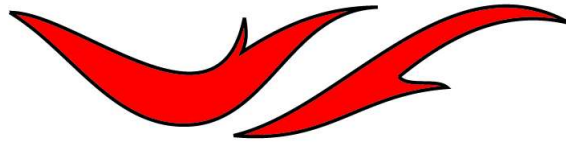


Fouts Bros Fire Equipment



**FOUTS BROS**

**SUPER TANKER**

Fouts Bros.  
138 Roberson Mill Road  
Milledgeville, GA 31061  
1-800-948-5045

# Fouts Bros Fire Equipment

## **SCOPE AND GENERAL REQUIREMENTS**

It is the intent of the manufacturer to provide a new fire apparatus that will withstand the continuous use encountered in the emergency fire fighting service. The apparatus shall be of the latest type, symmetrically proportioned and constructed with due consideration of the load to be sustained.

All parts not specifically mentioned herein, but which are necessary in order to furnish a complete fire apparatus, shall be furnished and shall conform to the best practices known to the fire apparatus industry.

The unit is to be of current year manufacture, and is to be new and unused. The bid price shall not include any local, State, or Federal taxes. The Bidder shall not be liable for any State or Federally mandated tax or program after the sale of this apparatus.

These specifications shall be construed as minimum. Should the manufacturer's current published data or specifications exceed these, they shall be considered minimum and be furnished.

## **PRIME BIDDER, MANUFACTURER**

The manufacturer shall be prime bidder and shall identify the location of their facility.

## **BIDDERS BACKGROUND**

Bids are requested from responsible manufacturers who are engaged in the manufacture of fire apparatus. To insure reliable and complete acceptance of the apparatus, bidder shall have been in operation for a minimum of twenty (20) years in the manufacturing of fire apparatus.

The manufacturer of the apparatus must be fully owned and managed by a Parent Company, Corporation, or Individual(s) that is 100% held by United States of America based Company, Corporation, or United States citizen(s).

Proposals from any manufacturer that is fully or partially owned and/or operated by a foreign company, Corporation or Individual(s) under any type of ownership, partnership, or any similar type of agreement will be immediately rejected.

If the manufacturer of the apparatus, or if any owner, shareholder, or immediate relative of an owner or shareholder that has previously been involved in or held ownership in any company that has filed bankruptcy or any other type of reorganization plan, it must be clearly stated in the bid proposal. The statement must include details and dates of all occurrences.

## **FAMA COMPLIANCE**

# Fouts Bros Fire Equipment

The apparatus manufacturer must be a current member of the Fire Apparatus Manufacturer's Association (FAMA) and must provide certificate of membership.

## **FAIR, ETHICAL AND LEGAL COMPETITION**

In order to ensure fair, ethical, and legal competition the apparatus manufacturer shall have ever been fined or convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

## **PROPRIETARY PARTS**

It is the intention of the purchaser for all bidders to furnish the apparatus with major parts commonly used by the heavy-duty truck manufacturers and open market vendors whereas replacement parts are more readily available and at reduced cost. The use of proprietary parts may not be acceptable to the purchaser.

## **MANUFACTURER'S DISCRETION**

Materials, parts, or procedures used are subject to change at manufacturer's discretion at any time to provide equal or better products.

## **COOPERATIVE PURCHASING**

The manufacturer shall be pleased to allow other public agencies to use the purchase agreement resulting from this invitation to bid unless the bidder expressly notes on the proposal form that prices are not available for tag-on. The condition of such use by other agencies shall be that any such agency must make and pursue contact, purchase order/contract, and all contractual remedies with the successful bidder. Such tag-ons shall be done so that the purchaser has no responsibility for performance by either the manufacturer or the agency using the contract.

## **PRODUCT QUALITY AND WORKMANSHIP**

The components provided and workmanship performed shall be of the highest quality available for this application. Special consideration shall be given to the following areas:

- A). Accessibility to various components that require periodic maintenance or lubrication checks.
- B). Ease of vehicle and pump operation.
- C). Features beneficial to the intended operation of the apparatus.

Construction of the complete apparatus shall be designed to carry the loads intended to meet the road and terrain conditions and speed requirements desired when specified by the purchaser.

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Welding shall not be employed in the assembly of the apparatus in a manner that will prevent the removal of any major component part for service and/or repair.

## **INSURANCE REQUIREMENTS**

Each bidder must submit with their bid proposal a Certificate of Insurance listing the proposed manufacturer's product liability insurance coverage. Liability insurance shall be a minimum amount of ten (10) million dollars. Submitted certificate shall name the apparatus manufacturer, insurance company, policy number, and effective dates of the insurance policy. Bids submitted without the required certificate will be considered nonresponsive and automatically rejected. No exceptions are allowed to the minimum insurance coverage requirement.

The manufacturer shall maintain full insurance coverage on the purchaser's cab and chassis from time of first possession by the manufacturer until the apparatus is delivered and accepted by the purchaser (No Exceptions). Purchaser reserves the right to require proof of insurance from the manufacturer's insurance carrier prior to entering into a contract for the apparatus.

## **PAYMENT TERMS**

Full payment for the apparatus shall be made at time of delivery of the completed vehicle. Due to insurance liability, the apparatus will not be left at the purchaser's location without full acceptance and payment or prior agreement between the Purchaser and Bidder.

Final delivery price shall not include any Local, State or Federal taxes. The manufacturer shall not be liable for any State or Federal mandated tax or program after sale or delivery of the apparatus.

## **VEHICLE ACCEPTANCE AND DELIVERY**

The customer shall pickup the vehicle at the manufacturing facility and shall supply evidence of sufficient insurance coverage to transport the vehicle.

## **FUEL TANK FILLED AT DELIVERY**

The fuel tank and DEF tank (if applicable) shall be filled upon final delivery at the factory.

## **OVERALL HEIGHT**

An overall height restriction has not been specified for this apparatus.

## **OVERALL LENGTH**

No overall length restriction has been specified for this apparatus.

## **OVERALL WIDTH**

No overall width restriction has been specified for this apparatus.

## **OVERALL WHEELBASE**

No overall wheelbase restriction has been specified for this apparatus.

## **PUMP MODULE WIDTH**

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No pump module width restriction has been specified for this apparatus.

## **ANGLE OF APPROACH**

No angle of approach restriction has been specified for this apparatus.

## **ANGLE OF DEPARTURE**

No angle of departure restriction has been specified for this apparatus.

## **COMPLIANCE**

The fire apparatus shall be built to the purchaser's requirements in compliance to all State, Local, and Federal highway safety requirements. The vehicle is not intended to meet any or all standards of the NFPA.

## **CAB SAFETY SIGNS**

The following safety signs shall be provided in the cab:

- One (1) FAMA 10 sign shall be visible to the driver. "Flying Object Crash Hazard. All equipment required to be used in emergency response must be securely fastened. Loose items may injure or kill during a crash."
- One (1) FAMA 07 sign shall be visible from each seat. "Crash Hazard. Occupants must be seated and belted when vehicle is in motion. Use only OEM approved belts. Unbelted occupants
- One (1) FAMA 15 sign shall be visible from each seat. "Crash Hazard. Do not wear helmet while seated. Serious head or neck injury may result from helmet use in cab. Failure to comply may injure or kill."
- One (1) FAMA 17 sign shall be visible to the driver. "Backing Hazard. Ensure that personnel are clear before driving in reverse. Always use a spotter when backing. Failure to comply may injure or kill.
- One (1) FAMA 42 sign shall be inside of the driver door. "Sirens produce loud sounds that may damage hearing. Roll up windows. Wear hearing protection. Use only for emergency response. Avoid exposure to siren sound outside of vehicle."
- "Do Not Move Apparatus When Light Is On" sign adjacent to the warning light indicating a hazard if the apparatus is moved (as described in subsequent section).

## **"NO RIDE" LABEL**

A label shall be located on the vehicle at the rear step areas, and at any cross walkways, if they exist. The label(s) shall warn personnel that riding in or on these areas while the vehicle is in motion is

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prohibited.  
COMMERCIAL CHASSIS

## COMMERCIAL CHASSIS SPECIFICATION

### CHASSIS PROVIDER

The chassis, as detailed in these specifications, shall be ordered and supplied by the apparatus manufacturer.

### WESTERN STAR CHASSIS

A Western Star 47X, Tandem Axle, 2-door chassis shall be furnished per the attached specifications.

### CHASSIS MODIFICATIONS

The following modifications and installations shall be performed on the chassis upon delivery to the apparatus manufacturer:

#### 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 5-10 psi below the factory setting.

#### HUB COVERS (front)

Stainless-steel hub covers shall be provided on the front axle.

#### HUB COVERS (rear)

A pair of stainless-steel high hat hub covers shall be provided on each of the rear axle hubs.

#### COVERS, LUG NUT, CHROME

Chrome lug nut covers shall be supplied on front and rear wheels.

