



### MH-38 FRED

1.0	<p><b><u>DIMENSIONS</u></b></p> <table border="1" data-bbox="183 300 889 491"> <tr><td>Overall Length</td><td>38 ft. 7 in.</td></tr> <tr><td>Exterior Width</td><td>101 in.</td></tr> <tr><td>Overall Height</td><td>12 ft. 8 in.</td></tr> <tr><td>Interior Width</td><td>96 in.</td></tr> <tr><td>Interior Headroom</td><td>86 in.</td></tr> <tr><td>Interior Floor Length</td><td>30 ft. 6 in.</td></tr> <tr><td>Wheelbase</td><td>248 in.</td></tr> </table>	Overall Length	38 ft. 7 in.	Exterior Width	101 in.	Overall Height	12 ft. 8 in.	Interior Width	96 in.	Interior Headroom	86 in.	Interior Floor Length	30 ft. 6 in.	Wheelbase	248 in.
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2.0	<p><b><u>CHASSIS</u></b> MC Front Engine Chassis, 26,000 GVWR, hydraulic brakes</p>														
2.1	<p><b><u>ENGINE</u></b></p> <ul style="list-style-type: none"> <li>· 6.7L Cummins Diesel</li> <li>· 340 HP @ 2,800 RPM</li> <li>· 660 lb.-ft. torque @ 1,600 RPM</li> <li>· 12V, 130 amp, HD alternator</li> <li>· 12V maintenance free, 750 CCA, 78-amp battery</li> <li>· LH Horizontal aluminized tailpipe</li> <li>· Anti-freeze protection, ethylene glycol, 50/50, to -34 deg F</li> </ul>														
2.2	<p><b><u>TRANSMISSION</u></b></p> <ul style="list-style-type: none"> <li>· Allison 2200 MH Series, 6-speed, with overdrive</li> <li>· Transmission oil cooler</li> </ul>														
2.3	<p><b><u>FRONT SUSPENSION</u></b></p> <ul style="list-style-type: none"> <li>· 10,000 lb. capacity, tapered multi-leaf</li> <li>· Single stage, constant rate</li> <li>· 1.5" diameter stabilizer bar</li> </ul>														
2.4	<p><b><u>REAR SUSPENSION</u></b></p> <ul style="list-style-type: none"> <li>· 17,500 lb. capacity rear axle, tapered multi-leaf</li> <li>· Single stage, constant rate</li> <li>· 1.4" diameter stabilizer bar</li> </ul>														
2.5	<p><b><u>FRAME</u></b></p> <ul style="list-style-type: none"> <li>· Ladder type, single channel, 50,000 psi</li> <li>· 9.46 cu. in. section modulus</li> </ul>														
2.6	<p><b><u>FUEL TANK</u></b></p> <ul style="list-style-type: none"> <li>· 80 (U.S.) gallon capacity, between frame rails</li> <li>· Driver's side fuel fill</li> <li>· "Diesel Fuel" permanently mounted near fuel fill</li> <li>· Generator fuel pickup tube installed by fuel tank manufacturer, set at depth not to empty tank</li> </ul>														
2.7	<p><b><u>WHEELS AND TIRES</u></b></p> <ul style="list-style-type: none"> <li>· 255/80R 22.5G tubeless radials</li> <li>· 22.5" x 8.25" Wheels</li> </ul>														
2.8	<p><b><u>MISCELLANEOUS</u></b></p> <ul style="list-style-type: none"> <li>· Dual electric horns</li> <li>· Analog instrument display</li> <li>· Back up alarm</li> <li>· Air conditioning</li> <li>· AM/FM Stereo, clock, seek-scan, speakers</li> <li>· Two (2) 12V DC power accessory outlets</li> <li>· Two (2) high back captain seats</li> </ul>														
2.9	<p><b><u>CHASSIS WARRANTY</u></b></p> <ul style="list-style-type: none"> <li>· Bumper to Bumper: 3 years / 50,000 miles</li> <li>· Powertrain: 3 years / 50,000 miles</li> <li>· Safety Restraint System: 3 years / 50,000 miles</li> <li>· Corrosion (Perforation Only): 6 Months / Unlimited miles</li> <li>· Roadside Assistance Program: 3 years / 50,000 miles</li> </ul>														

