

**INCH-POUND**

MIL-PRF-46714D(AT)

26 July 1996

SUPERSEDING

MIL-S-46714C(AT)

14 August 1990

**PERFORMANCE SPECIFICATION**

**SEMITRAILER, VAN: ELECTRONIC, TACTICAL, 6-TON, 2 WHEEL, M373A2**

This specification is approved for use by the 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 the M373A2 van semitrailer, which is a 6-ton, tactical, 2-wheel, van-type semitrailer having an interior length of 30 feet (ft). The semitrailer is primarily used to transport and house electronic processing equipment over all types of roads and limited cross-country terrain and under extreme climatic conditions. These mobile shelters are also used as maintenance shops and command posts (see 6.1).

**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 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 requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

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

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

## MIL-PRF-46714D(AT)

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

## FEDERAL

FED-STD-595 - Colors Used in Government Procurement.

## DEPARTMENT OF DEFENSE

MIL-STD-209 - Slings and Tiedown Provisions for Lifting and Tying Down Military Equipment.  
MIL-STD-1366 - Transportability Criteria.

(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.

## DRAWING

## ARMY

8750509 - Semitrailer, Van: Electrical, 6-Ton, 2-Wheel.

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

2.3 Non-Government publications. The following document forms 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).

## MIL-PRF-46714D(AT)

### AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes (DoD Adopted).

(Application for copies should be addressed to the American National Standards Institute, 11 W. 42nd Street., 13th Floor, New York, NY 10036.)

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 sample shall be subjected to first article inspection in accordance with 4.2.

3.2 Materials. Materials used shall be in accordance with the manufacturer's materials specifications. The materials shall be capable of meeting all the operational and environmental requirements specified herein. Asbestos and cadmium materials shall not be used in any form in any part of the vehicle. No item, part or assembly shall contain radioactive materials in which the specific activity is greater than 0.002 microcurie per gram or activity per item equals or exceeds 0.01 microcuries (see 4.5.1).

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 (see 4.5.1).

3.3 Design and construction. Semitrailers conforming to this specification shall be designed and constructed in accordance with Drawing 8750509, and as modified for specific applications (see 4.5.2 and 6.2).

3.3.1 Transportability. The semitrailer shall be capable of being transported by rail, air, and marine modes worldwide (see 4.5.7).

3.3.2 Lifting and tiedown provisions. The lifting and tiedown provisions on the semitrailer shall meet the criteria of MIL-STD-209. Complete diagrams and instructions for lifting and tying down the semitrailer for all required modes of transport shall be provided. Stencil or decal markings in accordance with MIL-STD-209 shall be applied to the semitrailer

## MIL-PRF-46714D(AT)

at each lifting and tiedown point. The tiedown provisions shall permit tiedown of the semitrailer to the floor (or deck) of the transport medium to restrict shifting or movement in any direction (see 4.5.7).

3.3.2.1 Disassembly and reassembly. For all modes of transport, the semitrailer shall have a maximum of 15 minutes for disassembly and 15 minutes for reassembly using two people and onboard equipment. All items removed shall be stowed and tied down in the semitrailer (see 4.5.7).

3.3.3 Functional equipment. All functional equipment on the semitrailer shall operate properly during all modes of operation (see 4.5.2).

#### 3.3.4 Electrical.

3.3.4.1 Lighting systems. The external lighting systems shall operate on 24 volts direct current and shall not malfunction during any vehicle operating mode (see 4.5.2).

3.3.4.2 Electrical circuits. The electrical circuits shall maintain continuity from end to end without any shorts from pin to pin or pin to connector shell. Circuits on each vehicle shall be tested for continuity, with no electrical short permitted. Wiring and cable shall be anchored to prevent damage during vehicle operation (see 4.5.2).

3.3.5 Adjustment mechanisms. All adjustment mechanisms shall function properly and maintain adjustment settings during all vehicle operating conditions (see 4.5.2).

3.3.6 Controls. All electrical, mechanical, and hydraulic controls shall operate without malfunction throughout their entire range of operation under all vehicle operating conditions and environments (see 4.5.2).

