



“ANGEL”

Mobile Hospital with Surgery
and 11-Bed Ward

Print #3245

<u>Approximate Interior Dimensions</u>	
Length	39' 6" (12.04M)
Width	7' 6" (2.29M)
Height	7' 4" (2.24M)

1. TRAILER AND BODY CONSTRUCTION:

- A. Trailer shall be a closed van, semi-trailer type, having a tandem axle and equipped with air suspension.
- B. Wheels shall be equipped with 11R22.5 (14 ply) steel belted radial tires.
- C. Dual, 2-speed, vertical lift, front trailer supports with sand pads, lowering mechanisms, and locking device, allowing no movement of the supports once in place, shall be provided as standard equipment. The lift mechanism shall allow the trailer to be raised above the horizontal position.
- D. There shall be sufficient “I” beam crossmembers and other reinforcement pieces to insure that the trailer has adequate strength and rigidity to withstand all road shocks and loading conditions. All chassis fabrication is to be of the highest quality workmanship, assuring extreme durability.
- E. Trailer brakes shall be 16-1/2 by 7-inch, air-operated in conjunction with the tractor brakes, and connected thereto by standard flexible hose connections. The trailer brakes shall set automatically when it is disconnected from the tractor. The braking system shall comply with all applicable federal laws in effect at the time of delivery.
- F. The upper fifth wheel coupler of the trailer shall be of such a size as to completely cover the fifth wheel of the towing tractor when coupled and turned at any angle. The upper fifth wheel coupler shall be adequately reinforced on its upper surface.

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1. TRAILER AND BODY CONSTRUCTION: Continued

- G. The trailer shall be equipped with a full width, steel rear bumper. The body shall have reflective stripes to give an indication of the width of the trailer. The trailer shall be furnished with mud flaps.
- H. General body wall construction shall consist of roll-formed “C” channels, 8.625 inch high by 1.75 inch deep, 3003-H14 aluminum alloy, .080 inch thick. The channels shall run horizontally the entire length and width of the unit and shall be secured to aluminum corner posts, roof rail and lower rail using 3/16-inch brazier head aluminum rivets. Finished exterior body surfaces shall be smooth with no rivets.
- I. The roll-formed “C” channels shall comprise the exterior body sides and end panels. The channels shall be fastened together along their full length with Plexus, or equal, high-performance adhesive specially designed for metal bonding (same as widely used in transportation, marine, and aviation industries). The bond formed has a tensile strength of approximately 2,500 PSI (strain-to-failure ration greater than most commercial mechanical fasteners); temperature resistance range of -67° F to +250° F; chemical resistance; high-fatigue endurance; and impact resistance.
- J. Each wall section shall be reinforced with vertical aluminum members, which are welded on a minimum of 48-inch centers.
- K. The roof carlines shall be aluminum extrusions, 6063-T6 alloy, which shall be welded to the roof rail on 16-inch centers. The roof assembly shall consist of a one-piece, .040-inch aluminum roof. Roof panel to be secured around perimeter with adhesive and 3/16-inch brazier head aluminum rivets to aluminum extruded roof rail.
- L. All window and door openings shall be framed with welded aluminum structures and gusseted to prevent torsional twisting. Heavy-gauge metal tapping plates shall be installed between frame members to secure heavy wall-mounted equipment as per custom body floor plan. Around perimeter of interior body at ceiling, an integral part of roof rail is provided to secure ceiling, side panels and overhead cabinets. At ceiling, there shall be installed tapping plates to permit positive securing of light fixtures.
- M. Floor crossmembers shall be 4-inch deep trailer “T” beams spaced on 16-inch centers.

2. INSULATION:

Body shall be insulated on sides, ends, floor and ceiling with foamed-in-place urethane. Insulation offers optimum environmental protection; adds support to sides, ends and roof; prevents entrance of moisture; and acts as a sound retardant. (Minimum: R-12).

