

INCH-POUND

MIL-DTL-28754/37E

14 May 2015

SUPERSEDING

MIL-C-28754/37D

23 March 1994

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, MODULAR, CONNECTOR,
TYPE III, FEMALE CONTACT AND POLARIZING BUSHING SET,
REMOVABLE WIRE WRAPPOST TERMINAL

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-C-28754.

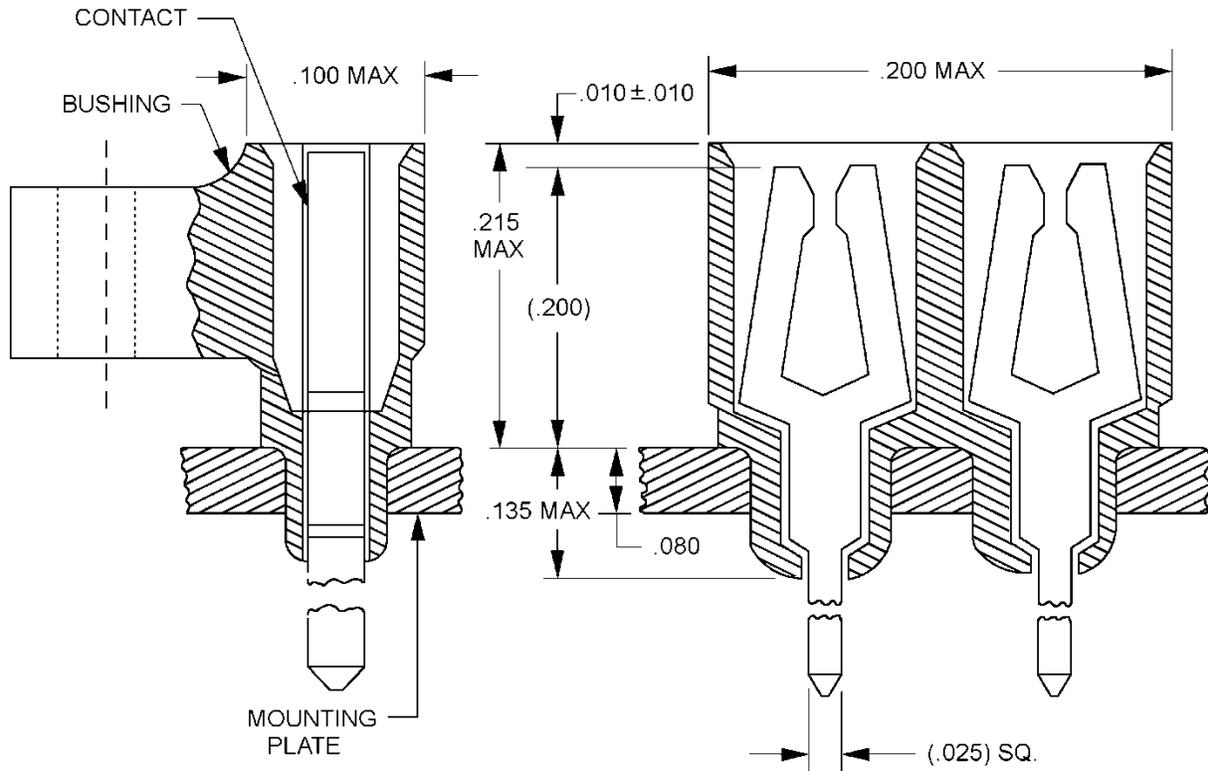


FIGURE 1. Typical female contact, polarizing bushing and mounting plate assembly.

AMSC N/A

FSC 5935



MIL-DTL-28754/37E

Inches	mm	Inches	mm
.010	.25	.135	3.43
.025	.64	.200	5.08
.080	2.03	.215	5.46
.100	2.54		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are $\pm .005$ inch (.13 mm) on three place decimals, $\pm .01$ inch (.3 mm) on two place decimals and $\pm 2^\circ$ on angles.

FIGURE 1. Typical female contact, polarizing bushing and mounting plate assembly - Continued.

