beveled Rear Tailboard, 8", LaserGrip Stainless Steel

BEVELED REAR TAIL BOARD

A rear tailboard 8" deep shall be provided at the rear from "Laser Grip" stainless steel. The tailboard shall provide recessed for the rear ICC marker lights. It shall be bolted to the rear support structure. The corners of the rear bumper shall be beveled back to reduce the rear bumper swing of the vehicle.

One (1)
40-01-2130

Frame Extension, Class IV Hitch Rear

CHASSIS FRAME EXTENSION

There shall be a rear three (3) inch x four (4) inch x 1/4 inch wall ASTM A-500 grade B rectangular tubing frame extension to provide frame support for the rear of the apparatus body.

Two vertical mounting plates are to be welded to the tubing to provide a drop frame connection to the truck chassis. This extension assembly is to be bolted to the truck chassis with eight (8) 1/2 grade 8 bolts with hardened flat washers to form an integral part of the truck frame assembly.

RECEIVER HITCH

There shall be a Class IV receiver hitch assembly as an integral part of the chassis rear frame extension that is located at the rear of the apparatus below the rear step.

EXTENSION PAINT FINISH

The rear frame extension assembly and hitch assembly is to be black powder coated prior to installation.

One (1)
40-02-0180

Ext Compartment Design and Construction

COMPARTMENT DESIGN AND CONSTRUCTION

All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.

One (1)
40-02-0204

Compartment Ventilation w/Filtration

COMPARTMENT VENTILATION

Each compartment shall be provided with a laser cut louver to provide adequate ventilation.

VENT FILTRATION

There shall be filters provided for compartments L1, L3, R1 and R3. The protective louver covering the filter shall be removable to allow for filter changing.

The filter shall be 100% virgin nylon fiber in an open web design that is USDA approved. The filter shall be chemically treated with Dimethyl Benzyl Ammonium Saccharinate to aid in the reduction of bacteria and fungi.

One (1)
40-02-0286 Compartment Body - 400 gallon - Mini Pumper

One (1)
30-04-0488 Water Tank Capacity, T-Tank, 400 US Gallons - Mini

WATER TANK CAPACITY

The water tank shall be rectangular shaped, and shall have a capacity of 400 US gallons.

One (1)
30-02-0900 Tank Fill Tower, 8" x 8", w/4" Vent

TANK LID & FILL TOWER

The tank shall have a combination vent and fill tower. The fill tower shall be constructed of 1/2" thick Polypropylene & Mac226 and shall be a minimum dimension of 8"x 8" outer perimeter. The tower shall be located in the center front the tank unless otherwise specified by the purchaser. The tower shall have a 1/4" thick removable Polypropylene & Mac226; screen and a Polypropylene & Mac226 hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum ID of 4" that is designed to run through the tank, and shall be piped behind the rear axle beneath the tank.

The tank cover shall be constructed of recessed 1/2" thick Polypropylene & Mac226, stress relieved, UV stabilized material. A minimum of two lifting dowels shall be drilled and tapped to accommodate the lifting eyes.

OVERFLOW AND VENT PIPE

The fill tower shall be fitted with an integral 4" ID, Schedule 40 PVC combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow beneath the chassis.

One (1)
30-12-0090 Cubic Ft, Body 139/Hsbd 40, Hosebed Height, 44", 108" OAL

BODY MODULE CAPACITIES AND HOSEBED HEIGHT

The total capacity of the body module exterior compartments shall be 139 cubic feet.

The total capacity of the body hosebed shall be approximately 40 cubic feet.

The hosebed shall be approximately 44" from the bumper.

The body shall have an overall length of 108".

One (1)
30-14-3001 Foam Tank, (1) 15 Glns, Cls A, Tank Internal

INTERNAL FOAM TANK

A minimum fifteen (15) gallon foam concentrate tank shall be furnished as an internal component of the booster tank. Mounted to the left side of the fill tower in the hosebed area. The foam tank shall be equipped with a pressure/vacuum vent cap.

The foam tank shall be plumbed to the on board "Class A" foam system. A drain valve shall be provided at the lowest point of the foam tank. The foam tank shall 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)
34-02-0118

One (1)
34-02-0122 Hosebed, S/S w/15" Extnd Sds/Rmvbl HD Ext Alm Flrbrds

APPARATUS BODY HOSEBED

The hose bed shall be constructed in such a manner that will prevent damage to fire hose. The hosebed shall comply with the current NFPA requirements. The interior of the hosebed shall be free of projections such as nuts, sharp edges or brackets that may damage hose. The hosebed and walls shall be manufactured from stainless steel. No exceptions to this requirement are allowed.

An aluminum extrusion shall be installed over the rear opening of the hosebed to protect the body from wear. The hosebed bottom shall be fitted with removable slatted, ribbed 6" heavy-duty extruded aluminum floorboards.

One (1)
34-04-0710 Divider, Hosebed, Adjustable, Smth Alum w/Radius Crnr

ADJUSTABLE HOSE BED DIVIDERS

An adjustable hosebed divider shall be provided. The divider shall be fabricated from .250" thick smooth aluminum plate, 5052-H32 alloy. The rear end of each divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose.

There shall be two hand hold openings provided. One (1) at the rear in a vertical position and one (1) approximately 24 inches in from the rear in a horizontal position.

