

Specification
Trailer, Flatbed , 6 –Ton, MTS
M1048A1
NSN 2330-01-406-2090

The Specification contained herein establishes the performance, design and production for the M1048A1 Trailer, hereafter referred to as the "Trailer". Trailer is intended for use in a land based mobile radar system. Eidal International Corporation hereafter referred to as "Contractor", shall provide the trailer using the configuration of the new Eidal M1048A1 trailer with the Caterpillar Medium Tracked Suspension (MTS) System in accordance with specification 87T0009.

1.0 REQUIREMENTS

The following are the requirements for the production of the trailer. The trailer shall meet or exceed the requirements contained in this specification.

1.1 Critical Item Definition

The trailer shall carry a permanently affixed system in the transport configuration (hereafter called fully loaded trailer), over improved and semi improved roads, and during air transport of the trailer.

1.2 CHARACTERISTICS

1.2.1 Performance.

The trailer shall meet the requirements of this specification for mobility and transportability when in the transport configuration described in this specification, and shall support the affixed system in the deployed operating condition described in this specification.

1.2.1.1 Physical Characteristics.

The physical characteristics of the trailer shall conform to the requirements as specified in paragraphs 1.2.2.1 through _____.

1.2.2.1 Overall Trailer Dimensions.

The overall dimensions for transporting the trailer shall be no longer than 96" inches wide by _____ inches high (un-laden) by 246" inches long. The drawbar length with lunette combined with the trailer deck length shall be the overall length of the trailer.

1.2.2.2 Deck Size.

The dimensions of the trailer deck shall be 96" inches wide by 45" inches high (un-laden) by 238" inches long. The drawbar length with lunette combined with the trailer deck length shall be the overall length of the trailer. Protrusions on the drawbar and deck are not included. Please see 1.2.2.1 for overall dimensions for transporting.

1.2.2.3 Weight.

The trailer and payload shall not exceed 20,820 pounds. The trailer allowable weight is 8,820 pounds. The Customer will supply weight and mounting location information of the payload to the Contractor.

1.2.2.4 Center of Gravity.

The center of gravity of the fully loaded trailer conforms to the requirements of the MIL-STD-1791. The customer shall provide the center of gravity of the payload to the Contractor.

1.2.2.5 Payload Operational Envelope.

The trailer is designed so that the payload and associated components shall have clearance from the trailer throughout when the system is in the operating configuration. No protrusions, except the drawbar and the stabilizing subsystems, exist outside of the trailer deck limits.

1.2.2.6 Ground Clearance.

The ground clearance below the trailer conforms to MIL-STD-1784A, and the mobility requirements of paragraph 1.2.3.14. Ground clearance shall not be less than 21" inches (unladen).

1.2.2.7 Ramp Negotiations

The trailer conforms to the ramp negotiation requirements of MIL-STD-1784A, and the mobility requirements of paragraph 1.2.3.14. The trailer shall be capable of aircraft loading per paragraph 1.2.3.14.

1.2.3 Trailer Features.

The trailer includes, and delivered with, all items and features as specified in sections 1.2.3.1 through 1.2.3.11. All structural members mated together conform to the standards specified in paragraph 1.3.1. All other items may be bolted to the structure for ease of maintenance and replacement.

1.2.3.1 Frame.

The chassis frame is designed and constructed to support the fully loaded trailer and maintain chassis alignment under operating conditions as stated in this specification during transportability without applying undue stress or load on the equipment specified herein.

1.2.3.2 Suspension System.

The suspension system is a medium track system (MTS) with a trunnion axle and leaf-spring configuration using two adjustable walking beams on 8 Tires & Wheels. Caterpillar Corporation shall supply Contractor with the Medium Suspension System (MTS) per drawing number 109-1630 and 109-1631. The MTS suspension has been designed by Caterpillar per MWO 9-2330-372-55 with a sufficient safety factor to carry the load specified at the ground, for the operating surface conditions, and for the speeds at which the trailer is to be towed.

1.2.3.3 Brakes.

The trailer brakes, including the parking brake, are in accordance with MIL-STD-1784A. The brakes are air/hydraulic. A hand operated parking brake is designed for both front wheels.

1.2.3.4 Spare Tire.

The spare tire size 245/70R19.5 is mounted toward the rear of the trailer underneath.

1.2.3.5 Drawbar.

The drawbar configuration is triangular with an adjustable lunette. The drawbar is designed to withstand all forces associated with towing and backing.