- Coach Structure: 3 years / 36,000 miles
- Roof Skin: 10-year limited parts and labor

**3.0 BODY SPECIFICATIONS**

- Body shall be coach style, flat interior floor. Body framework to be welded aluminum designed to be durable and adequately reinforced at all points where road shock and vibration stress concentration occurs. All cab steel to be electroplated for rust protection and to eliminate corrosion and oxidation concerns.
- Interlocking extruded aluminum structural components create integrated floor-to-sidewall, and sidewall-to-roof joints. Steel mounting plates to be located in walls for mounting cabinets and appliances.
- Exterior skin to be fiberglass, smooth, one piece, high gloss, bright white. Exterior side paneling shall be designed to contribute to the overall structural integrity of the coach body.
- Roof shall be one-piece fiberglass, run the full length of the roof, and provide sufficient strength for walking. Roof to be crowned for water run-off.
- Roof to be structurally reinforced in the area where each air conditioner is installed. Roof reinforcement shall address not only the weight of the air conditioner unit, but also the additional stress created by the continual vibration of the unit when in operation. Coach roof shall be adequately caulked and sealed from moisture and the environment in general around the area of the air conditioner installation.
- Body shall have street-side sedan driver's door with sliding window, vertically mounted assist bar and step.
- Body shall have one (1) swing out main entrance door, 28" x 76", on curb side. Door shall be double constructed aluminum with polystyrene foam insulation in the core with a fixed window 18" x 28", slam type latch and dead bolt lock. Black out curtain to be provided for entrance door window.
- Two (2) interior step wells at main entrance door. Each step tread shall be molded non-slip rubber tread material. The treads shall be securely fastened and silicone sealed at the edges. Each step riser shall be finished in Lonseal commercial vinyl.
- Main entrance door to have one (1) dual electric step, equipped with permanent magnet motor and control unit, door activated with ignition override. Steps to be equipped with power switch to allow steps to be locked in the down position when entrance door is open. Steps to be wired to engine battery, finished black with yellow stripe textured skid surface.
- Common key lock system for drivers door and main entrance door.
- All door locks are to be keyed alike.
- Full body width integrally molded rear bumper.
- Front bumper, integrally molded into front cap, steel reinforcement.
- Fiberglass, single panel, hinge down hood provides access for service, fluid checks and fill points.
- Mud flaps with anti-sail brackets on rear axle.
- Tinted laminated safety glass windshield mounted in steel with non-hardening sealants with driver and passenger sun visors.
- Windshield wiper motor and wiper arms mounted in steel. Wipers provided intermittent feature with single motor and pantograph arms.
- Exterior compartments, lighted, fully hinged with gas strut supports and a single paddle latch release.
- Daytime running lights shall be provided. Four (4) halogen front headlights to be included. Upper brake light to be provided located in the middle of the rear of the vehicle.

**4.0 PAINT**

- The final finishing of the vehicle shall be to commercial truck standards.
- All paint applications shall conform to the paint manufacturer's requirements and recommendations.

**5.0 INTERIOR**

- Bench seats to have sculptured backs and seats. Low-density foam shall be required to retain original shape in heavy-duty service. Cushioning materials, and coverings shall meet or exceed FMVSS-302.
- One (1) adjustable ergonomic office type chair to be provided at each workstation. Chairs shall be cloth upholstered, and have adjustable seat height and back supports. Chairs shall be secured in knee space area for travel by a strap or bungee cord. All chairs to have protective plastic edge on rear corners to prohibit damage from countertop edges.
- Finished ceiling to be sound absorbing, flame retardant, solution dyed polypropylene fiber material, 24 oz. minimum. Ceiling to be Class A rated per ASTM E-84.
- Walls and ceiling shall be insulated with polyurethane block foam sheet insulation bonded and routed to incorporate framework, gives ceiling "R" factor of 14.
- All bulkheads to be laminate finished, color matched.