3.3.7 Brake lines. Air and hydraulic lines and fittings shall be internally clean prior to assembly on the semitrailer. Brake air lines shall be “snuggled” and routed against van componentry; that is brake air lines shall be nested against flat surfaces (on protective areas), and shall not hang in mid-air. Military standard grommets shall be used in all openings through which brake lines are routed. When brake air lines (service and emergency) are pressurized to 120 to 125 pounds per square inch (lb/in<sup>2</sup>), loss of air pressure in any one line or system shall not exceed 5 lb/in<sup>2</sup> in 5 minutes (see 4.5.2).

#### 3.3.8 Watertightness.

3.3.8.1 Water spray (completed van). Each van body shall be waterproofed to provide a watertight structure. The door assembly, completely assembled and installed, shall provide a watertight seal. The interior of the van shall show no evidence of water leakage or moisture

## MIL-PRF-46714D(AT)

penetration from any cause (rain, road conditions, splash, etc.). The interior of the semitrailer includes the space between the outer wall skins and the interior panels. This requirement is applicable prior to and after exposure to all of the requirements specified herein (see 4.5.3.1).

3.3.8.2 Immersion (van body shell). When immersed in water to a depth conforming to the completed trailer fording requirement of 5 feet, the van shall show no water leakage. Specifically, the inboard surface of the doors, door seals, floor pan or any other surface visible from within the van shall show no moisture penetration or leakage (see 4.5.3.2.)

3.3.8.3 Water spray (van body shell without interior). When subjected to a water spray, all visible inboard/inside surfaces of the van shall show no moisture penetration or water leakage during or after the spray period (see 4.5.3.3).

3.4 Performance. The semitrailer when properly lubed and serviced and towed by a compatible prime mover shall meet the performance requirements specified herein when the vehicle is operated under the road/terrain, course and speed conditions specified in table I. The rated payload is 12 000 lbs and evenly distributed.

3.4.1 Payload, towing speed, and tracking. When towed at the speeds specified in table I, over the roads and terrains specified therein, the semitrailer shall be capable of transporting the rated payload without failure, permanent deformation, or damage. The semitrailer shall track the towing vehicle within 2 in. to each side of the path of the towing vehicle when the towing vehicle is moving in a straight line (see 4.5.4.1).

TABLE I. Road/terrain, course and speed requirements.

Road and terrain type	Course distance	Speed (mph) <sup>1/</sup>	
		Maximum	Minimum
Hard-surfaced (paved) roads	2400 miles	55	50
Gravel and dirt (secondary) road	1620 miles	30	20
Level cross-country terrain	1500 miles	30	10
Hilly cross-country terrain	360 miles	30	10
Belgian block	120 miles	20	15
Side slope, 20%	200 ft	5	3
Longitudinal slope, 20%	200 ft	5	3

<sup>1/</sup> Speed may vary between the maximum and minimum speed allowed based on terrain/environmental conditions and determined safe by the operator of the prime mover.

3.4.2 Fording. With doors closed, the semitrailer shall be capable of fording hard-bottom water crossings to a depth of 5 ft without the entrance of water or moisture penetration into the interior of the van, including the personnel/equipment area of the van body, the sealed taillight assemblies, and the sealed wheel bearings. No entrance of water leakage into the personnel/equipment area of the van shall include no water on the threshold (when van doors are

## MIL-PRF-46714D(AT)

closed), no water on the inboard side of the door gaskets and no water in the van door lock wells (see 4.5.4.2).

3.4.3 Turning ability. The semitrailer shall be capable of making complete 90° turns, right and left, relative to the towing vehicle without interference between the towing vehicle and the semitrailer (see 4.5.4.3).

3.4.4 Landing gear. The landing gear shall support the fully loaded semitrailer without deformation and shall withstand, without damage, strains imposed upon it due to coupling, lowering, or raising the fully loaded semitrailer. The landing gear assembly shall function properly during extending and retracting operations (see 4.5.4.4).

3.4.5 Braking.

3.4.5.1 Service brakes. The service brakes of the combination semitrailer and towing vehicle shall control, decelerate, and stop the semitrailer within 35 ft from a speed of 20 miles per hour (mph) on a dry, hard, paved, level, smooth surface. Application of brakes on all wheels of the semitrailer and towing vehicle shall be concurrent (see 4.5.4.5.1).

