

NOTICE OF
CHANGE

INCH-POUND

MIL-STD-1344A
NOTICE 5
15 September 1993

MILITARY STANDARD
TEST METHODS FOR ELECTRICAL CONNECTORS

TO ALL HOLDERS OF MIL-STD-1344A:

1. THE FOLLOWING PAGES OF MIL-STD-1344A, METHOD 1016 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
2	15 September 1993	2	1 September 1977
3	15 September 1993	3	1 September 1977

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-1344A will verify that page changes indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or canceled.

Custodians:

Army - CR
Navy - AS
Air Force - 85

Preparing activity:

Navy - AS
(Project 5935-3948)

Review activities:

Army - MI, AR
Navy - EC
Air Force - 17, 11, 99

User activities:

Navy - SH, MC

AMSC N/A

FSC 5935

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TABLE I. Test fluids and cycles.

Fluid	Test cycles				Number of cycles
	Unmated			Mated	
	Condition	Immerse $\pm 3^{\circ}\text{C}$	Drain	Over cure 6 hours $\pm 3^{\circ}\text{C}$	
(a) MIL-H-5606 (hydraulic fluid) (b) Hydraulic fluid 1/ (c) MIL-T-5624 (grade JP-5) (d) MIL-L-7808 (lubricating oil) (e) MIL-L-23699 (lubricating oil) (f) MIL-A-8243 2/ (defrosting fluid) (g) MIL-C-87936 type I 2/ (diluted for cleaning)		5 minutes 85°C 85°C 25°C 120°C 120°C 65°C 65°C	1 hour minimum in air at room temperature	100°C 100°C 55°C 125°C 125°C 100°C 100°C	7
(h) MIL-G-3056, type I (gasoline) (i) Isopropyl alcohol per TT-I-735, grade A or B, mixed one part by volume with three parts by volume of mineral spirits per TT-T-291, type I or P-D-680, type I		5 minutes 25°C	24 hours in free air		5
(j) Coolant-dielectric fluid synthetic silicate ester base 3/	30 minutes in oven at 175°C	1 \pm 0.1 minute in fluid at room temperature	1 hour minimum in air at room temperature		1

1/ M2-V Chevron oil ST0145LB0001 or approved equivalent.

2/ Mated connectors.

3/ MIL-C-47220 or Coolanol 25 or approved equivalent.

Supersedes page 2 of MIL-STD-1344, Revision A, Method 1016.

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4. TEST PROCEDURE.

4.1 Initial mating and unmating forces. The torques or forces required to mate and unmate each connector assembly shall be measured and recorded. Refer to method 2013 for test procedures.

4.2 Fluid immersion. Before proceeding with the fluid immersion, the specified test fluids shall be preheated until temperature has stabilized.

4.3 Cycle. A cycle shall be as defined in table I. Transition time between steady state conditions shall be 2 minutes, maximum. Steady state conditions shall be ± 1 minute unless noted. Connectors shall be drained by gravity during drainage portions of cycle. After oven cure, remove connectors and allow to stabilize at room temperature for a minimum of 1 hour.

4.4 Final mating and unmating forces. The torque or the forces required to mate and unmate shall be measured and recorded. The test procedure shall be in accordance with method 2013.

5. DOCUMENTATION. The data sheets for the test shall contain the following:

- a. Title of test, date and name of operator
- b. Sample description and identification - include fixture, if applicable.
- c. Test equipment used and date of latest calibration.
- d. Test fluids used.
- e. Observations, measurements and results arranged in a "before" and "after" style, preferably using one sheet for each connector pair.

6. SUMMARY. The following details shall be specified in the individual specification.

- a. Test fluids, if other than table I (see 2.e).
- b. Forces or torque requirements (see 4.1).
- c. Final mating and unmating forces (see 4.4).

Supersedes page 3 of MIL-STD-1344, Revision A, Method 1016

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APPENDIX C

DESIGN PROCEDURES FOR MODE-STIRRER

10. General.

10.1 The purpose of the mode-stirrer is to randomize the multi-mode EM fields existing inside the test chamber or test enclosure. Design procedures are in accordance with the circled numbers of figure C-1.

20. Design requirements.

20.1 The design of the mode-stirrer is not critical although the mode-stirrer shall be as large as possible consistent with available space. Construction is accomplished with simple hand tools and final adjustment is performed by hand bending. A rod is attached to the center of the mode-stirrer to provide mechanical rotation.

30. Detailed procedures.

30.1 Cut an aluminum rectangular sheet scaled according to the relative dimensions on figure C-1. The dimensions of the rectangular sheet shall be:

$$d \times 0.5 d$$

where

$$d > 0.3/f \text{ or GHz}$$

and

d = generalized dimension, in meters

f or GHz = frequency, in gigahertz, of lowest operating frequency for which chamber is designed.