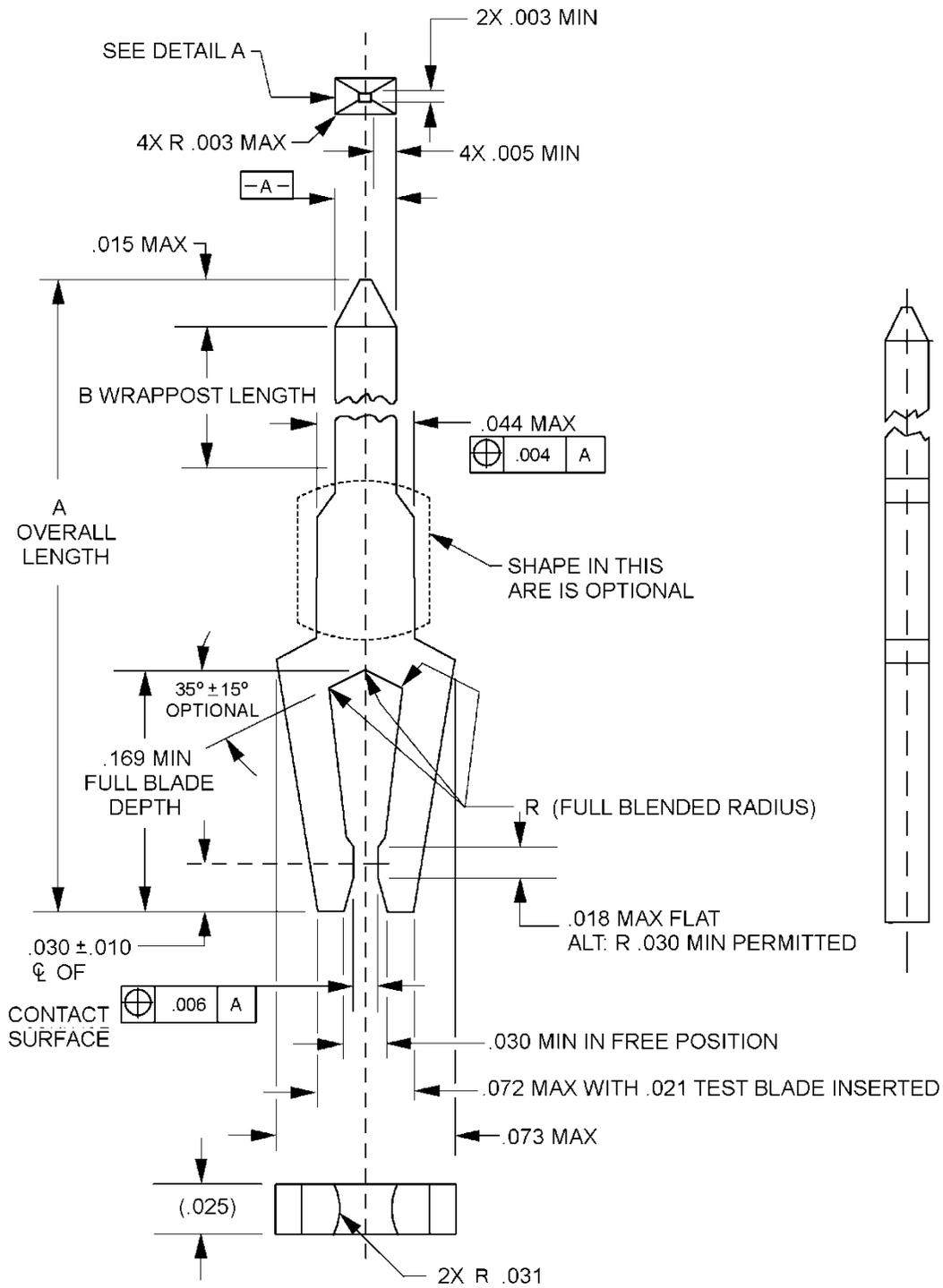
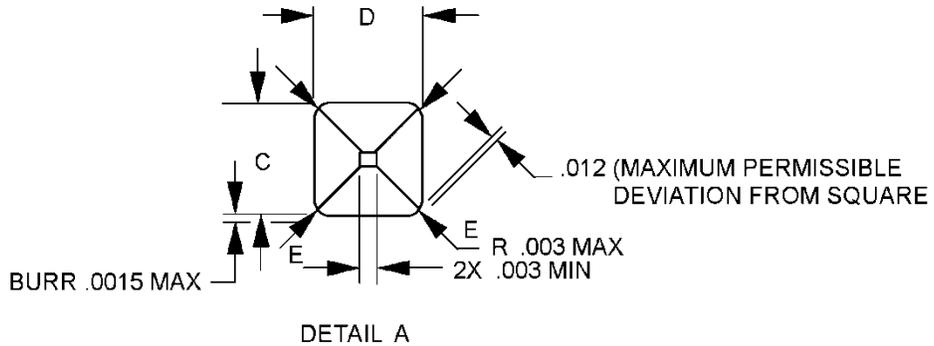


