

MIL-M-81957/3A(AS)
18 June 1982
 SUPERSEDING
 MIL-M-81957/3(AS)
 5 September 1974

MILITARY SPECIFICATION SHEET

MOBILE FACILITY, SHELTER, INSTRUMENTATION AND CONTROL, TURBO JET/FAN ENGINE TEST SYSTEM

This specification has been approved by the Naval Air Systems Command, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the Mobile Facility described herein shall consist of this document and the issue in effect of MIL-M-81957(AS).

REQUIREMENTS

Size. The required dimensions of the mobile facility shall be as follows:

	Internal	External
Length	232 (+1.0; -0) inches	238 (+0; -1/4) inches
Width	89.812 (+1.5; -0) inches	96 (+0; -3/16) inches
Height	85.500 (+1.5; -0) inches	96 (+0; -3/16) inches

Weight ratings.

Tare weight. Tare weight of the mobile facility shall not be greater than 4,400 pounds.

Maximum payload. The mobile facility shall be designed and constructed to operate with a payload of not greater than 15,600 pounds.

Design gross weight (R). The design gross weight (tare weight plus maximum payload) on which the structural design and testing are based shall be 20,000 pounds except that 44,800 pounds shall cover the stacking requirements.

Design load factors. The design load factors shall be in accordance with American National Standard Institute (ANSI) MH 5.1, except that all factors for Air-rotary wing shall be deleted.

Doors. Two personnel doors shall be provided. One door shall be located in the center of the end panel and one located as shown in Figure 1. The doors shall be 76 inches high, 48 inches wide. They shall not be more than 3/16-inch from the floor.

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Door hinges. The door hinges shall be located on the right hand side when facing the doors from the outside. The doors shall open to the outside.

Safety glass. One door shall contain a 12" x 12" x 1/4" piece of safety glass (see Figure 1).

Safety glass cover. The inside of the door shall be equipped with a hinged metal cover capable of closing off all light coming through the window. The hinge shall be on the bottom of the cover.

Observation window. An observation window shall be provided as shown in Figure 1. The observation window assembly shall consist of two panes of safety glass. One pane shall be 5/16-inch thick and the other 1/4-inch thick. The height and length shall be as specified in Figure 1. The two panes shall be separated by a 1/2-inch air space which will be acoustically sealed and demisterized to prevent fogging. The 5/16-inch window shall be laminated security glass in accordance with MIL-G-3787, Class I, Type 1. The window assembly shall be mounted to permit expansion and contraction of the glass while maintaining a vapor tight seal between the glass and the frame.

Butting kit. When specified the mobile facility shall be equipped with a butting kit. The kit shall connect the mobile facility to a separate building. The connection shall be waterproof and light proof. It shall be 18 inches long. The kit shall consist of two metal frames attached to a waterproof nylon cloth conforming to MIL-C-20696, Type III, Class 3. The color of the cloth shall be black. The metal frames shall contain holes that will interface with the 18 butting kit interface holes shown on Naval Air Systems Command drawing 604AS119. The holes shall contain captured thumb screws (1/4-20) with heads large enough to be actuated by personnel wearing arctic type gloves.

Butting kit interface. To permit interfacing of the butting kit with the observation window, eighteen blind rivets in accordance with MS27130 (1/4-20 UNC-3B) shall be attached to the mobile facility. The rivets shall be located symmetrically around the observation window. The spacing of the eighteen rivets shall be identical to the butting interface holes specified in Naval Air Systems Command drawing 604AS119.

Stuffing box. An opening for the stuffing box panel shall be provided in accordance with Figure 1 and Figure 4.

Air conditioning system interface. Openings shall be provided for the air conditioner in accordance with Figure 1, Figure 2 and Naval Air Systems Command drawing 1338AS111.

Power panel. An opening for an electrical power panel shall be provided in accordance with Figure 1 and Figure 3.

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Protective finish. The mobile facility shall be given protective finish in accordance with MIL-STD-808. This includes hardware such as handles, hinges, screws, etc., and the necessary touchup after mounting. The type of finish shall be as follows:

Exterior - F304DG - Type I
 Ceiling - F304XL Type II
 Walls - F304WL Type II
 Floor - F304QL - Type II

Acoustical requirements. When subjected to the acoustical absorption test specified in ASTM C423, and being exposed to the noise levels specified in Table I, the sound pressure level within the enclosure shall not be greater than the levels specified in Table II.

Table I. Noise levels.

Octave Band Center Frequency	63	125	250	500	1000	2000	4000	8000
SPL in dB re 0.0002 dynes/cm ²	110	115	120	122	120	116	118	110

Table II. Noise levels.