3.4.5.2 Automatic brake actuator. The semitrailer shall be equipped with an automatic actuating device to apply the semitrailer brakes upon breakaway from the towing vehicle. The actuator shall maintain application of the brakes and hold the semitrailer stationary on a 20% grade for not less than 15 minutes (see 4.5.4.5.2).

3.4.6 Grade and slope operation. The towed semitrailer shall be capable of transporting the rated payload without slipping or upsetting when ascending or descending longitudinal grades of up to 20% and when crossing side slopes of up to 20% at speeds between 3 and 5 mph (see 4.5.4.6).

3.4.7 Environmental. The semitrailer when properly lubed and serviced shall be operational in all types of weather conditions, in ambient temperatures ranging from -50 degrees Fahrenheit (°F) to +120°F, and in ambient relative humidities of 1 to 100% without deterioration of componentry or performance. Unless otherwise specified (see 6.2), the semitrailer shall be lubricated for -10°F to +125°F ambient air temperature (see 4.5.5).

## MIL-PRF-46714D(AT)

3.4.8 Life cycle.

3.4.8.1 Road/terrain, course and speed requirements. When loaded with payload of 12 000 lbs evenly distributed, the semitrailer shall complete a minimum of 6000 miles of operation plus remaining terrain testing as specified in table I without failure of the following (see 4.5.6.1).

- a. Components and subassemblies, i.e. kingpin, van body structure, van bogie structure, including suspension brackets.
- b. Performance requirements of 3.4.

The term “without failure” specified herein refers to components/items/vehicles that shall meet their normal performance/functional requirements, shall have no weld cracks, shall have no base metal cracks, and shall have no permanent deformation of items after completion of the 6000 mile test specified herein.

3.4.8.2 Durability. When operated in accordance with 3.4.8.1, the vehicle shall possess not less than 0.60 probability of completing a minimum of 6000 miles of operation, when loaded in accordance with table I without replacement or overhaul of the principal components and subassemblies, i.e., under-carriage frame, kingpin, van body, suspension assembly including springs, axle and wheels, landing device, leveling mechanism, and brake system components (less brake shoes and common hardware) (see 4.5.6.1). The criteria for replacement or overhaul will be as prescribed by the maintenance manual.

3.4.8.3 Maintainability. The total scheduled and unscheduled maintenance excluding driver/crew checks and services shall not exceed 19 manhours during the first 6000 miles of operation, at the speeds specified in table I, and with rated payload. This equates to a MR of 0.127 at 20 mph. The scheduled maintenance intervals shall be 3 months or 3000 miles of operation, whichever comes first. Maximum time to repair (to include diagnosis, repair, and verification) using personnel normally employed at (see 4.5.6.2):

- a. Organizational maintenance level shall not exceed 3 hours 95% of the time.
- b. Direct support maintenance level shall not exceed 7 hours 95% of the time.

3.5 Painting. All van exterior and interior surfaces shall be suitably cleaned, treated and primed for the applicable semitrailer material. Final top coat color shall be forest green, color chip number 34083 in accordance with FED-STD-595 (see 4.5.2). If required, CARC paint shall be specified in the contract or order (see 6.2).

## MIL-PRF-46714D(AT)

3.6 Marking. Marking shall be as follows (see 4.5.2):

- a. The United States registration number marking shall be black, 1 in. in height, and applied to the inboard panel on the side door only.
- b. The "US ARMY" stencil marking shall not be applied.
- c. All marking callouts, interior and exterior (for example, "Use for Lift Only," "Tire Pressure," etc.) shall be painted black. The dividing line between markings and the van's regular exterior paint shall be sharp and clear.

3.6.1 Identification data plates. The actual weight of the first five vehicles, with all miscellaneous equipment in proper stowage position, shall be hand stamped on subject vehicle identification plates. The actual weights shall be rounded-up to the nearest 50 lbs. The remaining vehicle identification plates shall have the weight of the first production vehicle printed on the data plates (see 4.5.2).

3.7 Servicing and adjusting. Prior to acceptance of the semitrailer by the Government, the contractor shall adjust and service each semitrailer for operational use including, as a minimum, the following: Fill and adjust the brake system, check the electrical system, check the tire pressure, and completely lubricate the semitrailer with specified lubricants for the ambient temperatures at the delivery point (see 4.5.2).