3. WALLS AND CEILING:

- A. The interior walls shall be lined for full width and length with 1/4-inch thick laminated formica panels. Panels shall be secured with joiners, edgings and moldings specifically designed for this purpose.
- B. Ceiling shall be surfaced with NUDO Products, FiberCorr, or equal, ceiling panels, consisting of .090-inch FRP overlay laminated to a corrugated plastic core.

4. FLOOR:

- A. Between cross sills, secure 26-gauge galvanized sheet to fully enclose floor area. Above cross sills, secure 3/4-inch thick plywood which is laminated on both sides with fiberglass-reinforced-plastic panels. The panel edges to be treated with edge-sealer for water resistance. Underside of floor panels exposed to road shall be sprayed with Quaker Koat, or equal, sound-deadening undercoating.
- B. Floor shall be surfaced with Armstrong, or equal, heavy-duty cushioned vinyl linoleum.

5. PAINING PROCEDURES:

- A. Body exterior shall be thoroughly cleaned, sanded and primed with PPG urethane primer. Body shall be painted with two (2) coats of PPG polyurethane topcoat, one color of buyer’s choice.
- B. Steel structural trailer chassis undercarriage shall be painted black.
- C. Body shall be undercoated with Quaker Koat, or equal.

6. ENTRANCE/EXIT DOOR(S):

- A. Doors shall be corrosion-immune, constructed of fiberglass-reinforced plastic (FRP) with solid polymer reinforcement. Shall be insulated with structural urethane and close on dust-sealing neoprene extrusions. Door(s) shall include safety-glass window with designer venetian blinds. Door latch shall be a heavy-duty, L-series mortise latch with keyed deadbolt lock meeting ANSI A156.13 requirements. Hinges shall be stainless steel, strap type. Suitable safety steps and grab handles shall be installed at door locations.
- B. One (1) emergency exit door in Surgical Room to be provided.
- C. One (1) main entrance/exit door to be provided. One (1) double-opening door for use during transit. One (1) sliding door for use during operation mode to reduce loss of heat and/or air conditioning during stretcher loading/unloading.

7. PLATFORMS AND STAIRWAYS:

There shall be provided at curbside entrance/exit door(s) an aluminum safety-tread platform. Platform shall be secured in extended position with removable legs directly to ground. Provide lightweight portable stairs equipped with 6-inch adjustable neoprene feet. Provide removable safety rails at platforms and stairs.

8. WINDOWS:

Install Hehr, or equal, sliding safety-glass windows with insect screens within body sides. All windows shall be equipped with designer venetian blinds of appropriate color to complement interior décor.

9. ELECTRICAL SYSTEM:

Unit shall be wired to receive 4-wire, 120/240-volt, 60-Hertz, AC, single-phase, 100-amp power from generator or local power source via lead-in cable. Necessary wiring shall be provided for operation of 120/240-volt equipment where indicated.

10. WIRING:

- A. All trailer wiring shall be NEC standard conduit with stranded wire or plastic jacketed, non-metallic sheathed cable with ground. Wiring and related devices shall be installed in a workmanlike manner, mechanically and electrically secure. Items requiring periodic service shall be readily accessible and serviceable. Wiring shall be protected by grommets when passing through structural members.
- B. Circuit breakers panel(s) of adequate capacity shall be installed at appropriate locations within body and shall include:
 - 1. Individual 120-volt circuits for utility equipment, lights, air conditioning and receptacles.
 - 2. 240-volt for electric heating units.
- C. Duplex receptacles shall be provided in convenient locations within body interior to conform to National Electric Code.
- D. Provide 50-foot, 4-wire lead-in cable with waterproof receptacle on one end and alligator clips on other end for connection to 120/240-volt power source. Cable shall be sized to unit capacity.

11. LIGHTING:

- A. Fluorescent lights in standard 1-, 2-, or 4-tube fixtures shall be surface-mounted on interior body ceiling within plastic diffuser panels or beneath cabinets above work surfaces. Diffusers shall be equipped with latching device to prevent falling in transit.
- B. 12-volt dome lights shall be provided at each door entrance and within exterior body compartments.
- C. Install a floodlight on unit exterior at each door entrance. Floodlight shall be controlled by interior switch.