One (1)
34-06-1000 Hosebed Covers, Alum, Dual, Two-Piece, Hinged, Plshd ATP - MiniEvo

HINGED ALUMINUM HOSEBED COVERS

Two (2) two-piece polished aluminum treadplate hosebed covers shall be supplied and shall extend the full length and width of the MiniEvo hosebed. The hosebed covers shall be constructed of .125" polished

aluminum treadplate with cross bracing to provide maximum strength and rigidity to support the weight of a firefighter standing on the covers when closed. The aluminum treadplate shall meet the current revision of NFPA 1901 for step requirements.

The covers shall be equipped with a full length stainless steel piano hinge and chrome plated grab handles at front and rear of each cover. The hosebed covers shall include a heavy duty stop to support them when placed in the open position.

SHOP NOTE

Note: Changed desc to MiniEvo

One (1)
34-04-0500 Divider, (1) Hosebed, Fixed, Smth Alum w/Radius Cnr Rr

HOSEBED DIVIDER

One (1) hosebed divider shall be provided in the center of the hosebed to support the aluminum hosebed cover. It shall be fabricated from .250" thick smooth aluminum plate, with a 5052-H32 alloy. The rear end of the divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose.

There shall be two hand hold openings provided. One (1) at the rear in a vertical position and one (1) approximately 24 inches in from the rear in a horizontal position.

One (1)
34-06-1400 Vinyl Flaps, Black, Mtd Each Alum Hsbd Cvr

REAR VINYL FLAPS FOR ALUMINUM COVER

There shall be one (1) black vinyl flap attached to each aluminum hosebed cover. The vinyl flaps shall cover the area at the rear of the hosebed from top to bottom. The flaps shall be independent of each other and shall be attached with large non-metallic snap buckles. The bottom edge of each flap shall be weighted.

The hosebed cover rear flap shall have a positive locking device to meet the requirements of NFPA.

One (1)
46-10-1000 Lights, Aluminum Hosebed Cover, (4) LED w/Auto Swtch

HOSEBED COMPARTMENT LIGHTING

Four (4) weather proof LED lights shall be provided on the underneath side of the aluminum hosebed covers. Two (2) lights shall be provided for each side cover. Each side of the hosebed cover shall have an automatic compartment light switch.

One (1)
40-12-004M Left Side Compartments - Mini Pumper

LEFT SIDE COMPARTMENT DIMENSIONS

FORWARD OF WHEEL WELL

There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

ABOVE WHEEL WELL

There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

REAR OF WHEEL WELL

There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

One (1)
40-15-0094 Roll Up Doors, L/S, Painted Finish - Mini Pumper

ROLLUP DOOR CONSTRUCTION - LEFT SIDE

All left side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

One (1)
40-16-0400 Door Latches, L/S, Non-Locking Lift Bar w/Door Ajar Switch

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

One (1)
41-00-0001 Wheel Area, Single Axle

FENDER SIDE SKIRTS

There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.

One (1)
46-02-0202 Fuel Fill, L/S Rr Fndr w/Door, Label

FUEL FILL - SIDE BODY

The fuel fill shall be located in the rear fender area on the left side of the apparatus body. The spring loaded fuel fill door shall have "Diesel Fuel" laser cut in the face of the door.

One (1)
46-06-0406 Fenderettes and Wheel Well Liners - Stainless

BODY FENDERS - POLISHED

The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.

One (1)
46-08-0200

Mud Flaps, Rear

REAR AXLE MUD FLAPS

Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.

One (1)
42-02-004M

Right Side Compartments - Mini Pumper

RIGHT SIDE COMPARTMENT DIMENSIONS

FORWARD OF WHEEL WELL

There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

ABOVE WHEEL WELL

There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

REAR OF WHEEL WELL

There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

One (1)
42-07-0094

Roll Up Doors, R/S, Painted Finish - Mini Pumper

ROLLUP DOOR CONSTRUCTION - RIGHT SIDE

All right side compartments shall be provided with Gortite roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

One (1)
40-16-0400

Door Latches, L/S, Non-Locking Lift Bar w/Door Ajar Switch

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

23357-0002

07/28/20

One (1)
42-12-0798 RR1, Ext Compt, Rear, 33-1/2" H x 48" W x 27" D, Full Height

REAR COMPARTMENT DIMENSIONS

There shall be one (1) full height compartment at the rear of the body. It shall have approximate dimensions of 48" wide x 33-1/2" high x 27" deep. The door opening shall be 45-1/2" x 24" tall.

One (1)
42-23-0204 Roll Up Door, Rear, Satin Anodized Finish, Full Height

ROLLUP DOOR CONSTRUCTION - REAR

The rear compartment shall be provided with a Gortite roll up door that shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick with satin anodized finishing. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for the rear door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of the door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

One (1)
42-26-0200 Door Latch, Rear, Non-Locking Lift Bar w/Door Ajar Switch

The rear door latch shall be a non-locking stainless steel lift bar and shall be provided with a magnetic door ajar switch system.

One (1)
84-04-5050 Chevron, Diamond Grade, Rear Body NFPA, 6" - Pumper Tall Rear Door

REAR BODY DIAMOND GRADE CHEVRON STRIPING

The rear-facing vertical surfaces of the rear taillight panels and the area below the horizontal step, visible from the rear of the apparatus, shall be equipped with six (6) inch wide diamond grade retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

One (1)
84-04-8020 Chevron Color - Red and Florescent Green Reflective

Each stripe in the chevron shall be a single color alternating between red (3M #983-72) and florescent green (3M # 983-23).

