BME FIRE TRUCKS

COMMERCIAL TRUCK EQUIPMENT CO.

FORD F-550 CHASSIS
TYPE 6 XTREME
"SAWTOOTH"

10/16/23

DETERMINATION OF APPARATUS WEIGHT

BME Fire Trucks, LLC. shall submit estimated "in-service" weight analysis required by applicable NFPA standards. This Excel computer weight analysis shall break down all major components of the apparatus and shall show the impact on percentage-of-load on the front and rear axles, total weight, and weight on each tire set.

The analysis shall evenly distribute the NFPA required minimum payload allowance or estimated equipment payload as provided by the purchaser into the specified compartments. The allowance for personnel, hose loads, water and foam fluids, and required NFPA equipment shall be outlined individually in the analysis and placed on the apparatus in its specific intended position.

CENTER-OF-GRAVITY ANALYSIS

BME Fire Trucks, LLC. shall perform an estimated center of gravity calculation as required by the applicable section of NFPA standards. This calculation shall include tilt angles, the estimated right to left load distribution, and load on each axle, including all specified major components.

LOW VOLTAGE TEST REQUIRMENTS

The fire apparatus low voltage electrical system shall be tested as required by this section and the test results shall be certified by the apparatus manufacturer. The certification shall be delivered to the purchaser with the documentation for the completed apparatus. The tests shall be performed when the air temperature is between 0 degrees Fahrenheit and 110 degrees Fahrenheit.

TEST SEQUENCE

The three tests defined below shall be performed in the order in which they appear. Before each test, the chassis batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. The failure of any of these tests shall require a repeat of the test sequence.

RESERVE CAPACITY TEST

The chassis engine shall be started and kept running until the chassis engine and engine compartment temperatures are stabilized at normal operating temperatures and the chassis battery system is fully charged. The chassis engine shall be shut off and the minimum continuous electrical load shall be applied for 10 minutes. All electrical loads shall be turned off prior to attempting to restart the chassis engine. The chassis battery system shall then be capable of restarting the chassis engine. The failure to restart the chassis engine shall be considered a failure of this test.

ALTERNATOR PERFORMANCE TEST AT IDLE

The minimum continuous electrical load shall be applied with the chassis engine running at idle speed. The chassis engine temperature shall be stabilized at normal operating temperature. The chassis battery system shall be tested to detect the presence of a chassis battery current discharge. The detection of chassis battery current discharge shall be considered a failure of this test.

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

The total continuous electrical load shall be applied with the chassis engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two hours. The activation of the electrical system load management system shall be permitted during this test. The activation of an alarm due to excessive chassis battery discharge, as detected by the system required by NFPA (current edition), or an electrical system voltage of less than 11.8 volts direct current for a 12 volt direct current nominal system, for more than 120 seconds, shall be considered a failure of this test.

LOW VOLTAGE ALARM TEST

Following the completion of the tests described above, the chassis engine shall be turned off. With the chassis engine turned off, the total continuous electrical load shall be applied and shall continue to be applied until the excessive battery discharge alarm activates. The chassis battery voltage shall be measured at the battery terminals.

The test shall be considered to be a failure if the low voltage alarm has not yet sounded 140 seconds after the voltage drops to 11.70 volts direct current for a 12 volt direct current nominal system. The chassis battery system shall then be able to restart the chassis engine. The failure of the chassis battery system to restart the chassis engine shall be considered a failure of this test.

The completed fire apparatus shall undergo a complete 12 volt electrical load and performance testing per applicable sections of NFPA standards with inspection and test sheets included in delivery documentation.

DOCUMENTATION

The apparatus manufacturer shall provide the results of the low-voltage electrical system performance test, certified in writing, with the documentation provided to the purchaser at the time of delivery of the completed apparatus.

The test results shall consist of the following documents:

(1) Documentation of the electrical system performance tests.
(2) A written electrical load analysis, including the following:

- (a) The nameplate rating of the alternator.
- (b) The alternator rating under the conditions specified in NFPA 1906 (current edition).
- (c) Each of the component loads specified that make up the minimum continuous electrical load.
- (d) Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
- (e) Each individual intermittent electrical load.

TEST RESULTS

BME Fire Trucks LLC. shall provide results of the apparatus testing and shall certify the following:

The weight of the completed apparatus, when loaded to its estimated in service weight, does not exceed the GVWR and GAWR of the chassis.

The complete unit, when loaded to its estimated in service weight, meets the weight distribution and vehicle stability requirements, as defined in the current NFPA guidelines.

The unit meets all required federal standards pertaining to the manufacturer and completion of the apparatus and a label tag has been affixed to the apparatus by the manufacturer stating same.

BME Fire Trucks LLC. shall provide all testing results, including engine, speed, acceleration, road ability, braking, and auxiliary braking to the Purchaser at the time of delivery.

DELIVERY REQUIREMENTS

The bidder shall not be responsible for delays in delivery due to strikes, acts of God, failure of suppliers to deliver, chassis shortage and other reasons beyond the reasonable control of the builder. Should BME Fire Trucks, LLC. be unable to comply with the proposed delivery date, we shall immediately contact the purchaser regarding delay information and actions to be taken by the company.

This vehicle shall be F.O.B. the BME Fire Trucks facility in Boise Idaho. Dealer shall be responsible for arrangement of delivery from factory.

GENERAL WARRANTY PROVISIONS

All materials and workmanship herein specified, including all equipment furnished, shall be guaranteed for a period of one (1) year after the acceptance date of the apparatus, unless otherwise noted, with the exception of any normal maintenance services or adjustments which shall be required. Under this warranty, BME Fire Trucks, LLC. shall be responsible for the costs of repairs to the apparatus that have been caused by defective workmanship or materials during this period.

This warranty shall not apply to the following:

- Any component parts or trade accessories such as chassis, engines, tires, pumps, valves, signaling devices, batteries, electric lights, bulbs, alternators, and all other installed equipment and accessories, in as much as they are usually warranted separately by their respective manufacturers, or are subject to normal wear and tear.

- Failures resulting from the apparatus being operated in a manner or for a purpose not recommended by the apparatus manufacturer.

- Loss of time or use of the apparatus, inconvenience or other incidental expenses.

- Any apparatus which has been repaired or altered without written consent or outside of the apparatus manufacturer's factory and or authorized service center in any way that affects its stability, or which has been subject to misuse, negligence, or accident.

- Delivery of the apparatus to repair site.

DISCLAIMER

NO WARRANTIES ARE GIVEN BEYOND THOSE DESCRIBED HEREIN. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE COMPANY SPECIFICALLY DISCLAIMS WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OTHER REPRESENTATIONS TO THE USER/PURCHASER AND ALL OTHER OBLIGATIONS OR LIABILITIES. FURTHER, THE COMPANY EXCLUDES LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES, ON THE PART OF THE COMPANY OR SELLER. No person is authorized to give any other warranties or to assume any liabilities on the Company's behalf unless made or assumed in writing by the seller; and no other person is authorized to give any warranties or to assume any liabilities on the seller's behalf unless made or assumed in writing by the seller.

OBTAINING SERVICE

Return the vehicle to any BME Fire Trucks, LLC. dealer/authorized service center; Return the vehicle to BME Fire Trucks, LLC. or contact BME Fire Trucks, LLC.. BME Fire Trucks, LLC. shall be solely responsible for determining the extent of repair under the terms of the warranty. Transportation costs shall be the responsibility of the purchaser.

MATERIAL AND WORKMANSHIP

All equipment provided shall be guaranteed to be new and of current manufacture, and unless specified otherwise, shall meet all requirements of these specifications and prevailing NFPA documents and be in condition at time of delivery for use as specified for this type of apparatus.

All workmanship shall be of the highest quality and accomplished in a professional manner so as to insure a functional apparatus with a high quality aesthetic appearance.

The construction shall be rugged and ample safety factors shall be provided to carry the loads specified to meet both on and off road requirements.

The apparatus shall be designed and the equipment mounted with due consideration to the distribution of load between the front and rear axles, so all specified equipment, with a full complement of personnel, can be carried without damage to the apparatus.