#### EXHAUST SYSTEM

The chassis exhaust system shall be provided as detailed in the chassis specifications. NO modifications shall be made by the apparatus manufacturer.

#### HOT EXHAUST DANGERS LABEL - FAMA# 04

A permanent label shall be provided near any hot exhaust surface that warns of potential injury or death that could be caused by contact with the surface. The label shall also state precautions that should be taken while working on or around the surface.

#### BUMPER

The front bumper shall be provided as detailed in the chassis specifications.

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## **CHASSIS PREPARATION**

Prior to installation of the fire pump, apparatus body, or cab steps, all components which extend out beyond the chassis frame rails shall be removed and relocated to the area within the frame rails

## **CHASSIS TOW HOOKS**

The front tow hooks shall be provided as detailed in the chassis specifications.

## **REAR TOW PLATES**

Two (2) rear tow plates with 1.50" I.D. holes, constructed with 1.00" steel plate shall be provided at the rear of the apparatus body.

## **FRONT MUD FLAPS**

A pair of black rubber mud flaps shall be provided as detailed in the chassis specifications.

## **REAR MUD FLAPS**

A pair of black rubber mud flaps, with the Manufacturer's logo, shall be provided and installed behind the rear wheels.

## **CENTER CONSOLE**

A center console shall be furnished and shall be located between the driver and officer's seats. The top face of the console shall be designed as the switch panel for all emergency light switches.

## **BATTERY SYSTEM**

The battery system shall be supplied with the chassis.

## **BATTERY JUMPER STUDS**

External battery jumper studs shall be provided as detailed in the chassis specifications.

## **KEYLESS IGNITION SWITCH**

One (1) non-removable, keyless style ignition switch shall be provided with the chassis.

## **MASTER BATTERY SWITCH**

A master battery switch shall be provided as detailed in the chassis specifications.

## **BATTERY CONDITIONER**

A Kussmaul Chief 6012 Series battery conditioner shall be supplied. The battery conditioner shall provide a 60 amp output for the chassis batteries and a 20 amp output circuit for accessory loads.

## **BATTERY CHARGER LOCATION**

The battery charger shall be located in a pre-determined location by the manufacturer.

## **120 VOLT SHORELINE CONNECTION - "SUPER" AUTO EJECT**

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One (1) Kussmaul "Super" Auto Eject model 091-55-20-120, automatic, 120 volt, 20 amp shoreline disconnect shall be provided for the on board, 120 volt battery charging systems.

## **AUTO-EJECT MATING PLUG**

A Kussmaul model # 5-20P-H, 20 amp mating female cord end shall be shipped loose with the apparatus to allow the Fire Department to connect cord end to a Fire Department provided charging cord.

## **BATTERY CHARGER DISPLAY/ COVER**

One (1) Kussmaul model 091-55-266-YW batter charger status center/ auto eject cover shall be supplied with the charger.

The cover shall be yellow in color.

## **SHORELINE RECEPTACLE LOCATION**

The shoreline receptacle shall be located on the left hand side of the apparatus in a pre-determined location by the manufacturer.

## **AUXILIARY AIR COMPRESSOR**

A Kussmaul 12V air compressor shall be supplied. The compressor system shall be designed to maintain the air pressure in the air system while not in use. A pressure switch shall sense air pressure drop and engage the compressor which shall run until the pressure is restored.

## **AUXILIARY AIR COMPRESSOR LOCATION**

The auxiliary air compressor shall be located in a pre-determined location by the manufacturer.

## **BACK-UP ALARM**

One (1) 97 DB back up alarm shall be provided and installed at the rear of the unit. It shall be wired to activate when the transmission is placed in reverse.

## **PUMP, MODULE, AND RELATED ITEMS**

### **NFPA 1901 COMPLIANT PUMP**

The fire pump and related plumbing on the specified apparatus shall be installed in accordance with applicable NFPA 1901 guidelines at the time the contract was placed.

### **DARLEY LSP, SINGLE STAGE, PTO PUMP**

A Darley model LSP single stage fire pump shall be provided and installed. Power to drive the pump shall be provided by the same engine used to propel the apparatus. The pump shall be midship



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mounted and designed to operate through a hot-shift transmission PTO. The pump is to be placed in gear from the chassis cab with a pump shift mechanism.

Pump casing shall be a fine grain cast iron, with a minimum tensile strength of 30,000 PSI. Pump shall contain a cored heating jacket feature that, if selected, can be connected into the vehicle coolant system to protect the pump from freezing in cold climates, and to help reject engine heat from engine coolant, providing longer life for the engine.

## **PUMP SHAFT**

The pump shaft shall be splined to receive broached impeller hubs, for greater resistance to wear, torsional vibration, and torque imposed by engine, as well as ease of maintenance and repair.

Bearings provided shall be heavy duty, deep groove, radial-type ball bearings. Sleeve bearings on any portion of the pump or transmission shall be prohibited due to wear, deflection, and alignment concerns. The bearings shall be protected at all openings from road dirt and water splash with oil seals and water slingers.

## **IMPELLER**

The impeller shall be a high strength bronze alloy, splined to the pump shaft for precision fit, durability, and ease of maintenance.

Impeller shaft oil seals shall be constructed to be free from steel components except for the internal lip spring. The impeller shaft oil seals shall carry a lifetime warranty against damage from corrosion from water and other firefighting fluids.

## **PUMP TRANSMISSION**

The pump transmission case shall be heavy-duty cast iron with adequate oil reserve capacity to maintain low operating temperature. Pump ratio to be selected by the manufacturers engineering department. Gears shall be helical in design and precision ground for quiet operation and extended life. Gears to be cut from high strength alloy steel, ground, and carburized. Chain drive and/or design requiring extra lubricating pump is not acceptable.

Pump drive shaft shall be precision ground, heat-treated alloy steel, with a 1-3/8 spline. Gears shall be helical design, and shall be precision ground for quiet operation and extended life.

The pump transmission shall require no further lubrication beyond that provided by the intrinsic action of the gears, to reduce the likelihood of failure due to loss of auxiliary lubrication.

## **DRIVLINE INSTALLATION**

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The pump drivelines shall be sized for intended application and torque requirements. The installation shall comply with driveline manufacturer's guidelines.

## **FIRE PUMP MOUNTING**

The fire pump shall be mounted within a separate body module that is not directly connected to the apparatus body.

The pump shall be frame mounted; therefore minimizing the likelihood of the pump casing cracking should the apparatus be involved in a collision.

The pump module shall be mounted to the frame in four (4) locations and shall be reinforced appropriately in order to carry the expected load for the life of the apparatus.

## **SIX YEAR FIRE PUMP WARRANTY**

A six (6) year warranty for the Darley fire pump shall be provided.

## **DARLEY MECHANICAL SEAL**

The fire pump shall be furnished with a Darley maintenance free mechanical seal; manufactured using the material silicon carbide (no exceptions). The mechanical seal shall be a non-contacting, non-wearing dual seal design. The lip seal shall eliminate leakage on a wet pump while parked on standby. The second seal shall allow a drip rate for cooling and lubrication while pumping.

## **1000 GPM FIRE PUMP SPECIFICATIONS**

The centrifugal type fire pump shall be a Darley model LSP with a rated capacity of 1000 GPM. The pump shall meet NFPA 1901 requirements.

The pump shall be certified to meet the following deliveries:

1000 gpm (3785 L/M) @ 150 psi (10.3 bar)

700 gpm (2646 L/M) @ 200 psi (13.8 bar)

500 gpm (1893L/M) @ 250 psi (17.2 bar)

## **LEFT SIDE INLET - 6.00"**

One (1) 6.00" suction steamer inlet with male NST threads shall be provided, on the left side pump panel. The inlet shall have a removable screen.

## **INTAKE TRIM RING WITH WARNING LABEL - BURGUNDY**

An Innovative Controls chrome plated molded plastic trim ring shall be installed for the pump intake. A warning label shall be installed on the bezel, that states the following: "WARNING: Do not supply inlet with a pressurized source when valve is closed. Serious injury or death can result."

## **INLET CAP**

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The inlet shall have a polished chrome long handle female cap with 6.00" NST threads. The cap shall be engraved with the pump manufacturer's logo and name. The logo and name shall be painted with a high quality urethane paint.

## **RIGHT SIDE INLET - 6.00"**

One (1) 6.00" suction steamer inlet with male NST threads shall be provided, on the right side pump panel. The inlet shall have a removable screen.

## **INTAKE TRIM RING WITH WARNING LABEL - BURGUNDY**

An Innovative Controls chrome plated molded plastic trim ring shall be installed for the pump intake. A warning label shall be installed on the bezel, that states the following: "WARNING: Do not supply inlet with a pressurized source when valve is closed. Serious injury or death can result."

