

FED. SUPPLY CLASS

5355

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

1. SCOPE

- 1.1 Scope. This specification covers aircraft control knobs, with and without skirts used with electric, communications and allied equipment (see 6.1).

2. APPLICABLE DOCUMENTS

2.1 Government documents

- 2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards and handbooks of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

P-C-444	Cleaning Compound, Solvent Soluble, Grease Emulsifying
C-F-206	Felt Sheet: Cloth, Felt, Wool, Pressed
~~TT-T-266~~	~~Thinner, Dope and Lacquer (Cellulose Nitrate)~~
A-A-857	Thinner, Dope and Lacquer (Cellulose-Nitrate)

Military

MIL-PRF-6081	Lubricating Oil, Jet Engine
MIL-DTL-7788	Panels, Information, Integrally Illuminated
MIL-E-17555	Electronic and Electrical Equipment, Accessories, and Repair Parts: Packaging and Packing of
MIL-DTL-18240	Fastener, Externally Threaded, 250 °F, Self-locking, Element for
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Aircraft, NATO Code Number H-537

STANDARDS

Federal

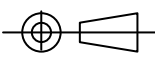
FED-STD-595	Colors Used In Government Procurement
FED-STD-H28/2	Screw - Thread Standards for Federal Services, Section 2, Unified Threaded Form and Thread Series for Bolts, Screws, Nuts, Tapped Holes and General Applications
FED-STD-H28/20	Screw - Thread Standards for Federal Services, Section 20, Inspection Methods for Acceptability of UN, UNR, UNJ, M and MJ Threads

Military

MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-202	Test Methods for Electronic and Electrical Component Parts
MIL-STD-810	Environmental Test Methods
MS25165	Knob, Pointer, Illuminated, Small
MS25166	Knob, Pointer, Illuminated

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THE INITIAL RELEASE OF THIS DOCUMENT SUPERSEDES MIL-K-25049, REVISION C, AMENDMENT 1.

THIRD ANGLE PROJECTION		CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 1
PROCUREMENT SPECIFICATION		TITLE KNOB, CONTROL, ELECTRONIC EQUIPMENT, GENERAL SPECIFICATION FOR	CLASSIFICATION SPECIFICATION MS25049
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Military (Continued)

MS25167	Knob, Round, Small
MS25168	Knob, Round
MS25169	Knob, Bar, Small
MS25170	Knob, Bar
MS33742	Shafts, Control Knob
MS33743	Holes, Control Knob Shaft

Copies can be obtained from the Department of Defense Single Stock Point (DODSSP). <http://dodssp.daps.dla.mil>

- 2.2 Other publications. The following documents form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

American Society for Quality

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

Copies can be obtained from the American Society for Quality, 600 North Plankinton Ave., Milwaukee, WI 53203. www.asq.org

ASTM International

ASTM G23	~~Operating Light Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials~~
ASTM G152	Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM D822	Operating Light and Water Exposure Apparatus (Carbon-Arc Type) For Testing Paint, Varnish, Lacquer and Related Products, Practice For

Copies can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. www.astm.org

Aerospace Industries Association

NASM21382	Knob, Round, Illuminated and Non-Illuminated, Small
NASM21383	Knob, Radial Indicator, Illuminated and Non-Illuminated
NASM21384	Knobs, Pointer, Illuminated and Non-Illuminated
NASM21385	Knobs, Tactile Series, Illuminated and Non-Illuminated
NASM21386	Knobs, Round, Concentric, Illuminated and Non-Illuminated
NASM21387	Knob, Round, Illuminated and Non-Illuminated
NASM51021	Setscrew, Hexagon Socket, Cup Point, CRES, Passivated, UNC-3A, Plain and Self-locking
NASM51963	Setscrew, Hexagon Socket, Cup Point, Alloy Steel, Cadmium Plated, UNC-3A, Plain and Self-locking

Copies can be obtained from the Aerospace Industries Association, 1000 Wilson Blvd., Suite 1700, Arlington, VA 22209. www.aia-aerospace.org

SAE International

AS18012 Markings for Aircrew Station Displays Design and Configuration of

Copies can be obtained from SAE International, 400 Commonwealth Dr., Warrendale, PA 15096-0001. www.sae.org

- 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references other than specification sheets cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

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- 3.1 Specification sheets and military standards. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheet or MS or NASM sheet. In the event of any conflict between requirements of this specification and the specification sheet or MS or NASM sheet, the latter shall govern. If specific requirements specified herein are not required for any knob, it shall be so indicated on the specification sheet or MS or NASM sheet.
- 3.2 First article inspection. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.5.
- 3.3 Material. The material for each part of the knobs shall be as specified (see 3.1). However, when a definite material is not specified, a material shall be used which will enable the knobs to meet the requirements of this specification. Acceptance or approval of any constituent material shall not be construed as a guarantee of the acceptance of the finished product.
- 3.4 Design and construction. The control knobs shall be of the design, construction and physical dimensions specified (see 3.1).
- 3.4.1 Weight. When specified (see 3.1), knobs shall meet weight requirements.
- 3.4.2 Concentricity and perpendicularity. The periphery of the knob shall be concentric to the rotation axis within .025 inches full indicator movement (FIM). The back plane of the knob shall be perpendicular to the rotational axis of the knob within 1/2 degree.
- 3.4.3 Threads. All threads shall be right hand and in accordance with FED-STD-H28/2. Acceptability of screw threads shall be in accordance with FED-STD-H28/20, System 22.
- 3.4.4 Insert. A metallic cylindrical insert shall form the shaft hole of plastic knobs. The insert shall be molded into the knob body and shall be provided with thread holes for setscrews as specified (see 3.1). A minimum of three threads shall be provided for setscrew engagement. The shaft hole shall be in accordance with MS33743. The screw holes within the plastic knob body shall be counterbored to the major diameter of the thread. Knobs with round shaft holes are not permitted for aircraft applications.
- 3.4.5 Setscrew. Unless otherwise specified (see 3.1), locking type, cup point setscrews shall be provided within all knobs. The setscrews shall conform to NASM51021 for CRES, and NASM51963 for alloy steel. Self-locking insert shall be in accordance with MIL-DTL-18240.
- 3.4.5.1 Screw length. The length of the screws shall be such that when tightened firmly against the shaft, it shall provide a minimum of three thread engagement and its head shall be a minimum of .015 of an inch below the surface of the knob.
- 3.4.6 Indicia. (See 6.4.4) Unless otherwise specified (see 3.1), letters, numbers and reference markings on control knobs shall be in accordance with AS18012.
- 3.4.7 Color. The colors of the knobs shall be as specified (see 3.1) and shall match the applicable color chip of FED-STD-595 when tested in accordance with 4.7.2.
- 3.5 Performance
- 3.5.1 Light transmission. (See 6.4.3) Illuminated knobs shall be tested in accordance with 4.7.3. Brightness ratio of reference markings on the knob shall be as specified (see 3.1). There shall be no light leakage around the setscrews.
- 3.5.2 Daylight contrast. Daylight contrast of knob indicia marking to the adjacent background shall be as specified (see 3.1) when tested in accordance with 4.7.4.
- 3.5.3 Coating adhesion. Coated knobs, when tested, (see 4.7.5) shall show no more than 25 percent loss of coating on each square.

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