BODY AND STRUCTURAL WARRANTY

BME Fire Trucks, LLC. shall warrant each new apparatus body, if used in a normal and reasonable manner, against structural defects caused by defects in material, design or workmanship for a period of ten (10) years, covering parts & labor to the original purchaser which shall start on day of acceptance.

This warranty shall not apply to:

- Normal maintenance services or adjustments

- To any vehicle which will have been repaired or altered outside of our factory in any way so as, in the judgment of BME Fire Trucks, LLC., to affect it's stability, nor which has been subject to misuse, negligence, or accident, nor to any vehicle made by us which will have been operated to a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

- Commercial chassis and associated equipment furnished with chassis, signaling devices, generators, batteries, or other trade accessories as they are usually warranted separately by their respective manufacturers.

- Shipping costs of parts or apparatus for purposes of repair or replacement of parts. This warranty is in lieu of all other warranties, expressed or implied. All other representations as to the original purchaser and all other obligations or liabilities, including for incidental or consequential damage on the company's behalf unless made in writing by the company.

DARLEY FIRE PUMP WARRANTY

A three (3) year warranty on the Darley fire pump shall be provided. The provisions of this warranty shall be described in the completed apparatus documentation.

PLUMBING WARRANTY

The stainless steel fire pump plumbing shall carry a ten (10) year parts and labor warranty against defects in workmanship and perforation corrosion.

AKRON VALVE WARRANTY

The Akron valves shall carry a ten (10) year parts and labor manufacturer’s warranty. Provisions of this warranty shall be provided with the completed apparatus documentation.

FOAM TANK WARRANTY

The foam tank shall carry a “lifetime” warranty against defects in workmanship and perforation corrosion. The provisions of this warranty shall be provided in the delivery documentation. The tank manufacturer shall repair, at no cost to the purchaser, any problems caused by defective materials and/or workmanship. The warranty shall cover the reasonable costs of removing the water tank from the apparatus and reinstalling it after the completion of the covered warranty repairs, but shall not cover any liability for the loss of service or downtime costs of the apparatus.

WATER TANK WARRANTY

The polypropylene water tank that is specified to be supplied with this apparatus shall be warranted by the water tank manufacturer for a "lifetime" period from the date that the apparatus is put into service. The tank manufacturer shall repair, at no cost to the purchaser, any problems caused by defective materials and/or

workmanship. The warranty shall cover the reasonable costs of removing the water tank from the apparatus and reinstalling it after the completion of the covered warranty repairs, but shall not cover any liability for the loss of service or downtime costs of the apparatus.

PAINT WARRANTY

BME Fire Trucks, LLC. shall provide a seven (7) year paint warranty which shall cover peeling and/or de-lamination of the top coat and other layers of paint, cracking or checking, loss of gloss caused by cracking, checking or chalking, and any paint failure caused by defective paint materials covered by the paint manufacturer's material warranty.

CHASSIS WARRANTY

The specified chassis shall be provided with the chassis manufacturer's warranty. The exact provisions of this warranty shall be supplied with the completed apparatus documentation.

APPARATUS OPERATION MANUAL(S)

BME Fire Trucks, LLC. shall provide (2) electronic apparatus operational manual(s) on a USB thumb drive.

CHASSIS SPECIFICATIONS-FORD F550

Engine: 6.7L 4V OHV Power Stroke V8 Turbo Diesel B20

Includes Diesel Exhaust Fluid (DEF) tank, intelligent oil-life monitor and manual push-button

engine-exhaust braking. Includes:- Dual 78-AH 750 CCA Batteries

Transmission: TorqShift 10-Speed Automatic

10R140 with neutral idle and selectable drive modes: normal, tow/haul, eco, deep sand/snow andslippery.

Limited Slip w/4.88 Axle Ratio

GVWR: 19,500 lb Payload Plus

Includes upgraded frame, rear-axle and low deflection/high capacity springs. Increases max RGAWR to 14, 706. Note: See Order Guide Supplemental Reference for further details on GVWR

Tires: 225/70Rx19.5G BSW A/P

Wheels: 19.5" x 6" Argent Painted Steel

HD Vinyl 40/20/40 Split Bench Seat

179" Wheelbase

Radio: AM/FM Stereo w/MP3 Player

Includes 6 speakers. Includes: SYNC Communications & Entertainment System Includes enhanced voice recognition, 911 Assist, 4.2" LCD center stack screen, AppLink, 1 smart-charging USB port and steering wheel audio controls.

Power Equipment Group

Deletes passenger side lock cylinder. Includes upgraded door-trim panel.

Includes:

- Accessory Delay
- Advanced Security Pack

  Includes SecuriLock Passive Anti-Theft System (PATS) and inclination/intrusion sensors.
- Folding Trailer Tow Mirrors w/Power Heated Glass

  Includes manual telescoping, heated convex spotter mirror and integrated clearance lamps/turn signals.
- MyKey

  Includes owner controls feature.
- Power Front & Rear Side Windows

  Includes 1-touch up/down driver/passenger window.
- Power Locks
- Remote Keyless Entry

Extra Heavy-Duty Front End Suspension - 7,500 GAWR

High Capacity Trailer Tow Package

Transmission Power Take-Off Provision

Upfitter Interface Module

332 Amp Alternators

Utility Lighting System

110V/400W Outlet

CAB SEATING AND WEIGHT ALLOWANCE

A warning label shall be installed in the cab to indicate seating positions for five (5) people. A weight allowance of 250 pounds shall be calculated for each person.

LABELS, STANDARD PACKAGE SET

A standard set of labels shall be provided and installed on the inside of chassis cab area. The labels shall contain the required information based on the applicable components for the apparatus.

DATA PLAQUE

A data plaque shall be provided and installed on the inside of the driver's door. The data plaque shall contain the required information based on the applicable components for the apparatus:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Drive axle lubricant
- Power steering fluid
- Pump, generator, or other component lubrications
- Other NFPA applicable fluid levels or data as required
- Paint manufacturer, type, and color number
- Tire Speed Ratings

Location shall be in the driver's compartment or on the driver's door.

DATA PLAQUE

A data plaque shall be provided and installed. The plaque shall contain the following information.

- Pump make and model
- GPM capacity rating
- Truck serial and production number
- Pump performance (specific GPMs at rated pressures with engine RPM)
- Governed engine RPM
- Pump gear ratio

WARNING LABEL -- NO RIDING ON REAR

A warning label stating: "WARNING: DO NOT RIDE ON REAR STEP WHILE VEHICLE IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT" shall be installed on the rear of the apparatus. The label shall be applied to the vehicle at the rear step area. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion, is prohibited.

WARNING LABEL -- SEAT BELT USAGE

A warning label, stating: "WARNING CRASH HAZARD OCCUPANTS MUST BE SEATED AND BELTED WHEN VEHICLE IS IN MOTION…" shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

LOUD NOISE WARNING LABEL

A final stage manufacturer shall install "hearing loss" potential warning labels on the vehicle in any areas or fixed equipment that produces excessive noise levels. (Exhaust outlet, sirens and air horns shall not be required for such equipment.)

AIR FILTER EMBER PROTECTION SCREEN WARNING LABEL

A warning label, stating: “THIS VEHICLE HAS AN AIR INTAKE EMBER SCREEN WHICH REQUIRES PERIODIC INSPECTION & CLEANING” shall be provided and installed in the apparatus cab interior.

FRESH AIR EMBER SEPARATOR WARNING LABEL

A warning label, stating: “THIS APPARATUS IS EQUIPPED WITH A CAB FRESH AIR INTAKE EMBER PROTECTION SCREEN. ROUTINE INSPECTION IS REQUIRED.” shall be provided and installed in the apparatus cab interior.

WARNING LABEL -- DO NOT WEAR HELMET

A warning label, stating: "CAUTION: DO NOT WEAR HELMET WHILE SEATED" shall be provided in the apparatus cab interior. This label shall be located so that it is visible from all seating positions.

MANUFACTURER LOGO

The apparatus shall include a BME logo plaque which shall be affixed at the rear of the apparatus.