## **INLET CAP**

The inlet shall have a polished chrome long handle female cap with 6.00" NST threads. The cap shall be engraved with the pump manufacturer's logo and name. The logo and name shall be painted with a high quality urethane paint.

## **MIDSHIP FIRE PUMP DRIVESHAFTS AND INSTALLATION**

The midship PTO fire pump shall be installed and shall include installation of the fire pump, modification and/or fabrication of new drivelines and all pump-mounting brackets.

## **POWER TAKE OFF**

A ten (10) bolt Chelsea model 870-XDFJP-B5XV heavy duty transmission driven PTO shall be installed to drive the pump.

## **PUMP SHIFT - PTO - STATIONARY PUMPING**

One (1) PTO shall be installed to drive the fire pump. An electrically activated switch shall be installed in the cab to engage the fire pump. Safety interlocks shall be provided to ensure the pump drive system components are properly engaged to safely operate the pump.

The following indicators shall be provided and installed:

A green "**PUMP ENGAGED**" indicator shall be located in cab and shall energize when the pump shift has successfully been completed.

A green "**OK TO PUMP**" indicator shall be located in the cab, and shall energize when the pump is engaged, the chassis transmission is in neutral, and the parking brake is engaged.

## **PTO ENGAGEMENT SWITCH**

The PTO shall be engaged with a rocker switch on the console. The actuator shall be black in color with a green lens.

## **PLUMBING SYSTEM**

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The plumbing system shall consist stainless steel hard piping, or flexible high pressure hose, as deemed necessary for the application. Upon completion, the entire system shall be fully pressure tested.

Each gated intake shall be equipped with a 0.75" bleeder valve located in close proximity to the intake. All intakes shall be provided with suitable closures (valves or caps) capable of withstanding 500 PSI.

When any 3.00" or larger intake or discharge is gated (except tank to pump valve), the valve shall have a mechanism to allow the valve to fully open or fully close no faster than 3 seconds.

Any 2.50" or larger discharge outlet, mounted 42.00" or higher from ground, which hose is to be connected, and which is not in a hose storage area, shall be supplied with a sweep elbow of at least 30 degrees.

Each gated 1.50" or larger inlet and discharge shall have a quarter turn drain valve installed. The drain valves shall be located along the bottom on each pump panel. Inlets & discharges shall be plumbed to each drain at the lowest point. Each drain shall be plumbed with low-pressure hose to drain below bottom of the apparatus and be directed away from the pump operator. Each drain valve shall have a color-coded function label.

Small lines within the pump enclosure shall be constructed from Synflex hose. Uses include, but are not limited to such lines as priming control, gauge lines, drain lines, air control valves, pump shift, supplemental cooling, foam flush and air bleeder valves.

## **HOSE THREADS- NST**

All hose threads shall be National Standard Thread (NST) on all base threads on the apparatus intake and discharges, unless otherwise specified.

## **PUMP CERTIFICATION**

The fire pump shall be tested to meet the flow requirements of the pump. A written certification shall be provided with the completed vehicle.

## **INTAKE RELIEF VALVE**

One (1) Task Force Tips model #A1821 pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 50 to 200 PSI in 25 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 a Darley pump, and have a 2.00" male NPT threaded discharge outlet. The unit shall be covered by a five-year warranty.

## **FIRE PUMP PRIMING SYSTEM**

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A Trident Model #31.003.7 air operated priming system shall be installed. The unit shall be of all brass and stainless steel construction and designed for fire pumps of 1,000 GPM or less.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

The priming system shall be capable to a vertical lift to 22.00 inches of mercury and shall be fully compliant to applicable NFPA standards for vertical lift. The system shall create vacuum by using air from the chassis air brake system through a two-barrel multi-stage internal "venturi nozzles" within the primer body.

The primer control shall have a manually operated, panel mounted "push to prime" air valve; which will direct air pressure from the air brake storage tank to the primer body.

## **U.L. TEST POINTS**

Two (2) U.L. test plugs shall be mounted on the pump panel for testing of the vacuum and pressures.

## **MASTER PUMP DRAIN VALVE**

A Trident model #30.009.2 type #10-PE master pump drain valve shall be provided. The ten (10) port brass valve shall have a round chrome plated brass handle. The valve shall be enclosed with a rubber type boot for a single drainage outlet. The valve shall be located in pump compartment lower than the main body and connected in such a manner as to allow complete water drainage of the pump body and all required accessories. Water shall be drained below the apparatus body and away from the pump operator.

## **PRESSURE GOVERNOR and ENGINE MONITORING DISPLAY**

Fire Research PumpBoss Max series PBA501-D00 pressure governor and control module 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 2" from the front of the control module. The control LCD shall be 3.5" in size with a minimum brightness of 1000 nits and optically bonded to 3mm Borofloat Glass. Inputs for monitored engine information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus. Inputs from the pump discharge and intake pressure sensors shall be electrical.

The following continuous displays shall be provided:

- Engine RPM; shown on LCD screen
- Check engine and stop engine warning; shown on LCD screen
- Engine oil pressure; shown on LCD screen
- Engine coolant temperature; shown on LCD screen

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Transmission Temperature; shown on LCD screen  
Battery voltage; shown on LCD screen  
Pressure and RPM operating mode LEDs  
Pressure / RPM setting; shown on LCD screen  
Throttle ready / Ok to Pump LEDs.

On screen (LCD) 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. LCD Screen and LED's intensity shall be automatically adjusted for day and nighttime 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 located on the front of the control module. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

The pressure 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 and Ok to Pump LED shall light when the interlock signal is recognized. The pressure governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the pressure 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 pressure governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor control module shall be programmed at installation for a specific engine.

## **LEFT SIDE INLET**

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There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" female NST adapter.

The auxiliary inlet will be provided with a strainer and a polished chrome swivel.

A 2.50" Darley bronze valve shall be provided for the left side inlet. It shall be a quarter turn ball type, self locking, fixed pivot design and have a high polished stainless steel ball.

The valve shall be recessed behind the pump panel.

The side auxiliary inlet will incorporate a quarter-turn ball valve with a swing-type manual control located adjacent the intake.

One (1) 2.50" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

## **TANK TO PUMP LINE**

One (1) 4.00" tank to pump line shall be provided for connection between the water tank and the fire pump.

The valve shall be a 4.00" butterfly type with 4.00" piping, flex hose and stainless steel hose clamps.

The valve shall be controlled electrically with a momentary switch at the pump panel. The control shall have one (1) amber and one (1) green light to show the position of the electric valve.

## **TANK FILL**

One (1) 2.00" gated full flow pump to tank refill line shall be provided. Tank fill plumbing shall utilize 2.00" high pressure hose for tank connection to accommodate flexing between components.

An Akron Brass 2.00" generation II swing-out valve shall be provided between the pump discharge manifold and the water tank.

The quarter turn valve shall be manually operated with a locking push/pull "T" handle located on the left hand side pump operator's panel.

## **LEFT SIDE FRONT DISCHARGE - 2.50"**

One (1) 2.50" discharge outlet shall be supplied at the left hand side pump panel.

The valve shall be a 2.50" Darley bronze valve. It shall be a quarter turn ball type, self-locking, fixed pivot design and have a high polished stainless steel ball.

The quarter turn valve shall be manually operated with a lever control from the left hand side pump operator's panel.

One (1) 2.50" Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

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There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

The discharge shall have a 2.50" Female NST swivel rocker lug x 2.50" Male NST 30 degree chrome elbow adapter provided.

One (1) 2.50" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped rocker lugs and chain.

## **LEFT SIDE REAR DISCHARGE - 2.50"**

One (1) 2.50" discharge outlet shall be supplied at the left hand side pump panel.

The valve shall be a 2.50" Darley bronze valve. It shall be a quarter turn ball type, self-locking, fixed pivot design and have a high polished stainless steel ball.

The quarter turn valve shall be manually operated with a lever control from the left hand side pump operator's panel.

One (1) 2.50" Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

The discharge shall have a 2.50" Female NST swivel rocker lug x 2.50" Male NST 30 degree chrome elbow adapter provided.

One (1) 2.50" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped rocker lugs and chain.

## **RIGHT SIDE FRONT DISCHARGE - 2.50"**

One (1) 2.50" discharge outlet shall be supplied at the right hand side pump panel.

The valve shall be a 2.50" Darley bronze valve. It shall be a quarter turn ball type, self-locking, fixed pivot design and have a high polished stainless steel ball.

The quarter turn valve shall be remotely operated with a lever control from the left hand side pump operator's panel.

One (1) 2.50" Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

The discharge shall have a 2.50" Female NST swivel rocker lug x 2.50" Male NST 30 degree chrome elbow adapter provided.

One (1) 2.50" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped rocker lugs and chain.

## **RIGHT SIDE REAR DISCHARGE - 2.50"**

One (1) 2.50" discharge outlet shall be supplied at the right hand side pump panel.



