



**SPECIFICATIONS
FOR A
FIRE REHAB 20' TRAILER**

TRAILER

The trailer shall be 20 feet long from inside of the body front to rear. It shall be 7 foot tall and 7 foot wide measured from the inside.

The tandem axles shall track at 102 inches wide. The trailer frame shall be extended in the front to accommodate storage of the L.P. gas tanks and the generator. The wheels shall have Good Year ST225/75R15D radial tires or approved equal mounted to a silver spoke steel wheel. The axles shall be equipped with electric drum brakes and six-bolt wheel pattern. There shall be newer lube hubs installed. The suspension shall be 5,000 lb. Torflex Brand axle. There shall be No Exceptions to this axle.

The coupler shall be a 2-5/16 inch size for a 10,000 lb. capacity. The frame shall consist of (16) sixteen 6-inch crossmembers, 16 inches on center. The mainframe rails shall be 2 x 6 inch rectangular steel tube. The jack shall be 12-volt power ram type, 2000 lb. capacity with sand pad. The safety chains shall be 5/16 inch with clevis hook and latch. The entire chassis shall be undercoated.

There shall be (4) four BAL telescoping type stabilizer jacks installed on the four corners. They shall be 5000 lb. capacity.

The roof shall be radius type with roof bows on 24-inch centers. The vertical posts shall be on 16 inches on center, the floor shall be of undercoated hardwood, it shall be finished with spray on pickup bedliner material.

There shall be a compartment furnished on the left rear side. It shall be as wide as the bathroom on the right side, and as deep as possible.

There shall be a lock-in lock-out slide tray located in the compartment to accommodate the generator. All doors in trailer shall be keyed alike.

The exterior shall be of .040 bonded smooth aluminum painted white. The roof shall be of one-piece aluminum. The sidewalls and roof shall be insulated with 1-inch fiberglass – for an R-5 factor and the floor shall be insulated with foil ray floor insulation. The front of the trailer shall have an aluminum tread plate stone guard extending 18” above the tongue.

The fenderettes shall be smooth aluminum. There shall be (3) three 30 inch wide side entry doors, 2 in front, 1 each side and 1 at the rear right side. The doors shall have an RV style door latch with lock, to enable entry or exit with ease. All door locks shall be keyed alike.

The sidewalls shall have 3/8 white vinyl IPO, while the ceiling will have white vinyl liner. Each entry door shall have a 20-inch fold up step.

The trailer shall be equipped with all lighting as required by Federal Motor Vehicle Safety Standards. All lights and reflectors shall conform to D.O.T. and FMVSS minimums for such trailers as this type. All DOT clearance, marker, and taillights shall be LED type. The wiring shall be color coded with a 7-way trailer end connector.

A spare tire, wheel and mounting hardware shall be supplied.

ADJUSTABLE SHELF HARDWARE

As required, the heights of all shelves shall be easily adjustable by using four (4) sections of P-1000 aluminum unistrut installed to the walls, along with appropriate fasteners. The unistrut is to be continuous from the top to the bottom.

ADJUSTABLE SHELVES

Each shelf shall be capable of supporting a minimum weight of three hundred (300) pounds.

All shelves are to be of 3/16" smooth aluminum with press formed flanges of 2" on all four sides and have D.A. sanded finish.

Shelf dimensions shall vary to accommodate the specified equipment for which it is to be mounted.

AWNINGS

Two (2) full-length manually operated awnings shall be installed on each side. They shall be the type that when fully retracted are housed in an aluminum cover.

BATHROOM

At the rear of the trailer an RV style bathroom shall be installed, it shall be partitioned off from the rest of the trailer and align itself with the right side rear door. A hand-washing sink shall be installed in the room.

The clear and black water tanks shall both be 40 gallons capacity each. The toilet shall be a gravity type designed to install directly over a holding tank. It shall be a foot pedal style flush using a minimal amount of water.