Octave Band Center Frequency	63	125	250	500	1000	2000	4000	8000
SPL in dB re 0.0002 dynes/cm ²	79	73	68	64	62	60	58	57

Construction. Shelter panels (ends, roof, walls, floor and doors) shall be constructed with a double-skin metallic material bonded to a core material constructed to meet all the requirements of MIL-M-81957(AS).

Skids. Three (3) removable skids, three inches in height and three inches wide, shall be provided on the underside of the mobile facility and located in accordance with Figure 5. The two outer skids shall each be equipped with four floating (1/4-inch) stainless steel, 5/8-11 UNC, captivated nuts located as shown in Figure 5. Both ends of each skid shall be welded closed. The skids shall be capable of supporting the design gross weight of the mobile facility and shall meet the interchangeability requirements of MIL-M-81957(AS). The overall height of the mobile facility, specified in ANSI MH 5.4, will be increased by three inches when the skids are installed.

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Jacks. Four removable corner jacks shall be provided by the contractor for each unit. The design selected for the jack must have a positive lock, no-slip construction, ratchet gear drive (chain type jack head is not acceptable) with a lifting capacity of 5000 pounds. The jacks shall be constructed of high-grade, lightweight, corrosion and rust-resistant materials and shall be capable of lifting a unit whose gross weight is 20,000 pounds not less than 52 inches. The jacks shall be attached directly to the corner posts without the use of separate jack retaining pads. The interface between the jacks and the unit shall be designed so that the weight of the unit shall be supported by the jack body and not dependent on the shearing strength of the attaching bolts. All tapped holes in the unit for the mounting bolts shall be rustproof.

Identification of product. In lieu of the identification specified in MIL-M-81957(AS) the mobile facility shall be marked in accordance with Naval Air Systems Command drawing 604AS987.

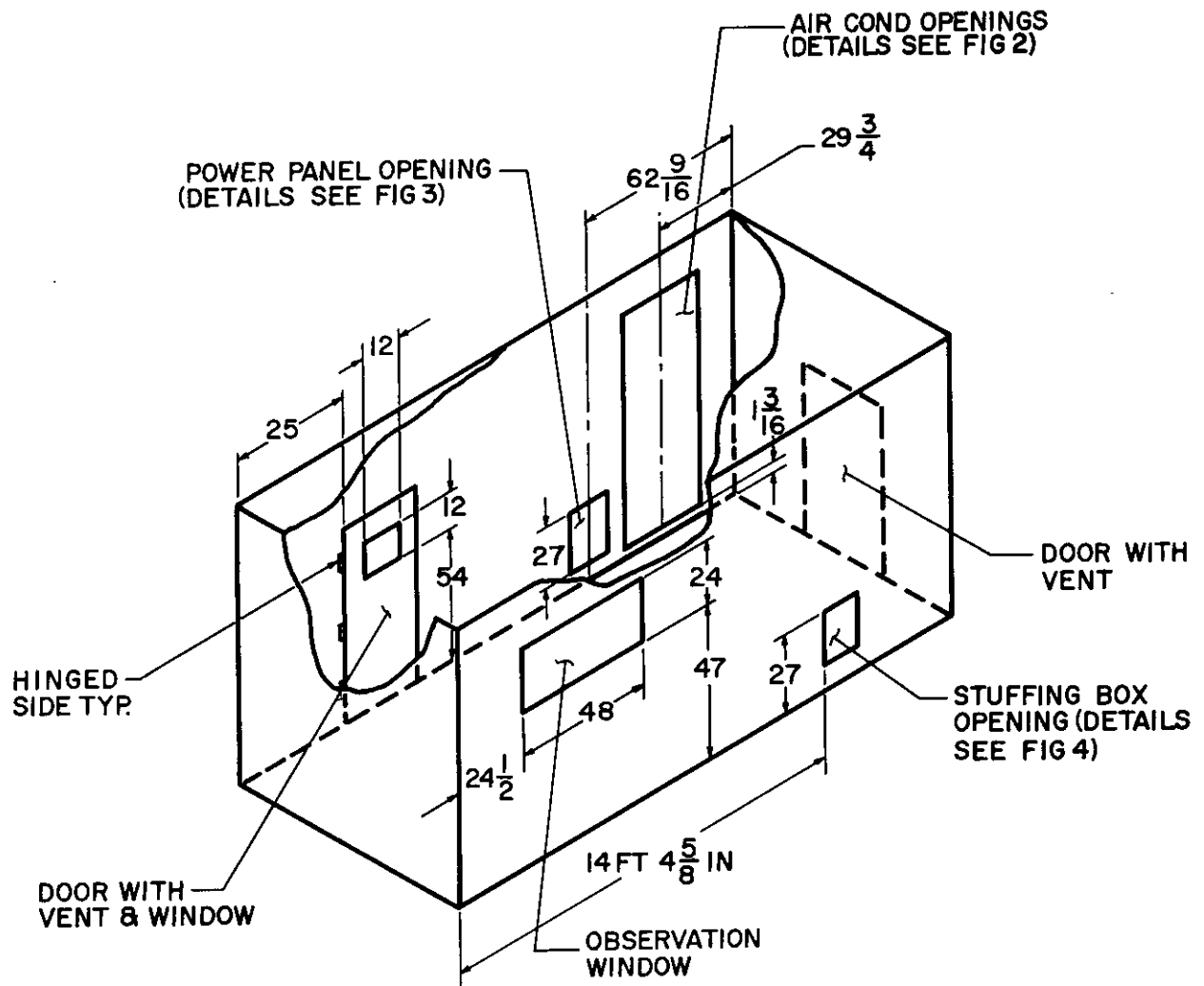
Location. The identification plate shall be located to the left of the air conditioner openings (see figure 1) at a height of 60 inches from the bottom of the mobile facility.