12. GENERATOR/GENERATOR COMPARTMENT: (Diesel Generator)
- A. Compartment shall be accessible from the rear via hinged, louvered doors equipped with flush-mounted locks and holders in open position. Expanded metal grilles shall be installed at curb and street sides. Hinged panels shall be provided over the grille areas.
 - B. Compartment shall be separated from remainder of trailer by floor-to-ceiling, insulated partition. Partition shall be framed with aluminum members and surfaced on the generator side with aluminum sheet.
 - C. Provide a 30 kilowatt Detroit Diesel, or equal, 120/240-volt, 60 Hertz, single-phase, 4-wire, liquid-cooled diesel generator. Generator shall be shock-mounted and equipped with remote controls, starting battery, critical area silencer, AC instrument package, and air cleaner. Generator shall be installed for easy servicing, proper heat and exhaust dissipation, and connected to installed tank for fuel supply
 - D. Generator shall be hard-wired to a three-position, manual transfer switch to change power input from generator to local power source, if available.
 - E. Flexible, stainless steel, seamless tubing shall be installed between the generator manifold and the inlet of the critical area silencer.
 - F. A remote start/stop switch shall be installed. The power shall be fed from the transfer switch through a 100-amp circuit breaker box. One (1) 12-volt dome light shall be installed in the ceiling of the compartment.
 - G. A 100-gallon fuel tank, with gauge, shall be installed within trailer skirt.
 - H. Inside of generator compartment shall be lined with TUF-COTE, or equal, noise barrier material.
 - I. Install a remote meter panel to include AC ammeter, meter switch, voltmeter, and frequency meter.

12. AIR CONDITIONING/HEATING:

- A. Install five (5) Coleman, or equal, roof-mounted air conditioners with electric resistance heat strip within reinforced roof section. Units shall be rated at 13,500 BTU cooling and 5,600 BTU heating; 120-volt.
- B. Due to the critical nature of proper environmental control in field surgical units, five (5) roof-mounted air conditioning/heating units shall be utilized: two (2) in surgical area, one (1) in nurse/receiving area, and two (2) in Pre-Op/Post-Op area. Air conditioning capacity is approximately fifty percent (50%) greater than necessary. Each air conditioning unit operates independently allowing for alternates to function should one unit fail and need repair.

14. PLUMBING:

- A. The plumbing system shall be designed to receive water directly from local sources or from the installed tank. Plumbing fixtures, devices and appurtenances shall be supplied with water in sufficient volume and at pressures adequate to enable them to function satisfactorily and without undue noise. All water piping shall be subjected to adequate water and pressure tests to determine leakage or loss in pressure.
- B. The plumbing system shall include:
 - 1. One (1) 40-gallon fresh water tank,
 - 2. One (1) 50-gallon wastewater tank with hose connection,
 - 3. One (1) Flojet, or equal, 120-volt heavy-duty water pump,
 - 4. One (1) 10-gallon electric water heater.
- C. The fresh water tank shall be installed within an insulated underbody skirt compartment accessible through a hinged door with flush-mounted lock and holding device for door in open position. Compartment shall be provided with electric heater for winter protection against freezing.
- D. Fresh water tank shall be connected to water heater and water faucet at sink by high pressure, polybutylene tubing.
- E. Plumbing system shall be equipped with check valves in accordance with approved commercial practice.
- F. Provide one (1) 50-foot water hose and one (1) wastewater hose. Hoses to be different sizes to prevent intermix.
- G. Install a dispenser for folding paper towels at each sink location.
- H. Waste water shall drain to waste tank or hose connection through corrosion-resistant PVC tubing.
- I. Unit shall be equipped with a water pressure regulator and removable filter trap at water inlet.