30.2 Convert from generalized dimensions to actual dimensions. To facilitate scaling the mode-stirrer to different sizes, generalized dimensions are utilized. As shown on figure C-1, the longest side has a dimension of $1.0 d$. For example, if $d = 1$ meter, then the dimensions, in meters, may be read directly from the figure. If however, $d = 0.5$ meters = 50 centimeters, then the corresponding actual dimensions shown in table C-1 would be utilized.

TABLE C-1
Example of converting generalized dimensions to actual
dimensions: $d = 0.5 \text{ m}$

<u>Generalized dimensions</u>	<u>Actual dimension</u>
1.0 d	0.5000 m
0.5 d	0.2500 m
0.465 d	0.2325 m
0.215 d	0.1075 m
0.18 d	0.0900 m
0.07 d	0.035 m

30.3 Cut a rectangular sheet to conform to the overall dimensions shown on figure C-1 and turn the sheet to be in the same relative position as that shown on the figure. As shown on figure C-1(a), measure up from lower left hand corner a distance 0.465 d and place a mark on the sheet ①. Scribe a line ② on the sheet from the mark ① to the lower right hand corner of the sheet. Repeat above procedure, placing a mark ③ on the upper portion of the sheet and scribing a line ④ to the upper right hand corner of the sheet.

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30.4 From center right hand side of sheet, make a cut in sheet ⑤ parallel to short side for a distance of 0.180. Make a mark ⑥ on right hand side of sheet at a distance of 0.125 d up from the lower right hand corner. Scribe a line ⑦ from vertex of cut to the mark ⑥. Place another mark ⑧ on the sheet at a distance of 0.215 d down from the upper right hand corner. Scribe a line ⑨ from the vertex of the cut to this last mark ⑧.

30.5 Place a scribe mark ⑩ at the center of the sheet.

30.6 As shown on figure C-1(b), starting with the lower left hand corner, bend the triangle formed by this corner and scribe line ② along the scribe line away from the observer. Hand adjust this angle to be approximately 45° measured with respect to the plane of the sheet. Repeat the same procedure to bend the upper left hand corner along scribe line ④ away from the observer at a 45° angle.

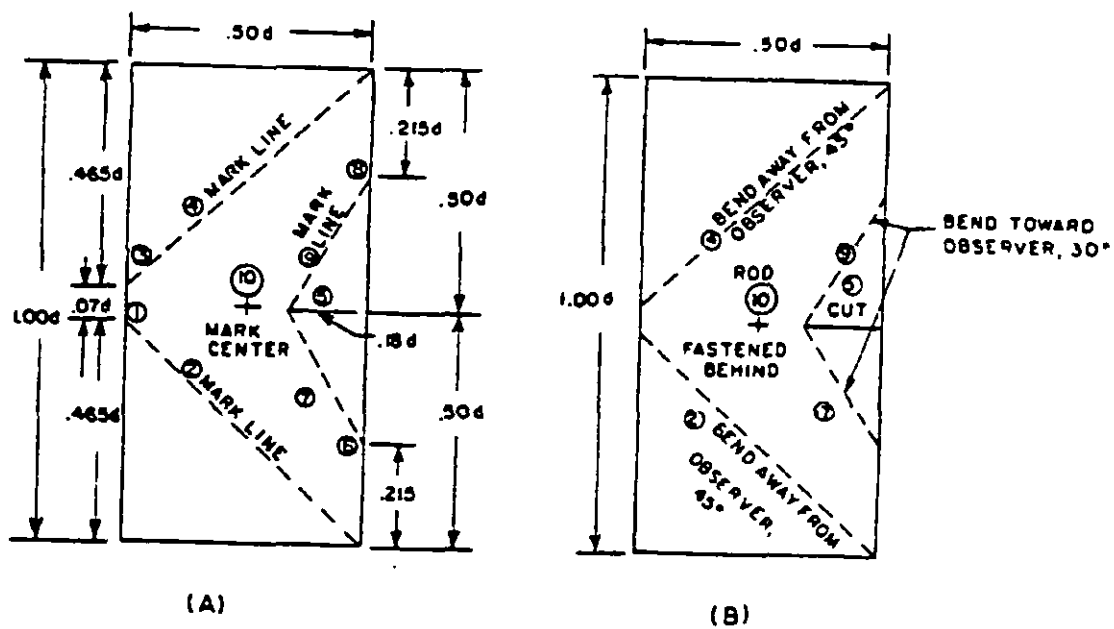
30.7 Starting at the corner where the cut ⑤ intersects the right side of the sheet, bend the triangle formed by this corner and scribe line ⑦ along the scribe line toward the observer. Hand adjust this angle to be approximately 30° measured with respect to the plane of the sheet. Repeat the same procedure to bend the triangle formed by the cut ⑤ and scribe line ⑨. This triangle should also be bent toward the observer at an approximate 30° angle.

30.8 To provide mechanical rotation, a non-conducting control rod shall be attached to the center of the rectangle extending toward the observer. This control rod shall a diameter less than one centimeter and shall be sufficiently long to extend a convenient distance out of the mode-stirred test chamber.

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FIGURE C-1. Construction diagram for mode-stirrer.

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