One (1)
46-09-0014 Tray, (2) 9' Suction, L/S, Abv Cmpt - Utility

HARD SUCTION TRAYS - LEFT SIDE

Two (2) stainless steel hard suction trays shall be installed on the top of the compartment on the left (driver's) side of the apparatus.

Each tray shall be designed to accommodate hard suction hose in a nine (9) foot length. The suction shall be held in place with straps attached to the tray with footman loops.

One (1)
72-00-002M Compartment Top Ladder Group - 10-Fold, 14-Roof, 24-2 Sec

One (1)
72-04-0400 Ladder, 14' Roof, Duo-Safety, Channel Rail, Aluminum

ROOF LADDER

One (1) 14' Duo-Safety model 775-A, aluminum channel rail roof ladder with folding roof hooks shall be provided with the apparatus.

One (1)
72-06-0400 Ladder, 10' Fldng Attic, Duo-Safety, Aluminum

ATTIC LADDER

One (1) 10' Duo-Safety model 585-A aluminum folding attic ladder shall be provided with the apparatus.

One (1)
72-08-0400 Ladder, 24' Two-Sect Ext, Duo-Safety, Solid Beam Aluminum

EXTENSION LADDER

One (1) 24' two-section Duo-Safety model 900A solid beam, aluminum extension ladder shall be provided with the apparatus.

One (1)
46-10-0208 Lights, Compartment, LED Strip, Armor Protected - White/Red

APPARATUS COMPARTMENT LIGHTING

Two (2) LED, armor protected, strip lights shall be provided one (1) each side of the compartment at the door frame for each body compartment. Each body door shall have an automatic compartment light switch.

There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1)
46-14-0224 Lights, Underbody, LED Strip, Armor Protected

UNDERBODY LIGHTING

Underbody ground lights shall be provided under the apparatus body. These ground lights shall be LED strips mounted in armor guards. The lights shall illuminate when the parking brake is set.

One (1)
46-16-0311 Steps, Folding, Rear of Body - Three

FOLDING STEPS

Three (3) folding steps shall be provided on the left rear of the apparatus body.

Three (3)
46-18-0710

Upgraded Folding Step with LED light

The folding step(s) shall include an integrated LED light beneath each step. This light shall illuminate when the apparatus ground lights are activated. The bottom of the step and step mounting shall include white reflective material to aide in locating the step when the vehicle ground lights are not activated.

One (1)
55-02-2004

Body - LED - ICC Lighting - Reflectors

APPARATUS ICC MARKER LIGHTING AND REFLECTORS

Three (3) red LED clearance lights shall be supplied, mounted in the rear of the apparatus.

ICC lighting utilized and lighting positions shall be in conformance with FMVSS 108.

There shall be a diamond shaped amber reflector mounted on each front corner of the apparatus body and a diamond shaped red reflector mounted on each rear corner of the body.

One (1)
55-05-0124

Rear Stop/Tail/Turn/Reverse with NFPA Lower Zone C Warning - TecNiq ICC Lights

REAR STOP/TAIL/TURN/BACKUP LIGHTS

There shall be a chrome plated light housing provided on the rear of the apparatus that includes the stop/tail/turn and lower zone C warning lights.

The rear of the apparatus shall be equipped with TecNiq High Output K60 Series light heads.

- The top light in the assembly shall be a red LED with red lens stop/tail light.
- The upper middle light set shall be an amber LED lamp with an amber lens with an arrow mask.
- The lower middle lights shall be white LED backup lamps with clear lens.
- The lower lights shall be NFPA warning lamps as specified for lower zone C.

The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The coated PC board and sealed lens/reflector assembly shall provide additional protection against environmental elements. The solid state warning light shall be vibration resistant and designed with fully sealed submersible electronics. The K60 is rated IP68 for dust and water resistance.

TecNiq Inc. extends a Lifetime Limited Warranty to the original purchaser that the TecNiq Inc. Lamp is free from defects in workmanship and/or materials only. See the TecNiq warranty document for details.

One (1)
55-06-0480

Back Up Alarm

BACK-UP ALARM

A solid state electronic backup alarm shall be installed on the rear of the apparatus and wired to the backup light circuit.

One (1)
55-06-1000

License Plate Bracket w/LED Light

One (1) license plate mounting and LED light shall be provided. The light and bracket shall be located on the rear of the apparatus.

One (1)

Rear Warning - Zone C Lower, Power Rear, TecNiq - LED

23357-0002

57-42-1204

REAR LOWER LEVEL WARNING LIGHTS

Two (2) TecNiq High Output Red LED Flashing Warning Lights model K60 lighthouse(s) shall be provided. The lighthouses shall be surface mounted and shall fit standard mounting holes secured with four (4) stainless steel screws. Wiring shall extend from the lighthouse back. The lighthouses shall be fitted with high efficiency optics and a permanently affixed lens to provide a warning light beam across all angles. The lighthouses shall be fitted with AutoSync, a feature that will automatically synchronize the flash patterns of the warning lights without additional wiring. Fully sealed, submersible electronics shall be furnished on each lighthouse. The hard coated lens shall provide extended life/luster protection against UV and chemical stresses. The solid state warning light shall be vibration resistant and designed with fully sealed submersible electronics. The K60 is rated IP68 for dust and water resistance.

TecNiq Inc. extends a Lifetime Limited Warranty to the original purchaser that the TecNiq Inc. Lamp is free from defects in workmanship and/or materials only. See the TecNiq warranty document for details.

These two (2) lights fulfill the requirements for Lower Zone C lower level warning devices.

One (1)
57-03-1000

Lens Color - Both Red

Both warning light lenses shall be red in color.