The hand-washing sink shall be installed on one of the sidewalls. All pump, plumbing and drains shall be installed in a manner as to limit the exposure to elements. All plumbing shall be installed in such a way to quickly enable the draining of water upon conclusion of an incident.

There shall be a fresh water connection to enable the bathroom to operate without on-board water. The System shall be protected by a pressure regulator.

There shall be an electric pump installed to service both the toilet and the sink.

MAIN REHAB ROOM

The remaining 12-foot of the trailer shall be arranged to accommodate supplies and equipment.

Two (2) manually operated vents to be installed in the roof, one (1) towards the front another near the rear. Each vent shall be covered with a Maxxi-Air roof vent cover or approved equal.

Two (2) approximately 8 foot long aluminum benches with backs shall be installed the outside walls. They shall be securely bolted to the floor. The seating area shall be approximately 12 inches deep.

Above the benches shelving shall be fabricated and installed to accommodate the portable tents. The shelving shall be mounted to the sidewalls and rugged enough to withstand the weight.

Brackets, tie downs, and shelves shall be installed inside to accommodate the equipment supplied with the trailer. Along sides of the furnace, shelving shall be installed as deemed appropriate. The number of each and the locations to be determined at the pre-construction meeting.

Two (2) large heavy-duty garment hooks shall be installed at a mutually agreed location, determined at the pre-construction meeting. The hooks shall be capable of holding approximately 75 lbs. each.

HVAC

At the front of the Rehab room an L.P. furnace shall be installed. It shall be a narrow unit that extends to the ceiling, and vent thru the roof. A travel deflector shall be installed in front of the furnace ventilator. The furnace shall be capable of approximately 35,000 BTU output. It shall deliver its heat at floor level. It shall be thermostatically controlled, and consist of vibration free mounting brackets.

Two (2) low profile air conditioners shall be installed on the roof. They shall be of a 13,500 BTU capacity and be thermostatically controlled. The rear most unit shall be ducted through the bathroom partition to cool the room.

LABELS

A permanently affixed plate shall be installed in the Main Rehab Room to indicate the following:

Trailer Manufacturer

Vehicle Identification Number

Trailer Gross Vehicle Weight

Tire Size and Total Rated Capacity in Pounds

Trailer Overall Length, Height and Width

Build Date (Month/Day/Year format)

Delivered Date (Month/Day/Year format)

Generator Rating

Generator Fuel Tank Capacity

TRAILER ELECTRICAL SYSTEM REQUIREMENTS

12 GENERAL REQUIREMENTS:

The 12-Volt DC electrical system shall be controlled by an industry proven electrical system.

The complete 12-volt wiring system and electrical appliances shall meet NFPA 1901 minimum standards as well as standard automotive practices throughout the installation in the apparatus. The system shall comply with all the appropriate SAE recommended practices such as J1939 and/or J1708.

All required DC power conducting wiring shall be of GXL stranded copper wire of adequate gauge for the function served so as to ensure voltage drop of less than one volt at the appliance under full amperage load.

All of the emergency electrical equipment shall be served by circuits separate and distinct from the vehicle chassis circuits. Body wiring shall be color and function coded, grease, oil and moisture resistant, routed in protected locations, neatly and securely fastened, and all apertures properly grommeted for passing wiring. Solderless insulated connectors shall be provided where required.

All heavy ampere-carrying cables requiring terminals shall have the terminals both crimped and soldered for good electrical connections.

All wiring shall be color-coded and a schematic shall be supplied upon delivery of the truck. The diagram shall represent the exact wiring application, not a proposed system.

Connections shall be made using approved connectors with heat shrink insulators. Any wiring routed within proximity of any exhaust components or other high temperature components shall be given special consideration and shielded for best protection.

All electrical work shall be performed by persons familiar with both 12 volt and 120-volt emergency vehicle systems.