The BME plaque shall feature white reflective material on the outside of the Maltese cross and red reflective material in the middle.

CUSTOM FABRICATED REAR BUMPER

The rear bumper shall be a custom made BME steel bumper. The bumper shall contain tow eye provisions, a rear access step, license plate, DOT lighting and be powder coated black with the top stepping surface to be coated in durabak.

CAB STEPS RUNNING BOARDS

A set of BME custom made running boards shall be installed under the front and rear driver side and passenger side cab doors. The steps shall be made of steel and painted with black Durabak material.

CAB DOOR REFLECTIVE PANELS

The cab doors shall include reflective trim installed inside each door.

Specified part shall include Red and White DOT approved reflective striping.

AIR FILTER EMBER PROTECTION SCREEN AND WARNING LABEL

The chassis air intake shall be protected by an ember guard of 18 Mesh, 0.017-inch wire diameter, and a maximum mesh opening of 0.039 inches. The ember guard shall be sized to fit and located at the intake opening. The screen shall be readily accessible for inspection and maintenance. The ember guard shall maintain a minimum ½ inch separation from the air filter.

EMBER SEPARATOR -- FRESH AIR INTAKE TO CAB

The cabin air filter shall be protected by an ember guard with a maximum mesh opening of 0.039 inches.

EMBER SEPARATOR

The final stage manufacturer shall install a stainless steel ember separator within the auxiliary fire pump engine air intake system.

FUEL TANK PICKUP TUBE

The O.E.M fuel tank shall have an additional pickup installed to supply fuel to the auxiliary pump engine. It shall be routed from the chassis fuel tank to the pump engine. Any chassis fuel system modifications shall be fully compliant CARB regulations, CVC and FMVSS.

All fuel lines shall be loomed, “grommeted”, and firmly clamped in position to prevent chafing or damage and all synflex fuel hoses shall be wrapped with fire wrap lagging capable of withstanding temperatures in excess of 250°C.

The fuel tanks and lines shall be protected as necessary from exhaust heat through the use of heat shields or baffles. Only metal fasteners, coated or insulated for maximum fuel line protection shall be used..

TIRE PRESSURE INDICATOR SYSTEM

There shall be a tire pressure indicator at each tire's valve stem on the vehicle that shall indicate if there is insufficient pressure in the specific tire.

BUCK STOP FORD SUPER SINGLE CONVERSION

There shall be a Buckstop super single conversion installed on the appratus. The "kit" shall consist of the following:

- 3-1/2" Suspension lift kit consisting of replacement coil springs, radius arms, and heavy duty track bar mount for the front end, and lift blocks for the rear end. The kid shall also include new shocks for the front and rear.
- Extended fender flares with inner wheel well to cover the extra width from the super single tires.
- Five (5) Continental MPT81 335/80R20 tires mounted on steel single piece wheels.

CUSTOM FABRICATED BUMPER

A custom BME front bumper shall be fabricated shall be made and installed. The bumper shall have mounting provisions for two (2) 3.5" round CREE LED lights on either side of bumper. The bumper shall also have cutouts and mounting provisions for two (2) Whelen SA-315 siren speakers. The front bumper shall be made of steel and powder coated satin black. The bumper shall support a front bumper monitor that will be visable from the seated drivers position.

BULL BAR WITH LIGHT BAR CUTOUT

The front bumper shall have a bull bar with a light bar cutout.

WHELEN SCENE LIGHT

One (1) Whelen, Pioneer Summit 30" light bar shall be provided and installed in the center cutout in the front bumper.

*** Auxiliary Lighting ***

FOG LIGHTS

(1) pair(s) of Rugged Ridge 3.5" Round, 12V 18 watt, LED fog lights shall be installed.

PORTABLE PUMP

A Darley 1-1/2AGE 24K portable pump shall be provided on the apparatus. The unit shall have a liquid cooled, 24 HP, Kubota D902 diesel engine equipped with an electric start.

Pump Performance

3.17 Ratio, High Pressure Impeller

25 gpm (95 L/M) @ 375 psi (25.9 bar)
75 gpm (284 L/M) @ 245 psi (16.9 bar)
120 gpm (454 L/M) @ 150 psi (10.3 bar)

Diesel Engine

Kubota, D902 Diesel, water-cooled, 24 hp.

Fuel Supply

The engine shall be piped to the chassis fuel system with provisions to prevent fuel drain back to the tank when the engine is shutdown.

Fuel Prime

A fuel re-prime pump shall be provided to assist in fuel delivery to the diesel engine from the chassis tank.

Lubrication

Pressure feed with spin-on filter.

Starter

12-volt electric wired into the chassis battery system

Exhaust

A spark arrestor shall be provided on the engine exhaust system.

Air Intake

An air cleaner shall be provided with easy access to remove the element.
An ember screen shall be provided on the inlet to the air cleaner.

DUAL DARLEY DELUXE PANELS

The auxiliary pump shall be controlled by a dual Darley, Deluxe panel set up. One panel shall be located on the pump panel and one panel shall be located in the cab console.

ELECTRIC PRIMER SPECIFICATIONS

A 12 volt electrically driven positive displacement fire pump primer system shall be installed. The priming pump shall be constructed of heat treated aluminum and hard coat anodized and shall not use oil in the operation. The system shall perform in compliance to applicable NFPA standards.

PRIMER CONTROL

The pump primer shall be activated by a push button located on the Darley pump control panels, one on the pump panel and one on the cab center console.

PUMP PERFORMANCE TEST AND CERTIFICATION

Upon completion, the apparatus shall undergo a complete pumping test that conforms to the requirements of NFPA Standard 1906 (latest edition) for the size and type of pump provided. The test shall consist of a continuous one-half hour test pumping at rated capacity and rated net pump pressure, a vacuum test of the primer system and plumbing, a tank discharge flow test and a pressure test of the apparatus piping.

The chassis engine and transmission, the pump and other components of the apparatus shall show no undue heating, leaks, or other defect. The results of the test shall be documented to establish the performance of the apparatus and to further insure that the unit shall perform satisfactorily when placed into service. The test results shall be certified in writing, with the certification provided to the purchaser for their records at the time of delivery of the completed apparatus.

AUXILIARY PUMP PLUMBING

The auxiliary fire pump plumbing system shall utilize stainless steel piping incorporating hosing to allow for flex. The piping shall utilize TIG welding to provide a complete seal. Hard angles shall be avoided when possible to improve water flow characteristics. The piping shall utilize Victaulic couplers whenever possible to allow flex as the body module flexes.

Threaded sections of piping shall be avoided to reduce the leak potential of the system. Victaulic couplers shall be used in place of threading to reduce leak potential. Schedule 10 stainless steel piping shall be used for transport type piping. Schedule 40 stainless steel shall be used for areas requiring threading to provide a stable threading base. Brackets shall be installed to support threading locations thereby reducing the potential for leaks.

All hoses shall be connected directly to the tank due to the different flex ratios of the tank to body. Any front discharges, any rear discharges, and all cross lays shall use hose to reach the actual discharge. The use of hose shall be utilized due to the difference in flex or movement between the discharge location and the pump connection.

AUXILIARY PUMP EXHAUST SYSTEM

The auxiliary fire pump and engine assembly shall have a muffler and exhaust pipe. The exhaust pipe shall be directed out of the compartment and away from the pump operator. An additional guard shall be installed where the pipe is exposed to touch by an operator.

LOW PRESSURE PUMP SHUT-DOWN

If the fire pump runs out of water and the pressure decreases below 20 PSI, an automatic pressure switch shall detect the condition, and turn off the fire pump operation.

LOW OIL PRESSURE / HIGH TEMPERATURE PUMP SHUT-DOWN

If the fire pump has low oil pressure or high engine temperature, automatic pressure switches shall detect the condition, and the device shall turn off the fire pump operation. There shall be an override switch provided and installed on the operators pump panel to allow the system to be disabled when required.

AUXILIARY FUEL SYSTEM

The fuel system for the auxiliary fire pump shall be plumbed to the chassis fuel system. There shall be a separate fuel pickup tube mounted in the chassis fuel tank specifically for a separate engine driven pump assembly. There shall be an electric fuel pump with regulator and fuel hose furnished between the chassis fuel tank and the auxiliary pump.