One (1)
57-04-4322

Lightbar, Frt, Ahrens-Fox Bar - 57" Single Stack - No Brow Lights

CAB FORWARD ROOF MOUNTED LIGHTBAR

An Ahrens-Fox, single tier beacon shall be mounted facing forward on the cab roof. The beacon housing shall be finished in black powder coating.

The beacon shall contain eight (8) warning light pods facing forward and one (1) pod facing each side of the apparatus. Each pod shall contain ten (10) red LED's with red lens.

This lightbar fulfills the requirements for Upper Zone A and in combination with the upper rear warning devices fulfills the requirements for Upper Zones B, C, and D. Any clear warning light(s) in the lightbar shall be disabled automatically for the "Blocking Right of Way" mode.

One (1)
57-04-8010

Lightbar Side Warning Lights, Alley/Flood, Ground Lights

LIGHTBAR SIDE WARNING, ALLEY/FLOOD, GROUND LIGHTS

There shall be a Whelen V-Series™ Model # IONSV3RC combination three-in-one surface mount light with chrome base, one (1) mounted each side of the lightbar facing outward. The IONSV3R configuration shall include a warning light, flood/alley light, and ground illumination light.

The warning light shall consist of six red Super-LED® with TIR V-light reflectors.

The V-light shall have one white Super-LED installed in the center and two white Super-LEDs that to function in conjunction with the alley/flood light.

The V-light shall also have four white Super-LED installed below to work independently as the ground illumination light.

One (1)
57-20-3408

Brush Guard Front Warning, Whelen - LED Ultimate Package

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on the front brush guard facing forward.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

SHOP NOTE

Note: Left light shall be steady burn

One (1)
57-30-3408

Brush Guard Side Warning, Whelen - LED Ultimate Package

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on the front brush guard facing to the side.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

One (1)
57-34-3420

Body Side Warning, Whelen - LED Ultimate Package

COMBINATION FRONT WARNING AND GROUND LIGHT

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/ground lights mounted on each side of the body in the forward wheelwell area.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

One (1)
57-40-3422

Upper Rear, Whelen - LED Ultimate Package

REAR UPPER LEVEL WARNING / PERIMETER LIGHTS

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted facing the rear, one (1) each side of the body in the upper position.

There shall be two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted, one (1) mounted on the upper rear sides of the apparatus.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The perimeter light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance. Perimeter lighting is switched with the ground lighting.

One (1)
58-02-0210 Worklights, Whelen, (2) PFBP12, LED, Mnt Frt Body Top

BODY LED WORKLIGHTS

Two (2) Whelen PFBP12 LED hosebed floodlights shall be provided. One (1) mounted at the front right corner and one (1) on the front left corner of the body. The lights shall be controlled from a switch on the lamp head.

One (1)
58-14-0160 FRC - LF Corner - Utility

LEFT FRONT QUARTZ LIGHT

The following light shall be provided mounted on the left front corner of the body:

One (1)
58-15-0910 FRC, Spectra, Ultrabright LED, 20,000 Lumens, 12VDC

Fire Research Spectra LED Scene Light model SPA100-Q20 lamphead shall be provided. The lamphead shall have eighty four (84) ultra-bright white LEDs, 72 for flood lighting and 12 to provide a spot light beam pattern. It shall operate at 12 volts DC, draw 18 amps, and generate 20,000 lumens of light. The lamphead shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall be no more than 5 7/8" high by 14" wide by 3 1/2" deep and have a heat resistant handle. The lamphead and mounting arm shall be powder coated. The LED scene light shall be for fire service use.

One (1)
58-15-8004 Lamphead ON / OFF Switch

Fire Research -ON option switch shall be installed on the lamphead. The weatherproof on-off toggle switch shall be mounted on the lamphead.

One (1)
58-15-8010 FRC, Bottom Raise Pole - 530

The lighthouse shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

One (1)
58-14-0170 FRC - RF Corner - Utility

RIGHT FRONT QUARTZ LIGHT

The following light shall be provided mounted on the right front corner of the body:

One (1)
58-15-0910

FRC, Spectra, Ultrabright LED, 20,000 Lumens, 12VDC

Fire Research Spectra LED Scene Light model SPA100-Q20 lamphead shall be provided. The lamphead shall have eighty four (84) ultra-bright white LEDs, 72 for flood lighting and 12 to provide a spot light beam pattern. It shall operate at 12 volts DC, draw 18 amps, and generate 20,000 lumens of light. The lamphead shall have a unique lens that directs flood lighting onto the work area and focuses the spot light beam into the distance. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall be no more than 5 7/8" high by 14" wide by 3 1/2" deep and have a heat resistant handle. The lamphead and mounting arm shall be powder coated. The LED scene light shall be for fire service use.

One (1)
58-15-8004

Lamphead ON / OFF Switch

Fire Research -ON option switch shall be installed on the lamphead. The weatherproof on-off toggle switch shall be mounted on the lamphead.

One (1)
58-15-8010

FRC, Bottom Raise Pole - 530

The lighthouse shall be mounted on a side mount push up telescopic pole. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord.