3.7.1 Lubrication. The contractor shall lubricate the semitrailer componentry in accordance with the applicable drawing(s) and as follows:

- a. All exposed surfaces of the fully extended lower leg on each landing gear assembly.
- b. All surfaces of each lifting eye and all surfaces of each lifting eye housing.
- c. The threads of each aircraft tiedown provision.
- d. The entire exposed surface of the kingpin.
- e. The kingpin bolster plate surface.
- f. All exposed surfaces of the door hinge pins (prior to assembly), door lock keepers, door handle o-ring (prior to assembly), striker plates, van rubber gaskets, and door-lock pivot points.
- g. All threads of the leveling jack screw and housing assembly.
- h. Each landing gear handle (prior to assembly).

3.8 Workmanship. Workmanship shall be of such quality as to assure that the semitrailer and its components are free from defects that compromise, limit, or reduce the capability of the semitrailer in the performance of its intended use. The semitrailer shall exhibit good workmanship throughout, evidencing good quality manufacturing practices. Examples of good workmanship include, in part (see 4.5.2):

- a. Straight rivet lines and uniform spacing of rivets.

## MIL-PRF-46714D(AT)

- b. Caulking and sealant surfaces smooth and uniform.
- c. Paint surfaces in accordance with 3.5.
- d. Welds which are free of undercuts, overlays, overlaps, surface cracks in weld metal or heat-affected zone of base metal, porosity and inclusions, blow-holes/burn through, and craters.
- e. Fit-up items, joints, and similar surfaces aligned properly and exhibiting no gap greater than that allowed herein for welding and in the applicable drawing(s) (see 6.2).
- f. Drive pins, rivets, screws, etc., installed completely, and tightened securely or torqued to the specified requirements (if provided).

3.9 Vehicle safety. The semitrailer shall comply with all Federal Motor Carrier Safety Regulation (FMCSR) and Federal Motor Vehicle Safety Standard (FMVSS) requirements applicable to this vehicle at the time of manufacture. The semitrailer shall be free of sharp projections or edges that may cause the operator or maintainer injury. All rotating or moving parts, hot surfaces, electrically energized components, components containing high pressures or other inherently hazardous components or systems shall be effectively guarded or insulated to protect operating and maintenance personnel (see 4.5.2).

#### 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 inspection (see 4.3).

4.2 First article inspection. Unless otherwise specified (see 6.2), first article inspection shall be performed on 3 semitrailers when first article is required (see 3.1). This inspection shall include the examinations of 4.4 (see table II) and the applicable tests of 4.5.3 through 4.5.6.2 and 4.5.7 (see table III).

4.2.1 Five-mile road test. Prior to first article testing, the semitrailer shall be towed for a distance of not less than 5 miles, without payload, over smooth relative level, hard-surfaced roads. This operation shall determine if the brakes have been properly adjusted, automatic break-away devices are operating, wheels are aligned for tracking, and wheels meet turning requirements. On completion of this operation, doors and sides shall be opened and closed to ensure proper operation, fit, and alignment.

4.2.2 Fifty-mile break-in road test. Following the five-mile road test, the semitrailer shall be loaded with a highway payload or with a simulated load of equal weight and towed 50 miles.

## MIL-PRF-46714D(AT)

4.3 Conformance inspection. Conformance inspection shall include the examinations of 4.5.2 (see table II) and the tests of 4.5.3.1, 4.5.3.2, 4.5.3.3, 4.5.4.5.1, 4.5.4.5.2, and 4.5.7 (see table III). Unless otherwise specified (see 6.2), conformance examination shall be performed on each trailer (100%).

4.3.1 Five-mile road test. Prior to conformance testing, the semitrailer shall be towed and inspected as in 4.2.1.

#### 4.4 Examination.

4.4.1 Sampling. If specified (see 6.2), samples from an inspection lot for conformance inspection shall be selected in accordance with ANSI/ASQC Z1.4. Any redesign or modification of the contractor's standard to comply with specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements of requirements of 3.3, 3.3.1, 3.5, 3.6, 3.7 and 3.8 as listed in table II. Noncompliance with any specified requirement or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

TABLE II. Classification of defects.

