

INCH-POUND
MIL-DTL-1716J
10 July 1997
SUPERSEDING
MIL-P-1716H
AMENDMENT 1
21 August 1984

DETAIL SPECIFICATION

POLE, TENT, TELESCOPIC, ADJUSTABLE 5 FEET TO 9 FEET, MAGNESIUM

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers one type and size of tubular magnesium telescopic tent pole. The pole is expandable from 5 feet to 9 feet in length according to the following adjustments:

5 feet - 0 inches
5 feet - 8 inches
6 feet - 2 inches
7 feet - 0 inches
8 feet - 3 inches
8 feet - 6 inches
9 feet - 0 inches

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in section 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: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FNS, 2800 South 20th Street, Philadelphia, PA 19145-5099, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8340

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

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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).

SPECIFICATIONS

FEDERAL

QQ-S-700 - Steel, Sheet and Strip, Medium and High Carbon.

TT-E-529 - Enamel, Alkyd, Semi-Gloss.

TT-P-664 - Primer Coating, Alkyd, Corrosion - Inhibiting, Lead and Chromate Free, VOC-Compliant

MILITARY

MIL-M-3171 - Magnesium Alloy, Processes for Pretreatment and Prevention of Corrosion On.

STANDARDS

FEDERAL

FED-STD-601 - Rubber: Sampling and Testing

FED-STD-595 - Colors Used In Government Procurement

MILITARY

MS16562-24 - Pins, Spring, Tubular, Slotted.

DRAWINGS

U.S. ARMY NATICK RESEARCH AND DEVELOPMENT LABORATORIES

5-4-1073 - Pole, Tent, Telescopic, Adjustable, 5'-0" to 9'-0", Magnesium; Assembly Complete

5-4-1074 - Pole, Tent, Telescopic, Adjustable, 5'-0" to 9'-0", Magnesium; Pole Details and Sections.

5-4-1075 - Pole, Tent, Telescopic, Adjustable, 5'-0" to 9'-0", Magnesium; Details.

(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.)

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2.3 Non-Government publications. The following document(s) 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)

- A 231 - Chromium-Vanadium Alloy Steel Spring Wire
- A 366 - Steel, Carbon, Cold-Rolled Sheet, Commercial Quality
- B 85 - Aluminum Alloy Die Castings
- B 94 - Magnesium - Alloy Die Castings
- B 107 - Magnesium - Alloy Extruded Bars, Rods, Shapes, Tubes, and Wire
- B 633 - Electrodeposited Coating of Zinc on Iron and Steel
- D 412 - Tension Testing of Rubber
- D 1053- Measuring Rubber Property - Stiffening at Low Temperature Using a Torsional Wire Apparatus
- D 2240- Rubber Property - Durometer Hardness
- E 18 - Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- J-STD-004 - Requirements for Soldering Fluxes
- J-STD-005 - Requirements for Soldering Pastes
- J-STD-006 - Requirements for Electronic Grade Solder Alloys and Fluxed and Non-Fluxed Solid Solders for Electronic Soldering Applications

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Application for copies should be addressed to American National Standards Institute, 11 West 42nd St., New York, NY 10036)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

SAE J404 Chemical Compositions of SAE Alloy Steels

(Application for copies should be addressed to Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

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2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), 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.

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.

3.2.2 Magnesium alloy.

3.2.2.1 Tube. Magnesium alloy tubes shall conform to composition AZ31B of ASTM B 107/B 107M.

3.2.2.2 Die castings. Magnesium alloy die casting shall conform to magnesium alloy AZ91B of ASTM B 94.

3.2.3 Aluminum alloy die castings. Aluminum alloy die castings shall conform to alloy number A-380.0 of ASTM B85.

3.2.4 Steel.

3.2.4.1 Strip, alloy. Alloy steel strip shall conform to alloy steel number 6150 hot rolled condition of SAE J404.

3.2.4.2 Strip, low carbon. Low carbon steel strip shall conform to chemical compositions 1008-1020, any quality, temper and finish in accordance with ASTM A 366.

3.2.4.3 Sheet, medium and high carbon. Medium and high carbon steel sheet shall conform to composition SAE number 1050, cold rolled, annealed last of QQ-S-700.

3.2.4.4 Wire alloy. Alloy steel wire shall conform to ASTM A 231 except that the wire shall be flat with 1/64 inch radii on edges.

3.2.5 Solder. Solder shall conform to ANSI J-STD-004, J-STD-005 and J-STD-006.

3.2.6 Pins, spring. Spring pins shall conform to MS 16562-24.

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3.2.7 Primer. Primer shall conform to TT-P-664.