All of the emergency electrical equipment shall be served by circuits separate and distinct from the vehicle chassis circuits.

12-VOLT TESTING & DOCUMENTATION

The low voltage system of the completed apparatus shall be tested and certified by the manufacturer prior to delivery. A copy of the testing and successful completion will be provided to the purchaser with the Owners Manual. Any failures to these tests will require corrective actions to be taken and re-tested before delivery.

BATTERY CONDITIONER

A battery conditioner/charger shall be installed to keep the generator battery charged.

COMPARTMENT LIGHTS

The body interior compartments shall be equipped with ten (10) low voltage, light emitting diode (LED) lights. There shall be eight (8) 7 inch round installed in the first 12 foot of the trailer and (1) one installed in the bathroom at the rear. One shall be installed in the storage compartment on the left side.

VENTALITION

One (1) RV powered ventilator shall be installed on the rear trailer wall. One (1) surface mounted electrical heater shall be installed on the rear wall; it shall be capable of approximately 5100 BTU of heat. A 110-volt overhead light shall be installed of approximately 100-watt output. Switching for the 110-volt lights, 12 volt lights, and powered ventilator shall be on a wall as you enter the room. There shall be 3 (three) 100' sections of 5/8 inch fresh water type garden hose supplied with bracket for storage, connection to system and 2.5 inch old Cincinnati fire thread connection, and an adjustable hydrant wrench.

120 VOLT & 240 VOLT REQUIREMENTS

Since the apparatus is equipped with a 120/240-volt electrical system, the system shall be installed to the required level of safety and protection to the fire apparatus. The complete wiring and electrical installation shall conform to the current National Electrical Code (NEMA) applicable to mobile applications, except where superseded by NFPA. #1901.

Electrical fixtures, components, and wiring shall be to the highest industry quality standards available. All equipment shall be the type as designed for mobile type installations subject to vibration, moisture, and severe continuous usage.

All 120/240 volt electrical wiring rated at 20 amps and higher shall be fine stranded copper type DLOC rated to 2000 volts. DLOC cable is much more flexible for mobile routing applications. The wire shall be sized to load and circuit breaker rating.

Electrical cables or conduit shall not be attached to chassis suspension components, water, fuel or brake lines. Electric wiring or harnesses shall not be within 12 inches of any exhaust system component or 6 inches of fuel lines.

All 120 / 240 volt wiring shall be run through Liquid tight flexible non-metallic conduit wherever wiring is run. Conduit shall have a UL Rating of 80°C Dry, 60°C Wet, 70°C, Oil Resistant, Sunlight Resistant, CSA Rating - 18°C to 75°C. Liquid tight straight and right angle connections to be used wherever applicable.

Exterior outlets specified herein shall be mounted in cast aluminum or zinc die cast boxes with weather resistant snap open covers. An isolation gasket shall be used whenever any portion of the outlet or covers comes into contact with a body panel.

Where receptacles are provided in possible wet locations, the receptacle outlet and inlet devices, including those on hardwired remote power distribution boxes, shall be of grounding type provided with a wet location cover and installed in accordance with NEC.

All receptacles shall be marked with the type of line voltage (120 volts or 240 volts) and the current rating in amps.

The wiring and associated receptacles shall be subjected to a 1-min, 900-V dielectric voltage withstand test with any switches in the circuit(s) closed between live parts, including neutral and the vehicle frame. This test shall be conducted after all bodywork has been completed.

Electrical polarity checks shall be made of permanently wired equipment and receptacles to determine that connections have been properly made.

An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the test shall be recorded and provided to the purchaser at the time of delivery.

GENERATOR/L.P. SYSTEM

Located in the left rear compartment. The generator shall be 15,000 rated watts with capability of 22,500 surge watts. Its run time with a ½ load with a 16-gallon fuel tank shall be 10 hours. It shall have a 990 CI OHV engine, with electric start, all outlets shall be circuit breaker protected. It shall have a low tone muffler to quiet operation. The generator shall run on L.P. from the front of the trailer.