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The valve shall be a 2.50" Darley bronze valve. It shall be a quarter turn ball type, self-locking, fixed pivot design and have a high polished stainless steel ball.

The quarter turn valve shall be remotely operated with a lever control from the left hand side pump operator's panel.

One (1) 2.50" Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

The discharge shall have a 2.50" Female NST swivel rocker lug x 2.50" Male NST 30 degree chrome elbow adapter provided.

One (1) 2.50" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped rocker lugs and chain.

## **CROSSLAY PRE-CONNECT #1**

One (1) 1.75" crosslay pre-connect shall be installed in the pump module above the pump. The crosslay shall be plumbed using 2.00" stainless steel pipe, and/or flexible piping. The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection. Crosslay discharge #1 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1.75" fire hose.

The crosslay discharge shall terminate below the hose bed floor with a 1.50" NST male chicksan swivel adapter.

An Akron Brass 2.00" generation II swing-out valve shall be provided for the discharge.

The quarter turn valve shall be manually operated with a locking push/pull "T" handle located on the left hand side pump operator's panel.

One (1) 2.50" (6.35cm) Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

## **CROSSLAY PRE-CONNECT #2**

One (1) 1.75" crosslay pre-connect shall be installed in the pump module above the pump. The crosslay shall be plumbed using 2.00" stainless steel pipe, and/or flexible piping. The crosslay hose bed floor shall be slotted to allow the swivel to extend up through the floor, allowing the pre-connected hose to be pulled off either side of the apparatus without kinking the hose at the coupling connection. Crosslay discharge #2 shall be designed to have a minimum total capacity of 3.5 cubic feet as required by NFPA -1901 to accommodate a minimum of 200 feet of 1.75" fire hose.

The crosslay discharge shall terminate below the hose bed floor with a 1.50" NST male chicksan swivel adapter.

An Akron Brass 2.00" generation II swing-out valve shall be provided for the discharge.

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The quarter turn valve shall be manually operated with a locking push/pull "T" handle located on the left hand side pump operator's panel.

One (1) 2.50" (6.35cm) Noshok discharge pressure gauge (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters.

There shall be an Innovative Controls 0.75" quarter turn drain valve included. The drain valve shall be connected to the valve with flexible hose that is routed in such a manner as to assure complete drainage to below the apparatus. A matching color coded bezel shall be included.

## **CROSSLAY #3, 2.50" HOSEBED ("DEADLAY")**

One (1) deadlay hosebed, without plumbing, shall be installed above the pump compartment. The deadlay shall have the capacity to hold 250 feet of 2.50" fire hose and nozzle.

## **MASTER INTAKE GAUGE**

One (1) NoShok, 4.00" liquid filled master intake gauge with a stainless steel bezel shall be provided, reading from -30" Hg. to 400 psi. It shall be accurate to within 1%. The gauge shall have a white face and black markings.

## **MASTER PRESSURE GAUGE**

One (1) NoShok, 4.00" liquid filled master pressure gauge with stainless steel bezel shall be provided, reading from -0 Hg. to 400 psi. It shall be accurate to within 1%. The gauge shall have a white face and black markings.

## **MASTER GAUGE BEZEL ASSEMBLY**

The two (2) master gauges shall be installed into decorative chrome-plated zinc mounting bezel that also incorporates a test port manifold and a graphic overlay that identifies the master intake and discharge gauges, the vacuum test port, and the pressure test port.

## **LED WATER LEVEL GAUGE (PUMP PANEL)**

One (1) Innovative Controls Soft-Glo model # 3050869-03-W-37 LED water level monitor kit shall be provided and installed on the left hand side pump operator's control panel. The display shall show the volume of water in the tank using 4 distinct illuminated levels. Tank level indication is enhanced by the use 180° wide-angle diffusion lenses in front of the LEDs. The LEDs are diffused by a proprietary method that creates an illumination effect that remains bright but eliminates the typical irritation to an operator's eyes traditionally caused by bright LEDs.

The gauge shall use a pressure transducer #3030376-01 installed near the bottom of the water tank to determine the correct volume in the tank.

## **CAB MOUNTED WATER TANK INDICATOR**

One (1) Innovative Controls Soft Glo model #3050853-W-37 mini dash tank level display shall be provided and installed in the cab. Tank level indication is enhanced by the use 180° wide-angle

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diffusion lenses in front of the LEDs. The LEDs are diffused by a proprietary method that creates an illumination effect that remains bright but eliminates the typical irritation to an operator's eyes traditionally caused by bright LEDs. The display shall mimic the main pump panel mounted display via CAN Bus.

## **SIDE DESIGN PUMP OPERATOR'S PANEL & MODULE**

### **SIDE PANEL MODULE**

The pump module body shall be a self-supported structure mounted independently from the body and chassis cab. The pump module shall be constructed entirely of extrusions and aluminum plate. The pump module design must allow normal frame deflection through isolation mounts without imposing stress on the pump module structure or side running boards. The pump module shall consist of a welded framework, properly braced to withstand chassis frame flexing. The pump module support shall be bolted to the frame rails of the chassis. The welded ends of the tubing shall be chamfered prior to welding and shall be ground smooth.

### **PUMP PANEL MATERIAL - BLACK VINYL**

The pump compartment module shall have left and right side pump panels constructed of black vinyl clad aluminum sheets.

### **CROSSLAY HOSEBED**

The crosslays shall be arranged on top of the pump module with the #1 crosslay toward the front of the pump house and the #2 crosslay immediately behind the first, and the #3 crosslay at the rear of the module.

### **CROSSLAY DIVIDER(S)**

Two (2) crosslay dividers shall be provided, one (1) between the #1 and #2 crosslay, and one (1) between the #2 and #3 crosslay.

Each divider shall be constructed from 0.188" thick abraded aluminum plate and shall be mounted on a base T-extrusion that provides lower support the length of the divider.

### **VINYL CROSSLAY COVER**

The crosslays shall be equipped with a heavy duty 18 oz. vinyl cover with side flaps. The top portion will be fastened to the pump house with Velcro and the side flaps will be held in place with a hook and bungee system.

The vinyl cover shall be red in color.

### **PUMP PANEL LIGHT SHIELD LEFT**

One (1) extruded aluminum light shield assembly shall be provided above the left side pump panel area.

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One (1) waterproof LED strip light shall be installed within the shield. The light(s) shall be 25.00" in length, have a clear acrylic lens, aluminum housing, and have a minimum effective output of 1,500 lumens.

## **PUMP PANEL LIGHT SHIELD RIGHT**

One (1) extruded aluminum light shield assembly shall be provided above the right side pump panel area.

One (1) waterproof LED strip light shall be installed within the shield. The light(s) shall be 25.00" in length, have a clear acrylic lens, aluminum housing, and have a minimum effective output of 1,500 lumens.

A weather resistant switch, located on the pump operator's panel shall be provided to activate the lights.

## **PUMP COMPARTMENT LIGHTS**

Two (2) LED lights shall be provided inside the pump compartment area. The dimensions of the lights shall be 1.00" x 3.00". Each light shall operate at 12 volts DC, generate 120 lumens, and shall be mounted on an adjustable bail mount bracket.

The lights shall function with the switch for pump operator's gauge panel lights.

## **LEFT SIDE RUNNING BOARD**

The left pump panel shall be equipped with a side running board. The running board shall be constructed of 0.125" embossed fire apparatus bright aluminum treadplate. It shall be a minimum of approximately 11.00" deep x the width of the side panel module. The running board shall have an upward bend on the inside edge to act as a kick plate. The running board shall be attached to a frame mounted outrigger support structure. The running board shall have a 3.00" downward bend on the front and side faces with a 1.00" underside return for superior strength.

## **RIGHT SIDE RUNNING BOARD**

The right pump panel shall be equipped with a side running board. The running board shall be constructed of 0.125" embossed fire apparatus bright aluminum treadplate. It shall be a minimum of approximately 11.00" deep x the width of the side panel module. The running board shall have an upward bend on the inside edge to act as a kick plate. The running board shall be attached to a frame mounted outrigger support structure. The running board shall have a 3.00" downward bend on the front and side faces with a 1.00" underside return for superior strength.

## **FRONT AND REAR PUMP HOUSE ENCLOSURE**

The front and rear of the pump enclosure shall be enclosed with .08" bright aluminum treadplate.

## **HOSE RESTRAINT LABEL - FAMA# 22**

A permanent label shall be provided near any hose storage area. The label shall instruct the operator to insure that all hose is properly secured prior to placing the apparatus in motion and to provide warning of potential dangers, including injury or death, in failing to do so.

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## **INTAKE/DISCHARGE CAP PRESSURE LABEL - FAMA# 18**

A permanent label shall be provided in all areas that intakes and discharges are capped. The label shall give instruction on how to properly remove the cap. The label shall also warn of potential dangers, injury or death that be caused by failing to follow proper cap removal procedures.

