

MIL-T-19198A(ME)
 29 January 1981
 SUPERSEDING
 MIL-T-19198(S&A)
 23 September 1955

MILITARY SPECIFICATION

TRAILER, PLATFORM, WAREHOUSE, 5TH WHEEL STEER,
 20,000 POUNDS CAPACITY, SOLID RUBBER TIRES

This specification is approved for use by the Mobility Equipment Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE .

1.1 Scope. This specification covers warehouse platform trailers, equipped with single 5th wheel steering, ring type drawbar, "C" type rear coupler, and solid rubber tires.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein:

SPECIFICATIONS

MILITARY

MIL-P-514	- Plates, Identification, Instruction and Marking, Blank.
MIL-E-52798	- Enamel, Aklyd Camouflage.

STANDARDS

MILITARY

MIL-STD-129	- Marking for Shipment and Storage.
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FSC 3920

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Mobility Equipment Research and Development Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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(Copies of specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

3. REQUIREMENTS

3.1 General. The platform trailer shall be a commercial model warehouse trailer, 5th wheel steer, 20,000 pounds capacity and solid rubber tires. The platform trailer shall be the manufacturer's current commercial product and shall have been in production, marketed and in use for a minimum of one year preceding the solicitation for procurement. The introduction of product improvement changes in this one year period is acceptable.

3.2 First produced (first produced trailer). The contractor shall furnish one or more trailers as specified (see 6.2), for examination and demonstration within the time frame specified (see 6.2), to prove that trailers being furnished comply with the requirements of this specification. Inspection and demonstration shall be as specified in Section 4 and shall be subject to the surveillance and approval of the Government.

3.3 Structure.

3.3.1 General. Trailer shall consist of a structural steel platform 4-way safety plate, frame, running gear supports, towing frame, drawbar, solid rubber tires, front and rear running gear assemblies, wheels, axles, rear coupler, posts and sockets. Overall dimensions of the platform shall be 96 x 240 inches, with unloaded trailer platform of not more than 25 inches in height. The trailer shall be complete with all components that are standard with the manufacturer's product, whether stipulated herein or not, together with such accessories as may be specified herein.

3.3.2 Rack/stake pockets. The trailer shall be furnished with twenty (20) rack/stake pockets formed to provide openings 3-1/8 by 1-5/8 inches with an effective length of 6 inches. Drainage openings of at least 1 inch diameter shall be provided in the bottom of each pocket. There shall be 3 pockets on each end and 7 pockets on each side. Pockets shall be 36 inches apart.

3.3.3 Fifth wheel assembly. The fifth wheel assembly shall provide for 360 degree movement of the steer wheels.

3.3.4 Drawbar. The drawbar shall be furnished with a 4-inch inside diameter towing eye. The centerline engagement height of the drawbar shall be not greater than 13-1/4 inches when the trailer is carrying its rated load.

3.3.5 Wheels. Wheels shall be demountable, provided with tapered roller bearings and shall have accessible grease fittings for pressure lubrication of the bearing assembly.

3.3.6 Tires. Tires shall be pressed on, solid rubber type.

3.3.7 Coupler. A safety "C" type coupler shall be furnished with each trailer and shall be located to the center rear of the trailer. Coupler shall be fitted with a spring loaded latch. The coupler shall be designed to mate with the towing eye specified in 3.3.4. Coupler centerline engagement height shall not exceed 20-5/8 inches when the trailer is carrying its rated load. The coupler and its mountings shall be capable of withstanding, without permanent deformation, a thrust of not less than 10 times that required to start a single trailer carrying its rated load.

3.4 Accessories.

3.4.1 Posts. Unless otherwise specified (see 6.2), each trailer shall be furnished with 6 posts. Posts shall be steel, 42 inches in length and shall fit the rack/stake pockets specified in 3.3.2.

3.5 Performance.

3.5.1 Maximum load. The trailer shall show no permanent deformation or failure following initial static test under 150 percent of rated load for a period of 1 hour.

3.5.2 Rolling force. When loaded with a uniform rated load and towed at a constant speed of 2 miles per hour over a smooth concrete floor, trailers shall require a maximum towing force of not greater than 2 percent of the gross weight of load and trailers, as measured by a tension dynamometer mounted between the trailer and towing device.

3.5.3 Turning force. When unloaded and placed on a smooth concrete floor, the maximum tangential force required to turn the tongue from one position to another from any starting position shall not exceed 60 pounds. The force required shall be measured by a tension dynamometer.

