

MIL-STD-1554
NOTICE 3
19 FEBRUARY 1980

MILITARY STANDARD

INSERT ARRANGEMENTS FOR
MIL-C-83723 SERIES III AND MIL-C-26500
ENVIRONMENT RESISTING, CIRCULAR,
ELECTRICAL CONNECTORS

TO ALL HOLDERS OF MIL-STD-1554:

1. THE FOLLOWING PAGES OF MIL-STD-1554 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

<u>NEW PAGE</u>	<u>DATE</u>	<u>SUPERSEDED PAGE</u>	<u>DATE</u>
1	19 February 1980	1	15 January 1976
2	19 February 1980	2	28 November 1977
2a	19 February 1980		
3	19 February 1980	3	1 July 1975

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

3. Holders of MIL-STD-1554 will verify that page changes and additions 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:
Air Force - 85
(Project 5935-3092)

Review activities:
Army - AR, AV, MI
Air Force - 11, 15, 17, 99
DLA - ES

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1. SCOPE

1.1 This standard covers insert arrangements for use with MIL-C-83723 series III and MIL-C-26500 environment resisting, circular, electrical connectors.

2. REFERENCED DOCUMENTS

2.1 The issues of the following documents in effect on the date of invitation for bids form a part of this standard to the extent specified herein.

SPECIFICATIONS

MILITARY

- MIL-C-26500 - Connectors, General Purpose, Electrical, Miniature, Circular, Environment Resisting, General Specification for.
- MIL-C-83723 - Series III - Connectors, Electrical, (Circular, Environment Resisting), Receptacles and Plugs, General Specification for.

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following document forms a part of this standard to the extent specified herein.

ANSI Y14.5-1973 - Dimensioning and Tolerancing.

(Application for copies should be addressed to American Standards Institute, 1430 Broadway, New York, NY 10018.)

3. DEFINITIONS

3.1 The terms used in this standard are generally accepted by the electrical and electronics industries and commonly used in electrical connector engineering practice.

4. GENERAL REQUIREMENTS

Not applicable.

