

MIL-I-7627E  
AMENDMENT 1  
6 October 1986

# MILITARY SPECIFICATION

## INDICATOR, TURN AND SLIP, 28V DC

This amendment forms a part of MIL-I-7627E, dated 4 April 1974, and is approved for use within the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense.

### PAGE 1

Delete preambles and add:

"This specification is approved for use within the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense."

Delete 2.1 and add:

" 2.1 Government documents."

Add

"2.1.1 Specifications, standards, and handbooks. The following specifications, standard, and handbooks form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

(Copies of specifications, standards, handbooks, drawings, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)"

Add boxed paragraph to bottom center of page

Beneficial comments (recommendations, additions, deletions and any pertinent data which may be of use in improving this document should be addressed to: Oklahoma City Air Logistics Center/MMEDO, Tinker AFB OK 73145-5990 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

### PAGE 2

Under SPECIFICATION Federal Delete "L-P-378" and "QQ-P-416." Add "PPP-B-601 Boxes, Wood, Cleated-Plywood."

Under SPECIFICATION Military Delete "MIL-S-6872, "MIL-P-26514" and "MIL-B-83292" . Add: "MIL-C-83488 Coating, Aluminum Ion Vapor Deposited" and "MIL-B-81793 Bearing, Ball, Precision, For Instrument and Rotating Components".

### PAGE 3

Under STANDARDS Military Delete "MIL-STD-749" and add "MIL-STD-965 Parts Control Program" and "DOD-STD-1866 Soldering Process General (Non-Electrical)".

AMSC N/A

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FSC 6610

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

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Add:

"2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issue of the nongovernment documents which is current on the date of the solicitation.

ASTM D3951 Packaging, Commercial

(Application for copies should be addressed to: ASTM, 1916 Race St, Philadelphia PA 19103.)

(Nongovernment standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)"

3.2(c) Delete "MIL-B-83292" and add "MIL-B-81793".

Add:

"3.2.1.2 Recovered materials. Recovered materials shall be used to the maximum extent possible without jeopardizing the end use of the item."

PAGE 5

3.3.9 (c) Delete and add:

"3.3.9 (c) Temperature-altitude. 0 to 70,000 feet."

3.3.9 (d) Delete "503" and add "503.1".

3.3.9 (g) Delete "513.1" and add "513.2".

3.3.9 (h) Delete and add:

"3.3.9 (h) Vibration. MIL-STD-810, Method 514.2, Equipment Category b.1, Curve B from 5 to 500 Hz then down the 500 Hz line to the horizontal axis, Procedure I."

3.3.10 Line 3; delete (including the comma):, "Category B".

3.3.10.1 Delete paragraph in its entirety.

PAGE 11

3.5.8.3.4 Delete and add:

"3.5.8.3.4 Steel parts. Steel parts shall be coated with ion vapor deposited aluminum, where practicable, in accordance with MIL-C-83488, type I or II as applicable and of a class that is adequate to achieve the degree of protection required. Other protective coating, in lieu of MIL-C-83488, may be used if demonstrated to be satisfactory and approved by the cognizant engineering activity.

Cadmium plating must be avoided when satisfactory alternative processes can be used. Parts in a confined space in the presence of organic material shall be tin-cadmium plated in accordance with MIL-P-23408. The class and type of plating shall conform to 3.5.8.4."

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PAGE 13

3.5.10.6 Delete "MIL-S-6872" and add "DOD-STD-1866".

PAGE 14

Delete "4.4.2".

PAGE 15

4.5.3 (e) Delete "Altitude" and add "Temperature-altitude".

PAGE 19

4.6.14 Last line delete "512" and add "512.1".

4.6.16 Delete the first sentence and add: "The indicator shall be tested in accordance with MIL-STD-810, Method 514.2, Equipment Category b.1, Curve B, from 5 to 500 Hz then down the 500 Hz line to the horizontal axis, Procedure I."

PAGE 21

4.6.22 Delete and add:

"4.6.22 Temperature-altitude. The indicator shall be tested in accordance with Method 504.1, Procedure I, Equipment Category 6 of MIL-STD-810."

4.6.26

Delete subparagraph "SURGE VOLTAGE MIL-STD-704A Figure 9 ASSL" and add "VOLTAGE TRANSIENT ABNORMAL STEADY STATE LIMIT".

Delete subparagraph "ESSL" and add "EMERGENCY STEADY STATE LIMIT".