FIGURE 2. Contact, female wrappost.

MIL-DTL-28754/37E



Wrappost Geometry				
C	D	E	Parallelism	Straightness
.025 (Nom)	.025 (Nom)	.0355 (Max)	.002	.005 in/in
.022 (Min)	.022 (Min)	.0325 (Min)		

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	.05	.010	.25	.030	.76	.164	4.17
.003	.08	.015	.38	.031	.79		
.004	.10	.018	.46	.044	1.12		
.005	.13	.021	.53	.072	1.83		
.006	.15	.025	.64	.073	1.85		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. See table I for dimensions A and B.
4. Unless otherwise specified, tolerances are $\pm .005$ inch (.13 mm) on three place decimals, $\pm .01$ inch (.3 mm) on two place decimals and $\pm 2^\circ$ on angles.

FIGURE 2. Contact, female, wrappost – Continued.

MIL-DTL-28754/37E

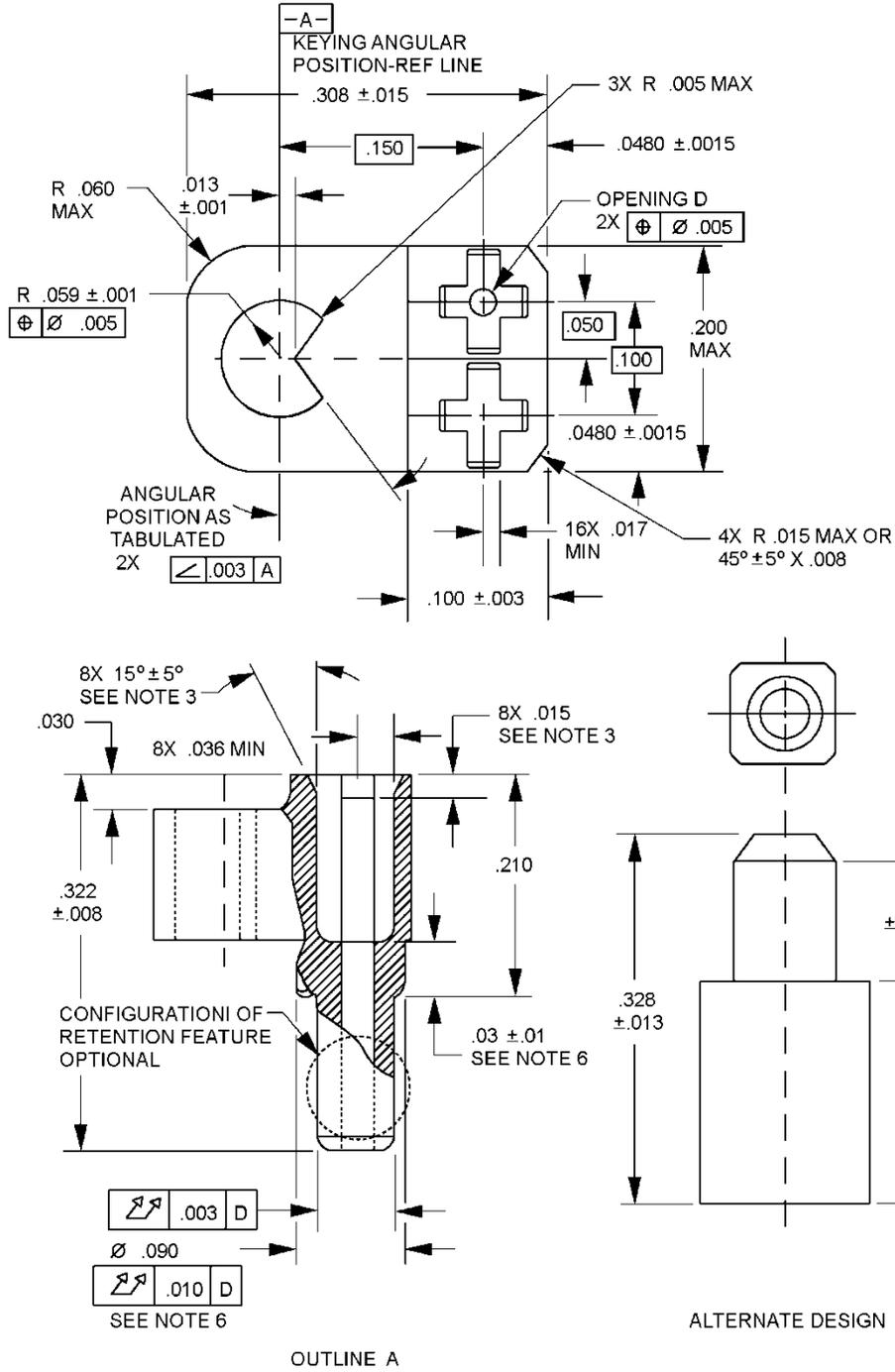