AUXILIARY FIRE PUMP ELECTRIC START WIRING TO CHASSIS

Properly sized 12 volt positive and negative cables shall be provided from the chassis battery to the auxiliary fire pump.

AUXILIARY PUMP WARNING AND INSTRUCTION LABELS

The auxiliary fire pump installation shall have operating instruction and warnings as required by applicable sections of NFPA standards on the pump panel or in the cab.

AUXILIARY PUMP OIL DRAIN EXTENSION

There shall be an oil drain extension installed on the auxiliary pump. This will allow for the engine oil to be drained without removing the auxiliary engine.

2-1/2” GATED INTAKE -- REAR LEFT

One (1) 2-1/2" gated suction intake shall be installed on rear left area of apparatus to supply the fire pump from an external water supply. The valve shall be a quarter-turn ball valve and shall have 2-1/2" NH female thread with removable screen. The plumbing to the intake shall be with full flow flexible hose or piping with Victaulic couplings. The color coded label shall be installed near the control handle.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated ‘local’ control Akron Model TSC valve handle.

One (1) chrome brass 2-1/2" NH rocker lug plug with a securing chain or cable shall be installed on the intake.

WATER TANK SUPPLY LINE TO FIRE PUMP

A 2.5" water tank to pump line shall be installed with a 2.5" full flow quarter turn ball valve and 2.5" piping. The line shall be equipped with a hump hose with stainless steel hose clamps.

One (1) Akron 8825 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The valve shall be equipped with a Thuemling manually operated pull rod, with quarter-turn locking feature.

PUMP TO TANK

One (1) 1.5" pump to tank line shall be installed with a 1.5" full flow quarter turn controlled ball valve and 1.5" piping.

One (1) Akron 8815 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The valve shall be equipped with a Thuemling manually operated pull rod, with quarter-turn locking feature.

2" DISCHARGE -- REAR

One (1) 2" discharge shall be installed on the rear panel right side, controlled by a quarter turn ball valve on pump panel. The discharge shall have 2" NPT x 1-1/2" NH male hose threads and nameplate label adjacent the valve control handle.

One (1) Akron 8820 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control Akron Model TSC valve handle.

One (1) chrome plated brass 1.5" NH rocker lug cap with a securing chain or cable shall be installed on the discharge.

HOSE REEL

One (1) Hannay aluminum hose reels shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions. The reel shall be plumbed with wire reinforced, high-pressure hose coupled with brass fittings. The reel shall be designed to hold 125% of the specified hose capacity.

The reel shall be provided with a 1/3 HP 12 volt electric motor for rewinding the hose back on to the reel. This motor shall be controlled with two (2) Cole Hersee brand, Model #M-612 momentary push button switches, located directly adjacent to the hose reel, one (1) on each side of the apparatus body. The hose reel shall have provisions for being rewound manually. The pinion shaft for the manual rewind gear shall be equipped with an adjustable tension brake, controlled at the hose reel.

HOSE REEL DISCHARGE

(1) 1" discharge shall be piped from the fire pump to the hose reel with flexible high pressure hose.

One (1) Akron 8810 series swing-out style valve(s) shall be supplied and installed. All valves shall be designed to operate under normal conditions up to 500 PSI and shall have dual seats to work in both pressure and vacuum environments. All valves and controls shall be easily accessible for service, repair or replacement.

The specified valve shall have a direct actuated 'local' control Akron Model TSC valve handle.

One (1) push button, hose reel rewind control shall be installed adjacent the hose reel area.

The hose reel(s) and hose shall be equipped with 1" NPSH hose threads.

HOSE REEL ROLLERS

The hose reel(s) shall be provided with a Hannay captive type four sided stainless steel roller assembly.

REEL MOUNTED HOSE

One (1) 50' foot length of 1" water hose shall be installed on the hose reel. The hose shall be equipped with chrome plated pin lug couplings and have an 800 PSI working pressure.

BUMPER MONITOR

Task Force Tips Tornado model # Y2-E84A electric remote controlled monitor shall be installed. The monitor shall be controlled by a monitor mounted operator station with functions that control rotation, elevation and nozzle patterns, oscillate, park, auxiliary 1 and auxiliary 2. The monitor shall be installed on the passangers side of the front bumper, visable to the driver in a seated position. The monitor shall be braced to the bull bar of the front bumper.

The monitor shall have the following travel capabilities: full horizontal rotation with travel 185 degrees left and right of center, full 135 degrees of vertical travel with field changeable vertical stops at 45 degrees above and 20 degrees below horizontal, field changeable rotation stops shall be provided 90 degrees left and right of center, flow capability of 500 GPM with no more than 19 PSI loss, maximum operating pressure of 200 PSI.

The electrical components for the monitor shall be waterproof and utilize current limiting and position encoders to protect the drive train at the ends of travel. Monitor shall have waterproof plug for power and control cable connection for easy removal. An electrical connection for a TFT remote control nozzle shall be provided. The monitor shall be compatible with optional wired and wireless control panels and monitor position display. The monitor shall be equipped with manual override knobs for use in the event of power failure. Electrical enclosure systems shall have a rating of IP66/IP67 per IEC 65029.

For resistance to corrosion the monitor shall be constructed from hardcoat anodized aluminum with a silver powder coat interior and exterior finish.

The monitor shall be configured with a 2" female NPT inlet adapter to 2-1/2” NH quick disconnect with locking pin and 1-1/2" male NH outlet. The unit shall have a unique serial number and be covered by a five-year warranty.

REMOTE ELECTRIC NOZZLE TIP

Task Force Tips Ultimatic 125, model # B-TOS-ERP adjustable nozzle with electrically operated pattern control shall be provided. The nozzle design shall allow for straight stream through dense wide fog patterns and be able to be flushed without shutting down. The nozzle shall be suitable for foam solution application.

The electric drive unit shall develop over 400 pounds of torque, be enclosed in a waterproof aluminum housing and include a manual override in the event the power source fails. The unit shall be compatible with 12 or 24-volt power systems and require no more than a 3-amp power draw and include a 6" connection cable with plug. Electrical actuator systems shall have a rating of IP66/IP67 per IEC 65029.

Nozzle stream shaper actuator shall have position encoder for smooth transition between straight stream and fog pattern with fine stream adjustment. Nozzle stream shaper shall stop and pause at full fog position. A second electrical actuation of the stream shaper shall move the shaper to the flush position for removing debris from the nozzle.

For corrosion resistance and durability, the nozzle shall be constructed from hardcoat anodized aluminum alloy, have a protective rubber bumper with fog teeth, laser engraved serial number, and reflective labeling.

The nozzle shall have a 1-1/2" female NH swivel rocker lug coupling and a user adjustable flow range of 15-120 GPM at 100 PSI. A waterproof six-pin electrical connection for use with TFT remote control monitors shall be included. The nozzle shall be designed to accept the TFT FJ-U Foam Jet low expansion or FJ-UMX FoamJet multi expansion air aspirating attachments. The nozzle shall have a unique serial number and be covered by a five-year warranty.

TASK FORCE TIPS-CONTROLLER

The specified TFT monitor shall be controlled in the cab by a remote joystick style controller. Model # J4E-JS-GT

A bracket will be included in the ship loose container to mount the joystick in a location desirable to the end-user. A slotted faceplate will be provided onto the front of the center console. This plate will be slotted in a manor to allow the joystick to be used and easily removable by pulling bakwards to use the joystick inside or outside of the vehicle.

FOAM SYSTEM

A FoamPro electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flowmeter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flowmeter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

- Activate the foam proportioning system
- Select the proportioning rates from 0.1% to 1.0%
- See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM (6.4L/min) at 200 PSI (13.8 BAR) with a maximum operating pressure up to 400 PSI (27.6 BAR). The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It receives signals from the control module and power the 1/3 horsepower (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI (.35 BAR) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

- Operator control module
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam tank
- Foam injection check valve
- Main waterway check valve
- Flowmeter and tee

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance to SAE standards.

