

INCH-POUND

MIL-PRF-62073F(AT)

18 October 1996

SUPERSEDING

MIL-T-62073E(AT)

19 February 1990

## PERFORMANCE SPECIFICATION

TRAILER, FLATBED: 4-, 5-, AND 7.5-TON, 4-WHEEL (TANDEM) CART TYPE;  
TRAILER, BOLSTER: 4-TON, 4-WHEEL (TANDEM)

This specification is approved for use by U.S. Army Tank-automotive and Armaments 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 four-wheeled tandem axle type trailers of 4-, 5-, and 7.5-ton capacities for tactical military operations (see 6.1).

1.2 Classification. Trailers will be of the following models, as specified (see 6.2):

<u>Model</u>	<u>Description</u>
M795	- Trailer, Flatbed: Dough Mixing and Make Up Outfit, 4 Ton, 4 Wheel.
M796A1	- Trailer, Bolster: General Purpose, 4 Ton, 4 Wheel.
M979	- Trailer Chassis, Flatbed: Ground Emplaced Mine Scattering System (GEMSS), 5 Ton, 4 Wheel.
M1061A1	- Trailer, Flatbed: General Purpose, 5 Ton, 4 Wheel.
M1073	- Powerpack Transport Trailer.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

AMSC N/A

FSC 2330

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## MIL-PRF-62073F(AT)

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirement documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

## STANDARDS

## DEPARTMENT OF DEFENSE

- |             |  |
|-------------|--|
| MIL-STD-209 | - Slinging and Tiedown Provisions for Lifting and Tying Down Military Equipment. |
| MIL-STD-810 | - Environmental Test Methods and Engineering Guidelines.                         |

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

## DRAWINGS

## ARMY

- |         |  |
|---------|--|
| 8736832 | - Trailer, Flatbed: Dough Mixing and Make Up Outfit, 4 Ton, 4 Wheel, M795. |
| 8750088 | - Trailer, Bolster: General Purpose, 4 Ton, 4 Wheel, M796A1.               |

MIL-PRF-62073F(AT)

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|----------|---|
| 8750137  | - Trailer, Flatbed: General Purpose, 5 Ton, 4 Wheel M1061A1.                                      |
| 8750227  | - Trailer, General Purpose, Flatbed, 7.5 Ton, M1073.  |
| 12269888 | - Trailer Chassis, Flatbed: Ground Emplaced Mine Scattering System (GEMSS), 5 Ton, 4 Wheel, M979. |
| 12355846 | - Treatment and Paint Specifications for Tactical Trailers.                                       |

(Copies of these drawings are available from the U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000.)

DEPARTMENT OF TRANSPORTATION (DOT)

- Federal Motor Carrier Safety Regulations (FMCSR).
- Federal Motor Vehicle Safety Standards (FMVSS).

(Application for copies of DOT publications should reference the Code of Federal Regulations, 49 CFR, and the Federal Register, and should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- |            |  |
|------------|--|
| ASTM D522  | - Mandrel Bend Test.   |
| ASTM D2000 | - Rubber Products in Automotive Applications, Classification System for. |

(Copies of ASTM publications may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

- |       |   |
|-------|---|
| J1292 | - Automobile, Truck, Truck-Tractor, Trailer and Motor Coach Wiring. |
|-------|---|

(Application for copies may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

## MIL-PRF-62073F(AT)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a first article sample shall be subjected to first article inspection in accordance with 4.2.

3.2 Materials. Materials used in the manufacture of the trailer shall be new and in accordance with referenced drawings, specifications, and standards. Material shall be free of defects and imperfections that might affect the serviceability and reliability of the finished product (see 4.6.1). The trailers shall not contain any part that consists of any amount of asbestos material. No radioactive material shall be used in any parts of the trailer.

3.2.1 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Design and construction. Completed trailers shall conform to this specification and the applicable drawing listed below (see 4.6.1 and 4.6.2):

<u>Model</u>	<u>Drawing</u>
M795	8736832
M796A1	8750088
M979	12269888
M1061A1	8750137
M1073	8750227

3.3.1 Ozone resistance. Rubber products are to be ozone resistant in accordance with ASTM D2000. Rubber components controlled by detail specifications shall be ozone resistant only when required by the specification referenced on the drawing (see 4.6.1).

3.3.2 Seals. When fording or operating in mud, sand, or snow, the bearing seals shall prevent entrance of foreign matter into the bearings exposed to contamination during these operations. All bearing seals shall restrict leakage of lubricants from bearings (see 4.6.2).