## **TRAINED OPERATOR ONLY LABEL - FAMA# 25 ]**

A permanent label shall be provided on the pump panel that states that only properly trained personnel should operate the apparatus and shall indicate that injury or death could occur as a result.

## **PUMP PANEL ID PLATE**

An identification plate, prepared by the fire pump manufacturer, shall be installed on the pump operator control panel to identify the fire pump serial number, model number, and performance.

## **COLOR CODED PUMP PANEL LABELING AND NAMEPLATES**

Discharge and intake valve controls shall be color coded in compliance to guidelines of applicable sections of NFPA standards. Innovative Controls permanent type nameplates and instruction panels shall be installed on the pump panel for safe operation of the pumping equipment and controls.

## **PUMP PANEL COLOR TRIM PANELS**

Innovative Controls intake and discharge trim rings shall be installed to the apparatus with mounting bolts. These bezel assemblies will be used to identify intake and discharge ports with color and verbiage. These trim rings are designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

## **WATER TANK AND RELATED COMPONENTS**

### **3000 GALLON POLY TANK**

Tank capacity shall be 3000 US gallons / 2498 Imperial gallons / 11356 Liters.

The tank shall be constructed of PT3 polypropylene material.

### **TANK MATERIAL**

This material shall be a non-corrosive stress relieved thermoplastic and UV stabilized for maximum protection. Tank shell thickness may vary depending on the application and may range from 0.50" to 1.00" as required. Internal baffles are generally 0.375" in thickness.

## **ISO CERTIFICATION**

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The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

## **CONSTRUCTION**

The booster and/or foam tank shall be of a specific configuration and is so designed to be completely independent of the body and compartments. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include PolyProSeal™ technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal. The transverse and longitudinal swash partitions shall be manufactured of a minimum of 0.375" PT3™ polypropylene.

All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength as part of the tank's unique Full Floor Design™. Tolerances in design allow for a maximum variation of 0.125" on all dimensions.

The tank cover shall be constructed of 0.50" thick PT3 polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 0.375" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2.00" minimum polypropylene dowels spaced a maximum of 40.00" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions. A minimum of two (2) lifting dowels shall accommodate the necessary lifting hardware.

## **OUTLETS**

There will be two (2) standard tank outlets: one (1) for the tank-to-pump suction line, which shall be sized to provide adequate water flow to the pump; and, one (1) for tank fill line, which shall be sized according to the NFPA minimum size chart for booster tanks. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates of up to 1000 G.P.M. The addition of rear suction fittings, nurse valve fittings, dump valve fittings, and through-the-tank sleeves to accommodate rear discharge piping must be specified. All auxiliary outlets and inlets must meet all NFPA guidelines in effect at the time of manufacture.

## **CAPACITY CERTIFICATION**

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All water and foam tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale. Each tank shall be weighed empty and full to provide precise fluid capacity. Each Poly-Tank® III is delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification.

## **CENTER OF GRAVITY**

A center of gravity calculation shall be determined for each tank and provided as requested in order to provide the apparatus manufacturer with the necessary data to design and certify the apparatus with respect to the NFPA requirements regarding rollover stability. This information may be used by the apparatus manufacturer to assist in the calculation of the apparatus's ability to meet the tilt table static rollover threshold or calculated Center of Gravity requirements per NFPA. A center of gravity and weight calculation for both empty and full conditions shall be required with each tank.

## **TANKNOLOGY™ TAG**

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

## **WATER FILL TOWER AND COVER**

The tank shall have a combination vent and manual anti-surge fill tower. The fill tower shall be constructed of 0.50" PT3 polypropylene and shall be a minimum dimension of 14.00" x 14.00" outer perimeter. The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall have a 0.25" thick removable polypropylene screen and a PT3 polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid.

The fill tower shall have an anti-surge provision. It shall be designed to prevent water splashing up through the top of the fill tower when the water tank is full, and the apparatus comes to an immediate stop. (NO EXCEPTION)

## **FILL TOWER LOCATION**

The fill tower shall be located in the left front area of the tank.

Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with a minimum I.D. of 6.00" that is designed to run through the tank, and shall be piped to discharge water behind the rear wheels as required in NFPA 1901 so as to not interfere with rear tire traction.

## **SUMP**

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There shall be one (1) sump standard per tank. The sump shall be constructed of a minimum of 0.50" PT3 polypropylene and be located in the left front quarter of the tank, unless specified otherwise. On all tanks that require a front suction, a 3.00" schedule 40 polypropylene pipe shall be installed that will incorporate a dip tube from the front of the tank to the sump location. All tanks shall have an anti-swirl plate located approximately 3.00" above the inside floor.

## **WATER TANK CLEAN-OUT PLUG**

The tank shall have a 4.00" N.P.T. threaded outlet on the bottom for a cleanout/ drain plug per NFPA. The cleanout/ drain plug shall be installed in the bottom of the water tank using an 8-Bolt flange with a 4.00" N.P.T. threaded outlet to create easy access to the plug. (NO EXCPECTION)

## **MOUNTING BLOCKS, TANK SIDES**

There will be four (4) mounting blocks, two (2) on each side for mounting equipment such as ladder brackets.

## **MOUNTING BLOCK, REAR TANK FACE**

A 1.00" mounting block shall cover the whole rear of tank for mounting work lights, folding steps, grab rails, accessories and emergency lighting.

A 1.00" mounting block shall on the front left hand side of the tank for mounting folding steps, grab rails, and accessories.

A 1.00" mounting block shall on the front right hand side of the tank for mounting folding steps, grab rails, and accessories.

## **REAR CAMERA NOTCH**

A recessed mounting area for a backup camera shall be built into the rear of the tank. As high and as close to the center line as possible.

## **HOSE BED**

There shall be a hose bed area constructed of polypropylene on the top of the tank consisting of two side walls and one front panel. The hose bed shall be welded to the outside perimeter of the tank cover, and shall be approximately 9.00" tall by the length and width of the water tank.

The hose bed shall be free from all projections, which may interfere with the unloading of hose.

## **HOSE BED STORAGE CAPACITY**

The hose bed shall be designed to have a storage capacity for a minimum of 80.00 cubic feet of fire department supplied fire hose.

## **HOSEBED FLOOR**

The floor of the hose bed shall be grooved by the tank manufacturer to provide an integral planking designed to allow the loaded hose to drain and allow airflow for ventilation.

## **VINYL HOSEBED COVER**



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The apparatus shall be equipped with a 18 oz. vinyl Hosebed cover with a rear flap and a hook and bungee fastening system at front and sides. The rear flap shall be fastened with three (3) 2.00" side release plastic buckle assemblies. The vinyl material shall be treated for protection against UV rays and mildew.

The vinyl cover shall be red in color.

## **REAR DUMP VALVE**

One (1) NEWTON 10.00" Model 1050-34 Stainless Steel dump valve shall be installed. It shall be located at the rear center of the apparatus.

One (1) manual operated lever control shall be used to open and close the dump valve, the lever shall be located on the top of the valve.

## **SWIVEL DUMP SYSTEM**

A Newton Model 6012SW-34 stainless steel swivel dump chute extension shall be mounted on the rear dump valve. The unit shall be able to rotate 180 degrees and lock in place while the apparatus is in motion. With the swivel attached, the chute shall be capable of flowing 2,777 gpm.

## **TELESCOPIC EXTENSION CHUTE**

One (1) Newton, model 4036-8X12-34, manual stainless steel telescoping extension chute shall be installed on the swivel. The extension chute shall be capable of extending 36.00" past the dump valve.

## **DIRECT TANK FILL - LEFT HAND SIDE**

There shall be a one (1) 2.50" direct tank fill located on the left-rear of the apparatus. The valve shall be an Akron 8800 Series swing out valve. This valve shall be operated using a direct manual actuator handle. Valve inlet shall be a 2.50" female hose thread adapter and feature a 30 degree droop with a wire screen inlet strainer and a swivel.

## **PLUG**

One (1) 2.50" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain.

## **DIRECT TANK FILL REDUCER -RIGHT HAND SIDE**

The 4.00" FNPT inlet on the right hand side rear of the tank shall be reduced down to 2.50" FNPT. This shall allow the future installation of a LDH rear tank fill.

## **DIRECT TANK FILL - RIGHT HAND SIDE**

There shall be a one (1) 2.50" direct tank fill located on the right-rear of the apparatus. The valve shall be an Akron 8800 Series swing out valve. This valve shall be operated using a direct manual

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actuator handle. Valve inlet shall be a 2.50" female hose thread adapter and feature a 30 degree droop with a wire screen inlet strainer and a swivel.

## **PLUG**

One (1) 2.50" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain.