3.5.4 Rear wheel deflection. When unloaded, and towed at a slow speed over a smooth concrete floor, each rear wheel shall surmount an obstacle not less than 2 inches high, nor more than 2-1/2 inches high, without causing any other wheel to leave the floor and without any part of the rear wheel assembly touching rear running gear support.

3.5.5 Trailer operation. The trailer, when coupled into a train of at least 3 trailers and loaded uniformly to its rated load shall be capable of being pulled over a paved surface as well as timbers of nominal 2 x 4 inch size, at a speed of between 5 and 15 miles per hour for a minimum of 4 hours. Loaded trailers shall track without whipping and couplers shall withstand turning, quick starting and stopping. Trailers shall show no cracks, fractures, or permanent deformation of any part. After completion of this demonstration, trailer shall be subjected to the requirements specified in 3.5.2.

3.6 Treatment and painting. The parts of the trailer normally painted shall be cleaned, treated and painted in accordance with the contractor's commercial practice. Unless otherwise specified, the final color shall be the contractor's commercial yellow. When specified (see 6.2), the final color shall be in accordance with MIL-E-52798.

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3.7 Identification marking. Each trailer shall be identified with an identification plate conforming to MIL-P-514, type I, style 1, composition C, of type I, grade A, class 1 material which shall be located in a visible and permanent location on the trailer. The identifying data shall be stamped in letters in accordance with MIL-P-514. The plate shall be securely attached to the trailer with screws, bolts, adhesive or rivets and shall be furnished and mounted by the contractor.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections, evaluations and demonstrations. Inspections, evaluations and demonstrations shall be classified as follows:

- (a) First article evaluation and demonstration (see 4.3).
- (b) Inspection of packaging (see 4.6).

4.3 First article evaluation and demonstrations. Prior to delivery, the manufacturer shall make one or more trailers available, selected at random from trailers being produced from production tooling for first article evaluation and demonstration. The trailer and its components shall be compared with this document, the contractor's published literature, calculations and test data to verify compliance with this specification. The trailer shall then be subjected to demonstrations as specified herein. Permanent deformation, malfunction, failure to meet performance requirements or failure to complete any demonstration shall be cause for rejection of the trailer. If such deficiencies do arise, they shall be corrected and affected demonstration shall be repeated as required.

4.4 Demonstrations.

4.4.1 Demonstration conditions. Unless otherwise specified herein, demonstrations shall be conducted at the ambient temperature and climatic conditions existing at the place of demonstration. Only that maintenance established by the contractor and submitted as a maintenance schedule prior to commencement of the demonstration shall be performed during the demonstration.

4.4.2 Maximum load. With trailer on a smooth, level concrete floor, uniformly load trailer platform surface with 30,000 pounds. The trailer shall be left, under load, for a period of 1 hour. After 1 hour, the load shall be removed from the trailer and the trailer shall be inspected. Any evidence of permanent deformation, skewing or failure to hold the load shall be cause for rejection.

4.4.3 Rolling force. Trailer shall be on a dry, smooth, level concrete floor with an unobstructed length to perform this demonstration. Weigh empty trailer and record weight. Load trailer with 20,000 pounds uniformly distributed over the trailer platform. Couple trailer, through a tension dynamometer, to an industrial type tractor or other prime mover. The tractor shall accelerate the trailer to a speed of 2 miles per hour and maintain that speed for at least 100 feet. The maximum gage reading of the dynamometer shall be determined while the trailer is being towed at the 2 miles per hour rate. If the maximum towing force is greater than 2 percent of the gross weight of the load and trailer, it shall be cause for rejection.

4.4.4 Turning force. The unloaded trailer shall be placed on a dry, smooth, level concrete floor. Block rear wheels to prevent the trailer from rolling. Attach a tension dynamometer to the trailer tongue. Applying a steady, even pressure through the tension dynamometer tangentially to the tongue, the tongue shall be moved once in each of 3 quadrants of the arc through which the tongue can be moved. If the tangential force required to turn the tongue from one position to another from any starting position exceeds 60 pounds, it shall be cause for rejection.

4.4.5 Rear wheel deflection. The unloaded trailer shall be placed on a dry, smooth, level, concrete floor having the required length necessary to perform this demonstration. The trailer, towed at a speed of 1 to 3 miles per hour, shall be towed so that its outer left rear wheel passes over a timber 2 inches high, beveled at a 45 degree angle, with its longitudinal axis at right angles to the longitudinal axis of the trailer. This demonstration shall be repeated with the inner left rear wheel, outer right rear wheel and inner right rear wheel passing over the timber in turn. Any evidence of any wheel other than the one surmounting the timber leaving the floor level, or of any part of the rear wheel assembly touching the rear running gear support shall be cause for rejection. Using a timber 3 inches high, the demonstration shall be repeated. Any evidence of any wheel other than the one surmounting the timber leaving the floor level or of the rear wheel assembly not touching the rear running gear support shall be cause for rejection.