One (1)
48-03-2820

ULTIMATE Shelf, Tray, Toolboard Package

One (1)
48-03-3212

Shelf Package, Deep - Two (2) each in L1, R1, R3, L3

ALUMINUM SHELVES - ADJUSTABLE

Eight (8) adjustable aluminum shelves shall be provided with two (2) each installed in L1, R1, R3 and L3 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

SHOP NOTE

Note: Added additional shelves

Eight (8)
48-08-0600

Dri-Dek Mat, Installed (Qty) Shelves/Trays, Ext Compt

DRI-DEK MATTING - SHELVES/TRAYS

The surface of eight (8) aluminum shelves and/or trays shall be covered with Dri-Dek mat for improved ventilation that shall also provide a non-slip surface.

Eight (8)
48-08-1000

Dri-Dek Mat Locations, Specify Ext Compts/Shelves/Trays

The Dri-Dek mats shall be installed in R1, R3, L1 and L3 compartments on the shelves.

Eight (8)

Dri-Dek Color - Black

23357-0002

48-10-1010

The Dri-Dek mat shall be black in color.

One (1)
48-03-3410

Shelf Package, - One (1) in RR1

ALUMINUM SHELF - ADJUSTABLE

One (1) adjustable aluminum shelves shall be provided and installed in the RR1 compartment. The shelf shall have a flange 1-1/2" deep with a minimum material thickness of .190". The shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1)
48-08-0600

Dri-Dek Mat, Installed (Qty) Shelves/Trays, Ext Compt

DRI-DEK MATTING - SHELVES/TRAYS

The surface of one (1) aluminum shelves and/or trays shall be covered with Dri-Dek mat for improved ventilation that shall also provide a non-slip surface.

One (1)
48-08-1000

Dri-Dek Mat Locations, Specify Ext Compts/Shelves/Trays

The Dri-Dek mats shall be installed in RR1 compartment on the shelf.

One (1)
48-10-1010

Dri-Dek Color - Black

The Dri-Dek mat shall be black in color.

One (1)
48-04-0107

Tray Package, Pullout, Floor - One (1) each in L1, L3, R1, R3, RR1

ALUMINUM TRAYS - PULL OUT

Five (5) heavy duty pullout trays shall be installed and shall be equipped with slides and a gas shock to hold the tray in both the in and out positions and shall be made from .190" aluminum with a maximum capacity of 250 pounds. One (1) each are to be installed on the floor of the L1, L3, R1, R3 and RR1 compartments.

Five (5)
48-08-0600

Dri-Dek Mat, Installed (Qty) Shelves/Trays, Ext Compt

DRI-DEK MATTING - SHELVES/TRAYS

The surface of five (5) aluminum shelves and/or trays shall be covered with Dri-Dek mat for improved ventilation that shall also provide a non-slip surface.

Five (5)
48-08-1000

Dri-Dek Mat Locations, Specify Ext Compts/Shelves/Trays

The Dri-Dek mats shall be installed in L1, L3, R1, R3 and RR1 compartments, on pullout trays.

Five (5)
48-10-1010

Dri-Dek Color - Black

The Dri-Dek mat shall be black in color.

One (1)
48-14-01MS Toolboards, FoxTrax, Mtd Rear Wall, L2 Compartments

ALUMINUM TOOL BOARDS

The rear wall of the L2 and the rear wall of the R2 compartments shall be covered with FoxTrax aluminum extrusion tool mounting board.

One (1)
57-44-5301 Maxxima - LED - M20378Y PowerStick TrafficDirector

LED TRAFFIC ADVISOR

One (1) Maxxima 8 head LED Amber Traffic Director, model M20378Y, with cable, shall be mounted on the upper rear of the apparatus. The device shall consist of eight independent LED heads. Each head shall consist of independent rows of high performance LED's.

The signal patterns of the device shall be progressive left, progressive right, center out, and emergency "All Flash."

The switch control box is to be mounted in the cab allowing for easy operation by the driver and activated with warning lights.

SHOP NOTE

Note: activation by warning lights

One (1)
70-24-1010 Wheel Chocks, (2) Worden 7HY HD, Yellow Alum - OES

WHEEL CHOCKS

One pair of heavy duty, extruded aluminum wheel chocks measuring 8" high x 7" wide x 11.8" long shall be provided with the apparatus. Worden 7HY HD Yellow Handled Extrusions are the requested chocks. The wheel chocks shall have a bright yellow powder coat finish for high visibility, safety and corrosion resistance. No exception shall be allowed to these requirements.

Two chock holders shall be provided and mounted one on each side of the apparatus just ahead of the rear tires below the front body compartment.

Four (4)
70-26-0600 SCBA Brackets, (Qty) Zico, Mtd ExtCompts

SCBA BRACKETS

Four (4) Zico SCBA mounting brackets with a positive holding strap shall be shipped loose with the apparatus.

SHOP NOTE

Note: Ship loose

One (1)
90-03-1000 Water Tank Warranty - Service Life

WATER TANK WARRANTY

The water tank is to be free from defects in material and workmanship for the normal service life of the apparatus in which the water tank is installed.

If a tank has a defect in material or workmanship covered by the warranty, the tank manufacturer shall repair at their cost, by authorized personnel or authorized third parties. The tank manufacturer shall make an effort to effectuate repair within 48 hours following initial notification of a covered defect. The tank manufacturer shall make a reasonable effort to repair tank at most convenient location to end user.

The tank manufacturer shall reimburse all reasonable costs associated with rendering the tank accessible for repair, including, but not limited to, removal and reassembly of the hose bed floor.

One (1) == Limited Warranty - Use For Contracts - 4.001 ==

One (1) Limited Warranty
10-00-0030

HME, INC. **LIMITED WARRANTY**

Thank you for purchasing our products!