## **SUBFRAME**

The sub frame shall be constructed from structural steel channel and plate, welded together and bolted to the chassis frame. The main support shall be a 0.3125" thick steel plate under the tank floor with a 2.50" angle steel around the perimeter of the tank. Two (2) sub frame long sills constructed of 3.00" X 7.00" steel tubing with 0.1875" walls shall run the full length of the subframe and be mounted to truck frame using 0.1875" angle clips and a minimum of ten (10) grade 8 bolts. The tank sub frame and attachments shall be in strict compliance with UPF poly-tanks engineering specifications.

## **MOUNTING**

The tank shall rest on the subframe as to not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches the subframe shall be designed to allow for not more than 400 square inches of unsupported area.

The tank shall be supported to prevent itself from shifting during vehicle operation.

A non-corrosive protective liner shall be installed in between the tank and the subframe.

The tank shall be mounted to sub frame with three (3) stainless steel gussets per UPF specifications.

The tank and sub frame must be installed by a UPF Authorized installer (NO EXCEPTIONS).

## **BODY CONSTRUCTION**

The body shall be fabricated of steel tubing, angle, smooth aluminum sheet and aluminum treadplate.

The tubing shall be designed as structural-framing members with the smooth aluminum and treadplate fabricated to form compartments, floors and fender panels

The side compartments shall be modular in design and shall be capable of being replaced if damaged. Each shall be supported by the steel frame and attached to the sub frame with grade 8 bolts.

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All body compartments will have a method of ventilation provided either by louvers stamped into a wall or another method to allow the compartments to aerate. The ventilation design will provide the proper airflow inside the compartments and prevent water from dripping into the compartment.

The side compartments shall be constructed of formed 0.125" aluminum.

Compartment flooring will be of the sweep out design

## **FENDER PANELS - ATP**

The rear fender panels shall be constructed of 0.125" bright aluminum tread plate and be an integral part of the tanker body.

## **BODY FINISH - ATP**

The compartments and fenders, together forming the body, shall remain unpainted.

## **WHEEL WELL DESIGN**

The rear wheel wells shall be radius cut for a streamlined appearance.

## **FENDERETTES**

Four (4) polished stainless steel fenderettes shall be provided over the rear tandem wheel well openings, one (1) each side. Each fenderette shall be made of 14 gauge 304 stainless steel. The stainless steel fenderette shall be secured into place with stainless steel fasteners and shall be easily removable for replacement.

**The fenderettes must be bolted into place and removable for replacement.**

## **ROLL-UP DOORS - AMDOR**

All lower compartment doors shall be equipped with AMDOR brand roll-up doors. The slats shall be 1.00" double wall aluminum with continuous ball and socket hinge joints designed to prevent water ingress and weather tight recessed dual durometer seals. The interior door curtains shall be smooth to prevent equipment hang-ups. The door tracks and side frames shall each be one-piece aluminum. Each side seal shall be recessed, and non-marring with UV stabilizers to prevent warping.

The bottom panel flange shall have cut-outs for ease of access with gloved hands. The door strikers shall provide support beneath the lift bar to prevent door curtain bounce and potential false door ajar indications.

## **LEFT SIDE COMPARTMENT IN FRONT OF REAR WHEELS, L-1**

One (1) compartment shall be supplied on the left hand side of the truck in front of the rear wheels. Compartment dimensions shall be approx. 60.00" wide by 26.00" deep by 27.00" high.

The compartment shall have a roll up door. The door shall have a satin finish.

## **COMPARTMENT LIGHT(S)**

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One (1) 12.00" Luma Bar LED strip light shall be installed inside the compartment. The compartment light(s) shall be controlled by a magnetic "On-Off" switch located on each compartment door.

## **LEFT SIDE COMPARTMENT BEHIND REAR WHEELS, L-2**

One (1) compartment shall be supplied on the left hand side of the truck behind of the rear wheels. Compartment dimensions shall be approx. 24.00" wide by 26.00" deep by 27.00" high. The compartment shall have a roll up door. The door shall have a satin finish.

### **COMPARTMENT LIGHT(S)**

One (1) 12.00" Luma Bar LED strip light shall be installed inside the compartment. The compartment light(s) shall be controlled by a magnetic "On-Off" switch located on each compartment door.

## **RIGHT SIDE COMPARTMENT IN FRONT OF REAR WHEELS, R-1**

One (1) compartment shall be supplied on the right hand side of the truck in front of the rear wheels. Compartment dimensions shall be approx. 60.00" wide by 26.00" deep by 27.00" high. The compartment shall have a roll up door. The door shall have a satin finish.

### **COMPARTMENT LIGHT(S)**

One (1) 12.00" Luma Bar LED strip light shall be installed inside the compartment. The compartment light(s) shall be controlled by a magnetic "On-Off" switch located on each compartment door.

## **RIGHT SIDE COMPARTMENT BEHIND REAR WHEELS, R-2**

One (1) compartment shall be supplied on the right hand side of the truck behind of the rear wheels. Compartment dimensions shall be approx. 24.00" wide by 26.00" deep by 27.00" high. The compartment shall have a roll up door. The door shall have a satin finish.

### **COMPARTMENT LIGHT(S)**

One (1) 12.00" Luma Bar LED strip light shall be installed inside the compartment. The compartment light(s) shall be controlled by a magnetic "On-Off" switch located on each compartment door.

## **DROP TANK STORAGE- RH SIDE**

There shall be room to store an appropriate size dump tank under the right hand side "T" portion of the tank. The area shall have a mechanical means to lock the dump tank in place while the apparatus is in motion.

The tank shall slide in horizontally into the hold from the right side of the body. The storage shall have the capacity for one (1) 3000 US Gallon portable tank with an aluminum frame.

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## **HARD SUCTION STORAGE- LH SIDE**

There shall be a hard suction storage tray located under the left hand side of the "T" portion of the tank. The hard suction hose storage shall be accessed from the ground at the rear of the unit.

In order to provide a comfortable and safe level of access to the hoses, there shall be no exception allowed to this feature.

The suction storage shall have capacity for two (2) 10.00' sections of hard suction hose.

## **REAR TAILBOARD**

A rear beavertail tailboard shall be provided and installed at the rear of the apparatus. The tailboard shall consist of two (2) separate stepping/ standing surfaces made of aluminum grip-strut material.

The top step shall be 7.00" deep and the bottom shall be 9.50" deep.

The outside edges of the rear tailboard shall be trimmed with bright diamond plate aluminum.

The tailboard shall meet recommended requirements for non-slip surfaces. This area is to be used as a step but is not designed to carry personnel and should never be used to transport firemen.

## **STEPS**

All steps shall have a surface area of at least 35 square inches and shall be able to withstand a load of at least 500 pounds.

## **REAR FOLDING STEPS**

Innovative Controls model 3004234 folding steps shall be furnished and located, at the rear of the apparatus. The exact number of steps provided may vary depending upon body configuration and options.

## **FOLDING STEPS- RH SIDE FRONT OF BODY**

Innovative Controls model 3007732 folding steps shall be furnished and located, at the right hand front of the body. The exact number of steps provided may vary depending upon body configuration and options.

## **EXTERIOR GRAB RAILS**

Each grab rail shall be non-slip, 1.25" diameter extruded polished aluminum grab rails with rubber inserts designed to provide maximum gripping ability, strength, and durability. The rails shall comply with NFPA 1901.

## **GRAB RAILS, REAR STEP, VERTICAL**

Two (2) extruded aluminum non-slip grab rails shall be provided and vertically mounted on the rear of the apparatus, one (1) on each side of the body.

## **GRAB RAIL, LH FRONT**

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One (1) extruded aluminum non-slip grab rail shall be provided and mounted on the front, upper, left hand side of the body.

## **GRAB RAIL, RH FRONT**

One (1) extruded aluminum non-slip grab rail shall be provided and mounted on the front, upper, right hand side of the body.

## **12 VOLT ELECTRICAL SECTION**

### **NFPA 1901 CERTIFIED 12 VOLT ELECTRICAL SYSTEM**

The 12-volt apparatus body electrical system shall be provided and shall be in compliance with NFPA 1901 testing and certification procedures as follows:

### **NFPA MINIMUM ELECTRICAL LOAD DEFINITION**

The NFPA 1901 defined minimum electrical load shall consist of the total amperage required to simultaneously operate the following in a stationary mode:

1. Propulsion engine and transmission.
2. The clearance and marker lights.
3. Communication equipment. 5 amp default.
4. Illumination of all walking surfaces, the ground at all egress points, control and instrumentation panels and 50% of total compartment lighting.
5. Minimum warning lights required for "blocking right of way" mode.
6. The current to simultaneously operate and fire pump and all specified electrical devices.
7. Anything defined by the purchaser, in the advertised specifications, to be critical to the mission of the apparatus.

### **RESERVE CAPACITY TEST**

The first electrical test to be performed will be the Reserve Capacity Test. All items listed in NFPA Minimum Load Definition shall be activated with the engine shut off. After 10 minutes of operation, the items 1-7 shall be deactivated. After deactivation, the battery system shall have ample reserve to start the engine.