Category	Defect	Method of examination
<u>Major:</u>		
101	Dimensions affecting transportability or interchangeability not within tolerance (see 3.3).	SIE 1/
102	Functional equipment does not operate correctly (see 3.3).	Functional
103	Lighting switches do not function correctly (see 3.3.4.1).	Functional
104	Electrical circuits do not have continuity (see 3.3.4.2).	SIE
105	Adjustment mechanisms malfunction (see 3.3.5).	Functional
106	Electrical, mechanical & hydraulic controls malfunction (see 3.3.6).	Functional
107	Brake lines improperly installed or leak (see 3.3.7).	Visual & Pressurization
108	Marking and identification improper (see 3.6).	Visual
109	Servicing and adjustment of trailer for shipment not correct (see 3.7).	Visual
110	Faulty workmanship affecting performance (see 3.8).	Visual

TABLE II. Classification of defects - Continued.

Category	Defect	Method of examination
<u>Minor:</u>		

## MIL-PRF-46714D(AT)

201	Dimensions not affecting transportability or interchangeability not within tolerance (see 3.3).	Visual
202	Painting improper (see 3.5).	Visual
203	Faulty workmanship affecting appearance (see 3.8).	Visual

1/ SIE = Standard Inspection Equipment.

TABLE III. Classification of inspections.

Title	Requirement	Inspection	First article	Conformance	
				Examinations	Tests
Materials	3.2, 3.2.1	4.5.1	X		
Defects	3.3, 3.3.3, 3.3.4.1, 3.3.4.2, 3.3.5, 3.3.6, 3.3.7, 3.5 thru 3.8	4.5.2	X	X	
Transportability	3.3.1	4.5.7	X		X
Lifting and tiedown provisions	3.3.2	4.5.7	X		X
Disassembly and reassembly	3.3.2.1	4.5.7	X		X
Water spray (completed van)	3.3.8.1	4.5.3.1	X		X
Immersion (van body shell)	3.3.8.2	4.5.3.2	X		X
Waterspray (van body shell w/o interior)	3.3.8.3	4.5.3.3	X		X
Payload, towing speed, and tracking	3.4.1	4.5.4.1	X		
Fording	3.4.2	4.5.4.2	X		
Turning ability	3.4.3	4.5.4.3	X		
Landing gear	3.4.4	4.5.4.4	X		
Service brakes	3.4.5.1	4.5.4.5.1	X		X
Automatic brake actuator	3.4.5.2	4.5.4.5.2	X		X
Grade and slope operation	3.4.6	4.5.4.6	X		
Environmental	3.4.7	4.5.5	X		
Road/terrain, course, and speed requirements	3.4.8.1	4.5.6.1	X		
Durability	3.4.8.2	4.5.6.1	X		
Maintainability	3.4.8.3	4.5.6.2	X		

## MIL-PRF-46714D(AT)

4.5 Methods of inspection.

4.5.1 Materials. Conformance to 3.2 and 3.2.1 shall be determined by inspection of contractor records providing proof or certification that designs, 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.

4.5.2 Defects. Conformance to 3.3, 3.3.3, 3.3.4.1, 3.3.4.2, 3.3.5, 3.3.6, 3.3.7, 3.5, 3.6, 3.7, 3.8, and 3.9 shall be examined for the defects listed in table II. Examination shall be visual, tactile, or by measurement with SIE.

4.5.3 Watertightness.

4.5.3.1 Water tightness/rain test on completed van. To determine conformance to 3.3.8.1, each semitrailer body shall be subjected to a two-hour (minimum) spray test to determine waterproofness of riveted joints, door seals and all other openings. Test shall be conducted after complete fabrication of the van body with interior installed. The spray shall be delivered by nozzles operating at a minimum of 55 psi pressure to be determined at a point within three feet of the most distant nozzle from the water source. Nozzles shall be sufficient in number and placed within three feet of van body. The spray shall impinge on each seam and door seal with impingement separated by a distance no greater than one foot. The spray shall impinge on all areas of the exterior of the van body at angles of 20 to 90° to the surface being sprayed. To assure total coverage during the spray test, areas not covered by water spray impingement shall have a continuous flow of water over such areas. During the test, doors shall be closed as in normal operation without any additional measures taken to improve door sealing. The interior surface of the clearance marker light lens and tailgate lens shall show no evidence of moisture penetration.