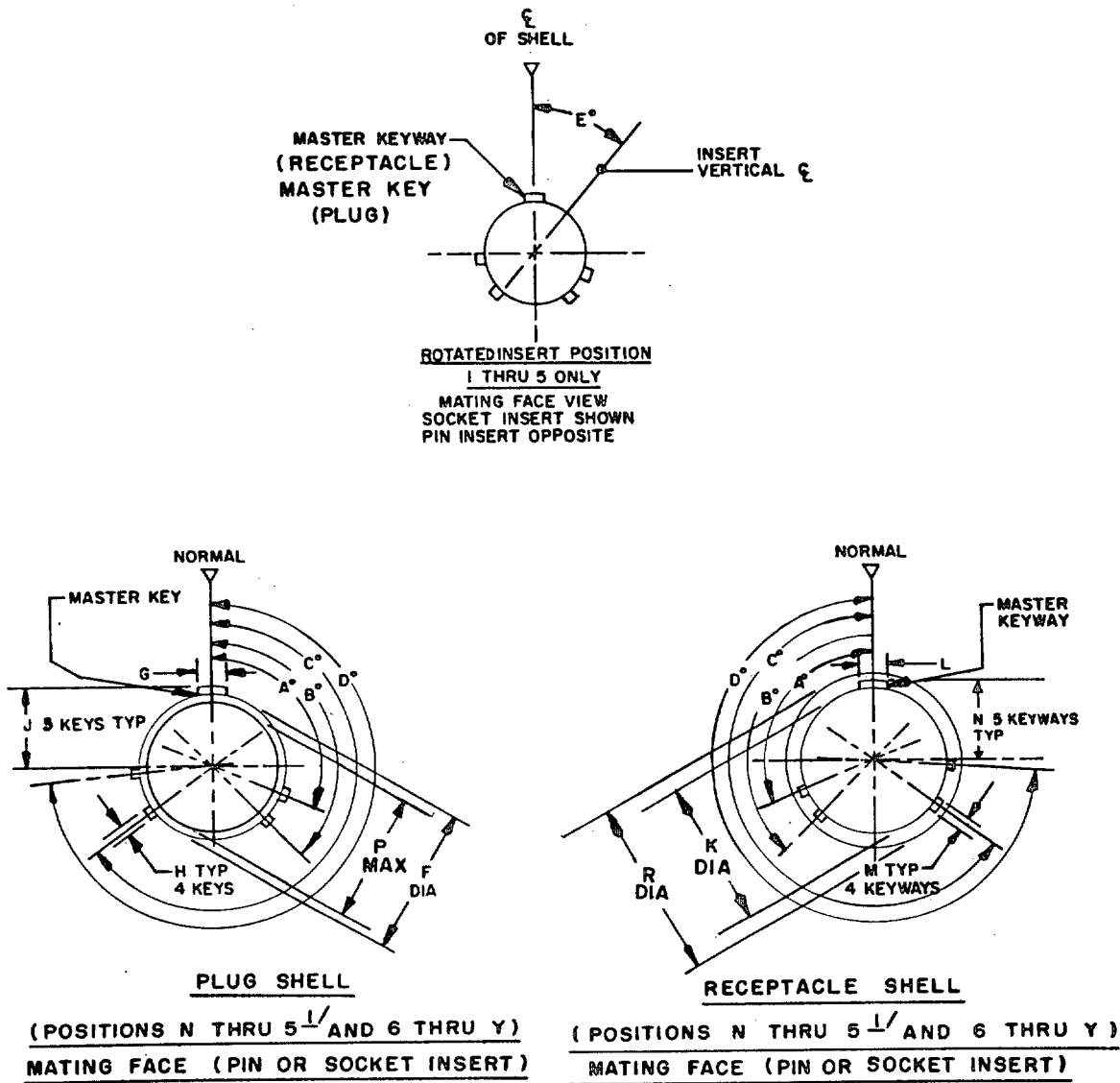
5. DETAIL REQUIREMENTS

5.1 Dimensions. Dimensions shall be in accordance with the applicable section of this standard and the following dimensional data:

- (a) Dimensioning and tolerancing in accordance with ANSI Y14.5-1973. Dimensions are true position and in inches.
- (b) Metric equivalents (to the nearest .02 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
- (c) Dimensions and markings for insert arrangements are shown for engaging face of socket insert; pin insert is opposite.
- (d) The following tolerances apply to insert installed in shell:
 1. Center of each hole in insert shall be located at true position within .014 dia. $\oplus .014 \text{ dia.}$
 2. Center of engaging end of each contact shall be located at true position within .024 dia. $\oplus .024 \text{ dia.}$
- (e) Unless otherwise indicated, dimensions are symmetrical about centerline.

Supersedes page 1 of 15 January 1976

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\perp POSITIONS 1 THRU 5 INACTIVE FOR NEW DESIGN

FIGURE 1. Polarization.

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INCHES	MM	INCHES	MM	INCHES	MM	INCHES	MM
.003	.08	.352	8.94	.583	14.81	1.002	25.45
.005	.13	.370	9.40	.586	14.88	1.025	26.04
.042	1.07	.373	9.47	.646	16.41	1.062	26.97
.052	1.32	.405	10.29	.649	16.48	1.123	28.52
.063	1.60	.408	10.36	.667	16.94	1.127	28.63
.072	1.83	.413	10.49	.696	17.68	1.150	29.21
.084	2.13	.424	10.77	.700	17.78	1.187	30.15
.094	2.39	.428	10.87	.708	17.98	1.248	31.70
.115	2.92	.468	11.89	.711	18.06	1.252	31.80
.125	3.18	.471	11.96	.765	19.43	1.275	32.38
.225	5.72	.521	13.23	.769	19.53	1.312	33.32
.228	5.79	.524	13.31	.794	20.17	1.373	34.87
.234	5.94	.526	13.36	.875	22.22	1.377	34.98
.237	6.02	.530	13.46	.892	22.66	1.437	36.50
.285	7.24	.598	15.19	.896	22.76	1.562	39.67
.288	7.32	.561	14.25	.900	22.86		
.294	7.47	.562	14.27	.998	25.35		

Polarization table

SHELL KEY/KEYWAY POSITIONS													Insert Position
Position	Size 8				Size 10				Size 12 thru 24				
	A ^o	B ^o	C ^o	D ^o	A ^o	B ^o	C ^o	D ^o	A ^o	B ^o	C ^o	D ^o	E ^o
N-Normal	105	140	215	265	105	140	215	265	105	140	215	265	0
1 1/	-	-	-	-									10
2 1/	-	-	-	-									20
3 1/	-	-	-	-									30
4 1/	-	-	-	-									40
5 1/	-	-	-	-	105	140	215	265	105	140	215	265	50
6	102	132	248	320	102	132	248	320	18	149	192	259	0
7	80	118	230	312	80	118	230	312	92	152	222	342	0
8	35	140	205	275	35	140	205	275	84	152	204	334	0
9	64	155	234	304	64	155	234	304	24	135	199	240	0
Y 2/					25	115	220	270	98	152	268	338	0

1/ Inactive for new design.

2/ Alternate position "Z" is cancelled and superseded by position "Y".