### **ALTERNATOR PERFORMANCE TEST AT IDLE**

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The second electrical test to be performed shall be Alternator Performance Test at Full Load. All electrical loads shall be activated with the engine running up to the governed rpm for two hours. During the test, the system voltage shall not drop below 11.7 volts or have excessive battery discharge for more than 120 seconds. Any loads not defined in the NFPA Minimum Electrical Load may be load managed to pass test.

## TEST CONDITIONS

All electrical testing shall be performed with the engine compartment at approximately 200 degrees.

## 12 VOLT ELECTRICAL SYSTEM

The truck shall have a 12-Volt electrical system.

All wiring will be run in convoluted high temperature plastic loom. Wiring shall be color and function coded and will be of adequate size to handle the assigned load. All solenoids, relays, and terminal blocks will be located in an easily accessible area.

All circuits provided shall have properly rated low voltage over current protective devices.

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for the protected circuit. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be protected in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All under side terminal junctions shall be fully enclosed in sealed plastic weatherproof boxes.

Electromagnetic interference suppression shall be provided as required to satisfy the radiation limits specified in SAE J551/1.

## CLASS1 ES-KEY SYSTEM

The electrical system shall utilize Class1 Inc. **ES-Key** technology where applicable.

The apparatus shall be equipped with a Class 1 ES-Key Management System for controlling electrical system devices. This management system shall be capable of performing load management functions, system switching, monitoring and reporting, and be fully programmable for a standardized electrical system utilizing the ES-Key Professional software program.

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## **SUPERNODE II**

The apparatus shall be equipped with a Class1 ES-Key system with a Supernode II high density input output node. The Supernode II shall have (24) inputs, (24) outputs, a Universal System Manager, a data logger, and programmable special utilities.

The Supernode II shall have an integrated USB port to allow for direct connection to the ES-Key system without additional interface devices.

## **LOAD MANAGER**

The Supernode II shall have an integrated Load Manager. The Load Manager Sequencer shall assure that loads are applied and removed gradually, thus eliminating the possibility of inducing failures in the vehicle's equipment.

## **LOW VOLTAGE MONITOR**

A voltage monitor shall be built into the ES-Key electrical system. It shall activate a warning when the alternator output voltage falls below any desired voltage (usually 11.5 volts).

## **LOW VOLTAGE ALARM**

One (1) Cole Hersee model # 4112-RC light/buzzer shall be located in the cab and wired to the low voltage monitor on the ES-Key System.

## **ROCKER SWITCH PANEL - EIGHT (8) POSITION**

A lighted eight (8) position rocker type switch panel shall be installed to provide the ability to de-activate individual lighting units. The switches shall be Carling Contura V series rocker switches.

A rocker switch with a blank legend installed directly below shall be provided for any position without a switch and legend designated by a specific option. The non-specified switches shall be two-position, black switches with a LED indicator light. Each blank switch legend can be custom ordered by the department once the apparatus is in service. All switch legends shall have backlighting provided.

## **MASTER WARNING SWITCH**

A master switch shall be included in the main rocker switch panel. The switch shall have a red light indicator and be labeled "Master Warning" for identification. The switch shall feature control over all devices wired through it. Any warning device switch left in the "ON" position shall automatically power up when the master switch is activated.

## **CHASSIS GROUND LIGHTS**

LED ground lights with outward facing angle brackets shall be installed, one (1) under each chassis door.



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## **PUMP PANEL GROUND LIGHTS -SUPPLIED WITH PUMP**

Two (2) LED ground lights with an outward facing angle brackets shall be installed under the pump panel running boards. One (1) light shall be located on the driver side and one (1) light located on the officer side of the apparatus.

## **FRONT OF BODY GROUND LIGHTS**

Two (2) LED ground lights with outward facing angle brackets shall be installed under the front of the body. One (1) light shall be located on the driver side and one (1) light shall be located on the officer side of the apparatus.

## **REAR STEP GROUND LIGHTS**

Two (2) LED ground lights with outward facing angle brackets shall be installed under the rear step of the apparatus, one (1) each side.

## **GROUND LIGHT SWITCHING**

The cab and body ground lights shall activate by engaging the parking brake.

## **HAZARD LIGHT**

One (1) Whelen model 0SR00FCR flashing red LED light, located in the driving compartment, the light shall be illuminated automatically whenever any compartment door is ajar.

The hazard light shall be marked with a sign that reads "Do Not Move Apparatus When Light is On".

The warning light shall be interlocked to the parking brake and shall only alert the driver when the parking brake is released. The light shall also be used to signal that other ancillary equipment such as racks light towers etc. are not in their "ready for transport" position.

## **REAR ROAD LIGHTING**

Two (2) sets of 4.00" LED stop, turn and back-up lights shall be provided, one (1) set on each side of the rear of the truck.

## **DOT MARKER LIGHTS AND REFLECTORS**

LED marker lights shall be installed on the vehicle in conformance to the Department of Transportation requirements. All marker lights shall be incorporated into the headlight circuit of the cab/chassis.

Two (2) amber LED side marker and turn lights shall be provided on the apparatus lower side, forward of rear axle, one (1) each side if the apparatus is 30 feet long or longer.

The side body panels shall be furnished with marker lights installed as follows:

- Two (2) 0.75" amber LED marker lights, one (1) on each side at the lower front corner of the body.

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- Four (4) 0.75" red LED marker lights, one (1) on each side at the lower rear corner of the body.

The rear body panel, centered above the bumper, shall be furnished with marker lights installed as follows:

- Three (3) 0.75" red LED marker lights, as close as practical to the vertical centerline. Centers spaced not less than 6.00" or more than 12.00" apart.

Two (2) amber reflectors shall be provided on the apparatus body lower side, as far forward and low as practical, one (1) each side if the apparatus is 30 feet long or longer.

Four (4) red reflectors shall be provided on the apparatus rear, one (1) each side and two (2) on the rear.

## **LICENSE PLATE LIGHT**

A license plate bracket with LED light shall be provided and installed on the rear of the body. It shall be wired to come on with the headlights.

## **REAR VISION SYSTEM**

One (1) complete backup camera system shall be provided to allow the driver to visually see the rear of the apparatus while in the cab. The system shall include a high resolution 7.00" touch screen with LED Backlight and anti-glare system with an auto dimmer. The system shall include audio transmission from the camera.

The rear vision camera shall be wired to automatically activate when the chassis transmission is placed in reverse.

## **CAMERA LOCATION**

The camera shall be recessed mounted in the rear of the tank, as close to the center line as possible. The monitor for the rear vision system shall be mounted on the dash of the cab in easy view of the driver.

## **NFPA AUDIBLE AND LIGHTING WARNING PACKAGE**

The following warning light package shall include all of the minimum warning light and actuation requirements for the current revision of the NFPA 1901-2009. The lighting as specified shall meet the requirements for both "Clearing Right of Way" and "Blocking Right of Way" which includes disabling all white warning lights when the apparatus is in "Blocking Right of Way" mode.

## **WARNING LIGHT FLASH PATTERN**

All of the perimeter warning lights shall be set to the default NFPA flash pattern as provided by the warning light manufacturer.

## **LIGHTBAR**

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One (1) WHELEN model JE2NFPA 56.00" LED lightbar shall be supplied and mounted. The lightbar shall have clear lenses and contain the following modules:

Four (4) RED LIN6 LED modules, two (2) on each corner.

Four (4) RED CON3 LED modules, across the front

Two (2) WHITE CON3 LED modules, on the front

The forward facing white lights shall be automatically disabled for the "Blocking Right of Way" mode.

## **LIGHT BAR SWITCHING**

One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the light bar. The switch shall be labeled "LIGHT BAR". The switch shall only be active when the master warning switch is engaged.

## **SIDE FACING UPPER FRONT BODY WARNING/ SCENE LIGHTS**

One (1) pair of Whelen V-Series model M9V2 combination LED warning and scene lights shall be installed, one (1) each side of the upper front portion of the apparatus body.

The driver side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

The officer side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

Each light shall be supplied and installed with a chrome bezel.

## **SIDE FACING UPPER REAR BODY WARNING/ SCENE LIGHTS**

One (1) pair of Whelen V-Series model M9V2 combination LED warning and scene lights shall be installed, one (1) each side of the upper rear portion of the apparatus body.

The driver side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

The officer side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

Each light shall be supplied and installed with a chrome bezel.

## **UPPER REAR WARNING/ SCENE LIGHTS**

One (1) pair of Whelen V-Series model M9V2 combination LED warning and scene lights shall be installed, one (1) each side of the upper rear of the apparatus body.

The driver side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

The officer side warning/ scene light shall be a Whelen Model M9V2R red LED with red lens.

Each light shall be supplied and installed with a chrome bezel.

## **UPPER WARNING LIGHT SWITCHING**

One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the upper warning lights. The switch shall be labeled "UPPER WARNING". The switch shall only be active when the master warning switch is engaged.