**5.1 WALLS, CEILING, AND FLOOR**

- The entire body, sides, ends and roof including doors, shall be completely insulated to enhance the performance of the heating and cooling systems.
- The insulation shall be non-settling type, vermin-proof, mildew-proof, fire retardant, non-toxic and non-hygroscopic.
- Interior body side posts shall be covered with 3/4" plywood sub wall.
- Sub wall covered with Kemplite .090" FRP lining or equivalent. Wall covering is a continuous piece front to back, no seams.
- Interior roof supports shall be covered with 1/2" plywood.
- Ceiling shall be covered with Kemplite .090" FRP.
- All bulkheads shall be covered with Kemplite.
- 5/8" exterior grade plywood shall be installed for sub floor.
- Floor shall be covered with Lonseal Loncoin II Fleckstone, or equivalent, non-skid commercial grade PVC flooring.
- Flooring shall be a continuous piece from front to back.

5.2	<p><b><u>CABINETS</u></b></p> <ul style="list-style-type: none"> <li>· All cabinet doors to be constructed of 3/4" B/BB grade 9 ply Lite plywood with standard grade laminate finish on both sides. Plywood meets FSC, CARB and PEFC certifications.</li> <li>· No particle board or fiber board materials shall be used in cabinet construction.</li> <li>· All cabinet doors shall be finished with standard grade dry erase laminate.</li> <li>· All cabinet doors and drawer fronts to have brushed chrome finished hardware.</li> <li>· All exposed edges on cabinet doors and drawer fronts to be 3mm by 3/4" PVC edgebanding with a radius on the top and bottom edge to prevent chipping.</li> <li>· All cabinet doors to be screwed, no staples. Glue shall be a Crosslinked polyvinyl acetate emulsion adhesive. Glue complies with the VOC limits of California's South Coast Air Quality Management Districts Rule 1168. Glue is compliant with the adhesive requirements for both the United State's and Canada's Green Globes Program and the U.S. Green Building Council's LEED Program.</li> <li>· All laminate to be bonded to plywood using a hot press method cured at 230 degrees Fahrenheit under a minimum of 3000 pounds per square inch to insure the best adhesion in the industry.</li> <li>· Shelves are to be constructed of 3/4" B/BB grade 9 ply Lite plywood with no voids on sides and have extruded aluminum front lip.</li> <li>· All shelving is to be adjustable on 32 mm increments using zinc-plated steel shelf pins.</li> <li>· All horizontally hinged overhead cabinet doors to be held open with an Engineered lifter system including integral damping and a soft close feature.</li> <li>· Countertops to be 3/4" B/BB grade 9 ply Lite plywood with laminate finish. All exposed edges to be 3mm by 1-1/2" PVC edgebanding with a radius on the top and bottom edge to prevent chipping.</li> </ul>
6.0	<p><b><u>120/240V AC ELECTRICAL SYSTEM</u></b></p> <ul style="list-style-type: none"> <li>· Chassis OEM furnished electrical system interfaces shall be utilized to the maximum extent possible.</li> <li>· Separate 120V AC and 12V DC circuit breaker and control panels shall be provided and located in an area with the generator control panel.</li> <li>· Install one (1) 12.0 Kw liquid-cooled diesel powered generator.</li> <li>· Generator compartment is to be insulated with high density sound absorbing foam and oil resistant foil faced lining.</li> <li>· Generator shall be plumbed to draw fuel from chassis fuel tank.</li> <li>· All 120/240V AC main wiring to be stranded, bundled, and color coded THHN wire.</li> <li>· All 120/240V wiring shall be accessible in ENT conduit, raceways or Sealtite.</li> <li>· One (1) 120/240V AC control panel with generator and shore power main breaker shall be installed. UL listed magnetic/hydraulic branch circuit breakers with LED indicators to show activation.</li> <li>· Install duplex wall outlets at workstation and appliance locations.</li> <li>· Two (2) exterior 120V duplex outlets shall be furnished, one on each side.</li> <li>· Install three (3) 13,500 BTU air conditioners with 5,600 BTU heat strips.</li> <li>· All electrical circuits and appliances shall conform to applicable national electrical codes.</li> </ul>