FIGURE 3(a). Bushing, polarizing, female.

MIL-DTL-28754/37E

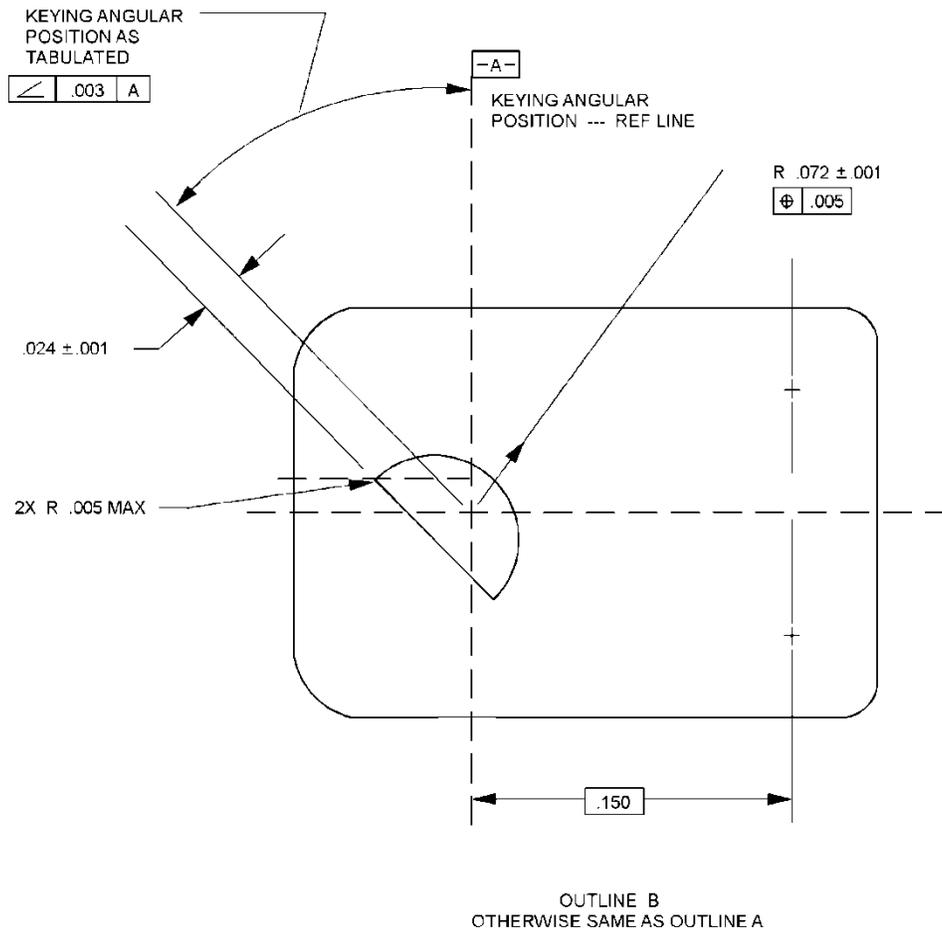
Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	.03	.015	.38	.060	1.52	.308	7.82
.0015	.038	.017	.43	.090	2.29	.322	8.18
.003	.08	.030	.76	.095	2.41	.328	8.33
.005	.13	.036	.91	.100	2.54		
.008	.20	.0480	1.219	.150	3.81		
.010	.25	.050	1.27	.200	5.08		
.013	.33	.059	1.50	.210	5.33		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Radius optional on .015 ± .005 x 15° chamfer.
4. Dimensions include draft.
5. Unless otherwise specified, inside corners .005 R maximum.
6. The .03 x .090 feature is optional.
7. Unless otherwise specified, tolerances are ± .005 inch (.13 mm) on three place decimals, ± .01 inch (.3 mm) on two place decimals and ± 2° on angles.