## MIL-PRF-62073F(AT)

3.3.3 Electrical.

3.3.3.1 Electrical circuits. Electrical circuits shall maintain continuity from end to end without evidence of internal or external shorts during all trailer operating conditions (see 4.6.2).

3.3.3.2 Lights. Lights shall be capable of operation throughout all trailer operating conditions and shall conform to SAE J1292.

3.3.4 Controls. Electrical, mechanical, and hydraulic controls shall operate without malfunction, throughout all ranges of operation under all trailer operating conditions (see 4.6.2).

3.3.5 Adjustment mechanisms. Adjustment mechanisms shall function properly and maintain adjustment settings during all trailer operating conditions (see 4.6.2).

3.3.6 Safety chains. The trailer shall have safety chains attached to be used when the trailer is connected to the prime mover (see 4.6.2).

3.3.7 Lifting/tiedowns provisions. The trailer shall be equipped with lifting/tiedown provisions to secure the trailer and cargo during transport and to lift the vehicle, as required. The provisions shall be in accordance with MIL-STD-209 and MIL-STD-810 for rail impact testing (see 4.6.2).

3.4 Performance. The trailer shall meet performance requirements 3.4.1 through 3.4.10 of this specification when equipped as specified herein, serviced with service products recommended for the ambient temperatures at the delivery point (see 4.6.3 and 6.4), and loaded and coupled to prime mover specified in table I. The trailer, serviced and equipped for existing climatic conditions, shall operate as specified without special equipment (see 4.6.3).

TABLE I. Prime mover, payloads, and speeds.

Trailer	Prime mover	Payload (pounds) <sup>1/</sup>		Speed (mph)		
		Highway	Cross-country	Highway	Gravel roads	Cross-country
M795	<sup>2/</sup>	8000	8000	50	35	15
M796A1	<sup>2/</sup>	8000	8000	50	35	15
M979	<sup>2/</sup> or M113	10000	10000	50	35	15
M1061A1	<sup>2/</sup>	10000	10000	50	35	15
M1073	<sup>2/</sup> or M88	15000	15000	50	35	15

<sup>1/</sup> Reliability testing shall be conducted with mission payload; however, if such payload is not available, loads cited herein shall be applied.

<sup>2/</sup> 5-ton series truck.

## MIL-PRF-62073F(AT)

3.4.1 Payload, towing speeds, and trailing ability.

3.4.1.1 Highway (paved) and gravel road operation. The trailer shall be loaded with the highway rated payload or with a simulated load of equal weight uniformly distributed over the load area. The trailer shall be towed over relatively level, smooth, improved, and prepared hard-surfaced roads and gravel roads, at the maximum speeds specified in table I without damage to the trailer or prime mover. The trailer shall track the towing vehicle without weaving from side to side of path of the towing vehicle moving in a straight line, and without swaying laterally to an extent that adversely affects the controllability of the vehicle combination. There shall be no evidence of wheel/tire imbalance such as would be exhibited by wheel tramp, hop, or of wheel/suspension misalignment (see 4.6.3.1).

3.4.1.2 Cross-country operation. The trailer, loaded with rated payload uniformly distributed over the load area, shall be towed over unimproved roads, open fields, rolling hills, and cross-country terrain at average speeds specified in table I without damage to the trailer or prime mover. The payload shall be distributed so that the proper center of gravity is established (see 4.6.3.1).

3.4.2 Grade and slope operation. The trailer with mission payload shall be towed without slipping or upsetting when ascending or descending longitudinal grades of not more than 40 percent (%) and when crossing side slopes of not more than 20% (see 4.6.3.2).

3.4.3 Braking.

3.4.3.1 Service brakes. All trailers, except the M979 GEMSS/M113 series combination, shall be equipped with service brakes. The service brakes shall be in accordance with FMVSS for air brakes, FMVSS for hydraulic brakes, and FMVSS for air-over-hydraulic brakes. The brake linings shall be of non- asbestos material. The combined service brakes of the trailer and towing vehicle shall, under all conditions of loading, bring the combination to a positive stop within 35 feet from a speed of 20 miles per hour (mph) on a dry, smooth, and level hard-surfaced road, free of loose material (see 4.6.2 and 4.6.3.3).

3.4.3.2 Automatic brake actuator. The actuator shall automatically apply the trailer service brakes upon breakaway from towing vehicle in accordance with FMVSS. The actuator shall maintain the application of brakes holding the trailer stationary under all loads specified herein for not less than 15 minutes (see 4.6.2 and 4.6.3.4).