Dimensions

Shell Size	F	G	H	J	K	L	M	N	P	R
	+ .000 - .005	± .003	± .003	+ .000 - .003	+ .005 - .000	± .003	+ .005 - .000	+ .005 - .000	Min	Max
8 1/	.424	.084	.042	.234	.428	.094	.063	.237	.352	.561
8 2/	.405	.084	.052	.225	.413	.094	.072	.228	.294	.562
10	.526	.084	.052	.285	.530	.094	.072	.288	.428	.696
12	.696	.084	.052	.370	.700	.094	.072	.373	.598	.875
14	.765	.084	.052	.405	.769	.094	.072	.408	.667	.936
16	.892	.115	.052	.468	.896	.125	.072	.471	.794	1.062
18	.998	.115	.052	.521	1.002	.125	.072	.524	.900	1.187
20	1.123	.115	.052	.583	1.127	.125	.072	.586	1.025	1.312
22	1.248	.115	.052	.646	1.252	.125	.072	.649	1.150	1.437
24	1.373	.115	.052	.708	1.377	.125	.072	.711	1.275	1.562

1/ Shell size 8 (bayonet MIL-C-83723 and MIL-C-26500 and threaded MIL-C-26500).

2/ Shell size 8 (MIL-C-83723, series III, threaded only).

FIGURE 1. Polarization - Continued.

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5.2 Polarization (see figure 1).

- (a) Each insert arrangement is shown in the "normal position" in the shell.
- (b) In the normal position (N) the indexing radius coincides with the ϕ of the master key or keyway of the shell.
- (c) For alternate polarization positions 1, 2, 3, 4, and 5, the socket insert is rotated clockwise relative to the centerline of the master key or keyway of the shell.
- (d) For alternate polarization positions 1, 2, 3, 4, and 5, the pin insert is rotated counter-clockwise relative to the centerline of the master key or keyway of the shell.
- (e) For alternate polarization positions 6, 7, 8, 9, and Y, the insert is in normal and the minor keys or keyways are relocated as indicated in figure 1 with reference to the master key or keyway.
- (f) Four keys or keyways (MMC) and insert shall be located within .004 either side of (TP) relative to master key or keyway (MMC) and shell OD or ID (MMC).
- (g) Alternate insert positions 1, 2, 3, 4, and 5 are for intermateability use only.
NOT RECOMMENDED FOR NEW DESIGN.

5.3 Marking. Marking shall be in accordance with MIL-C-83723 series III, MIL-C-26500, and as shown in the applicable section of this military standard.

5.4 Contacts. Solder contacts shall be in accordance with MIL-C-83723 or MIL-C-26500. Crimp contacts shall be in accordance with table I or table II.

TABLE I. Contact identification, MIL-C-83723.

Pins		Sockets	
Contact or cavity size	Part number	Contact or cavity size	Part number
<u>Power</u>		<u>Power</u>	
20-20	M39029/4-20-20	20-20	M39029/5-20-20
16-16	-16-16	16-16	-16-16
16-20	-16-20	16-20	-16-20
12-12	-12-12	12-12	-12-12
12-16	-12-16	12-16	-12-16
	(MIL-C-39029/4)		(MIL-C-39029/5)
<u>Thermocouple</u>		<u>Thermocouple</u>	
20-20	M39029/9 20 20 C1 C2 C3 C4 C5	20-20	M39029/10 20 20 C1 C2 C3 C4 C5
	(MIL-C-39029/9)		(MIL-C-39029/10)
<u>Shielded</u>		<u>Shielded</u>	
12	M39029/74-12A -12B -12C	12	M39029/73-12A -12B -12C
	(MIL-C-39029/74)		(MIL-C-39029/73)

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TABLE II. Contact identification, MIL-C-26500.

Pins		Sockets	
Contact or cavity size	Part number	Contact or cavity size	Part number
<u>Power</u>		<u>Power</u>	
20-20	MS3192A20-20A	20-20	MS3193A20-20A
20-20	MS24254-20P	20-20	MS24255-20S
20-20	M39029/31-20-20	20-20	M39029/32-20-20
-	-	20-20	MS3193-20-20A
16-16	MS3192-16-16A	16-16	MS3193-16-16A
16-16	MS24254-16P	16-16	MS24255-16S
12-12	MS3192-12-12A	12-12	MS3193-12-12A
12-12	MS24254-12P	12-12	MS24255-12S
	(MIL-C-39029/31)		(MIL-C-39029/32)
<u>Thermocouple</u>		<u>Thermocouple</u>	
20-20	MS3192-20-20C1	20-20	MS3193-20-20C1
	C2		C2
	C3		C3
	C4		C4
16-16	MS3192-16-16C1	16-16	MS3193-16-16C1
	C2		C2
	C3		C3
	C4		C4
12-12	MS3192-12-12C1	12-12	MS3193-12-12C1
	C2		C2
	C3		C3
	C4		C4
	(MIL-C-39029/31)		(MIL-C-39029/32)
<u>Shielded</u>		<u>Shielded</u>	
12	MS27184-22P	12	MS27185-22S
8	MS27184-20P	8	MS27185-20S
	(MIL-C-39029/54)		(MIL-C-39029/55)

Custodians:
Army - CR
Navy - AS
Air Force - 85

Preparing activity:
Air Force - 85

(Project 5935-3092)

Review activities:
Army - AV, MI, AR
Navy - EC
Air Force - 11, 15, 17, 99
DLA - ES