4.4.6 Mobility. A trailer train, consisting of three trailers, uniformly loaded with 20,000 pounds each shall be run over a rectangular shaped demonstration course, 1/5th of a mile long, with 25-foot wide aisles, laid out on a smooth, dry, level concrete floor or the equivalent. Each of the short legs shall be approximately 100 feet long and each of the long legs shall be approximately 428 feet long. Near the center of one of the long legs an obstacle course shall be provided, consisting of 4 timbers beveled at a 45 degree angle. Timbers shall be 36 inches long and 2 by 4 inches nominal size. Timbers shall be set 2 on each side of the centerline of the course aisle and 14 inches from it, with their longitudinal axis at right angles to the centerline of the course aisle. Distance between the longitudinal axis of each pair of timbers shall be 78 inches. One pair of timbers shall be offset 30 inches from the other in the direction of the course centerline. This layout and arrangement will allow one front wheel or one pair of rear wheels at a time to be elevated above grade level. The three trailers shall be coupled into a train and shall

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be towed continuously around the course for a period of at least 4 hours at average speed of 7 miles (or 35 laps) per hour; except that the direction of travel around the test course shall be reversed every 35 laps. The arrangement of the test course may be varied to fit local conditions, so long as the general configuration, position and dimensions of the obstacles and overall length adhered to. Any evidence of permanent deformation, skewing, or failure of trailer, drawbar or coupler shall be cause for rejection. After completion of this demonstration, each trailer shall be subjected to the demonstration specified in 4.4.3. If the maximum towing force is greater than 2 percent the gross weight of load and trailer it shall be cause for rejection.

4.5 First article demonstration report. The contractor shall prepare and submit the first article demonstration report to the contracting officer for approval within the time frame specified (see 6.2). The report shall include detailed description of the examination and demonstration performed, deficiencies encountered and actions taken to correct the deficiencies.

4.6 Inspection of packaging. Each trailer, when completely prepared for shipment, shall be inspected for the preservation, packaging and marking as specified in the contract. Nonconformance shall be cause for rejection of packaging.

5. PACKAGING

5.1 Preservation and packing. Unless otherwise specified, (see 6.2), each complete trailer and all items issued with the trailer shall be preserved and packed for retail distribution directly to a using customer and in a manner to assure carrier acceptance and safe delivery to destination at lowest rating in compliance with carrier rules and regulations applicable to the mode of transportation.

5.2 Marking. Marking shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. Trailers described herein are intended for carrying loads of material or machinery which do not exceed 20,000 pounds over medium or long distances, on concrete, paved or semi-prepared surfaces, where narrow aisle operation is not an operational prerequisite. Trailers are equipped with couplers for assembly into trains to be towed by industrial tractors.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) Time frame required for submission of the first-produced trailer and number of trailers required (see 3.2).
- (c) When posts are not required (see 3.4.1).
- (d) When final color shall be in accordance with MIL-E-52798 (see 3.4.1).

- (e) Time frame for submitting first article demonstration report (see 4.5).
- (f) When preservation and packing is required for other than retail distribution, specify requirements (see 5.1).

6.3 First-produced trailer. Any changes or deviations of production trailers from the approved first-produced trailer during production will be subject to the approval of the contracting officer. Approval of the first-produced trailer will not relieve the contractor of his obligation to furnish trailers conforming to this specification.

6.3.1 Incident report. When the contractor conducts the demonstrations specified herein, a written report within 24 hours, of any incident of equipment malfunction or failure during the conduct of the demonstration is required. As a minimum, the report shall describe components and parts affected, test and operating conditions, date of incident, hour meter reading, how detected and description of incident.

6.4 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification.

Custodian:
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DOCUMENT IDENTIFIER (Number) AND TITLE MIL-T-19198A(ME) Trailer, Platform, Warehouse, 5th Wheel Steer, 20,000 Pounds Capacity, Solid Rubber Tires

NAME OF ORGANIZATION AND ADDRESS OF SUBMITTER

VENDOR USER MANUFACTURER

1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? IS ANY PART OF IT TOO RIGID, RESTRICTIVE, LOOSE OR AMBIGUOUS? PLEASE EXPLAIN BELOW.

A. GIVE PARAGRAPH NUMBER AND WORDING

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