This book specifies the limited warranty offered by HME, Inc. (“**HME**”) for HME products. Please note that the applicable limited warranty depends on what product you, the original purchaser, bought. As such, not all terms contained in this book will be applicable to you. Please review the coverage(s) appropriate for your HME product before proceeding through the rest of this book.

This book is divided as follows:

Section A, General Provisions

Section B, Limited Warranties

Section C, Exclusions

Section D, Additional Provisions Applicable to All Products.

HME’s limited warranty set forth in this book will be referred to collectively as this “**Limited Warranty**” or “**HME’s Limited Warranty**”. In this Limited Warranty, the term “**you**” and “**Customer**” will refer to the original purchaser/owner of the HME products and not to any subsequent purchaser or owner.

A. GENERAL PROVISIONS

This Section A constitutes part of the Limited Warranty for all HME products.

Who and What HME’s Limited Warranty Covers

HME's Limited Warranty only covers you, the original purchaser/owner of new HME product(s). Subsequent owners or purchasers are not covered by this Limited Warranty.

Subject to the limitations and exclusions set forth in this Section A as well as Sections B, C, and D below, HME's Limited Warranty generally covers repair, refinish, or replacement, at the sole option of HME, of your new HME cab, chassis, apparatus, aerial or any components thereof (hereinafter "**Covered Part(s)**") in which a defect in materials or workmanship appears during normal use, maintenance or service within the Warranty Period (as "**Warranty Period**" is defined in each part of this Limited Warranty).

If HME determines there is warranty coverage for a Covered Part, HME shall, at its sole option, repair, refinish, or replace (or have repaired or refinished), at HME's factory, by HME's representative at the location of the Covered Part, or at HME's authorized service facility (whichever location HME designates), any Covered Part not otherwise excluded from HME's Limited Warranty if the Covered Part proves, in HME's opinion, to be defective and if all other terms of this Limited Warranty are complied with. The repair, refinish, or replacement of a Covered Part does not extend the life of this Limited Warranty. This Limited Warranty is valid only in the United States and Canada.

What This Limited Warranty DOES NOT Cover

This Limited Warranty is limited by the limitations and exclusions in this Section A and is also limited by the limitations and exclusions set forth in Sections B, C, and D below. The limitations and exclusions set forth in the most specific Section of this Limited Warranty shall supersede the warranty provisions in all other Sections. For example, if there is a potential paint defect, then subject to the other limitations and exclusions in this Limited Warranty, the paint limited warranty would apply in Section B(3) below rather than the general warranty in Section B(1) below.

No Replacement or Repurchase of Fire Apparatus. IF HME DETERMINES THERE IS WARRANTY COVERAGE, REPAIR, REFINISH, OR REPLACEMENT OF COVERED PARTS BY HME IS THE EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY. **HME WILL NOT UNDER ANY CIRCUMSTANCES REPLACE A FIRE APPARATUS OR REPURCHASE THE FIRE APPARATUS FROM YOU.**

B. LIMITED WARRANTY

1. General Warranty

The Limited Warranty under this Section B(1) (the "**General Warranty**") for Covered Parts is limited to chassis systems and components such as the driveline, cooling system, hydraulic system, suspension, air system, and climate control system, (but excludes the engine, transmission and axles); apparatus systems and components; and the aerial device and system.

Warranty Period for General Warranty

The General Warranty is in effect for a Warranty Period that continues until 36 months from the date of delivery of the new fire apparatus to the original owner, or the first 36,000 actual miles (or 57,900 actual kilometers) from the delivery date, whichever occurs first. At the time of purchase, you as the original purchaser have an option at an additional cost to extend the

Warranty Period for the General Warranty for additional years up to a maximum period of 5 years from the delivery date, 100,000 miles from the delivery date, or 3,000 engine hours from the delivery date, whichever occurs first. The General Warranty is not valid if the odometer is disconnected, or its reading has been altered, or mileage cannot be determined.

2. Structural Warranty

The Limited Warranty under this Section B(2) (the “**Structural Warranty**”) for Covered Parts is limited to the cab structure, body structure, and structural failures of aerials.

Warranty Period for Cab Structural Warranty

The Structural Warranty is in effect for a Warranty Period that continues until 10 years from the date of delivery of the completed new fire apparatus to the original purchaser, or the first 100,000 actual miles (or 161,290 actual kilometers) from the delivery date, whichever occurs first. The Structural Warranty is not valid if the odometer is disconnected, or its reading has been altered, or mileage cannot be determined.

3. Paint Warranty

The Limited Warranty under this Section B(3) (the “**Paint Warranty**”) specifically covers Paint Defects on a cab exterior finish, apparatus body panel exterior finish, or the aerial ladder assembly manufactured by HME. A Covered Part shall be considered to have “**Paint Defects**” if it is found by HME to have any loss of gloss, color retention, cracking, blistering, bubbling or flaking under normal use and with normal maintenance and cleaning. For Paint Defects, you as the original purchaser must notify HME in writing within 30 days after any claimed Paint Defect has appeared. In the case of a warranty claim, the refinish or repair of all non-warranty blemishes, if any, shall be negotiated prior to the warranty refinish or repair.