3.4.3.3 Parking brake. A manually operated parking brake shall hold the trailer with cross-country payload on a dry, hard, smooth-surfaced road on a 20% grade while unrestrained by the towing vehicle at the pintle and headed up or down grade (see 4.6.2 and 4.6.3.5).

## MIL-PRF-62073F(AT)

3.4.4 Landing device. Unless otherwise specified (see 6.2), except for the M979, M1061A1, and M1073, the trailer shall be equipped with a swing-up type, vertically adjustable landing device. The landing device shall support the trailer under any load specified herein on a 20% grade in any direction, shall lift the lunette to a height required for coupling to the prime mover, and shall withstand strains imposed during coupling or uncoupling, without impairing operation of the trailer or towing vehicle. In the stowed position the device shall be horizontal and clear the ground during cross-country operation (see 4.6.2 and 4.6.3.6).

3.4.5 Leveling jacks. Except for the M796A1, the manually operated leveling jacks shall raise and support the fully loaded trailer and shall adjust to permit placing the jack bases on the ground and leveling the trailer on an off-road site (see 4.6.2 and 4.6.3.7).

3.4.6 Trailer bolster. Overall travel of the reach tube shall be 4 feet  $\pm$ 2 inches (in.) adjustable in increments of 12 to 12.5 in. The bolster locking stanchion is removable and shall be stowed within the trailer from when not in use. Removable rear ramps shall be stowed within the trailer frame when not in use. Removable rear ramps shall be provided for loading and unloading of pontoons, boats, treadways, etc. When not in use, the rear ramps shall store within the framework of the trailer. The retractable landing leg shall rotate upward into the traveling position by removing the ball-lock pull pin holding the retractable landing leg in operating position (see 4.6.3.8).

3.4.7 Turning ability. When coupled to the prime mover operating in its minimum turning circle, the trailer shall follow without cramping and without damage to the towed trailer or prime mover, and without interference between the towed trailer and the prime mover (see 4.6.3.9).

3.4.8 Fording. The trailer shall be towed in fresh or salt water of any depth great enough to immerse the chassis entirely for periods up to 15 minutes without impairing performance of the trailer or its components. Fording shall be accomplished without use of special kits and with a minimum of preparation or servicing before and after the fording operation (see 4.6.3.10).

3.4.9 Environmental. The trailer shall operate under extreme conditions of weather in ambient temperatures ranging from minus (-) 50 degrees Fahrenheit ( $^{\circ}$ F) to plus (+) 125 $^{\circ}$ F. The trailer shall be capable of withstanding storage at -80 $^{\circ}$ F without deterioration that causes failure of any component (see 4.6.3.11).

3.4.10 Life cycle.

3.4.10.1 Reliability. Trailers shall possess not less than a 60% probability of completing not less than 6000 miles of operation in accordance with the operational profile specified in 3.4.10.1.1, without failure of components, assemblies, or subassemblies: i.e., suspension,

## MIL-PRF-62073F(AT)

including springs, axles, and wheels; brake systems; landing device; leveling jacks, when specified; lunette; and frame (see 4.6.3.12.1).

3.4.10.1.1 Operational profile. The 6000 miles of operation shall be apportioned (1/) as follows:

- a. Hard-surfaced roads 40% - rated payload.
- b. Gravel roads 23% - rated payload.
- c. Gravel roads 2% - empty.
- d. level cross-country 23% - rated payload.
- e. Hilly cross-country 10% - rated payload.
- f. Belgian block 1% - rated payload.
- g. Belgian block 1% - empty.

1/ M979 GEMSS mileage shall be apportioned equally using a 5-ton series truck and a M113 series carrier as towing vehicles.

3.4.10.1.2 Failure. A failure is any malfunction of an end item requiring overhaul, replacement, rebuild, salvage, or other corrective action as prescribed by the maintenance manual, which cannot be deferred for the remainder of 6000 miles (see 4.6.3.12.1).

3.4.10.1.3 Corrective action. Corrective action is not deferrable if malfunction causes (see 4.6.3.12.1), or would cause if not corrected:

- a. Inability to commence operation or cessation of operation.
- b. Inability to conform to the requirements of the specification.

3.4.10.1.4 Malfunction. Any malfunction which the operator or crew can remedy will not be considered a failure provided that repair is authorized, or prescribed, as an operator function and can be accomplished within 15 minutes using only controls, tools, or spare parts incorporated in or carried with the end item or its prime mover (see 4.6.3.12.1).