An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

The FoamPro 1601 Series foam system shall be provided with a control cable from the controller to the foam pump assembly.

The FoamPro 1601 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

A FoamPro brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 10 GPM and 320 GPM and be capable of operation between 3 GPM to 380 GPM. The tee shall have NPT and Victaulic inlet and outlets connections.

A FoamPro instruction and system rating label shall be provided. The label shall display information for a FoamPro 1601 Series foam system and shall meet applicable sections of the NFPA standards.

FOAM SYSTEM OUTLETS

The following discharges shall have foam distributed to them.

Front bumper monitor
Booster hose reel(s)
Rear 2" x 1-1/2" discharge

PUMP PANEL MATERIAL

There shall be a rear mounted pump panel constructed of stainless steel, the pump controls and inlets/outlets shall be on the right side of the pump panel, while the left side shall feature a vertically hinged access door to the front of the Aux pump motor. The door shall have venting for the radiator and fasten with two thumb latches.

MASTER PRESSURE GAUGE

There shall be one (1) 2.5” diameter -30-0-600 PSI master pressure gauge internally lit.

Gauge(s) shall include internal, back-lit 12 volt lighting. Replaceable, White, LED bulb in a water-resistant holder.

Gauge(s) shall be supplied with a white dial face with black lettering and black gauge marks.

Gauge bezel shall be Chrome in color.

DUAL PRESSURE MASTER PRESSURE GAUGE

There shall be one (1) 2.5” diameter dual master pressure gauge displayed in kPa (kilopascals) and PSI (pounds per square inch). The dials shall display the following pressure ratings, -200-0-2800 kPa (kilopascals) on the outter dial and -30-0-600 PSI on the inner dial and will be internally lit.

TEST TAPS

Test taps for pump intake and pump pressure with name plate labels shall be provided on the pump instrument panel.

WATER TANK GAUGE

IC Soft-Glo Tank Level Monitor System Innovative Controls Soft-Glo Series Tank Level Monitors shall be installed. The system shall be CAN Bus capable and include a variety of electronic display modules and CAN extension cables. The display modules are divided into 4 distinct sections that show the volume of (Water or Class A Foam or Class B Foam) in the tank using multi-color and programmable superbright LEDs. 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 specified tank level gauge shall feature a blue bezel.

The specified level gauge shall be active anytime the chassis battery switch is turned on.

CLASS A FOAM TANK GAUGE

One (1) Fire Research brand, Model WLA360-A00 tank level gauge shall be provided on the pump operator's panel to monitor the foam concentrate storage tank level. The gauge shall indicate the foam concentrate storage tank liquid level on an LED bar graph display.

The specified level gauge shall be active anytime the chassis battery switch is turned on.

NOMENCLATURE PLATES

The apparatus shall be equipped with color coded labels. The labels shall be furnished for discharges, intakes, and for other controls and indicators. All labels shall be in English format.

PUMP PANEL LIGHT SHIELD

There shall be one (1) stainless steel light shield assembly provided and installed above the pump panel area. There shall be TecNiq LED light(s) installed within the shield.

DESIGN AND SCOPE- EXTREME TYPE 6

The body shall be designed and constructed of commonly available structural components for ease of repair and maintenance. The body shall be of a modular design with the body structure independent of the chassis frame rails. The body module shall be mounted to the chassis frame rails utilizing a unique double spring mounting system for flexibility and durability over the lifetime of the apparatus. The fabrication of the body shall be of welded construction to withstand the rigors of fire service use.

The body shall be designed to incorporate and support the tank, compartments, and all other equipment intended to be stored in or mounted to the body module. The body skeleton and compartment framework shall be designed of tubular members for increased strength and stress resistance. There shall be no sheet metal or extrusions utilized in the foundation or structural components of the body module due to their critical role in assuring lifetime durability, functionality and usability.

BODY FRAMEWORK

The entire body framework shall be fabricated of 6061-T6 aluminum architectural style tubing. The body framework shall be a completely welded unit, forming a connected, stable frame for strength, longevity and providing the skeleton of the body module. The internal upright members of the framework shall act as support for the top layer of the body module. The external upright members shall act as an exoskeleton providing form and support for compartments while acting as the external surfaces of the module. The framework shall define the compartment openings and provide a rigid mounting location for all compartments and doors.

The foundation cross-members shall be placed perpendicular to the chassis frame rails in the wheel well area extending the full width of the body and shall be constructed of 3 inch high x 2 inch wide x .250 inch tubing. The foundation members parallel to the chassis frame rails shall be constructed of 3 inch square x .250 inch tubing and shall connect the foundation cross members and extend the full length of the body.

All tank support cross members shall be placed to support the water tank as per the tank manufacture's recommendation. These supports shall be constructed of 3 inch high x 2 inch wide x .250 inch aluminum tubing. The tank support angles shall be constructed of 4 inch x 4 inch x .250 inch thick angles and shall be placed at the tank sides parallel to the chassis frame rails to provide lateral support for the tank and protection from debris from the wheels.

The internal upright supports for any ceiling and top component shall be placed to provide support for all components and shall be constructed of aluminum tubing measuring 2 inch square x .250 inch wall thickness. All front to rear connecting members shall be 3 inches high x 2 inches wide x .125 inch wall thickness and shall be placed in between the interior upright support members to provide rigidity, stability and support to all top layer components. All gussets shall be constructed of 2 inches high x 3 inches wide x .250 inch thick plate which shall be placed on the top and bottom of the foundation cross members where they intersect with the exterior members.

BODY MOUNTING SYSTEM

The mounting assembly shall be designed to isolate and protect the body module from vibration and twisting stresses imparted by the flexing of the chassis frame rails. The body module shall employ spring loaded body mounting assemblies. Each two piece mounting assembly shall be designed to positively position the body on the frame rails while preventing lateral and forward or aft movement. Mounting assemblies shall be placed forward and rearward of the rear axle as necessary to provide a strong and stable mounting of the body module.

Each mounting assembly shall consist of a "male" upper mounting bracket and a "female" lower mounting bracket. The upper mounting brackets shall be fabricated from .250 inch thickness aluminum plate, with .250 inch painted steel lower mounting brackets. The upper mounting brackets shall be welded directly to the foundation connecting members. The lower mounting brackets shall be bolted to the exterior side facing surface

of the chassis frame rails.

The mounting brackets shall be aligned and connected by two (2) 5/8 inch diameter grade 8 bolts equipped with compression springs. The springs shall be of the appropriate tension rating for the weight requirements of the body module. The mounting assembly shall be designed to completely eliminate sheering forces on the mounting bolts.

The foundation connecting members shall be placed on top of the chassis frame rails for added strength and stability. The foundation members shall be isolated from the steel chassis frame rails by .25 inch thickness aluminum plates which have .5 inch thick 80 durometer rubber pads vulcanized to the bottom surface of each plate. The steel plates shall be welded to the bottom of the foundation, doubling as additional gussets at foundation cross member joints.

BODY MATERIAL

All materials utilized shall be of the correct type, alloy, and thickness to withstand the intended usage and provide protection against cracking, corrosion or metal fatigue. The body compartments shall be fabricated using .125 inch 5052-H32 aluminum for most compartments unless otherwise stated. Any use of proprietary parts or materials in the construction of the body shall be unacceptable, due to potential delays or difficulties in an event of future repairs or when service becomes necessary.

All external upright supports for integral compartments shall incorporate a second set of upright supports constructed of 3 inch wide x 2 inch deep x .250 inch wall thickness and shall be located outboard of the internal upright supports to provide a rigid structure for the compartments to be mounted to. The compartment openings shall be constructed of 3 inch high x 2 inch wide x .125 inch wall thickness cross members and shall be placed in between the external upright supports to define the openings of all enclosed body compartments again, providing a rigid mounting location for compartments.

COMPARTMENT FLOOR-SWEEP OUT STYLE

Each compartment shall feature a raised floor sufficient enough so the lip of the compartment shall clear the frame rail of the body module to allow debris to be removed easily from the compartment. A hat shaped support shall be placed under the floor to improve stability and prevent bowing of the floor with use and age.