15. INTERIOR FURNISHINGS:

A. Surgical Operating Room:

1. Accessible through double-swinging doors equipped with locking device on both sides. Doors shall be equipped with an aluminum kick-scuff plate on both sides at bottom. Aluminum, stainless steel, or chrome hand push plates shall be provided in the upper section of each swing door on both sides.
2. Floor to be anti-static linoleum or tile.
3. One (1) surgical operating table to be all stainless steel with rectangular base, casters for movement and mechanical floor jacks for immobilization, fully hydraulic operated, with arm boards and foot extension. Positions include Trendelenberg, Reverse Trendelenberg, chair, flex, lithotomy, and table. Easily cleaned. Shampaine Surgi-Op 511, or equal, with accessory pack (arm board, leg holders, crutch sockets, anesthesia screen, and foot extension). Table height adjusts from 28-inches to 39-inches.
4. Provide one (1) operating light and one (1) emergency lighting system in case of power failure.
5. Build stainless steel scrub-up sinks within formica surfaced work counter. Shall include hot and cold water mixing faucet energized by foot pedals. Storage cabinet above. Includes soap and scrub brush dispensers.
6. Provide and secure a Harris, or equal, double bowl stainless steel solution stand. Stand mounted on 2-inch conductive soft rubber easy-swivel ball-bearing casters.
7. Provide and secure one (1) Jackson, or equal, kick bucket with a 12-quart stainless steel pail encircled with a conductive rubber bumper. Mounted on ball-bearing conductive rubber casters.
8. Provide and secure an anesthesia system which includes two-gas anesthesia machine with ventilator; absorber; Halothane vaporizer; and gas scavenger. Ventilator includes oxygen, volume, and pressure monitor. Two (2) each “D” size oxygen and nitrous oxide cylinders, shall be provided. FOR USE WITH NON-FLAMMABLE GASES ONLY. SURGICAL ROOM IS NOT EXPLOSION-PROOF.
9. Provide one (1) UMF 2218-5, or equal, lockable drug and supply cabinet with drawers, shelf storage and counter top.
10. Provide and secure a stainless steel Mayo stand and I.V. pole.

15. INTERIOR FURNISHINGS: Continued
- A. Surgical Operating Room: Continued
11. Provide and secure a Wilson, or equal, stainless steel crash cart. Includes three (3) full-width drawers, nylon rollers, and full-width storage compartment at bottom. Includes stainless steel Mayo attachment, double-hook irrigator rod, adhesive rack, cardiac pressboard, oxygen tank holder, and conductive casters.
12. Oxygen delivery system to include oxygen tank, regulator, gauges, hoses, masks, humidifier, resuscitator, inhalator, and flowmeter. Three (3) 6,000 liter each cylinders installed in under-floor compartment piped to two (2) hospital outlets in surgical room. Includes remote gauge for contents monitoring.
13. Within curbside wall install emergency door to permit removal of stretchers in an emergency.
14. Provide one (1) ARTEMA, Cardio-Aid 100, or equal, defibrillator mounted on shelf. Features include: high intensity display, heart rate read-out, energy selector, lighted indicators, acoustic indications, manual/synchronized selector, ECG screen, ECG input, safety paddles, charging for 360 joules/6 seconds, coiled cables, discharge tester, paper recorder, charger, battery, ECG/telemetry output, and automatic screen freeze control.
15. Wall mount one (1) double x-ray film viewer.
16. Provide Min-X-Ray, H500, portable x-ray unit complete with cone and adjustable light beam collimator.
17. Provide portable surgical suction unit with wheeled cart, collection bottles, catheters, and compressor.
18. Provide one (1) wall-mounted stop clock; one (1) blood pressure apparatus; collection jars; and one (1) oto/ophthalmoscope.