3.4.10.2 Maintainability. Total scheduled maintenance excluding driver/crew checks and services shall be between 4.0 and 6.0 manhours, and total unscheduled maintenance shall be between 0 and 10.0 manhours, during the first 6000 miles of operation in accordance with the operational profile (see 3.4.10.1.1). This equates to a maintenance ratio (MR) of 0.013 to 0.053 at 20 mph and a MR of 0.02 to 0.08 at 30 mph. Scheduled maintenance intervals shall be 3 months or 3000 miles of operation, whichever comes first, for first article tests only (see 4.3). Maximum time to repair (to include diagnosis, repair, and verification) using personnel normally employed at (see 4.6.3.12.2):



## MIL-PRF-62073F(AT)

- a. Organizational maintenance level shall not exceed 2 manhours 95% of the time.
- b. Direct support maintenance level shall not exceed 4 manhours 95% of the time.

3.5 Treatment and painting. The vehicle shall be treated and painted in accordance with Army Drawing 12355846 and shall meet the requirements specified herein (see 4.6.2).

3.6 Rustproofing. Rustproofing shall be in accordance with Drawing 12355846-5000 (see 4.6.2).

3.7 Marking and data plates. The identification marking and data plates shall include, as a minimum, part or identification number (PIN) (see 6.3), the department of agency identification, the registration number, and legend as specified for the appropriate military agency (see 4.6.2). Marking shall be permanent and legible. When specified (see 6.2), concealed marking shall be furnished.

3.8 Servicing and adjusting. Prior to acceptance of the trailer by the Government, the contractor shall adjust and service each trailer for immediate operational use, including at least the following: Adjust braking system, check electrical system, inflate all tires, and completely lubricate the trailer and all running gear with grades of lubricants recommended for the ambient temperature at the delivery point (see table I and 4.6.2).

3.9 Workmanship. Workmanship shall be of such quality as to assure that the trailer and its components are free from defects that compromise, limit, or reduce the capability of the trailer in the performance of its intended use (see 4.6.2).

## 4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2).
- b. Conformance inspections (see 4.3).
- c. Comparison tests (see 4.4).
- d. Road tests (see 4.5).

4.2 First article inspection. When first article is required (see 3.1), first article inspection shall be performed on first article samples (see 6.2). Unless otherwise specified (see 6.2), first article inspection shall include the inspections specified in table II. Road testing (see 6.2) shall be required prior to conducting the tests specified in table II.

## MIL-PRF-62073F(AT)

4.2.1 First production vehicle inspection (FPVI). FPVI shall be performed on the first production trailer. FPVI shall include an in-process inspection and completed-vehicle inspections.

4.2.1.1 In-process inspection. The first production trailer shall be inspected during fabrication to determine conformance of materials and workmanship to specified requirements. These inspections shall precede application of primer and paint. Processing and welding procedures, the quality system, inspection records, calibration procedures, radiographic procedures, and welder certifications shall be reviewed and evaluated.

4.2.1.2 Completed-vehicle inspection.

4.2.1.2.1 Contractor inspection. The contractor shall be required to subject the trailer to the road test specified in 4.5.1 and all of the first article inspections specified in table II, except 4.6.3.10 (Fording), 4.6.3.11 (Environmental), 4.6.3.12.1 (Reliability), and 4.6.3.12.2 (Maintainability).

4.2.1.2.2 Preliminary inspection. The responsible Government inspection element shall conduct the first article inspection specified in table II to the extent that acceptability of the trailer is verified. Inspections 4.6.3.10 through 4.6.3.12.2 need not be performed during preliminary inspection.

4.2.1.2.3 Provisional inspection. The Government acquisition activity shall perform the first article inspection specified in table II to the degree required to justify approval of the trailer. Inspections 4.6.3.10 through 4.6.3.12.2 need not be performed during provisional inspection.

4.2.1.2.4 Trailer disposition. After completion of inspection, the first production trailer shall remain at the manufacturing facility, as a production sample, and be the last trailer of its type shipped on the contract. The trailer may be released sooner at the discretion of the contracting officer. The contractor shall be required to service and maintain the trailer during this period in accordance with applicable documents for care and preservation while in storage. All configuration changes taking place after the first production inspection, shall be made to the first production trailer so that the trailer will be representative of the most current configuration throughout the life of the contract. No configuration changes may be implemented on production trailers after Government conditional acceptance of the first production trailer (applicable trailer type) without written authorization from the Government.

## MIL-PRF-62073F(AT)

TABLE II. Classification of inspections.