COMPARTMENTATION

All compartments shall be constructed of smooth aluminum and welded for strength and shall be sealed from the elements. The compartments shall be attached to the aluminum superstructure only, in order to maintain a truly modular design. Each compartment shall include ventilation louvers which shall be provided on each side panel of the compartment to maximize moisture evacuation for the protection of the equipment and the compartment itself. Louvers shall be placed in the ventilation holes to prevent debris transfer to and from the inside of the body module. Each compartment shall feature a smooth edges and surfaces from the walls to each weld without sharp edges in the material.

DRIVER'S SIDE BODY COMPARTMENTS

COMPARTMENT D1

One full height compartment shall be provided on the driver's side of the apparatus body, forward of the rear wheels. Approximate "clear door opening" compartment dimensions: 24" wide x 41.5" high x 20.75" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT D2

One horizontal compartment shall be provided above the rear wheel well on the driver's side of the apparatus body. Approximate compartment "clear door opening" dimensions: 44" wide x 24.5" high x 21" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide

support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT D3

One compartment shall be provided on the driver's side of the apparatus body aft of the rear wheels. Approximate compartment "clear door opening" dimensions:29.5" wide x 41.5" high x 20.75" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

PASSENGER SIDE BODY COMPARTMENTS

COMPARTMENT P1

One full height compartment shall be provided on the passenger's side of the apparatus body forward of the rear wheels. Approximate compartment "clear door opening" dimensions: 24" wide x 41.5" high x 20.75" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT P2

One horizontal compartment shall be provided above the rear wheel well quarter panel on the passenger's side of the apparatus body. Approximate compartment "clear door opening" dimension: 42"wide x 24.5" high x 21" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

COMPARTMENT P3

One compartment shall be provided on the passenger's side of the apparatus body aft of the rear wheels. Approximate compartment "clear door opening" dimensions: 29.5" wide x 41.5" high x 20.75" deep.

COMPARTMENT VENTILATION

A minimum 2-inch single “Weber” style polished stainless steel swivel vent with four (4) ¼-inch vent holes shall be provided. These vents shall have a stainless steel center bolt to lock the vent in either the open or closed position and be located in the compartment walls. All vents will contain fire resistant filters to minimize dust entering the compartment.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

COMPARTMENT SILL PLATE

The compartment shall feature a polished stainless steel sill plate protecting the painted surface of the compartment when items are accessed.

ADJUSTABLE UNISTRUT

Adjustable Uni-Strut equipment mounting tracks shall be installed inside the compartment with two (2) channels on the left wall and two (2) channels on the right wall. The tracks shall be positioned to provide support for equipment mounting. The length of the tracks shall be sized to allow for optimum use of the compartment interior.

ADJUSTABLE SHELF

There shall be (1) adjustable shelf installed; and the shelf shall be constructed of .125" thick smooth aluminum plate and be mounted in the specified compartment with double bolt aluminum shelf brackets. The shelf shall have a broken front edge, and a broken rear edge for added strength and reinforcement.

COMPARTMENT SHELF GRATING

The specified compartment shelf shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

The specified Dri-Dek grating shall be black in color.

The compartment shelf and or shelves shall have reflective striping added to the outside lip. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

COMPARTMENT LIGHTING

The specified compartment shall have two (2) vertical Code 3 800 series lights installed.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

UPPER STORAGE-DRIVERS SIDE

There shall be a separated storage compartment on the drivers side of the upper storage located above the body compartments and water tank. The approx dimensions shall be 42.75" wide by 16.5" deep by 14" high.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

ALUMINUM TREADPLATE DOOR

This compartment shall feature an embossed aluminum diamond plate lid. The lid shall be bare embossed aluminum diamond plate.

DOOR LATCH

The specified hinged door(s) shall be equipped with a sealed, black lever latch(es). Latch(es) shall be non-locking style.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

LIGHTING

The specified compartment shall have no compartment lighting.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

UPPER STORAGE-CENTER

There shall be a separated storage compartment in the center of the upper storage located above the body compartments and water tank. The approx dimensions shall be 45" wide by 42" deep by 14" high. The compartments intended use is to store the spare tire and wheel.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

ALUMINUM TREADPLATE DOOR

This compartment shall feature an embossed aluminum diamond plate lid. The lid shall be bare embossed aluminum diamond plate.

DOOR LATCH

The specified hinged door(s) shall be equipped with a sealed, black lever latch(es). Latch(es) shall be non-locking style.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

LIGHTING

The specified compartment shall have no compartment lighting.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

UPPER STORAGE-PASSENGER SIDE

There shall be a separated storage compartment on the passenger side of the upper storage located above the body compartments and water tank. The approx dimensions shall be 42.75" wide by 16.5" deep by 14" high.

COMPARTMENT FLOOR DRAIN

The compartment shall be provided with rear corner floor drains to the underside of the body.

ALUMINUM TREADPLATE DOOR

This compartment shall feature an embossed aluminum diamond plate lid. The lid shall be bare embossed aluminum diamond plate.

DOOR LATCH

The specified hinged door(s) shall be equipped with a sealed, black lever latch(es). Latch(es) shall be non-locking style.

COMPARTMENT GRATING

The compartments shall be fitted with removable interlocking vinyl Dri-Dek grating. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

COMPARTMENT GRATING EDGE

The Dri-Dek grating shall be equipped with beveled edges where required.

The specified Dri-Dek grating shall be black in color.

LIGHTING

The specified compartment shall have no compartment lighting.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

WHEEL WELL PANEL CONSTRUCTION

The outer wheel well panel shall be an integral part of the overall body design and constructed of aluminum. It shall be welded in to place. The exterior wheel well area shall be painted to match the body.

FUEL FILL ACCESS

An access opening designed to accommodate the OEM fuel fill assembly and angled insert shall be provided in the driver's side wheel well area.

FRONT OF BODY -- PROTECTIVE SURFACE

The front of the apparatus body shall include a protective surface, constructed of aluminum tread plate material, which shall cover the outboard portion of each side of the body.

REAR BODY PANELS

The entire rear of the apparatus body shall be painted apparatus color.

TOP OF BODY COMPARTMENTS -- PROTECTIVE SURFACES

The top of the side compartments shall have a protective surfaces installed. The surface shall be constructed of aluminum tread plate material.

ALUMININUM – COMPARTMENT DOOR, HINGED OVERLAP

Four (4) single, vertically hinged door shall be provide and fabricated from aluminum. The frame of the door shall be constructed of 1.75” x 1.75” x .125” aluminum tubing to prevent corrosion and provide structural support. The spacing created by the frame tubing shall filled with Styrofoam for added support, dent resistance, insulation and noise reduction. The exterior surface shall be .125” aluminum for durability. The interior surface shall be .080” aluminum. There shall be no mechanical fasteners, such as bolt heads or rivets on the inside or outside of the doors.

The exterior of the door shall overlap the opening of the compartment. A .75” lip shall be constructed around the opening of the compartment and the exterior of the door. A rubber seal shall be installed on the .75” lip on

both the compartment and the door to provide for a double seal against water and dust. A rain gutter shall be mounted above the door creating a third layer of water protection.

The door shall be designed utilizing a D-ring style latch system. A 6” stainless steel D-ring latch, large enough to accommodate a gloved hand, shall be mounted on the exterior of the door. A stainless steel bezel shall be installed to house and protect the D-ring locking mechanism. The easily serviced bezel shall be mounted utilizing stainless steel screws. The D-ring locking mechanism shall be a double catch design. The first catch shall engage to secure the door in the event of improper closure. The second catch shall seal the door from water and other elements once the door has been properly closed.

The door shall be mounted using a stainless steel piano style hinge and a .25” diameter hinge pin for stability. The vertical hinge shall be mounted to the body frame with threaded inserts and stainless steel screws to preserve functionality and ease of maintenance in the event of damage.

Gas struts shall be utilized to hold the door in the open position and to prevent the door from slamming during closing. The gas struts shall be mounted directly to the door with a stainless steel bracket assembly for stability and ease of maintenance. The gas struts shall be mounted to the interior of the compartment with a fully adjustable assembly.