FIGURE 3(a). Bushing, polarizing, female – Continued.

MIL-DTL-28754/37E



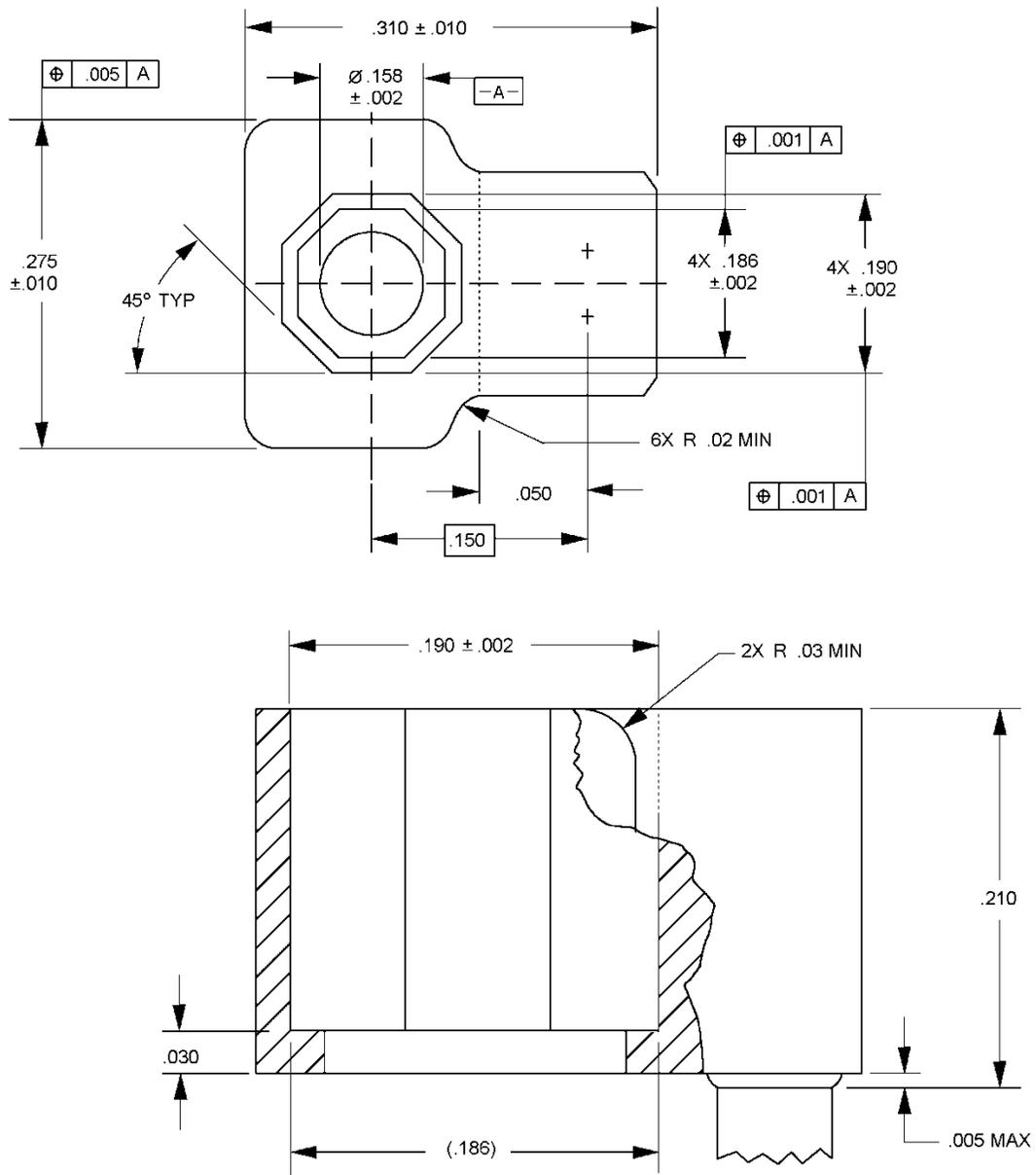
Inches	mm	Inches	mm
.001	.03	.072	1.83
.003	.08	.150	3.81
.005	.13		
.024	.61		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are ±.005 inch (.13 mm) for three place decimals, ±.01 inch (.3 mm) for two place decimals, and ± 2° on angles.