The generator shall be equipped with an idle down feature and 12 volt connections to power the 12-volt items in the trailer. It shall be equipped with a 220-volt outlet to facilitate connection to the trailer. A 750 watt recessed FRC Spectra LED light or an approved equal shall be installed, (1) one each side and be powered from the generator. The control switch to turn on the lights shall be located in the Main Rehab Room, location determined at the pre-construction meeting.

L.P. GAS

The L.P. gas system shall consist of (2) two 50 lb. cylinders mounted to the front frame behind the generator. The tanks shall be covered with an RV style Heavy Duty White Plastic Propane Tank Cover.

The system shall consist of an easy fill connection and a regulator to supply the furnace and refrigerator. Supply plumbing to these units shall be adequately sized to prevent an insufficient amount of gas to each unit.

Upon delivery of the completed unit, both the L.P. and generator shall be full of their respective fuel.

LOAD CENTER

An ample sized circuit breaker box shall be installed inside the trailer near the front. It shall be a Square D QO series circuit breaker box / load center. The breaker box shall be rated at a minimum of 100 amps and supplied with one (1) main breaker rated for the maximum amperage output of the specified generator. Load center shall feature:

- Exclusive shielded copper bus features electro tin plated copper bus bars sandwiched between two rugged polymer shields to insulate and secure the interior.
- Straight-in mains wiring and uniform termination lugs help minimize service cable bends, cutting waste and saving installation time.
- Convertible mains allow fast field conversion between main breaker and main lugs to meet changing job requirements.
- Single, captive interior mounting screw can't be lost. Interior mounts quickly and can easily be removed during rough-in for paint or theft protection.
- Split branch neutral with up to 50% more terminations than UL requirement simplifies wiring and reduces clutter.

Specified breakers, as outlined herein, shall be compatible for installation in the box

Circuit breakers shall be Square D type QO (plug-on) thermal magnetic trip, with an integral crossbar to ensure simultaneous opening of all poles in multi-pole circuit breakers. Breakers shall feature:

- An overcenter, tripfree, toggle-type operating mechanism with quick-make, quick-break action and positive handle indication.
- Handles with ON, OFF, and "Tripped" positions. In addition,
- A trip indication shall be provided on the breakers. The Square D VISI-TRIP indicator appearing in the window of the circuit breaker case.
- Circuit breakers shall be UL Listed in accordance with UL standard 489 with current ratings as noted on the plans. Interrupting ratings shall be selected to provide the required load center short circuit current rating.

Each breaker shall be rated to specified wire size and load demand required for each item operated from load center.

RECEPTACLES

The trailer shall have a total of eight (8) duplex straight blade outlets. There shall be four (4) interior receptacles and four exterior receptacles. The locations shall be determined at the pre-construction meeting.

FLUORESCENT LIGHTING

Two (2) 4-foot long dual bulb fluorescent fixtures shall be installed on the ceiling front to rear. The fixtures shall be a rugged style designed to prevent entry of airborne contaminants that can reduce fixture performance. Impact-resistant acrylic diffuser shall be secured to housing with cam-action latches for a positive seal. These lights shall be cold start rated.

REFIGERATOR

A 110V. 12.0 Cu. Ft. Refrigerator shall be installed in the rehab room. Since it will constantly be filled with bottled water, placement in the trailer shall be considered. The exterior finish and the location shall be mutually agreed on at the pre-construction meeting. It shall be connected to both the 110v shoreline and the generator. There shall be a shoreline connection to enable the refrigerator to continue to operate while in storage.