Title	Requirement	Inspection	First article		CI <u>1/</u>		Comparison tests <u>2/</u>
			FPVI <u>1/</u>	IPT <u>2/</u>	Exam	Tests	
Materials, design, and construction Examination	3.2 thru 3.3.1	4.6.1	X	X	X		
	3.3, 3.3.2 thru 3.3.5, 3.3.7, 3.3.8, 3.4.3.1 thru 3.4.5 and 3.5 thru 3.9	4.6.2	X	X	X		
Highway (paved) and gravel road operation	3.4.1.1	4.6.3.1		X		X	X
Cross-country operation	3.4.1.2	4.6.3.1		X			X
Grade and slope operation	3.4.2	4.6.3.8		X			X
Service brakes	3.4.3.1	4.6.3.3	X	X		X	X
Automatic brake actuator	3.4.3.2	4.6.3.4	X	X		X	X
Parking brake	3.4.3.3	4.6.3.5	X	X		X	X
Landing device	3.4.4	4.6.3.6	X	X		X	X
Leveling jacks	3.4.5	4.6.3.7	X	X		X	X
Trailer bolster	3.4.6	4.6.3.8	X	X		X	X
Turning ability	3.4.7	4.6.3.9	X	X		X	X
Fording	3.4.8	4.6.3.10		X			X
Environmental	3.4.9	4.6.3.11		X			X
Reliability	3.4.10.1	4.6.3.12.1		X			X
Maintainability	3.4.10.2	4.6.3.12.2		X			X
Paint	3.5	4.6.4		X			X
Preservation, packaging, packing and marking	5.1	4.4	X				

1/ At place of manufacture.

2/ At Government proving grounds.

4.2.2 Initial production testing (IPT). Initial production testing shall be performed on two trailers randomly selected from the first month's production or from the first 20 produced. IPT shall include contractor inspection and Government inspection.

## MIL-PRF-62073F(AT)

4.2.2.1 Contractor inspection. The contractor shall be required to inspect the IPT trailers in accordance with 4.3.

4.2.2.2 Government inspection. The Government shall perform the first article inspection specified in table II. The selected trailers shall be examined for the characteristics specified in table III. Subsequent to the examination, the trailers shall be subjected to tests specified in table II. The 6000 mile test specified in table IV shall be performed at a site(s) selected by the Government. The contractor shall be required to expeditiously furnish repair parts, as required, to adequately support the tests. The contractor shall be required to refurbish trailers after tests completion.

4.2.3 Deficiencies. Unresolved failures or deficiencies found during, or as a result of, first article inspection shall be cause for rejection of trailers until evidence has been provided by the contractor that corrective action has been taken to eliminate the deficiency. Any deficiency found during, or as a result of the IPT shall be evidence that all trailers already accepted prior to completion of the IPT are similarly deficient unless contrary evidence satisfactory to the contracting officer is furnished by the contractor. Such deficiencies on all trailers shall be corrected by the contractor at no additional cost to the Government.

4.3 Conformance inspection (CI). Unless otherwise specified (see 6.2), CI shall be conducted on each trailer and shall include the examination of 4.3.1, the 5 mile road test specified in 4.5.1, and the tests of 4.3.2 (see 6.2). Noncompliance with any of the specified requirements in sections 3 and 5 shall be cause for rejection.

4.3.1 Examination. Trailers shall be examined for the defects specified in table III.

4.3.2 CI tests. Subsequent to the examination of 4.3.1 and the road test specified in 4.5.1, trailers shall be subjected to the CI tests specified in table II (see 4.6.3.1).

4.4 Comparison tests. The Government may randomly select vehicles at any time during the production contract period and subject these vehicles to the comparison tests specified in table II. Tests will be conducted by the Government at a site(s) it will select. Vehicles selected for comparison tests shall be new and shall have successfully passed the CI specified in 4.3 (see 4.6.3.1).

## MIL-PRF-62073F(AT)

TABLE III. Classification of defects.