The exterior of the compartment doors and the door frames shall be painted to match the body in quality and tone. The interior surface shall not be painted, it shall be sanded utilizing a dual orbital technique.

The specified door(s) shall have a Polished stainless-steel D-ring door handle.

The specified door(s) D-ring handles shall be equipped with manual key door locks keyed to use the 1250 key.

COMPARTMENT DOOR EDGE STRIPING

The hinged compartment doors shall have reflective striping applied on the edges. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

ALUMININUM – COMPARTMENT DOOR, LIFT UP HINGED OVERLAP

There shall be two (2), horizontally hinged lift up door shall be fabricated of aluminum. The door shall feature an exterior surface which overlaps the opening of the compartment. The exterior surface shall be .125” aluminum for durability and damage resistance. The interior surface shall be .080” aluminum for structural support and overall appealing appearance of the compartment. The frame of the door shall be constructed of 1.75” x 1.75” x .125” aluminum tubing to prevent corrosion and provide structural support. The spacing created by the frame tubing shall be filled with Styrofoam for added support and dent resistance, temperature insulation, and noise reduction.

A .75” lip shall be constructed around the opening of the compartment and the exterior of the door. A rubber seal shall be installed on the .75” lip of both the compartment and the door to provide for a double seal against

water and dust. A rain gutter shall be mounted above the latch type door for an added third layer of water protection.

The door shall be designed utilizing a D-ring latch system. A 6 inch stainless steel D-ring latch, large enough to accomodate a gloved hand, shall be mounted on the exterior of the door to allow the door to seal and fasten in the closed position. A stainless steel bezel shall be installed to house and protect the D-ring locking mechanism. The easily serviced bezel shall be mounted utilizing stainless steel screws for added stability of the mechanism and ease of maintenance in the event of damage. The D-ring locking mechanism shall be of a double catch design. The first catch shall engage to secure the door in the event of improper closure. The second catch will seal the door to water and other elements once the door has been properly closed.

The door shall be mounted with a stainless steel hinge with .25” diameter hinge pin for stability. The horizontal hinge shall be mounted to the body frame with threaded inserts and stainless steel screws to preserve functionality with use or age and ease of maintenance in the event of damage.

Gas struts shall be utilized to hold the door in the open position and to prevent the door from slamming during closing. The gas struts are mounted directly to the door with a stainless steel bracket assembly for stability and ease of maintenance. The gas struts shall be mounted to the interior of the compartment with fully adjustable assembly for ease of adjustment and maintenance while increasing stability.

A polished stainless steel scuff guard shall be installed on the bottom of the compartment opening to prevent damage and wear to the paint and finish of the body module due to the removal and storage to equipment in the compartment.

The exterior of the compartment doors and the door jambs shall be painted to match the body in quality and tone. The interior of the door shall not be painted due to lack of exposure and inherent resistance to corrosion. The interior of the door shall be sanded utilizing a dual orbital technique. The sanding shall provide for a smooth, regular, scratch free surface on the interior of the door. The exterior skin to door frame joining seam shall be caulked and painted to provide a moisture proof seal.

The specified door(s) shall have a Polished stainless-steel D-ring door handle.

The specified door(s) D-ring handles shall be equipped with manual key door locks keyed to use the 1250 key.

COMPARTMENT DOOR EDGE STRIPING

The hinged compartment doors shall have reflective striping applied on the edges. The stripe shall be a 1-1/2" minimum in width.

Specified part shall include Red and White DOT approved reflective striping.

FOLDING STEP -- DRIVERS SIDE FRONT

There shall be three (3) Innovative Controls chrome plated zinc steps installed. The steps shall be a spring loaded design with an approx 8" by 6" stepping surface and feature a BME logo and an LED light to light up the stepping surface. The step shall be installed on the front drivers side of the body.

FOLDING STEP -- PASSENGER SIDE FRONT

There shall be three (3) Innovative Controls chrome plated zinc steps installed. The steps shall be a spring loaded design with an approx 8" by 6" stepping surface and feature a BME logo and an LED light to light up the stepping surface. The step shall be installed on the front passenger side of the body.

FOLDING STEP -- PASSENGER SIDE REAR

There shall be two (2) Innovative Controls chrome plated zinc steps installed. The steps shall be a spring loaded design with an approx 8" by 6" stepping surface and feature a BME logo and an LED light to light up the stepping surface. The step shall be installed on the rear passenger side of the body.

WATER TANK CAPACITY

The water tank shall be a poly water tank with a capacity of 300 gallons.

The water tank shall be constructed of polypropylene, nitrogen-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thicknesses. The tank shall carry a lifetime warranty.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered. Tank construction shall conform to applicable NFPA standards.

The water tank shall be configured in a rectangular style with consistent widths on the sides from top to bottom.

NFPA COMPLIANCE

The water tank construction shall conform to applicable NFPA standards.

TANK TO PUMP CONNECTION

A 3" PVC pipe shall be provided on the water tank for connection of the tank to the suction side of the pump with a flexible hump hose assembly. The tank suction valve and hump hose required to complete this connection shall be supplied by the final assembler.

PUMP TO TANK CONNECTION

A 2" connection shall be provided on the water tank for connection of the discharge side of the pump to the tank for filling purposes. The valves and hose required to complete this connection shall be supplied by the final assembler.

CLASS A FOAM TANK SPECIFICATIONS

The Class A foam tank shall have a capacity of 12 gallons.

A 3/4" PVC fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

A 3/4" diameter connection, piping, and gate type valve shall be installed for the foam tank for draining purposes.

12 VOLT ELECTRICAL SPECIFICATIONS

The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards and the applicable requirements of NFPA.

Wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops shall not exceed 10 percent in all wiring from the power source to the using device. The wiring and wiring harness and insulation shall be in conformance with SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. Exposed wiring shall be run in a loom with a 290 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be with mechanical type fasteners and rubber/plastic grommets

Wiring between the cab and body shall be split using Deutsch type connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. Connections shall be insulated with heat shrink tubing to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage and shall be uniquely identified at least every six inches (6") by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA standards.

Low voltage protective devices shall be provided for the electrical circuits. The devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. Over current protection devices shall be automatic reset type suitable for electrical equipment and shall meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. Electro-magnetic interference suppression shall be provided in the system as required in applicable SAE standards.

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.

All electrical wiring shall be placed in a protective loom or be harnessed.

Exposed connections shall be protected by heat shrink and or a sealed connector.

Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall utilize a weatherproof strain relief.

Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.

A service loop shall be provided behind all electrical appliances to allow them to be pulled away from their mounting area for inspection and service work

Upon completion of the vehicle and prior to delivery, the apparatus shall be electrically tested and the electrical testing, certifications, and test results shall be submitted with delivery documentation per the requirements of NFPA.

ELECTRICAL WIRING HARNESS

The electrical system shall be divided into separate harnesses. The individual harnesses shall be connected with Deutsch type quick connectors.

CUSTOM FABRICATED CONSOLE

A custom fabricated electrical console and enclosure shall be located between the driver's and the officer's seating positions. The console shall feature a single row of havis style plates on a bolted down lid.

CONSOLE MAP BOX

There shall be a map box attached to the rear of the console. The map box shall be painted to match the console.

The specified compartment(s) shall be coated with Black/Black colored Multi-Spec paint.

BATTERY SWITCH - MASTER DISCONNECT

A battery disconnect switch controlling the 12-volt power supply from the battery system shall be located conveniently near the driver.

BLUE SEA SYSTEMS BATTERY CHARGER

The apparatus shall have a Blue Sea Systems, P12 Battery Charger, model #7532 installed. The battery charger shall be 12V DC and have a total output current of 40A. The battery charger shall be located in a clean and dry area.

BLUE SEA SYSTEMS SHORE POWER

The apparatus shall have a Blue Sea Systems, Sure Eject 20 amp shore power plug installed.

The specified Sure Eject shall include a yellow cover.

IDENTIFICATION LIGHTS

LED identification lights shall be installed on the vehicle as required by applicable highway regulations. All lights shall be 3/4" grommet mount type.

LICENSE PLATE BRACKET

A license plate bracket with a Tecniq L110 LED light shall be provided at the rear of the apparatus.