Warranty Period for Paint Warranty

The Paint Warranty is in effect for a Warranty Period that continues until the period specified below or the date of the first 36,000 actual miles (or 57,900 actual kilometers) from the delivery date. The Paint Warranty is not valid if the odometer is disconnected, or its reading has been altered, or mileage cannot be determined. At the time of purchase, you as the original purchaser have an option for an extra cost to extend the Warranty Period for the Paint Warranty for additional years up to a maximum of 5, 7, or 10 years. The Paint Warranty only covers the cost to refinish or repair Paint Defects for the specific defect and at the percentages set forth below:

Top Coat and Appearance Gloss, Color Retention, Cracking		Coating System, Adhesion, Flaking, Blistering, Bubbling	
0 to 72 months	100%	0 to 36 months	100%
73 to 120 months	50%	37 to 84 months	50%
		85 to 120 months	25%

Note: To clarify, the chart above does not extend the Warranty Period for the Paint Warranty beyond the first 36,000 actual miles (or 57,900 actual kilometers) from the delivery date. If you

purchase the 5 year extended Warranty Period, then the chart above should be limited to 5 years from the delivery date and there will be no warranty after that date.

4. Chassis Frame Rail Warranty

The Limited Warranty under this Section B(4) (the “**Frame Warranty**”) is limited to the chassis frame rail. It does not cover support brackets and hardware, such as those used for fuel tank mounting and cab mounting.

Warranty Period for Chassis Frame Rail Warranty

The Frame Warranty is in effect for a Warranty Period that continues until the date that is the expected lifetime of a new vehicle. For purposes of this Frame Warranty, the expected lifetime is 20 years from the original delivery date. This Frame Warranty is not valid if the odometer is disconnected, or its reading has been altered, or mileage cannot be determined.

5. Frame Rail & Crossmember Corrosion Protection Warranty

The Limited Warranty under Section B(5) of this Limited Warranty (the “**Corrosion Protection Warranty**”) specially covers galvanized steel corrosion on the chassis frame and crossmembers. The Corrosion Protection Warranty covers parts and labor to correct the affected area as set forth below. Annual inspections at an authorized HME service provider must be performed to keep the warranty in effect.

Upon any claim made under the Corrosion Protection Warranty, the affected area must be inspected, reviewed and approved by HME or its designated repair personnel or facility prior to any work being completed. Any authorized warranty work shall be performed only by HME or its designated repair personnel or facility. Any repairs completed by an unauthorized repair shop or personnel shall cause this Corrosion Protection Warranty to be invalid. The obligations of HME under this Corrosion Protection Warranty are limited to the cost of bringing the affected area into compliance with HME’s specifications or of removing any defects in materials or workmanship.

Warranty Period for Corrosion Protection Warranty

This Corrosion Protection Warranty is in effect for the original owner for a Warranty Period that continues until 20 years from the date of delivery of the new fire apparatus to the original owner.

6. Stainless Piping Warranty

The Limited Warranty under Section B(6) of this Limited Warranty (the “**Stainless Piping Warranty**”) includes Covered Parts that are limited to the stainless steel piping used in the construction of the fire apparatus water/foam plumbing systems.

Warranty Period for Stainless Piping Warranty

The Stainless Piping Warranty is in effect for a Warranty Period that continues until 10 years from the original delivery date, or the first 36,000 actual miles (or 57,900 actual kilometers) from the delivery date, whichever occurs first.

7. Waterway Warranty

The warranty for the waterway component is a pass-through warranty from the original manufacturer. HME does not provide a warranty for the waterway.

C. EXCLUSIONS

The following exclusions apply to this Limited Warranty. Additional exclusions may be listed in other Sections of this Limited Warranty.

1. General Exclusions

As to all HME products, items not covered by this Limited Warranty include:

- Normal maintenance activities/items and wear parts such as lubrication, batteries, tires, filter and oil replacement, belts and hoses, brake lining and adjustment, door check strap adjustment, vehicle alignments, electrical accessories, voltage regulator, flashers, windshield wipers, etc.
- Damage caused by, but not limited to, failure to follow the required or recommended maintenance schedule, failure to maintain proper fluid and lubricant levels, failure to ensure operating parameters are maintained and failure to follow operating instructions.
- Damage caused by, but not limited to, misuse, abuse or neglect (e.g. overloading, driving over curbs, or exposure to corrosive, including but not limited to salt and/or acidic exposure, or flooded environments).
- Damage that arises outside of normal use.
- Damage caused by collision, fire, theft, vandalism, civil unrest, acts of terrorism, acts of war, acts of God, or similar casualties.
- Damage or defects with respect to Covered Parts in a vehicle that is leased or rented to a second party for compensation.
- Incidental expenses such as, but not limited to loss of use, inconvenience, loss of time, vehicle rental, towing, lodging or travel costs, etc.
- Additions or accessions not originally installed by HME, including ancillary equipment used in firefighting, and any problems resulting from such additions or accessions.
- Installation of any “aftermarket” devices or the modification of any existing system or component originally installed by HME without HME’s prior express written approval and any problems resulting from such installation or modification.
- Covered Parts that have been sold by an owner other than HME before the Covered Parts become a complete vehicle.
- Any alteration of a Covered Part not authorized in writing by HME prior to alteration.
- Other specific exclusions listed in each part in this book.

2. Exclusions for General Warranty

Items not covered by the General Warranty include:

- The frame, cab structure, body structure, aerial structure, stainless piping, and paint, but each is covered by specific warranty terms as defined in their individual warranties.

- The engine, transmission, axles or components added to the chassis by another party; however, the engine, transmission, axles and/or components added to the chassis by another party may be covered by warranties issued to you from the respective component manufacturers.
- The components added to the apparatus by another party; however, these items may be covered by warranties issued to you from the respective component manufacturers.