Category	Defect	Method of inspection
<u>Major:</u>		
101	Wheels and tires - condition and assembly, tire damage (see 3.3).	Visual
102	Frame - improper components, improperly riveted, improperly welded (see 3.3).	Visual
103	Axles - improperly assembled, improperly installed, improperly welded (see 3.3).	Visual and Functional
104	Suspension system - damaged, improper assembly and ground clearance (see 3.3).	Visual and Functional
105	Lunette eye - improper casting, improper size (see 3.3).	Visual and SIE <u>1/</u>
106	Electrical system, cables, wiring, and ground straps - malfunction, improper lighting sequence, improper components, improper operation, inoperative, damaged (see 3.3.3).	Visual, Functional, and SIE
107	Controls, electrical, mechanical, and hydraulic - malfunction, inoperative (see 3.3.4).	Visual and Functional (see 6.2)
108	Adjustment mechanism - defective, improper function (see 3.3.5).	Visual and Functional
109	Safety chains, intervehicular hose, and tubing - improper lengths, missing, improper coupling, damaged (see 3.3 and 3.3.6).	Visual and SIE
110	Service and parking brakes - inoperative, malfunction, component damage, nonconformance (see 3.4.3.1 and 3.4.3.3).	Visual and Functional
111	Automatic brake actuator - inoperative, improper operation, component damage (see 3.4.3.2).	Functional
112	Landing device - malfunction, improper installation, incomplete assembly (see 3.4.4).	Visual and Functional
113	Leveling mechanism - inoperative, improper operation (see 3.4.5).	Functional
114	Paint - improper paint, improper compounding or curing (see 3.5).	Visual and Functional
115	Workmanship not as specified, performance affected (see 3.9).	Visual

## MIL-PRF-62073F(AT)

TABLE III. Classification of defects - Continued.

Category	Defect	Method of inspection
<u>Minor:</u>		
201	Wheels and tires - improper size, improper type, improper mounting, improper installation (see 3.3).	Visual and SIE
202	Record forms - missing, improper information (see 3.3).	Visual
203	Tools - missing, improper stowage (see 3.3).	Visual
204	Lunette eye - improper assembly, improper installation (see 3.3).	Visual
205	Suspension system - improper installation (see 3.3).	Visual
206	Frame and sheet metal - improper assembly, improper installation (see 3.3).	Visual
207	Reflectors - missing, improper installation, improper reflectors (see 3.3).	Visual
208	Brake system - improper assembly, improper installation, improper clearance (see 3.3).	Visual
209	Lube fittings - missing, improper installation, improper operation (see 3.3).	Visual
210	Seals - leaking, defective, damaged (see 3.3.2).	Visual
211	Electrical system - improper coding, improper protection, improper assembly, improper installation (see 3.3.3).	Visual
212	Adjustment mechanism - improper installation, damaged (see 3.3.5).	Visual and Functional
213	Tiedowns, lashings, and lifts - missing, improper installation, improper welding (see 3.3.7).	Visual
214	Paint - improper color, improper application (see 3.5).	Visual
215	Rustproofing - missing, improper application (see 3.6).	Visual
216	Marking and identification - missing, improper size, improper installation (see 3.7).	Visual
217	Lubrication - missing, improper grade, improper installation (see 3.8).	Visual
218	Hydraulic fluid - missing, improper grade, improper installation (see 3.8).	Visual
219	Workmanship not as specified, appearance affected (see 3.9).	Visual

1/ SIE = Standard Inspection Equipment.

## MIL-PRF-62073F(AT)

4.5 Road tests.

4.5.1 Five-mile road test. When specified herein, the trailer shall be assembled and serviced with the lubricants and fluids of table I and shall be connected to the prime mover and towed for a distance of not less than 5 miles without payload over smooth, hard-surfaced roads.

4.5.2 Fifty-mile road test. When specified herein, the trailer shall be loaded with full or simulated payload and towed for a distance of not less than 50 miles. The test course shall be a smooth, hard-surfaced road.

4.6 Methods of inspection.

4.6.1 Materials, design, and construction. Conformance to 3.2 through 3.3.1 shall be determined by inspection of contractor records providing proof or certification that design, construction, processing, and materials conform to requirements. Applicable records shall include drawings, specifications, design data, receiving inspection records, processing and quality control standards, vendor catalogs and certifications, industry standards, test reports, and rating data.

4.6.2 Examination. Conformance to 3.3, 3.3.2 through 3.3.7, 3.4.3.1 through 3.4.5, and 3.5 through 3.9 shall be determined by the examination specified in table III.

4.6.3 Performance. To determine conformance to 3.4, the trailer shall pass the tests of 4.6.3.1 through 4.6.3.12. Prior to performance tests, the trailer shall be equipped, serviced, loaded, and coupled to the prime mover as specified herein.

4.6.3.1 Highway and cross-country operation. To determine conformance to 3.4.1.1 and 3.4.1.2, the trailer shall be connected to the prime mover, loaded as specified and towed during road testing (see 4.2 and 4.3) over terrain at speeds specified in table I. During and after road testing, trailers shall be examined as specified and as applicable in 4.6.2 and table II. Trailers with reach tubes shall be operated in the fully extended position for a distance of 25 miles as part of a 50 mile road test (see 4.5.2). For trailers with bolsters, the payload shall be distributed on three bolsters in extended and retracted positions and maintain required weight on the lunette.