LETTERING/STRIPING

Graphics shall be applied to the exterior sides and rear of the trailer. A red reflective stripe a minimum of 6 inches wide shall be placed on the two sides and the rear of the trailer. Both sides shall have the following reflective letters: Emergency Responder Support Services in 6 inch shaded letters, font to be specified. The word Rehab Unit shall be installed in the red reflective stripe. The size, color and font to be specified. Both sides shall contain agency specific decals, one at 18 inches x 20 inches and one at 16 inches x 16 inches. Both sides shall also have the following: Purchased With Funds Provided By The US Department Of Homeland Security. The color, size, font and location to be determined at the pre construction meeting.

The rear of the trailer shall have the following reflective letters: Emergency Responder Support Services in 4 inch shaded letters, font to be specified. The word Rehab Unit shall be installed in the red reflective stripe. The size, color and font to be specified. Two agency specific decals shall be applied to the rear, one shall be 12 inches x 15 inches and one shall be 12 inches x 12 inches. Detailed information will be supplied to the successful contractor with reference to the agency specific decals. All graphics shall be reflective. All lettering and striping sizes, colors, and locations shall be finalized at the pre construction meeting.

EQUIPMENT

The following list is the equipment and quantity required to be delivered with the trailer. Literature shall be supplied with each bid to assure us the bidder is supplying the correct items.

QTY

DESCRIPTION

- 25 Cooling Chairs
These folding chairs provide an effective means of lowering body temperature.
- 24 Folding Chairs
These foldable chairs are to be Worldwide Merchandise Co., Model D009-1058 the wide version, they will open to 37 inches wide and support a 250 lb. rating.
- 5 Cooling Fans
Cool Draft Model M1-360 combination high velocity fan with 3 speeds. 5 stainless steel water nozzles mounted to a s/s ring to inject water into the path of the fan. Unit shall run up to 15 hours on 1 filling.

- 10 Portable Tents
EZ-UP Model Express 2, easy set up portable canopy with 4 side walls to enclose entire tent will be supplied. They shall be white in color. The frame work shall be powder coated, and all shall fit into a furnished bag for storage.
- 5 Portable Heaters
These heaters shall be propane (L.P.) convection type, powered and be capable of 30,000 to 60,000 BTU output and weigh approximately 30 lbs. each.
- 5 Tri-Pod Lights
Fire Research Spectra LED model tripod telescopic light or approved equal shall be provided. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall extend 16" and rotate 360 degrees. An internal brake shall slow the extension pole during lowering. The outer pole shall be a grooved aluminum extrusion. The folding legs shall be anodized aluminum tubing with plastic endcaps. The fully extended tripod system shall exceed a height of 6' and be less than 3 1/2' when collapsed. Wiring shall extend from the pole bottom with a 4' retractile cord.
- The lamphead shall have one (1) quartz halogen 500 watt 120 volt bulb. The bulb will draw 4.2 amps and generate 10,500 lumens. The bulb shall be accessible through the front. The lamphead shall incorporate a vacuum deposit reflector and two optimizing mirrors to produce a uniform beam that lights up an area 100° vertically by 150° horizontally. The lamphead shall have a heat dissipating curved front lens. The curve of the lens shall have a radius of 5.16 inches to optimize light emission. The lamphead shall be no more than 4 3/4" deep by 5 1/8" high by 8 3/4" wide. Lamphead and brackets shall be powder coated white. Each shall be furnished with their own mounting brackets and standard residential type plug. Mounting location shall be determined at the pre-construction meeting.
- 5 Liquid Propane
20-25 lb. easily exchanged full propane cylinders are to be supplied.
- 10 Extension Cords
All extension cords specified shall be a minimum 16 GA. 5-75 foot, each mounted to a wind up reel BAYCO #KW130 and 5-25 foot with a ratchet type cord keeper Gardner Model CW-T3RR25. The 5-75 foot cords shall have a 3-outlet receptacle on the end. All of the extension cords shall have three (3) prong straight blade plug configuration.
- 2 Folding Tables
Lifetime Plastic Folding Utility Table or approved equal. These tables shall only be approximately 4' long by 24 inches wide. Color shall be white.