QUALITY ASSURANCE

Skid bearing test. The mobile facility, loaded to the design gross weight, shall be balanced on a two inch pipe located anywhere along the three skids. The skids shall experience no fractures or ruptures and no permanent deformation beyond 1/4-inch shall be permitted as a result of this test.

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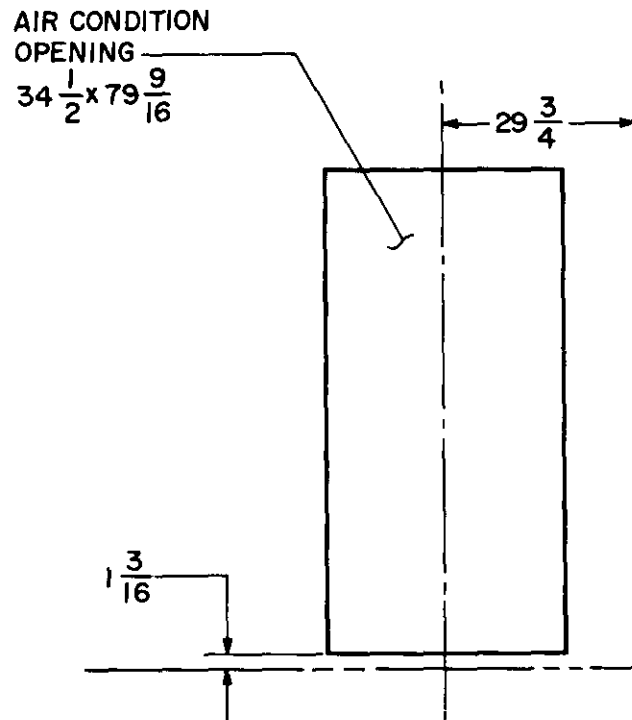
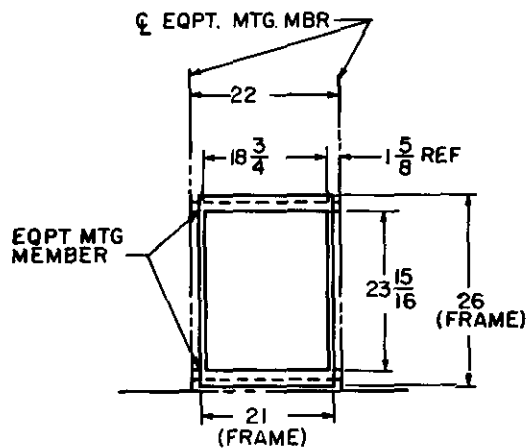
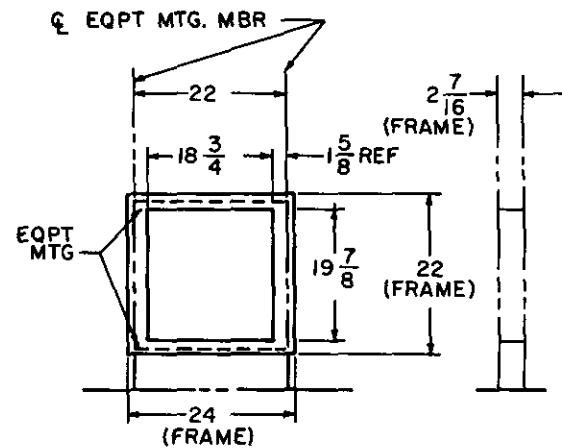
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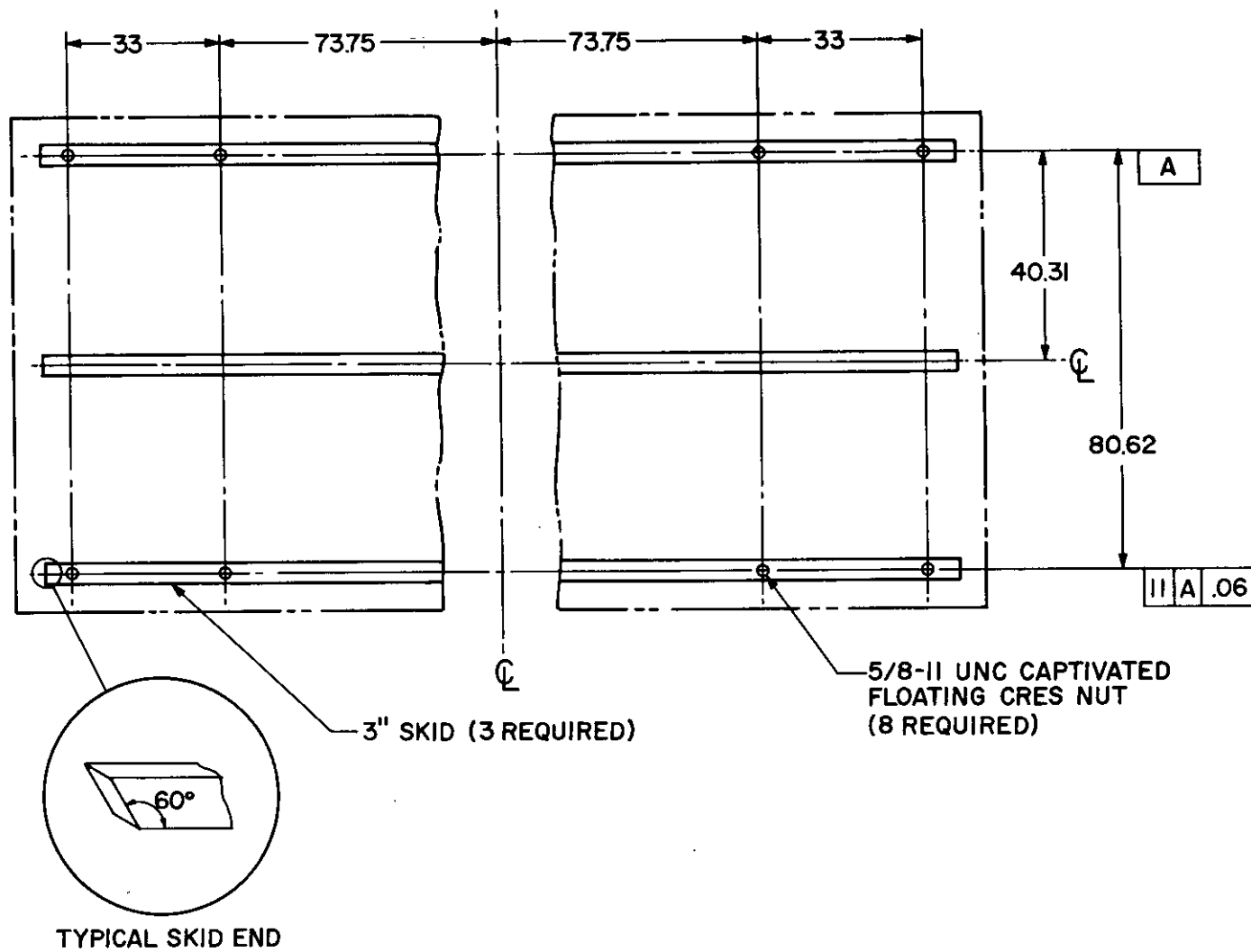
Note: All dimensions from inside surfaces.

FIGURE 1. Mobile facility dimensions.

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FIGURE 2. Air conditioner opening (see drawing 1338AS111).FIGURE 3. Power panel opening (50 lbs).FIGURE 4. Stuffing box opening (50 lbs).

NOTE: Power panel and stuffing box openings shall be framed and supported to maintain structural integrity when equipment is mounted to opening interface (see drawing 1338AS111 for air conditioner opening framing). Approximate weights of equipment are shown. Rivets should be flush with interface surfaces.

FIGURE 5. Skid location.