4.5.3.2 Van body immersion test. To determine conformance to 3.3.8.2, each van body shall be immersed to a depth of 13 to 13.5 in. above the floor pan. Test shall be conducted after complete fabrication of the van body and prior to installation of insulation, inner panels, flooring, paint and perforated sheet metal, if any, but with floor supports in place and windows or vents above the water lines open to relieve air pressure. With the space between the outer walls and the fording plates filled to within 1.5 in. of the top, there shall be no evidence of water leakage. If leaks occur, the van body shall be rejected. This test may be performed with or without suspension installed. Upon completion or repairs, the van body shall be retested.

## MIL-PRF-46714D(AT)

4.5.3.3 Water tightness test/van body shell. To determine conformance to 3.3.8.3, during acceptance testing, each van body (without interior) shall be tested in accordance with the testing procedure as specified in 4.5.3.1 with the exception that the duration of the test time shall be 45 minutes (minimum) in lieu of two hours.

4.5.4 Performance.

4.5.4.1 Payload, towing speed, and tracking. To determine conformance to 3.4.1, the semitrailer shall be attached to the towing vehicle and operated as specified. The semitrailer shall perform without failure.

4.5.4.2 Fording. To determine conformance to 3.4.2, the semitrailer shall be placed in water of the specified depth for 30 minutes and checked for leakage. Preparation for the fording operation shall consist of only closing and locking of van body doors. The side van door lock well shall be observed for water leakage when the van is on side slope (left side of van is facing upward on slope). The rear van door lock well shall be observed for water leakage when the front of the van is facing upward on longitudinal slope. This is to be accomplished immediately after the fording test. The taillight assemblies shall be observed for water behind the lenses immediately after fording. The wheels shall be removed to determine the presence of water in the wheel bearings.

4.5.4.2.1 Optional fording test. The completed van body without payload shall be tested as specified in 4.5.4.2. The van shall be immersed in water to a depth of five feet. End performance requirements, testing methods, etc., pertaining to the van body shall remain the same.

4.5.4.3 Turning ability. To determine conformance to 3.4.3, the turning ability shall be checked for performance as specified.

4.5.4.4 Landing gear. To determine conformance to 3.4.4, the semitrailer shall be placed on firm surface and loaded to rated payload. The landing device and combined leveling mechanism shall function and perform as specified.

4.5.4.5 Braking. Prior to performance testing as specified in 4.5.4.5.1 and 4.5.4.5.2, the master cylinder shall be filled to the proper level with silicone brake fluid and the brake system bled to remove all entrapped air. The brake system shall be adjusted and free of all air bubbles prior to the start of performance testing.

4.5.4.5.1 Service brakes. To determine conformance to 3.4.5.1, the service brakes shall be tested for conformance to the performance specified and capability to control, decelerate, and stop the vehicle shall be verified.

## MIL-PRF-46714D(AT)

4.5.4.5.2 Automatic brake actuator. To determine conformance to 3.4.5.2, the automatic brake actuator shall be tested for conformance to the performance specified and capability to maintain application of the brakes and hold the vehicle stationary on a 20% grade for not less than 15 minutes shall be verified.

4.5.4.5.2.1 Optional test method for conformance testing. The semitrailer without payload shall maintain application of the brakes and hold the semitrailer stationary on any grade from 0 to 20% for not less than 15 minutes. Immediately thereafter, the semitrailer shall be towed and all semitrailer wheels shall skid.

4.5.4.6 Grade and slope operation. To determine conformance to 3.4.6, the semitrailer shall be attached to the towing vehicle and operated as specified. During the first article testing, side slope and longitudinal grade testing shall be conducted for not less than 200 ft (400 ft total).

4.5.5 Environmental. To determine conformance to 3.4.7, the semitrailer properly serviced and equipped shall be operated at the high and low temperatures specified therein.

4.5.6 Life cycle.

4.5.6.1 Durability verification. To determine conformance to 3.4.8.1 and 3.4.8.2, the durability requirement shall be verified at 50% confidence level by subjecting each of two vehicles to 6000 mile test in 4.5.6.2.