DOT LIGHTING

There shall be four (4) Truck-Lite brand 60 series lights mounted in the provided cutouts in the rear bumper. The lights shall function as the Stop, tail, and turn signals. The lights shall also have back-up lights integrated into the housing. The lights shall be mounted using screws.

FRONT BUMPER -- GROUND LIGHTS

There shall be two (2) Tecniq E10, LED ground light(s) installed under the front bumper.

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

CAB GROUND LIGHTS

There shall be four (4) Tecniq E10, LED ground lights installed under the cab door(s).

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

GROUND LIGHTS - UNDER REAR STEP

There shall be two (2) Tecniq E10, LED ground lights installed under the rear step area.

The ground lights shall be activated when parking brake is set, or the transmission is placed into park (where applicable).

PIONEER FLOOD/SPOT SURFACE MOUNT LIGHTHEAD

Two (2) Whelen Pioneer Plus™ Model # PCPSM1C shall be provided and installed on the apparatus. The light head shall have a chrome housing.

Upon placing the transmission into reverse, the rear scene lights shall activate automatically.

The scene lights shall be activated by individual buttons or switches on the cab center console. Left, right, and rear scene light controls.

DOOR OPEN WARNING LIGHT

A door open warning light shall be installed on cab dash. The light shall be a flashing LED light with a red lens. The light shall include a label, “Do Not Move Apparatus When Light is ON”.

"DOOR OPEN" AND EQUIPMENT OPERATION ALARM

A buzzer or alarm shall be installed in cab to indicate "doors open" or equipment operation on the apparatus. The buzzer shall operate when parking brake is released. The light shall include a label, “Do Not Move Apparatus When Light is ON”.

RADIO PRE-WIRE

There shall be a radio pre-wire provided in the cab center console. The prewire shall consist of a battery hot, battery switched, and a ground source.

RADIO ANTENNA INSTALLATION

There shall be one (1) radio antenna installed on the apparatus and routed to the cab center console.

BACK UP ALARM

One (1) solid state back up alarm shall be provided at the rear of the apparatus. The back up alarm shall be wired to the reverse circuit of the transmission, and shall provide an audible alarm to the rear of the apparatus when reverse gear is selected. The alarm shall have a volume of 87 to 112 db while in operation.

HEADLIGHT FLASHER

The headlights shall be set to alternate flash (Wig-Wag).

The wig wag shall be triggered by the siren controller slide switch position 3.

ELECTRONIC SIREN

Whelen CenCom Core C399 shall be installed. The following features shall be included

WHELEN CORE CONTROL HEAD

There shall be a Whelen model CCTL6 control head supplied with the Cencom Core system. It features a 3 section control head, with 8 push buttons, 4- position slide switch with a 7 position rotary knob. A manual siren and air horn button, and 3 traffic advisor control buttons.

WHELEN CORE WECANX TRAFFIC ADVISOR MODULE

There shall be a Whelen model CTA Traffic Advisor module interfaced with the Cencom Core system.

The specified Whelen Core shall include an OBD 2 install kit #C399K1 for a Ford chassis.

SIREN SPEAKER

One (1) Whelen Model #SA315P siren speaker shall be provided. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating.

ZONE A FRONT UPPER -- LIGHTBAR

One (1) Whelen Model # TB2DDEE Cenator series light bar shall be installed on the apparatus, the light bar shall be 54" long. The lightbar shall feature six (6) forward facing red/white lights. The light bar shall also feature two (2) forward facing take-down LED lights and two (2) LED alley lights.

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen M-Series model# M4D warning lights shall be installed in the lower front area of the cab. The warning lights shall feature a split dual color red/white combo.

The specified Whelen M4 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE B AND D -- FRONT INTERSECTION WARNING LIGHTS

Two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter light shall be provided.

The specified Whelen M4 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE B AND D LOWER MID BODY WARNING LIGHTS

Two (2) Whelen M4 Series Model # M4V2R combination 180° warning/perimeter light shall be provided.

The specified Whelen M4 lights shall be equipped with chrome plastic flange type light bezel mountings.

ZONE C -- UPPER REAR WARNING LIGHTS

Two (2) Whelen ION series lights, model TLIR shall provided.

ZONE C -- LOWER REAR WARNING LIGHTS

Two (2) Whelen ION series lights, model TLIR shall provided.

TRAFFIC ADVISOR

A Whelen Traffic Advisor™ model # TAM65 shall be provided. The traffic advisor shall incorporate a rectangular extruded black powder coated aluminum chassis with six amber TIR6™ Super-LED® lights with waterproof connectors.

FRONT MOUNTED ELECTRIC WINCH

A Warn Winch Company 16,500 pound capacity, 12-volt electric winch system shall be installed on the front of the apparatus with a 4 way roller shall be installed to guide the cable. It shall have forward and reverse gears, a three stage planetary gearing and a sliding ring gear clutch that will permit free-spooling for quick unwinding of cable.

The winch shall be controlled with a push button device attached to a twelve foot (12') control cable and weatherproof receptacle. The winch shall include 90' of 7/16" steel cable.

PAINT CODES/COLORS

The apparatus shall be painted the following color(s).
Color will be Race Red

BODY PAINTING SPECIFICATIONS

All exposed surfaces shall be prepared and painted using a multi-step process to ensure a blemish-free, protective coating for the base metal materials.

All removable items, such as brackets and compartment doors, shall be removed and painted separately to insure finish paint behind them after they are reinstalled.

Due to its modular design, the apparatus body shall be completely finish painted prior to its installation on the chassis.

The body shall be sanded, and cleaned. Any imperfections or defects in the metal shall be corrected with premium body filler and then sanded smooth.

An epoxy primer shall be utilized on all painted and coated surfaces and shall prepare the metal for the final paint. The direct-to-metal primer shall be used to create a first level seal allowing secure adhesion between the base metal and the subsequent substrates.

All body and components shall then be primed, thoroughly sanded, and meticulously inspected for any imperfections; which shall be properly corrected..

All surfaces shall then be painted with a base coat of premium paint following the guidelines as established by the paint manufacturer. The body shall be painted using a single color to match the cab primary color, and then shall be buffed to a high gloss finish.

INTERIOR COMPARTMENT FINISH

The interior wall, floor and ceiling surfaces of compartments shall be finished with Rust-Oleum brand Multispec color flecked paint. The final color combination shall be determined in pre-con.

The specified compartment(s) shall be coated with Gray Stone colored Multi-Spec paint.

TOUCH-UP PAINT

Touch-up paint shall be furnished with the completed truck at final delivery.

STRIPING PACKAGE- SINGLE 4" STRIPE

There shall be a single 4" reflective stripe installed one on each side of the apparatus. The stripe is limited to single color only.

HARD SUCTION HOSE STORAGE

There shall be storage for two (2) 8' sections of 2.5" hard suction and one 7' sections of 2.5 hard suctions with barrel strainer located above the pump operators panel. The compartment shall feature a drop down door with a thumb latch.

ALUMINUM TREADPLATE DOOR

There shall be a drop down aluminum diamond plate door installed.

DOOR LATCH

The specified hinged door(s) shall be equipped with a sealed, black lever latch(es). Latch(es) shall be non-locking style.

DOOR AJAR SENSOR

The Specified door(s) shall feature a magnetic proximity switch to indicate when the compartment door is ajar.

WHEEL CHOCKS

Two (2) Zico Model AC-1, aluminum wheel chocks shall be provided on the apparatus.

5# DRY CHEMICAL FIRE EXTINGUISHER

One (1) 5# ABC dry chemical fire extinguisher and mounting bracket shall be provided on the apparatus. The extinguisher shall have a pressure gauge and shall be filled with a dry chemical extinguishing agent.

HYDRAULIC JACK

One (1) Northern Hydraulics Model 1444 hydraulic jack shall be provided. The jack shall be designed for lifting capacity of twenty (20) tons.

LUG WRENCH

There shall be one (1) lug wrench provided and shipped loose with the completed apparatus.

REFLECTOR

A set of three (3) triangular reflectors shall be provided.