Delete subparagraph "SPIKE VOLTAGE MIL-STD-704A Figure 17 NSSL" and add "SPIKE VOLTAGE NORMAL STEADY STATE LIMITS".

In NOTE delete first two sentences and add: "During this Transient Susceptability testing, the indicator will be turned about the vertical axis at 180° per minute to check for normal pointer deflection. Paragraphs 4.2.1, 4.2.2 and 4.2.3 (Emergency operations) of MIL-STD-704 shall apply during these tests".

PAGE 23

4.6.27.1 Delete and add:

"4.6.27.1 Reliability procedures. Paragraphs titled First article (preproduction) reliability qualification test and Production reliability acceptance test (sampling) of MIL-STD-781 shall be applicable."

4.6.27.2 Delete first sentence and add "The equipment test conditions shall be of the most severe for each parameter in Table I of those under the Fighter, Transport or Helicopter categories."

4.6.27.4 Delete and add:

"Accept-Reject criteria. Test date shall be evaluated as described in the paragraph titled (Evaluation criteria) of MIL-STD-781."

## PAGE 24

4.6.27.9 First sentence delete "Indicators" and add "Indicators".

4.6.28 Delete "502" and add "502.1"

4.6.29 Delete "501" and add "501.1".

## PAGE 25

4.6.31 Delete "509" and add, "509.1".

4.6.33 Delete "503" and add "503.1".

## PAGE 26

Delete section 5 and add:

"5. PACKAGING

5.1 Preservation. Preservation shall be level A, C, or Industrial, as specified (see 6.2).

5.1.1 Level A.

5.1.1.1 Cleaning. Indicators shall be cleaned in accordance with process C-1 of MIL-P-116.

5.1.1.2 Drying. Indicators shall be dried in accordance with process D-4 of MIL-P-116.

5.1.1.3 Preservation application. Not applicable.

5.1.1.4 Unit packaging. Unless otherwise specified by the contracting activity, each indicator shall be packaged in quantity unit packs of one each in accordance with Method ICI of MIL-P-116. Overbox completed pack in PPP-B-636 container. Apply sufficient cushioning material between bag and unit container of a type, density, and thickness to insure shock transmission does not exceed peak values in G's established for the indicator when completed packs are subjected to the rough handling drop test of MIL-P-116.

5.1.2 Level C. Indicators shall be clean, dry, and individually packaged in a manner that will afford adequate protection against corrosion, deterioration, and physical damage during shipment from supply source to the first receiving activity.

5.1.3 Industrial. The industrial preservation of indicators shall be in accordance with ASTM D3951.

5.2 Packing. Packing shall be level A, B, C, or Industrial as specified (see 6.2).

5.2.1 Level A. Indicators preserved as specified in 5.1.1 shall be packed in shipping containers conforming to PPP-B-601, Styles A or B, Class overseas, unless

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otherwise specified by the contracting activity. Insofar as practical, exterior shipping container shall be of uniform shape, size, minimum tare and cube consistant with the protection required.

5.2.2 Level B. Indicators packaged as specified in 5.1.1 shall be packed in shipping containers conforming to PPP-B-636, class weather-resistant, unless otherwise specified by the contracting activity. Other requirements as specified in 5.2.1 apply.

5.2.3 Level C. Packing shall be applied which affords adequate protection during domestic shipment from the supply source to the first receiving activity for immediate use. This level shall conform to applicable carrier rules and regulations.

5.2.4 Industrial. The packaged indicators shall be packed in accordance with ASTM D3951.

5.3 Marking. In addition to any other markings required by the contract or order (see 6.2), interior and exterior containers shall be marked in accordance with MIL-STD-129.

5.3.1 Precautionary marking. The following precautionary marking shall appear on two opposite sides of each interior package and shipping container whenever applicable:

FRAGILE  
DELICATE INSTRUMENTS  
HANDLE WITH CARE"

PAGE 28

Delete "6.6.2".

Delete 6.8 and add:

"6.8 International standardization. Certain provisions of this document are subject to international standardization agreement ASCC Air Std 10/5 and STANAG 3322. When amendment, revision or cancellation of this specification is proposed which will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels including departmental standardization offices to change the agreement or make other appropriate accommodations."

Custodians:

Army - AV  
Navy - AS  
Air Force - 99

Preparing Activity:  
Air Force - 71

Project Number:  
6610-0061