



Internal Air Transport Certification

ASC/ENFC (ATTLA)
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Date: 8 February 2012

Item Nomenclature: Advanced Field Artillery Tactical Data System, Mobile Tactical Shelter

File Number: 2011.08.03

Requestor: MARCORSSYSCOM (Doug Simpson)

Reference Documents:

1. ATC, ATEC PROJECT NO. 2010-DT-ATC-MCSPT-E5326, December 2010, Advanced Field Artillery Tactical Data System (AFATDS), Mobile Tactical Shelter (MTS).
2. TM 9-2330-202-14&P-Change 2, November 2006, Operator's Maintenance & Parts Manual for Trailer, Chassis, 1-Ton, 2-Wheel M116A3 (2330-01-359-0080).

Item Description: The Advanced Field Artillery Tactical Data System (AFATDS), Mobile Tactical Shelter (MTS) is comprised of an S-788 light mobile shelter (LMS) attached to its carrier, an M1152A1 high mobility multipurpose wheeled vehicle (HMMWV) with B2 Armor Kit or M1037 HMMWV, and an M116A3 trailer carrying two MEP-831A 3-kW generators. Approximate component dimensions, weights and ratings are listed in Table 1 for AFATDS/MTS configured for air transport.

Table 1: Vehicle and Trailer Dimensions, Weights and Ratings

AFATDS-MTS Component	Length (in)	Width (in)	Height (in)	Front Axle Wt (lbs)	FAW Rating (lbs)	Rear Axle Wt (lbs)	RAW Rating (lbs)	GVW (lbs)	*GVWR (lbs)
M1152A1	211.0	101.40	103.50	5,900	5,300	6,430	7,000	12,330	12,100
M1037	204.9	89.60	103.40	3,620	4,100	4,860	5,700	8,480	8,660
M116A3	147.5	88.0	62.0	*170	*280	1,750	2,905	1,920	3,160

*Lunette landing gear



Figure 1: AFATDS-MTS

Certified Aircraft: USAF C-130, C-17 and C-5

Conditions of Certification:**1. Maximum Weight for Air Transport:****Table 2: Maximum Axle Weights & Gross Vehicle Weights**

AFATDS-MTS Component	Front Axle Wt (lbs)	Rear Axle Wt (lbs)	Maximum GVW (lbs)	Rationale
M1152A1	6,100	7,000	12,630	Front axle & GVW limits: Based on scale error tolerance and sleeper shoring dimensions. Rear Axle: Based on vehicle limitation.
M1037	4,100	5,700	8,660	Vehicle limitations.
M116A3	*62	2,905	3,160	Trailer limitations. NOTE: Lunette/Tongue is rated for 255 lbs. Tongue mounted landing gear has a safe working load of 280 lbs. See paragraph 5 for additional trailer notes.

*Lunette landing gear

2. Item Preparation:

- a. C-130: Vehicle height dimension shall not exceed 105 inches.
- b. Shipper provided shoring is required--see paragraph 3, paragraph 5, and Table 1.
- c. All hazardous materials (to include fuel level, batteries, etc.) must be prepared and certified for airlift in accordance with TM 38-250/AFMAN 24-204(I). Do not consider this air transport certification as approval for hazardous materials. Authorization for airlifting hazardous material is the responsibility of 401 SCMS/GUMAA (DSN 787-4503 or COM (937) 257-4503).

3. Loading Instructions:

- a. Load vehicle and trailer in accordance with normal procedures as listed in the respective aircraft cargo loading manual.
- b. C-130: Load M1152A1 with armored doors and S-788 shelter front end facing forward. Position the HMMWV so that its door windows (width of 101.4") are positioned forward of the wheel well area (C-130E/H/J – F.S.477, C-130J-30 – L.S.677) in order to meet safety aisle requirements.
- c. M1152A1 with S-788 Shelter: Sleeper shoring is required unless vehicle weights are less than or equal to axle and gross vehicle weight ratings as listed in Table 1 and explained in paragraph 5.
- d. M116A3: Support shoring is required to support trailer front end when landing gear weight exceeds 62 lbs or when transported disconnected from the prime mover, see paragraph 5.

4. Restraint Requirements: The AFATDS-MTS and all accompanying cargo must be restrained to meet MIL-HDBK-1791 requirements of 3G forward, 1.5G aft and lateral, and 2G up. In addition, stored or installed equipment must meet these requirements and be capable of withstanding a 4.5G down load.

- a. The M1152A1 is equipped with two large teardrop provisions at forward and aft bumper locations. These provisions are rated at 25,000 lbs. Bumpers configured with additional provisions that rotate only in the vertical direction (A1 & A2 suffix vehicles) may be used for supplemental restraint with the following rated capacities: longitudinal – 10,000 lbs, lateral – 7,500 lbs and vertical – 5,000 lbs.

- b. The M1037 is equipped with four bumper mounted tiedown provisions, two at each end, one per side, capable of restraining vehicle and shelter payload up to 8,200 lbs. When additional restraint is required, obtain from rings on the frame just aft of the front bumper and the rings on the frame just forward of the rear coil springs in accordance with respective aircraft loading manual special procedures for HMMWV restraint.
- c. The M116A3 is equipped with four tiedown provisions with sufficient capacity for trailer restraint in all directions up to gross vehicle weight rating. Two tiedown provisions are located on the forward end and aft end of the trailer.

5. Required Shoring Dimensions & Diagrams:

a. M1152A1 Sleeper shoring:

(1) Shoring the front axle: When the front axle weight is less than or equal to 5,300 lbs, sleeper shoring is not required. If front axle is greater than 5,300 lbs and less than 6,100 lbs, two stacks of sleeper shoring are required. Minimum sleeper shoring base dimensions (each stack) shall be 9" L x 9" W.

(2) Shoring whole vehicle: When gross vehicle is greater than 12,100 lbs (not to exceed 12,630 lbs), vehicle will be sleeper shored at both ends. If required, install shoring for vehicle front end in accordance with paragraph 5.a.1, and install two stacks of shoring, one each side near the aft bumper/chassis with the same minimum base dimensions as front end shoring stacks (9" L x 9" W).

(3) Sleeper shoring must be stacked to within $\frac{1}{2}$ " of the vehicle bumper/chassis location and will be secured with cargo straps. Note that one shoring stack may be used in lieu of two when the shoring base width is doubled to 18-inches and shoring stack is centered laterally beneath the vehicle.

b. M116A3 Support shoring: When the trailer is transported disconnected from the prime mover, or the tongue weight exceeds 62 lbs, one stack of support shoring shall be installed beneath the lunette (tongue) or A Frame at trailer front end. Shoring height shall be sufficient to ensure the trailer chassis is approximately parallel with the cargo compartment floor. Minimum shoring base dimensions shall be approximately 6" L x 10" W and approximately 25" H. Note: If the trailer's lunette mounted landing gear exceeds 62 lbs, the landing gear shall not contact the aircraft floor surface during air transport and thus should be raised slightly off the floor after positioning lunette support shoring. Shoring shall be secured with a cargo strap.

Required Distribution:

1. Shipper shall give a copy of this certification to the ATOC representative when the item is presented for airlift. This memo shall be part of the official cargo manifest documentation package and shall be briefed to the aircraft loadmaster prior to loading these items.
2. AMC/A3V.
3. SDDC TEA.

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