FIGURE 3(b). Bushing, polarizing.

MIL-DTL-28754/37E



OUTLINE C
OTHERWISE SAME AS OUTLINE A

FIGURE 3(c). Bushing, polarizing.

MIL-DTL-28754/37E

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	.03	.020	.51	.158	4.01	.275	6.98
.002	.05	.030	.76	.186	4.72	.310	7.87
.005	.13	.050	1.27	.190	4.83		
.010	.25	.150	3.81	.210	5.33		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are $\pm .005$ inch (.13 mm) for three place decimals $\pm .01$ inch (.3 mm) for two place decimals and $\pm 2^\circ$ on angles.

FIGURE 3(c). Bushing, polarizing – Continued.

Polarizing style	Outline letter	Keying position as viewed at bushing's top surface
a	A	0° 
b	A	45° 
c	A	90° 
d	A	135° 
e	A	180° 
f	A	225° 
g	A	270° 
h	A	315° 
i	B	0° 

FIGURE 3(d). Bushing, polarizing, female (keying hole orientation).

MIL-DTL-28754/37E

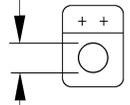
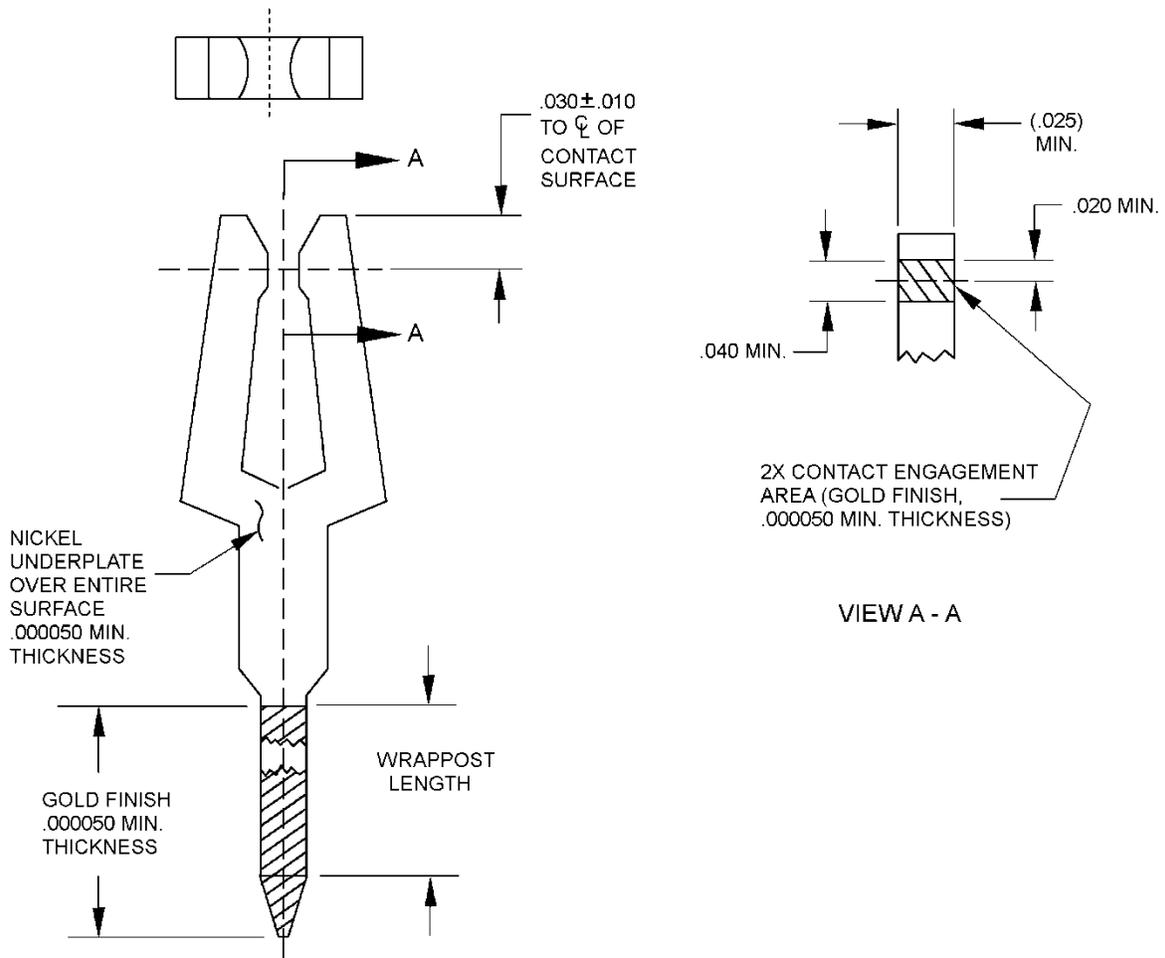
Polarizing style	Outline letter	Keying position as viewed at bushing's top surface
j	B	45° 
k	B	90° 
l	B	135° 
m	B	180° 
n	B	225° 
p	B	270° 
q	B	315° 
r	Same as "A" except for thru hole as shown	$\varnothing .093$ $\pm .003$ 
s	C	