6.1	<p><b><u>12V DC ELECTRICAL SYSTEM</u></b></p> <ul style="list-style-type: none"> <li>· In addition to the chassis battery, two (2) deep-cycle batteries shall be provided. Batteries shall be stored in underfloor water resistant compartment.</li> <li>· All 12V wiring shall be THHN stranded, bundled, color-coded and numbered.</li> <li>· One (1) commercial duty fan cooled power converters, 90 amp output, Iota or equal shall be installed. The converters shall have a minimum of 90-amp 12V output and shall supply power to both the vehicle and auxiliary 12V DC systems whenever 120V AC power is available.</li> <li>· Install one (1) automatic battery isolator to allow alternator to charge the chassis and auxiliary batteries.</li> <li>· 12V DC control panel to be UL listed with magnetic/hydraulic circuit breakers, LED indicators and 12V voltmeter.</li> <li>· Install white LED light fixtures on ceiling.</li> <li>· Install white/red LED lights at each workstation, mounted under the overhead cabinets.</li> </ul>
6.2	<p><b><u>WIRING REQUIREMENTS</u></b></p> <ul style="list-style-type: none"> <li>· 6-gauge minimum copper stranded battery cable to be used for 12V DC main supply lines. All cable runs to be full length, no splices. All cable is to be enclosed in convoluted polyethylene tubing and the ends of the cable sealed with color coded shrink wrap.</li> <li>· All added electrical circuits shall be protected from over current by resettable circuit breakers appropriately rated for the load.</li> <li>· Circuit breaker functions are to be identified by engraved or printed labels.</li> <li>· All added wiring for load runs shall be AWG 8, 10, 12, 14 and 18 and must conform to MIL-W-1678D type D.</li> <li>· All wiring shall be numbered or lettered on 6" centers minimum.</li> <li>· All wiring is to be protected from chafing and abrasion.</li> <li>· Where wire passes through sheet metal, bulkheads and structural supports, plastic grommets shall be used to protect both wiring and wire looms.</li> </ul>
7.0	<p><b><u>MISCELLANEOUS FEATURES</u></b></p> <ul style="list-style-type: none"> <li>· Install automatic hydraulic leveling system, sized for GVW of vehicle.</li> <li>· Rearview camera system with exterior microphone and monitor custom built into dashboard, to be provided for backing up the vehicle. Monitor is 7" diagonally and automatically turns on when vehicle gear lever is shifted into reverse.</li> <li>· Roof access ladder, aluminum construction, to be securely anchored to rear of vehicle.</li> <li>· Install master disconnect switches for chassis and auxiliary battery systems.</li> <li>· One (1) Marinco 50A-125/250V AC waterproof shore power inlet, one (1) 36' 50 amp shore power cord with Nema 14P50 connector, 6' 50A pigtail and 50A-to-30A-to-15A adapters to be provided.</li> </ul>

- One (1) 9V smoke alarm, ceiling mounted to be installed.
- One (1) 5-pound dry chemical fire extinguisher to be provided near exit.
- Install sign on dashboard with vehicle height listed.
- Install a payload sticker in cab area with vehicle axle loads and available axle payload as built.

**NOTE: Model numbers for individual equipment are subject to change from equipment manufacturers. Chassis specifications are subject to model year changes.**

**All vehicles delivered with as built interior and exterior AutoCAD drawings. Complete wiring schematics provided with each vehicle.**