3.2.8 Enamel. Enamel shall conform to TT-E-529, except the color shall be No. 24084 of FED-STD-595.

3.2.9 Rubber, synthetic. Synthetic rubber shall conform to the following properties before and after aging 24 hours at 212° F in accordance with Method 7221 of FED-STD-601:

- (a) Minimum tensile strength of 1200 psi in accordance with ASTM D 412.
- (b) Ultimate elongation of 500 (+ 20) percent in accordance with ASTM D 412.
- (c) Minimum 600 psi at 300 percent elongation in accordance with ASTM D 412.
- (d) Tension set at break of 20 (+ 2) percent in accordance with ASTM D 412.
- (e) Shore A Durometer hardness of 60 (+ 5) in accordance with ASTM D 2240.
- (f) Low temperature stiffness at minus 65° F with exposure time of 10 minutes and coolant of dry ice cooled methanol in accordance with ASTM D 1053, using routine inspection and acceptance procedure.

3.2.10 Powder coating. As an alternate to the primer and enamel specified, the tent poles may be coated with a commercial powder coating. It shall be applied in accordance with the manufacturers instructions. Any coating damaged during assembly of the pole or during examination shall be touched up. The color shall be as specified in para. 3.2.8.

3.2.11 Enamel Acrylic. As an alternate to the coating requirements specified in 3.2.8 and 3.2.10, enamel conforming to Duracon Super 600 acrylic or equal may be used to coat the tent pole.

3.3 Construction. The construction of all components and assembly of the pole covered herein shall conform to the requirements of this specification and as shown on the drawings listed in section 2.2. The lock retaining sleeve shall be fabricated from material specified in 3.2.9.

3.3.1 Top, center and bottom tubular sections. Top, center and bottom tubular sections shall be fabricated from material specified in 3.2.2.1.

3.3.2 Plug. Plug shall be fabricated from material specified in 3.2.2.2 or 3.2.3.

3.3.3 Spindle. Spindle shall be fabricated from material specified in 3.2.3.

3.3.4 Locks.

3.3.4.1 Body. The body of the locks shall be fabricated from material specified in 3.2.4.1. As an alternate; alloy steel wire as specified in 3.2.4.4. may be used in lieu of the alloy steel strip. Prior to assembly with the nib filler, the body of the locks shall be heat treated to a Rockwell hardness of C40-C45. When tested as specified in 4.4., the Rockwell hardness shall be within the limits of a minimum of C40 and a maximum of C45.

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3.3.4.2 Filler, nib. The nib filler shall be fabricated from material specified in 3.2.4.2.

3.3.4.3 Soldering. After assembly of the lock, the nib filler shall be soldered in place with solder specified in 3.2.5. Soldered joints shall be complete, sound, smooth and free from pin holes and flux residue.

3.3.5 Alternate construction. Locks may be fabricated by an alternate method conforming to Drawing 5-4-1075 and as specified herein:

- a. Locks shall be fabricated from material specified in 3.2.4.3.
- b. Locks shall be heat treated to a Rockwell hardness of C40-45.

When tested as specified in 4.4, the Rockwell hardness shall be within the limits of a minimum of C40 and a maximum of C45 prior to stress relieving before plating.

3.4 Finish.

3.4.1 Plating, zinc. Locks shall be zinc plated conforming to type II, SC-3 of ASTM B 633 except as follows:

- a. Locks shall be stress relieved before plating by heat treatment at 275° F to 350° F for a period of 30 minutes followed by air cooling.
- b. The temperature of the heat treatment for embrittlement relief of the locks after plating shall be 340° F plus or minus 20° F for a minimum period of 3 hours.

3.4.2 Pretreatment. Prior to assembly, interior and exterior surfaces of the magnesium plug and tubular sections shall be pretreated in accordance with type III or IV of MIL-M-3171.

3.4.3 Priming. After pretreatment as specified in 3.4.2, the pole shall be primed when using the enamel specified in 3.2.8. Prior to assembly, all outside surfaces of the tubular sections, plug and spindle shall be coated with primer specified in 3.2.8. Priming is not required when the coating specified in 3.2.10 or 3.2.11 is used.

3.4.4 Enameling. Either before assembly of the pole or with the assembled pole (excepting the locks and lock retaining sleeves) in the fully extended position, all exterior primed surfaces shall be coated with enamel specified in 3.2.8. At the option of the contractor, interior surfaces may be enameled. The enamel (or alternate coatings) shall be air dried or cured in accordance with the enamel manufacturer's instructions. The coating shall level out to produce a smooth, uniform, dry film without runs, wrinkles, streaks, grit and coarse particles. Any coating damaged during assembly of the pole or during examination shall be touched up.

3.5 Marking for identification. The letters "U.S." and the manufacturer's name or trade name or trademark of such characters identifiable with the manufacturer, shall be distinctly indented or raised on the bottom surface of the plug and shall be not less than 1/8 inch in size.

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3.6 Workmanship. Components shall be free from split, puncture, burr, rough or sharp edge, malformation, deformation, or fracture. The completely finished pole shall be capable of function without the use of tools.

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. When a first article is required (see 6.2), it shall be examined for defects specified in table III and 4.3.3.2. The presence of any defect shall be cause for rejection of the first article.