FIGURE 3(d). Bushing, polarizing, female (keying hole orientation) – Continued.



Inches	mm	Inches	mm
.00005	.0013	.020	.51
.0001	.003	.025	.64
.0003	.008	.030	.76
.010	.25	.040	1.02

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only and are based upon 1.00 inch = 25.4 mm.
3. Unless otherwise specified, tolerances are $\pm .005$ inch (.13 mm) on three place decimals, $\pm .01$ (.3 mm) on two place decimals and $\pm 2^\circ$ on angles.
4. Dimensions on this figure are for locating areas of localized finish only.

FIGURE 4. Localized finish (optional).

MIL-DTL-28754/37E

REQUIREMENTS:

Dimensions and configurations: See table I and figures 1, 2, 3 and 4.

Material:

Contacts: Contacts shall be beryllium copper in accordance with ASTM B194, alloy UNS No. C17200, minimum hardness of 310HK.

Exposed base material: Exposed base material is permitted in noncritical breakoff or plating carrier areas of the connector parts providing all performance requirements are maintained with no degradation of critical areas.

Bushing: Bushing shall be polyamide (nylon) in accordance with L-P-410 or ASTM D4066, group I (see figure 3).

Polarizing bushing color: The polarizing bushing color shall be the natural color of the base material.

Standard contact plating: Standard contact plating shall be in accordance with MIL-C-28754.

Localized contact finish: Contacts may be supplied with a localized finish. Contacts supplied with a localized finish shall meet the requirements of MIL-C-28754 and this slash sheet. Contacts supplied with a localized finish shall conform to figures 2 and 4.

Gold finish: Gold shall be in accordance with MIL-DTL-45204, type II, grade C, class 1, and to a thickness of 50 microinches minimum. Area of gold finish shall be as specified on figure 4.

Nickel finish: Nickel finish shall be in accordance with SAE-AMS-QQ-N-290, class 1, and to a thickness of 50 microinches minimum over the entire contact surface (see figure 4).

Performance:

Low level (dry circuit): Voltage drop shall not exceed 20 millivolts. Wire size shall be 26 AWG.

Contact resistance: Voltage drop shall not exceed 20 millivolts after durability cycling.

Current rating: 3 amperes.

Voltage rating: 300 volts, ac (rms) at sea level.

Temperature rating: -55°C to +105°C.

Marking: In accordance with MIL-C-28754.

Shipping: Bulk shipment shall be in unassembled condition.