15. INTERIOR FURNISHINGS: Continued

B. Darkroom:

1. Shall be fully enclosed by floor-to-ceiling partition. Accessible through hinged light-tight door with light-tight louver in lower section.
2. Build in formica surfaced counter for mounting of automatic x-ray film developer.
3. Wall-mounted safe-light.
4. Install darkroom light-proof vent-axia fan in streetside wall.
5. Provide one (1) film storage cabinet.
6. Provide one (1) compact tabletop automatic film processor. Can process up to sixty (60) 14-inch by 17-inch films/hour. Water consumption one-half gallon per minute in operational mode (1.9 liters per minute). Water temperature range 40 degrees to 90 degrees F (6 degrees to –32 degrees C).
7. Provide one (1) wall-mounted x-ray viewer.

C. Nurses Station:

1. Provide stainless steel sink with foot controls, hot and cold water mixing faucet, formica counter, and storage above.
2. Provide full-height medical supply cabinet with lockable narcotics section, multiple shelf and drawer storage.
3. Provide fold-up writing desk.
4. Provide one (1) 102-unit first aid kit (list attached).
5. Provide one (1) Doctor’s Drug Administration Kit.

15. INTERIOR FURNISHINGS: Continued

D. Laboratory Area:

1. Provide formica surfaced laboratory counter with storage below.
2. Install underneath counter one (1) Jewett Model CT-1, or equal, blood bank refrigerator. Includes visual chart temperature recorder and audible alarm. Capacity sixty (60) 450 m. bags.
3. Provide one (1) MDT Castle, GLS-10V, or equal, tabletop steam sterilizer.
4. Provide one (1) Fisher, Micromaster EH, or equal, binocular lab microscope with glass slides and slide covers.
5. Provide one (1) clinical centrifuge.
6. Provide one (1) small portable Bunsen burner with five (5) spare bottles and one (1) stand.
7. Provide glassware to include test tubes, centrifuge tubes, beakers, and pipettes.
8. Provide one (1) lab balance.
9. Provide one (1) serological water bath.

E. Toilet/Shower Room:

1. Fully enclosed with waterproof partitions and door.
2. Chemical flush toilet with holding tank and dump valve, plus hose.
3. Provide wall vent – power with cover.
4. Provide wall-mounted shower head with hot and cold mixing valve.
5. Provide toilet paper dispenser with waterproof cover.
6. Provide soap tray.

15. INTERIOR FURNISHINGS: Continued

F. Pre-Operation/Post-Operation 11-Bed Ward Area:

1. Provide four (4) Ferno Model 30, or equal, wheeled all-level cots. Includes 3-inch mattress, contour and Trendelenburg features, wheels, handles, and wall mount.
2. Above each of the three (3) wall cots shall be mounted two (2) Ferno Model 108-AF folding canvas pole-type stretchers. Shall be placed on hinged wall-mounted brackets. Total six (6) stretchers.
3. Above one (1) rear-mounted cot shall be installed one (1) Ferno Model 108-AF folding canvas pole stretcher.
4. Above each of four (4) wheeled cots shall be installed one (1) hospital oxygen outlet and one (1) hospital suction outlet. Includes four (4) each flowmeters, humidifiers, masks, suction jars, gauges, and catheters. Also install four (4) hinged wall-mounted I.V. bottle holders.

16. MISCELLANEOUS:

- A. Two (2) 25,000-pound minimum capacity, geared leveling jacks with sand pads shall be attached to the main structural members at trailer rear. Jacks shall be designed to limit natural vibration during stationary service and to level the trailer unit.
- B. Two (2) 2-1/2 pound dry chemical fire extinguishers shall be bracketed and installed within body interior.
- C. A series of underbody storage compartments shall be provided. Accessible through hinged doors with holding devices and flush-mounted chromed locks.
- D. Install coat hooks at convenient locations within body interior.
- E. Provision shall be made for securing all equipment during operational transit.
- F. Two (2) copies of Medical Coaches' Operator's Manual shall be provided. Shall include one (1) set of supporting manuals covering supplied items such as chassis, generator, air conditioner, etc., if supplied.
- G. Install an access port within the compartment or compartment door of every generator, electrical cable and plumbing compartment allowing the lead-in cable and hoses to be connected to the unit with the main compartment doors closed and locked.
- H. Install sight levels at body side and rear to aid in leveling unit.
- I. Provide battery-powered emergency light in each room that can be activated in case of power shortage.
- J. Provide three (3) portable oxygen resuscitators with two (2) cylinders, case, gauges, masks, hoses, and demand valves.
- K. Provide portable air purifier for surgical room and Pre/Post-operation areas.
- L. Provide one (1) spare Ferno Model 108-AF folding canvas stretcher.
- M. Provide four (4) portable flashlights in case of power failure.