4.5.6.2 Maintainability verification. To determine conformance to 3.4.8.3, maintainability requirements of the test vehicle shall be verified during 6000 mile initial production test over terrain and mileage specified in table IV. Maintainability of the test vehicle shall meet specified scheduled and unscheduled maintenance manhours at required maintenance intervals. Maintenance operations will be performed by the Government at a Government approved test site.

TABLE IV. 6000-mile test, loaded with 12 000 lbs rated payload.

Course	Mileage and speeds
Hard-surfaced (paved) roads	2400 miles at variable speeds up to 55 mph
Gravel and dirt roads	1620 miles at variable speeds up to 30 mph
Level cross-country (unimproved) terrain	1500 miles at variable speeds up to 30 mph
Hilly cross-country	360 miles at variable speeds up to 30 mph
Belgian block	120 miles at variable speeds up to 20 mph
20% side slope and 20% longitudinal slope	400 ft total at variable speeds up to 5 mph

4.5.7 Transportability provisions. To determine conformance to 3.3.1 through 3.3.2.1, the semitrailer shall be inspected for agreement with the transportability criteria defined in

## MIL-PRF-46714D(AT)

MIL-STD-209 and MIL-STD-1366. The semitrailer shall be inspected for adequacy of lifting and tiedown provisions, instructions for components removal and tiedown of those removed components when required for transport, and the design rating (see 3.3.2 and 3.3.2.1).

## 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.

## 6. NOTES

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

6.1 Intended use. The van semitrailer covered by this specification is intended for use as a tactical vehicle. Although it is primarily intended to transport and house electronic processing equipment, its other uses include maintenance (electrical, mechanical, and electronic) shops, parts, storage and transport, and command posts. The semitrailer is suitable for operation on paved roads, hilly and level cross-country, and Belgian block roads, and under the following environmental conditions:

- a. Inclement weather conditions including arctic, desert, and tropical-type environments.
- b. Biological chemical (BC) environments.
- c. Low-level electromagnetic/radio frequency (EM/RF) environments.
- d. Fording to depths of five feet.

In addition, the semitrailer is rail transportable in CONUS on all types of TOFC railcars, and rail transportable in Europe through all tunnels meeting AR 70-47 dimensional requirements. The semitrailer is air transportable in C-130, C-141, and C5 type of aircraft.

## MIL-PRF-46714D(AT)

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. 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).
- c. Drawing number, revision and date, and title and model number of the specific van semitrailer.
- d. If first article is required (see 3.1).
- e. Title, number, and date of applicable drawing(s) (see 3.3).
- f. The type of lubrication if other than as specified (see 3.4.7).
- g. If CARC paint is required (see 3.5).
- h. If sample size for first article inspection should be other than as specified (see 4.2).
- i. If conformance examination is to be performed on a sampling basis instead of 100% inspection (see 4.3 and 4.4.1).
- j. Packaging requirements (see 5.1).

6.3 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors on whether the sample(s) should be the first production vehicle and/or initial production vehicles and for each inspection category specify the number of samples to be inspected and the specific tests (including the applicable road tests) to be performed on each sample. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first article. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.4 Subject term (key word) listing.

Adjustment mechanism  
 Command posts  
 Controls  
 Electrical circuits  
 Fording  
 Lighting systems  
 Maintenance shops  
 Mobile shelter  
 Service brakes

MIL-PRF-46714D(AT)

6.5 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 2330-0218)

# 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.

### I RECOMMEND A CHANGE:

#### 1. DOCUMENT NUMBER

MIL-PRF-46714D(AT)

#### 2. DOCUMENT DATE (YYMMDD)

960726

#### 3. DOCUMENT TITLE

Semitrailer, Van: Electronic, Tactical, 6-Ton, 2 Wheel, M373A2

#### 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

#### 5. REASON FOR RECOMMENDATION

#### 6. SUBMITTER

##### a. NAME (Last, First, Middle Initial)

##### b. ORGANIZATION

##### c. ADDRESS (Include Zip Code)

##### d. TELEPHONE (Include Area Code)

(1) Commercial

(2) AUTOVON

(If applicable)

##### 7. DATE SUBMITTED

(YYMMDD)

#### 8. PREPARING ACTIVITY

##### 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/BUE,  
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