## **SCENE LIGHT SWITCHING**

One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the left side scene light(s). The switch shall be labeled "LEFT SCENE".

## **SCENE LIGHT SWITCHING**

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One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the rear scene light(s). The switch shall be labeled "REAR SCENE".

## **SCENE LIGHT SWITCHING**

One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the right side scene light(s). The switch shall be labeled "RIGHT SCENE".

## **DUAL FUNCTION SCENE LIGHT(S)**

The rear scene lights shall activate automatically upon placing the transmission into reverse.

## **LOWER FRONT WARNING LIGHTS**

One (1) pair of Whelen model M6 Series LED warning lights shall be installed, one (1) each side one the front of the chassis cab.

The driver side warning light shall be a Whelen Model M6R red Super-LED with red lens.

The officer side warning light shall be a Whelen Model M6R red Super-LED with red lens.

Each light shall be mounted with a Whelen Model M6FC chrome flange.

## **LOWER INTERSECTION WARNING LIGHTS**

{Quantity} pair of Whelen model M6 LED warning lights shall be installed, one (1) each side of the chassis cab.

The driver side warning light shall be a Whelen Model M6R red Super-LED with red lens.

The officer side warning light shall be a Whelen Model M6R red Super-LED with red lens.

Each light shall be mounted with a Whelen Model M6FC chrome flange.

## **LOWER MID-BODY WARNING LIGHTS**

One (1) pair of Whelen model M6 Series LED warning lights shall be installed, one (1) each side of the apparatus, mid-body.

The driver side warning light shall be a Whelen Model M6R red Super-LED with red lens.

The officer side warning light shall be a Whelen Model M6R red Super-LED with red lens.

Each light shall be mounted with a Whelen Model M6FC chrome flange.

## **LOWER REAR WARNING LIGHTS**

One (1) pair of Whelen model M6 Series LED warning lights shall be installed, one (1) each side of the lower rear of the apparatus body.

The driver side warning light shall be a Whelen Model M6R red Super-LED with red lens.

The officer side warning light shall be a Whelen Model M6R red Super-LED with red lens.

Each light shall be mounted with a Whelen Model M6FC chrome flange.

## **LOWER WARNING LIGHT SWITCHING**

One (1) rocker switch with indicator shall be installed on the switch panel in the cab to control the lower warning lights. The switch shall be labeled "LOWER WARNING". The switch shall only be active when the master warning switch is engaged.

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## **REAR BEACONS**

Two (2) Whelen model L31 LED beacons shall be provided and installed at the upper rear corners of the apparatus.

The beacon on the driver side shall be a Whelen Model L31HRF, it shall be red in color with a red lens.

The beacon on the officer side shall be a Whelen Model L31HRF, it shall be red in color with a red lens.

## **BEACON LIGHT SWITCHING**

The beacon lights shall be controlled along with the upper level warning lights.

## **BEACON LIGHT MOUNTING**

The rear beacons shall be mounted on a stainless steel bracket and attached to the apparatus body, one (1) on each side.

## **ELECTRIC SIREN AND CONTROL**

One (1) Whelen model #295SLSA1 electronic siren shall be mounted in the cab. This unit shall feature an electronic air horn, wail, yelp, hi-lo and shall have a hard wired PA microphone.

## **ELECTRONIC SIREN SPEAKER**

One (1) Federal Signal model ES100 Dynamax 100 watt speaker shall be flush mounted as far forward and as low as possible on the front of the vehicle. A polished model ESFMT with "Electric F" grille shall be provided on the outside of the speaker to prevent road debris from entering the speaker.

The speaker shall produce a minimum sound output of 120 dB at 10 feet to meet current NFPA 1901 requirements.

The speaker shall be located on the right hand side of the bumper.

## **SIREN NOISE WARNING LABEL - FAMA# 42**

A permanent label shall be provided inside the driver's door warning of potential injury that could be received from the noise of the siren. The label shall also state safety precautions that should be taken when the siren is in use.

## **PAINT, STRIPING, AND LETTERING SECTION**

### **PAINT PROCESS**

The wetside tank shall be painted with a PPG Delfleet Evolution Paint System.

All products and technicians shall be certified by PPG every two (2) years.

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The wetside tank shall be totally removed from the chassis during the painting process to ensure the entire unit is covered.

All seams shall be caulked both inside and along the exterior edges with a urethane automotive sealant to prevent moisture from entering.

The water tank and all parts shall be thoroughly washed with a grease cutting solvent prior to any sanding. After the wetside tank has been sanded, the wetside tank shall be washed again with a grease cutting solvent to remove any contaminants on the surface.

## **PAINT**

The tank shall be painted to match the chassis. The tank's paint color shall be "cross referenced" from the chassis paint and shall be painted to match the main chassis color as close as possible.

## **PRIMING**

Two (2) medium wet coats of adhesion promoter for plastics shall be applied to all surfaces to be painted.

Two (2) applications of primer shall be applied. The first application shall be four (4) coats and the second application shall be three (3) coats.

## **UNDERCOATING**

There shall be an emulsion type, latex base, undercoating applied to all under surfaces of the tandem axle apparatus body. Undercoating is to be a solvent based, rubberized coating, black in color.

## **COMPARTMENT INTERIORS**

The side compartment interiors shall be unpainted and in their natural finish.

## **WHEEL RIMS**

The chassis wheels shall be as furnished by the chassis OEM. No additional finishes shall be provided by apparatus manufacturer.

## **LETTERING**

Reflective lettering shall be applied to the cab doors at the direction of the purchaser.

Photos or drawings of the lettering and striping layout shall be provided by the purchaser prior to construction.

## **REFLECTIVE STRIPE**

There shall be a reflective Scotchlite band located on the apparatus cab and body. The band shall be per the purchasers size, design and color specifications.

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The reflective band shall be in compliance with current NFPA requirements.

Photos or drawings of the layout shall be provided by the purchaser prior to construction.

## **CHEVRON STRIPING**

At least 50% of the rear of the unit shall be covered with Red and Fluorescent Yellow-Green alternating 6.00" stripe in an inverted Chevron pattern.

A 0.50" Gold reflective stripe shall outline the sides of the wetside tank.

## **FOUTS BROS. LOGO PLATE(S)**

Three (3) Fouts Bros. logo plate(s) will be affixed to the finished apparatus.

## **LOOSE EQUIPMENT**

The following items shall be provided and shipped loose with the completed apparatus at the time of delivery:

### **FOLDING TANK**

One (1) 3,000 gallon Aluminum collapsible frame folding portable tank shall be supplied. The tank liner shall have 22 oz vinyl sides and a 28 oz vinyl floor that shall be Red in color. Grab handles shall be placed on the floor of the liner to help the firefighter pick up the liner when folding.

### **SUCTION HOSE**

Two (2) 6.00" X 10' section(s) of KOCHEK, PVC type hard, suction hose shall be provided on the apparatus. The hose(s) shall be light weight type with pyrolite, long handle female x rocker lug male, NST threads. The hose shall be black in color.

### **ONE YEAR APPARATUS WARRANTY**

The complete apparatus detailed herein shall be warranted against defects in materials and workmanship for a period of twelve (12) months, effective upon pick up or delivery of the completed apparatus to the purchaser, as detailed in the respective warranty documents. Any unauthorized alterations or modifications to the apparatus shall void this warranty.

Other warranties, as provided by individual component manufacturers may extend beyond this warranty.

### **STRUCTURAL WARRANTY, TEN YEAR**

A structural warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years, effective upon final payment in full by the Purchaser, and pick up or delivery of the completed apparatus to the Purchaser. Any unauthorized alterations or modifications to the apparatus shall void this warranty.

### **PLUMBING WARRANTY, TEN YEAR**

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A Stainless Steel Plumbing/Piping warranty shall be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years effective upon final payment in full by the Purchaser, and pick up or delivery of the completed apparatus to the Purchaser. Any unauthorized alterations or modifications to the plumbing shall void this warranty.

## **PAINT WARRANTY, FIVE YEAR**

The finish paint as used on the proposed apparatus shall be warranted against defects in materials and workmanship for a prorated period of five (5) years, effective upon final payment in full by the Purchaser, and pick up or delivery of the completed apparatus to the Purchaser. Any unauthorized alterations or modifications to the apparatus shall void this warranty.

## **TANK WARRANTY, LIFETIME**

United Plastic Fabricating, Inc. (hereinafter called "UPF") warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines.

## **APPARATUS ELECTRICAL WARRANTY, TWO YEAR**

The apparatus electrical system as detailed herein shall have an electrical warranty against defects in materials and workmanship for a period of two (2) years, effective upon final payment in full by the Purchaser, and pick up or delivery of the completed apparatus to the Purchaser. Any unauthorized alterations or modifications to the electrical system shall void this warranty.