17. BODY EQUIPMENT:

All vehicle lights, reflectors, markings and wiring systems shall be in conformance with D.O.T. Safety Regulations and State laws. The system shall be 12-volt. Lights shall not be mounted on rub rails or vehicle bumper. An illuminated rear license plate holder shall be furnished. Exterior lights shall be LED.

18. SPECIAL REQUIREMENTS:

- A. Details concerning colors, exterior painting, and lettering, etc., plus delivery of completed unit to be arranged at a later date in accordance with buyer’s wishes.
- B. Due to variances in State and Local regulations, there may be some additional options required for individual compliance. If compliance necessitates extra-cost options, they will be quoted separately as necessary.

19. LIMITED WARRANTY:

Medical Coaches Incorporated offers a limited warranty on the mobile unit for twelve (12) months or 12,000 miles. The warranty includes all equipment supplied by Medical Coaches except those items which are covered by a separate warranty.

A detailed warranty statement shall be provided upon purchase or upon request.

OPTIONAL ITEMS :

CHECK IF
DESIRED:

- A. Lettering exterior body at sides, front and rear to buyer’s order (Special artwork and emblems at extra cost.)
- B. Paint body two-tone instead of standard one color
- C. Install a BRAUN, or equal, hydraulic wheelchair lift within vehicle
- D. Spare tire, tube, wheel with under-slung carrier
- E. Unit to be wired for 50-Hertz service (Export Only):
 - 1. Generator to be de-rated to produce 220-volt, 50-Hertz, AC, 2-wire power. Includes grounding rod with chain. All electrical equipment within body to be equipped for 50-Hertz service
 - 2. If any 110-volt equipment is to be installed, provide a 3,000-watt step-down transformer and connections to 110-volt receptacles
- F. Lead-in Cable: Basic unit is equipped with a 50-foot lead-in cable. Provide an additional 50-foot cable with waterproof connectors at both ends to provide 100-foot lead-in cable between unit and local power supply
- G. In order to permit the use of local power at specified locations, provide a waterproof receptacle with cover and back box for installation in building
- H. Provide a 5-foot pigtail with connector on one end and alligator clips on the other end, for use in locations where no installed receptacle is available, if “G” above is provided
- I. If option “H” above is provided, install matching 100 amp, reverse-service, waterproof connector on end of lead-in cable in place of alligator clips
- J. In-Transit Power: Install an auxiliary 6.5-kilowatt, 120/240-volt generator within an insulated compartment. Generator shall provide electrical power to operate refrigerator, lights, and one (1) heater in-transit. Generator shall include vacuum cooling, low oil pressure cut-off, starting battery, critical area silencer and running time meter. Compartment shall include hinged doors equipped with flush-mounted lock and ventilating grilles. Generator shall be connected to installed 20-gallon fuel tank
- K. Install master intercom system throughout mobile unit
- L. Provide a stereo AM/FM radio/compact disc player connected to overhead speaker system. Includes body-mounted antenna
- M. 35-item tool kit contained in metal carrying case

- N. 24-unit first aid kit with all necessary bandages, antiseptics and burn ointments contained in a steel box
- O. Trauma Kit II, trauma/first aid kit, approximately 100 items. (List available upon request.)
- P. Towing Tractor: As per attached specification. Price upon request