4.6.3.2 Grade and slope operation. To determine conformance to 3.4.2, the trailer shall be towed by its prime mover ascending and descending a 40% grade. The trailer shall be towed across a 20% side slope. Trailer slip or upset shall be considered failure.

4.6.3.3 Service brakes. To determine conformance to 3.4.3.1, the brakes of the towing vehicle and trailer shall be applied simultaneously while the combination is traveling forward at 20 mph. Stopping distance in excess of 35 ft shall constitute failure of this test.

## MIL-PRF-62073F(AT)

4.6.3.4 Automatic brake actuator. To determine conformance to 3.4.3.2, the fully loaded trailer, coupled to its prime mover shall be parked on a 15% grade. With the prime mover brakes applied, air lines to the trailer shall be disconnected allowing the actuator to engage the trailer pulling the breakaway chain. The prime mover shall be moved to provide clearance between the pintle and lunette so that trailer movement is possible. With the prime mover brakes reset, the trailer shall remain stationary for 15 minutes; any movement within the 15 minutes shall constitute test failure. The test shall be performed with the trailer headed upgrade and downgrade.

4.6.3.5 Parking brake. To determine conformance to 3.4.3.3, the prime mover with coupled trailer shall be placed on a 20% grade, ascending or descending, and the parking brake actuated. The prime mover shall be moved to provide clearance between the pintle and lunette so that trailer movement is possible. The trailer shall remain stationary. Any rolling movement shall constitute failure of this test.

4.6.3.6 Landing device. To determine conformance to 3.4.4, the fully loaded trailer shall be towed to position on a 20% grade and landing device secured in a position to support the uncoupled trailer. The prime mover shall be uncoupled and removed. The landing device shall be operated to lower and raise the lunette to the proper coupling height. The prime mover shall be returned and recoupled to the trailer. Except for sinking in soft terrain, any movement of the trailer, during uncoupling, free standing, or recoupling, or any impairment of operation of the landing device shall constitute failure of this test. The landing device shall be examined after cross-country operation for evidence of interference with ground. Interference with ground shall constitute failure of this test.

4.6.3.7 Leveling jacks. To determine conformance to 3.4.5, the fully loaded trailer shall be parked on an off-road site and the leveling mechanism activated. Inability to support the trailer or to level the trailer floor shall constitute failure of this test.

4.6.3.8 Trailer bolster. To determine conformance to 3.4.6, the reach tube, removable components, and landing device, shall be checked for locking positions and adjustments. Removable items shall be removed and checked for fit and interference in stowage compartments within the frame of the trailer and for retainment during trailer towing conditions. The parking brake shall be applied when checking the travel of the reach tube.

4.6.3.9 Turning ability. To determine conformance to 3.4.7, the prime mover shall be coupled to the trailer and the combination shall be driven in the prime mover's minimum turning circle to the right and left without interference between the prime mover and towed trailer.

4.6.3.10 Fording. To determine conformance to 3.4.8, the trailer chassis shall be immersed in fresh or salt water for not less than 15 minutes. The trailer shall then be examined as specified and as applicable in 4.6.2 and table III.



## MIL-PRF-62073F(AT)

4.6.3.11 Environmental. To determine conformance to 3.4.9, component certifications of temperature serviceability of critical items shall be reviewed (see 4.6.1). When specified (see 6.2), physical testing may be substituted for the component certifications. During physical testing the trailer shall be operated and stored at the temperatures specified for a period of 24 hours. The trailer shall show no damage as a result of such operation or storage.

4.6.3.12 Life cycle.

4.6.3.12.1 Reliability. To determine conformance to 3.4.10.1, reliability shall be verified at a 60% confidence level while trailers are subjected to the 6000 mile test specified in table IV. In the event the production contract delineates test mileage less than 6000 miles (see 6.2), the mileage mix for the various types of courses in table III shall be proportional to the miles shown in the mileage and speeds column.

TABLE IV. 6000 mile test sequence.

Course	Mileage and speeds
Gravel roads <u>1/</u> Belgian block roads <u>1/</u>	120 miles at varying speeds up to maximum 60 miles at speeds applicable to trailer characteristics
Hard-surfaced roads <u>2/</u> Gravel roads <u>2/</u>	2400 miles at varying speeds up to maximum 1380 miles at varying speeds up to maximum
Level cross-country roads <u>2/</u> Hilly cross-country roads <u>2/</u>	1380 miles at varying speeds up to maximum 600 miles at varying speeds up to maximum
Belgian block roads <u>2/</u>	60 miles at speeds applicable to trailer characteristics

1/ Without payload.