3. Exclusions for Structural Warranty

Items not covered by the Structural Warranty include:

- All hardware, seats, mechanical items, electrical items and paint finishes.
- Covered Parts damaged as a result of corrosion, including, but not limited to salt and/or acidic exposure.

4. Exclusions for Paint Warranty

Items not covered by the Paint Warranty include:

- Damage caused by lightning, earthquake, windstorm, hail, flood or use in a corrosive or acidic environment.
- Damage from lack of poor maintenance and cleaning.
- Gold leaf or striping except that which is affected by repair. (Gold leaf or striping affected by repair must have been installed during the manufacture of a cab to be covered under the Paint Warranty for the cab.)
- Time, loss of use of the vehicle, inconvenience, vehicle rental, lodging, food or other consequential or incidental loss that may result from a Paint Defect.
- UV paint fade.
- Cab underside
- Chassis frame rails, crossmembers and suspension
- Aerial Ladder torque box and outrigger assemblies.
- Components not painted by HME may be covered by the respective manufacturer's warranty.

5. Exclusions for Frame Warranty

Items not covered by the Frame Warranty include:

- Damage caused as a result of corrosion, including but not limited to salt, chlorides and/or acidic exposure.

6. Exclusions for Corrosion Protection Warranty

Items not covered by the Corrosion Protection Warranty include:

- Parts that have not been galvanized, including but not limited to, suspension hangers, fuel tank and mounting, and air system components.
- Transportation costs.

- Damage due to lack of specified normal maintenance and service as outlined and required in the service and operating manuals provided with the apparatus.
- Damage from accidents, abuse, physical and mechanical damage, and all other conditions not considered as “normal” operating conditions.

D. ADDITIONAL PROVISIONS APPLICABLE TO ALL HME PRODUCTS

This Section D applies to all HME products.

Exclusive Warranty

THE LIMITED WARRANTY SET FORTH IN THIS BOOK IS THE ONLY WARRANTY APPLICABLE TO HME PRODUCTS AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTY BY HME, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS LIMITED WARRANTY IS FURTHER LIMITED BY THE TERMS AND CONDITIONS STATED IN THE PROVISIONS BELOW:

LIMITATION ON DAMAGES: HME shall not be liable for incidental, consequential, direct, indirect or other damages (such as, but not limited to, lost wages, attorney’s fees, or lost vehicle rental expenses) that result from any breach or claim related to or arising out of (a) this Limited Warranty, (b) other warranties, if any, (c) any agreement between HME and the Customer, or (d) the HME products or any actual or alleged defect related to the HME products.

LIMITATION ON IMPLIED WARRANTIES: Any implied warranties that arise by way of applicable state or provincial law, including any implied warranty of merchantability or fitness for a particular purpose, are limited in duration to the applicable Warranty Period and are limited in scope of coverage to the Covered Parts covered by this Limited Warranty.

Third Party Representations

HME does not authorize any person to create for HME any other obligations or liability in connection with its products, and HME is not responsible for any representation, promise or warranty made by an HME Sales Representative, component or vehicle manufacturer, or other person beyond what is expressly stated in this Limited Warranty.

How to Obtain the Limited Warranty

In order to be eligible under this Limited Warranty, you **MUST** return a completed “Limited Warranty Registration” form to HME within 60 days of the date of delivery. The original purchaser/owner is responsible for submitting, either directly or with the assistance of the HME Sales Representative, a “Limited Warranty Registration” form to HME within 60 days of the date of delivery.

The “Limited Warranty Registration” form is located in both the HME Chassis Owner’s Manual supplied with your new vehicle, and at the end of this Limited Warranty document. **THIS LIMITED WARRANTY IS NOT VALID IF THE LIMITED WARRANTY REGISTRATION FORM IS NOT SENT TO HME WITHIN 60 DAYS AFTER THE DATE OF DELIVERY TO THE ORIGINAL PURCHASER/OWNER.**

How to Get Service

To obtain warranty service, the original owner shall call HME Monday through Friday from 7:30 a.m. to 5:00 p.m. (Eastern Time) at 1-616-534-1463. Our customer service technicians can help answer questions regarding our products and services, provide information about warranty coverage and maintenance issues,

help you arrange for service under third party warranties, and locate HME authorized service centers in your area. ALL LIMITED WARRANTY WORK MUST BE AUTHORIZED BY HME BEFORE REPAIRS ARE MADE.

When you call for service, please have the following information available so that we may expedite your service:

- Your HME Job Number (Found on VIN Tag)
- Original owner date of purchase
- The current actual mileage
- The current actual engine hours

If service is needed on a Covered Part, you shall be responsible for all cost associated with transporting the Covered Part to the service location HME identifies at the time HME arranges for service. NO WARRANTY CLAIM WILL BE PROCESSED OR PAID WITHOUT PROOF OF ACTUAL MILEAGE AND THE DATE OF DELIVERY TO THE ORIGINAL PURCHASER/OWNER.

Legal Remedies

Any claim or controversy arising out of or relating to this Limited Warranty, or breach thereof, shall be settled by arbitration administered by the American Arbitration Association in the State of Michigan in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The determination of the arbitrator(s) shall be in writing and shall include an explanation of the basis for the determination. The determination of the arbitrator(s) shall be final and binding and judgment upon such determination may be entered in any court having jurisdiction.

One (1) General Warranty Period - 3 Years Total
20-02-0030

COVERAGES

General Warranty - Three (3) Years Total

One (1) Cab & Body Paint Warranty Period - 5 Years
40-00-0005

Cab & Body Paint Warranty - 5 Years