4.3 Conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with ANSI/ASQC Z1.4.

4.3.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified, in this specification or applicable purchase document. In addition to the quality assurance provisions of the subsidiary specifications and drawings, testing shall be performed on components listed in table I for the test characteristics shown. A lot shall consist of all bodies of locks (or locks when alternate construction is used) offered for inspection at one time prior to stress relieving and plating. The sample unit shall be one body of the lock (or lock when alternate construction is used).

TABLE I. Component test

Component	Characteristic	Specification reference		Requirements applicable to Individual unit	Number determinations per unit	Results reported as
		Requirement	Test method			
Body of lock	Hardness Rockwell C40-C45	3.3.4.1 or 3.3.5 as applicable	4.4	X	3	Average of three determinations to nearest Rockwell scale reading

4.3.2 In-process examination. Examination shall be made at any point during any phase of the manufacturing for the requirements specified in table II to establish that no deviation is made from the indicated requirements. Whenever a nonconformance is noted, correction shall be made to affected items and process.

MIL-DTL-1716J**TABLE II. In-process examination of finishing**

Requirement or operation	Requirement
Zinc plating	3.4.1
Pretreatment of magnesium surfaces prior to assembly	3.4.2
Priming of tubular sections, plug, and spindle prior to assembly	3.4.3

4.3.3 End item inspection. The end item shall be examined in accordance with 4.3.3.1 and 4.3.3.2. The lot size shall be expressed in units of one pole. The sample unit shall be one completely fabricated pole.

4.3.3.1 Visual examination. The end item shall be examined for the defects listed in table III.

TABLE III. Visual defects

Examine	Defect	Classification	
		Major	Minor
Finish	Not finish as specified, e.g., locks not zinc plated	101	
	Aluminum and magnesium components not enameled as specified	102	
	Color of finish is not as specified		201
	Coating not smooth or uniform		202
	Finish is not dry, i.e., wet or tacky to touch		203
	Runs, wrinkles, streaks, grit or coarse particles		204
	NOTE: Defects in finish attributable to extension during examination will not be scored as a defect. However, the contractor shall touch up areas of finish damaged during examination		
Construction and workmanship	Any part not fabricated of the specified materials	103	
	Any component, e.g., the lock, not fabricated as specified	104	
	Component missing, e.g., tubular section, lock or spring pin	105	
	Component is split, punctured, malformed, deformed, or fractured		205
	Spring pin is loose or is not flush with tubular section		206
	Fluting on spindle or plug is missing		207
	Plug end of bottom tubular section not swaged against plug		208
	Spindle end of top tubular section not swaged against spindle		209
	Plug vent hole missing		210
	Slot missing in tubular section		211

MIL-DTL-1716J**TABLE III. Visual defects cont'd.**

Examine	Defect	Classification	
		Major	Minor
Construction and workmanship (cont'd)	Burr or rough or sharp edge		212
	Soldered joint of nib filler (when applicable) to lock body is incomplete, unsound, not smooth, not free from pin holes or flux residue		213
Extension and collapsibility	Pole cannot be extended or collapsed, e.g., tubular section binds prohibiting free manipulation of tubular sections	106	
	Pole comes apart	107	
	Pole cannot be locked at each specified length		214
Identification marking	Missing, wrong location, wrong size, incomplete, illegible, incorrect, or not accomplished as specified		215

4.3.3.2 Dimensional examination . Examination shall be made of the poles for defects in dimension. Any dimension not within specified requirements shall be classified as a defect.

4.4 Methods of inspection.

4.4.1 Hardness test. The Rockwell hardness of the body of the locks shall be tested in accordance with ASTM E 18. Any body of the locks having a Rockwell hardness of less than C40 or more than C45 shall be classified as defective.

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 material 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 adjustable, telescopic, magnesium, tent pole is intended to be used with the arctic ten-man tent and the hexagonal lightweight tent.

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6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of the 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)
- c. Packaging requirements (see 5.1)
- d. When a first article is required (see 3.1, 4.2)

6.3 Subject term (key word) listing.

Shelter
Upright
Expandable

Custodians:

Army - GL
Navy - NU
Air Force - 99

Preparing Activity:

DLA - CT

Project No. 8340-0566

Review activities:

Army - MD, ME
Air Force - 45, 82
Navy - MC

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8, 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-DTL-1716J

2. DOCUMENT DATE (YYMMDD)

10 July 1997

3. DOCUMENT TITLE

POLE, TENT, TELESCOPIC, ADJUSTABLE 5 FEET TO 9 FEET, MAGNESIUM

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
DEFENSE PERSONNEL SUPPORT CENTER
DPSC-FNSb. TELEPHONE *(Include Area Code)*

(1) Commercial

(2) AUTOVON

(215) 737-8079

444-8079

c. ADDRESS *(Include Zip Code)*2800 South 20th STREET
PHILADELPHIA, PA 19145-5099**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:**Defense Quality and Standardization Office
5203 Leesburg P ke, Suite 1403, Falls Church, VA 22041-3466
Telephone (703) 756-2340 AUTOVON 289-2340