

Review activities: Navy - EC User activities:

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FED. SUP CLASS 5935		REVISED (A) 18 OCT 71 (B) 5 APR 72 (C) 20 MAY 77 (D) 8 JAN 80 (E) 10 May 1982	
<p>FROM FRONT OF ACCESSORY NUT TO FRONT OF TEETH</p> <p>START OF ANGLE</p> <p>DEPTH OF TEETH</p> <p>IDENTIFY WITH MS PART NO.</p> <p>KNURL, STYLE OPTIONAL</p> <p>ACCESSORY NUT FOLLOWER &amp; STRAIN RELIEF</p> <p>VIEW X-X LESS ACCESSORY NUT</p> <p>VIEW Z-Z</p> <p>HOLES FOR .020 MAX DIA SAFETY WIRE. (3 EQUALLY SPACED)</p> <p>SCREW &amp; LOCKWASHER</p>			
<p>(E) INACTIVE FOR DESIGN AFTER 1 JULY 1982. DOCUMENT WILL BE CANCELLED AFTER 1 JULY 1984, USE MIL-C-85049/52.</p>			
(E) DENOTES CHANGES			
P.A Navy - AS	International interest	TITLE CLAMPS, STRAIN RELIEF, STRAIGHT, FOR ELECTRIC CONNECTORS	MILITARY STANDARD
Other Cust ARMY - CR USAF - 85			MS 3417
Procurement Specification MIL-C-5015	SUPERSEDES: MS3417-01 THRU -10		PAGE 1 OF 4

DD FORM 672  
1 MAY 73

coordinated PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PROJECT NO. 5935-3297-05

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5935

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Dash number	For connector shell size (ref)				A	B	C	D	F		G
	MIL-C-81703 Series 3	MIL-C-26482 Series 2	MIL-C-5015 MS3400, MS3450 Series	MIL-C-83723 Series III	+ .000 - .045 Dia.	+ .025 - .000 Dia.	+ .000 - .015 Dia.	+ .015 - .000 Dia.	Cable entry Open Closed		± .020
-3	3				.669	.562	.431	.370	.204	.125	.732
-8		8	8S	8	.617	.500	.360	.299	.204	.125	.732
-10		10	10S, 10SL	10	.734	.625	.494	.433	.286	.187	.812
-12	7	12	12S&12	12	.858	.750	.610	.549	.416	.291	.968
-14	12	14	14S&14	14	.984	.875	.735	.674	.476	.351	1.026
-16	19	16	16S&16	16	1.112	1.000	.860	.799	.625	.501	1.299
-18	27	18	18	18	1.218	1.062	.916	.869	.706	.513	1.431
-20	37	20	20	20	1.345	1.188	1.041	.994	.831	.581	1.537
-22		22	22	22	1.468	1.312	1.166	1.119	.956	.644	1.633
-24		24	24	24	1.593	1.438	1.291	1.244	1.081	.736	1.755
-28			28		1.969	1.750	1.512	1.469	1.187	.750	2.000
-32			32		2.219	2.000	1.762	1.715	1.250	.875	2.366
-36			36		2.469	2.250	1.977	1.930	1.375	.938	2.476
-40			40		2.719	2.500	2.192	2.145	1.500	.938	2.546
-44			44		2.969	2.750	2.447	2.400	1.750	1.183	2.840
-48			48		3.219	3.000	2.697	2.650	1.875	1.312	3.324
-61	61				1.653	1.500	1.354	1.307	1.081	.706	1.755