MIL-DTL-28754/37E

Part or Identifying Number (PIN) M28754/37- (dash number from table I).

TABLE I. Dash numbers and dimensions.

Dash No	Polarizing style (fig. 3d)	Overall length "A" \pm 0.010	Wrappost length "B" (Ref)
01	a	.513	.175
02	b	.513	.175
03	c	.513	.175
04	d	.513	.175
05	e	.513	.175
06	f	.513	.175
07	g	.513	.175
08	h	.513	.175
09	i	.513	.175
10	j	.513	.175
11	k	.513	.175
12	l	.513	.175
13	m	.513	.175
14	n	.513	.175
15	p	.513	.175
16	q	.513	.175
17	r	.513	.175
18 <u>1/</u>	s	.513	.175
19	a	.588	.250
20	b	.588	.250
21	c	.588	.250
22	d	.588	.250
23	e	.588	.250
24	f	.588	.250
25	g	.588	.250
26	h	.588	.250
27	i	.588	.250
28	j	.588	.250
29	k	.588	.250
30	l	.588	.250
31	m	.588	.250
32	n	.588	.250
33	p	.588	.250
34	q	.588	.250
35	r	.588	.250
36 <u>1/</u>	s	.588	.250
37	a	.688	.350
38	b	.688	.350
39	c	.688	.350
40	d	.688	.350
41	e	.688	.350
42	f	.688	.350
43	g	.688	.350
44	h	.688	.350
45	i	.688	.350
46	j	.688	.350
47	k	.688	.350
48	l	.688	.350
49	m	.688	.350
50	n	.688	.350
51	p	.688	.350

See notes at the end of the table

MIL-DTL-28754/37E

TABLE I. Dash numbers and dimensions.

Dash No	Polarizing style (fig. 3d)	Overall length "A" ± 0.010	Wrappost length "B" (Ref)
52	q	.688	.350
53	r	.688	.350
54 1/	s	.688	.350
55	a	.838	.500
56	b	.838	.500
57	c	.838	.500
58	d	.838	.500
59	e	.838	.500
60	f	.838	.500
61	g	.838	.500
62	h	.838	.500
63	i	.838	.500
64	j	.838	.500
65	k	.838	.500
66	l	.838	.500
67	m	.838	.500
68	n	.838	.500
69	p	.838	.500
70	q	.838	.500
71	r	.838	.500
72 1/	s	.838	.500
73	a	.963	.625
74	b	.963	.625
75	c	.963	.625
76	d	.963	.625
77	e	.963	.625
78	f	.963	.625
70	g	.963	.625
80	h	.963	.625
81	i	.963	.625
82	j	.963	.625
83	k	.963	.625
84	l	.963	.625
85	m	.963	.625
86	n	.963	.625
87	p	.963	.625
88	q	.963	.625
89	r	.963	.625
90 1/	s	.963	.625
91	a	1.088	.750
92	b	1.088	.750
93	c	1.088	.750
94	d	1.088	.750
95	e	1.088	.750
96	f	1.088	.750
97	g	1.088	.750
98	h	1.088	.750
99	i	1.088	.750
100	j	1.088	.750
101	k	1.088	.750
102	l	1.088	.750

See notes at the end of the table

MIL-DTL-28754/37E

TABLE I. Dash numbers and dimensions.

Dash No	Polarizing style (fig. 3d)	Overall length "A" \pm 0.010	Wrappost length "B" (Ref)
103	m	1.088	.750
104	n	1.088	.750
105	p	1.088	.750
106	q	1.088	.750
107	r	1.088	.750
108 1/	s	1.088	.750

1/ Keying pegs for insertion into the octal hole are covered by MIL-DTL-28754/39.

First article testing: Perform the applicable tests as specified in MIL-C-28754 and the appendix thereto.

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Referenced documents. In addition to MIL-C-28754, this document references the following:

MIL-DTL-28754/39
MIL-DTL-45204
ASTM B194
ASTM D4066
L-P-410
SAE-AMS-QQ-N-290

CONCLUDING MATERIAL

Custodians:
Army – CR
Navy – AS
Air Force – 85
DLA - CC

Preparing activity:
DLA - CC
(Project 5935-2015-126)

Review activities:
Army – AR, MI
Navy – MC, YD
Air Force – 99

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