1.2.3.6 Deck.

The deck is made from material per Eidal drawing package for the M1048A1 (NSN 2330-01-406-2090. Hole patterns and cutout locations per applicable drawings in accordance with MWO number 9-2330-372-55 and drawing numbers _____.

1.2.3.7 Trailer Leveling and Support System.

The trailer includes permanently mounted brackets for integration of the retractable Leveling Landing Legs for the MTS M1048A1 in accordance to Number 87T0009. The 4 landing legs are capable of supporting the trailer in the raised position with all wheels off

the ground. The chassis is manufactured in accordance to drawing numbers _____ in order to allow for adequate clearance of the leveling landing legs due to the relocation of the mounting brackets per MWO 9-2330-372-55

1.2.3.8 Lighting.

The trailer shall be equipped with brake lighting devices conforming to MIL-STD-1179, Lamps, Reflectors, and Associated Signaling Equipment for Military Vehicles as applicable. The trailer lights operate on 24VDC. The trailer is wired to operate from a 24 volt source and is equipped with a twelve-contact inter vehicle electrical receptacle conforming to MS 75021. The electrical receptacle assembly is mounted on the drawbar in accordance with SAE J702 and SAE J849 respectively.

The trailer will provide optimum ride quality, and is stable in lateral sway and roll during the following:

- | | |
|---------------------------|---------------|
| • Straight Forward Motion | Decelerations |
| • Single lane Changes | Braking |
| • Accelerations | Cornering |

1.2.6.1 Transportability

All equipment associated with the trailer shall physically securable for transport. MIL-STD-1791 and 1792 shall be used for guidelines. The fully loaded trailer shall be capable and certifiable for transport by C-130, C141, and C-5 type aircraft. The fully loaded trailer shall be capable of being easily backed into the C-130, C141, and C-5 type aircraft. The width of the trailer in the transport condition does not exceed 102" inches. The length and height of the fully loaded trailer shall be proportioned so the system can be loaded via the ramp of the aircraft with no other material handling aids other than the tow vehicle or aids built into the aircraft.

1.3 Design and Construction.

The construction of the trailer is in accordance with the best commercial practices. MIL-H-46855B, MIL-STD-454M, MIL-STD-882B and MIL-STD-1472D shall be used as guidelines where applicable except as modified herein.

1.3.1 Materials, Processes, and Parts.

- Where possible, nonflammable material shall be used.
- Materials capable of producing dangerous toxic effects, or causing an explosion, shall not be used.
- Parts and materials that are not nutrients for fungus and are resistant to moisture shall be used wherever possible. Where use of fungi-nutrient materials is essential to the design, the material shall be treated with fungicide agent.
- The equipment, including hardware such as handles, hinges, screws, etc., shall be given a protective finish with necessary touchup after mounting. No finish or finish processing shall be utilized that incorporates the use of Class I Ozone Depleting Substances (ODS), for example 1,1,1 trichloroethane.

1.3.2 Nameplates and Product Marking.

Equipment nameplates, part markings, serial and lot number marking shall be identified, labeled, marked in accordance with the requirements of the customer furnished drawings, excluding commercially available equipment. All applicable trailer parts shall have permanent and permanently attached identification and safety markings.

Nameplates, safety markings and warnings, cable labeling and other markings shall be accomplished in such a way to ensure they remain securely attached and legible when the equipment is subjected to the environmental conditions as specified in this document. The markings shall withstand the effects of wear and tear during transport, installation, operation and maintenance of the trailer.

1.3.2.1 General.

Marking shall be designed and applied using best commercial practices.

1.3.2.2 Visibility.

Wherever practical, parts and shall be so mounted that their identification markings will be readily visible with minimum disassembly of equipment.

1.3.2.3 Serial Numbers.

Serial numbering of the trailers will be in accordance with the customer's specifications.

1.3.2.4 Operator Controls

Controls and indicators used in any phase of operations shall be descriptively marked as to their function and easily viewed by the operator.

1.3.2.5 Markings.

In addition to the markings mentioned above, the trailer shall have the following markings.

1.3.2.5.1 Transportation Data Plate.

A transportation data plate shall be made in accordance with the applicable drawings and securely attached as per mounting instructions. The transportation data plate shall include the following:

TRANSPORTATION DATA PLATE

1.3.2.5.2 Allowable Towing Speed Marking.

The trailer shall have the maximum allowable towing speed (50 mph) permanently and legibly marked in a conspicuous location.

1.3.2.5.3 Tire Inflation Pressure.

The inflation pressure of the tires shall be plainly marked on the equipment as near to each tire as is practicable.