2/ With actual or simulated payload.

4.6.3.12.2 Maintainability. To determine conformance to 3.4.10.2, maintainability shall be verified during the 6000 mile test specified in 4.6.3.12.1.

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## MIL-PRF-62073F(AT)

## 6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

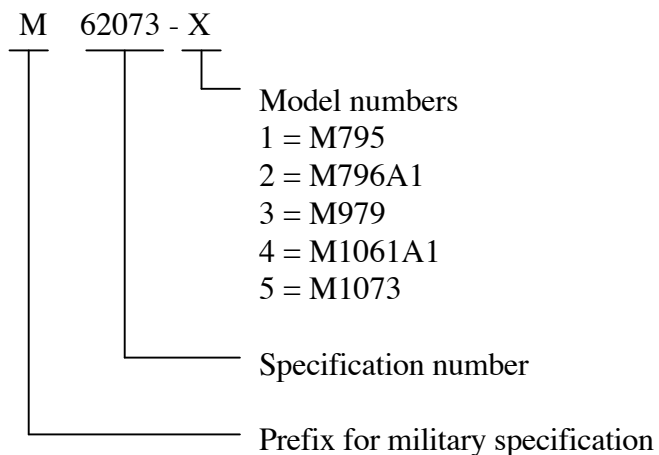
6.1 Intended use. Trailers covered by this specification are intended for use by military services to transport supplies and equipment, or as mounts for special equipment, during tactical military operations under extreme conditions of weather and terrain.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Model of trailer required (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- d. If first article is required (see 3.1).
- e. If landing device is not required for the M795 or M796A1 (see 3.4.4).
- f. Special identification marking required by the user on identification plates (see 3.7).
- g. First article inspection, if other than as specified (see 4.2).
- h. Sample size for CI examination and tests, when applicable (see 4.3).
- i. Provisions for inspecting CARC paint and special contractual test requirement (see table III).
- j. If physical testing may be substituted for the component certifications (see 4.6.3.11).
- k. Test mileage, if other than 6000 miles (see 4.6.3.12.1).
- l. Packaging requirements (see 5.1).

6.3 Part or Identifying Number (PIN). The PINs to be used for the trailer acquired to this specification are created as follows:

## MIL-PRF-62073F(AT)



6.4 Recommended service products. Typically, the vehicle should be serviced with the following products listed in table V or equivalents.

TABLE V. Service product specifications.

Product	Ambient air temperature operating range	
	-10 to +132°F	-65 to 0°F
Oil:		
Hydraulic brakes	MIL-B-46176	MIL-B-46176
Shock absorbers	MIL-H-6083	MIL-H-6083
General purpose lubrication	MIL-L-3150	A-A-52557
Grease:		
Sealed bearings	MIL-G-23827	MIL-G-23827
General chassis lubrication, including wheel bearings	MIL-G-10924	MIL-G-10924

6.5 Subject term (key word) listing.

Adjustment mechanism  
 Controls  
 Electrical circuits  
 Fording  
 Landing device  
 Leveling jacks  
 Lights  
 Ozone resistance  
 Recovered materials

MIL-PRF-62073F(AT)

Rubber products  
Safety chains  
Seals  
Service brakes  
Tiedowns

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodian:  
Army - AT

Preparing Activity:  
Army - AT

(Project 2330-0266)

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

<b>I RECOMMEND A CHANGE:</b>	1. DOCUMENT NUMBER MIL-PRF-62073F(AT)	2. DOCUMENT DATE (YYMMDD) 961018
3. DOCUMENT TITLE Trailer, Flatbed: 4-, 5-, and 7.5-Ton, 4 Wheel (Tandem) Cart Type; Trailer, Bolster: 4-Ton, 4-Wheel (Tandem)		
4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)		
5. REASON FOR RECOMMENDATION		
<b>6. SUBMITTER</b>		
a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (if applicable)	e. DATE SUBMITTED (YYMMDD)
<b>8. PREPARING ACTIVITY</b>		
a. NAME	b. TELEPHONE (Include Area Code) (1) Commercial (810) 574-8745	(2) AUTOVON 786-8745
c. ADDRESS (Include Zip Code) Commander U.S. Army Tank-automotive and Armaments Command ATTN: AMSTA-TR-E/BLUE Warren, MI 48397-5000	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	