Dash number	M Class 2B R. H. Thread	N + .000 - .022	P Number of teeth	R + .000 - .062	S ± .020	T ± .015	W ± .032 Screw length	L Screw size	U ± .062	± .020
-3	.562 - 24UNEF	.305	15	.540	.250	.125	.500	6-32	.890	.125
-8	.500 - 20UNF	.305	12	.540	.250	.125	.500	6-32	.890	.125
-10	.625 - 24UNEF	.305	15	.540	.250	.125	.500	6-32	1.000	.125
-12	.750 - 20UNEF	.305	21	.540	.250	.125	.625	6-32	1.125	.125
-14	.875 - 20UNEF	.305	24	.540	.250	.125	.625	6-32	1.125	.125
-16	1.000 - 20UNEF	.305	30	.540	.250	.125	.625	6-32	1.250	.125
-18	1.062 - 18UNEF	.305	33	.540	.375	.156	.750	8-32	1.500	.156
-20	1.188 - 18UNEF	.305	36	.540	.375	.156	.875	8-32	1.625	.156
-22	1.312 - 18UNEF	.305	39	.540	.375	.156	1.000	8-32	1.750	.156
-24	1.438 - 18UNEF	.305	42	.540	.375	.156	1.125	8-32	1.875	.188
-28	1.750 - 18UNS	.467	54	.702	.500	.188	1.250	8-32	2.187	.250
-32	2.000 - 18UNS	.467	63	.702	.500	.188	1.250	1/4-20	2.375	.250
-36	2.250 - 16UN	.467	72	.702	.500	.188	1.500	1/4-20	2.750	.375
-40	2.500 - 16UN	.467	81	.702	.500	.188	1.500	1/4-20	2.938	.375
-44	2.750 - 16UN	.467	87	.702	.625	.188	1.750	1/4-20	3.312	.375
-48	3.000 - 16UN	.467	96	.702	.625	.188	2.000	1/4-20	3.687	.375
-61	1.500 - 18UNEF	.305	45	.540	.375	.156	1.125	8-32	1.875	.188

P.A. Navy - AS

International interest

TITLE

CLAMPS, STRAIN RELIEF, STRAIGHT,  
FOR ELECTRIC CONNECTORS

MILITARY STANDARD

Other Cust  
ARMY - CR  
USAF - 85

MS 3417

Procurement Specification  
MIL-C-5015SUPERSEDES:  
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## NOTES:

1. Unless otherwise specified, dimensions in inches, tolerances: .XX =  $\pm 0.01$ ; .XXX =  $\pm 0.005$ ; angular:  $X^\circ = \pm 1^\circ 00'$ ;  $X^\circ XX' = \pm 0^\circ 30'$ .
2. Complete backshell consists of an accessory nut and follower. The accessory nut shall be captivated to, and free to rotate on the follower.
3. Material: Aluminum alloy.
4. Finish: G-black anodize, per MIL-A-8625, type II.
  - A - Cadmium plate, per QQ-P-416, type II, class 3, over nickel. Color - olive drab (electrically conductive). (500 hr. salt spray)
  - C - Cadmium plate, per QQ-P-416, type II, class 3; color - dull olive drab (electrically conductive).
  - N - Electroless nickel, per MIL-C-26074, class 3 or 4, grade B.
5. This rear accessory shall conform to MS3155 (design standard). MS3155 takes precedence over this standard.
6. This clamp will not accommodate connectors using size 8, 4 and 0 contacts.
7. Qualification: One sample of each size for which qualification is desired shall be tested. Each sample shall be assembled to a qualified connector or a connector undergoing qualification. The connector insert arrangement shall be of the maximum number of contacts, using the appropriate wire size approaching the minimum wire diameter. Dummy connectors, duplicating crimp contact connector accessory interfacing features, may be used in lieu of actual connectors. Testing shall be as follows and shall be performed in the sequence listed:

- A. Examination of product.
- B. Magnetic permeability -  
The relative magnetic permeability shall be less than 2.0 when checked with an indicator conforming to MIL-I-17214. Wired assemblies shall not be carrying current.
- C. Shell conductivity -  
Mated assemblies shall be electrically conductive from the plug accessory to the receptacle flange or accessory on a cable connecting receptacle. The overall D.C. resistance shall not exceed .005 ohms for finish N and .05 ohms for all other finishes when measured by the voltmeter-ammeter method. The applied potential shall be 1-1/2 volts D.C. maximum. A resistance shall be inserted in the circuit to limit the current to .100  $\pm$  .010 amperes. (Not applicable to finish G).
- D. Vibration -  
In accordance with method 2005 of MIL-STD-1344, test condition III.
- E. Shock -  
Approximately 1/2 sine wave transient shock impulses of 50 gravity units, and a duration of 11-1 milliseconds. One shock shall be applied in each direction of the three major axes of the assembly.
- F. External bending moment -  
The accessory shall be mounted as in normal service to rigid panel as shown on figure 1. The distance "L" from the point of load application "P" to the mounting panel shall be determined. The load to be applied to point "P" shall then be determined as the bending moment listed in table 1, divided by the lever arm "L". This load shall be applied at a rate of approximately 10 pounds per second until the required load is achieved. The applied load shall be held for 1 minute, and then released. The load shall be applied as shown, in two axis 90° apart, at different times.
- G. Moisture resistance -  
The mated assembly shall be mounted horizontally with the wire descending into the backshell with no drip loops or splices within the chamber. The wire shall leave the chamber through vapor-tight seals. The test shall be in accordance with method 106 of MIL-STD-202, (except vibration).
- H. Corrosion -  
Salt spray test in accordance with method 1001.1 of MIL-STD-1344, test condition B for finish C & N; test condition C for finish A & G.
- I. Post examination of product.  
Other dash numbers will be qualified by similarity with samples furnished to the qualifying activity.

## 8. Quality assurance:

- A. Examination of product.

Example of part number: MS3417-22C

Basic part  
numberDash  
numberFinish  
(see note 4)

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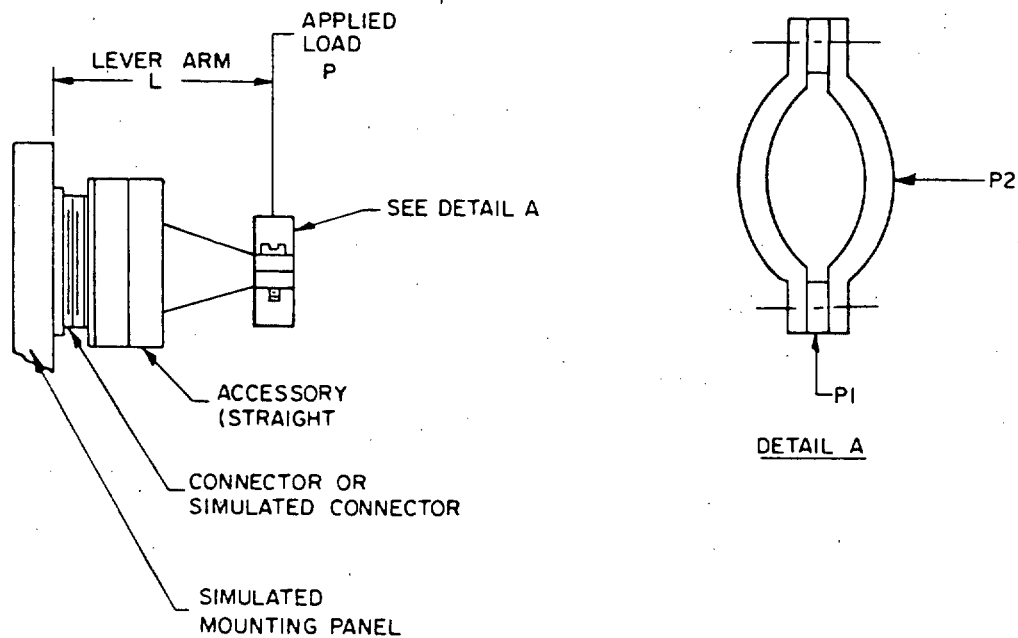


FIGURE 1. External bending moment test setup.

TABLE I. Bending moment.

Medium duty	
Shell size	Bending moment (lbs. min)
8,9	55
10,11	90
12,13	180
14,15	200
16,17	250
18,19	280
20,21	300
22,23	350
24,25	380
28	420
32	500
36	540
40	580
44	620
48	660

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