

INCH-POUND

MIL-DTL-83723/50D
w/AMENDMENT 1
1 February 2024
SUPERSEDING
MIL-DTL-83723/50D
23 May 2003

DETAIL SPECIFICATION SHEET

CONNECTOR, ELECTRICAL, CIRCULAR, ENVIRONMENT RESISTING,
BACKSHELL, STRAIGHT, 90°, AND 45° WITH DIELECTRIC STRAIN RELIEF,
FOR SERIES 2 CONNECTORS.

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 and MIL-DTL-83723.

Inactive for new design as of
14 September 1993

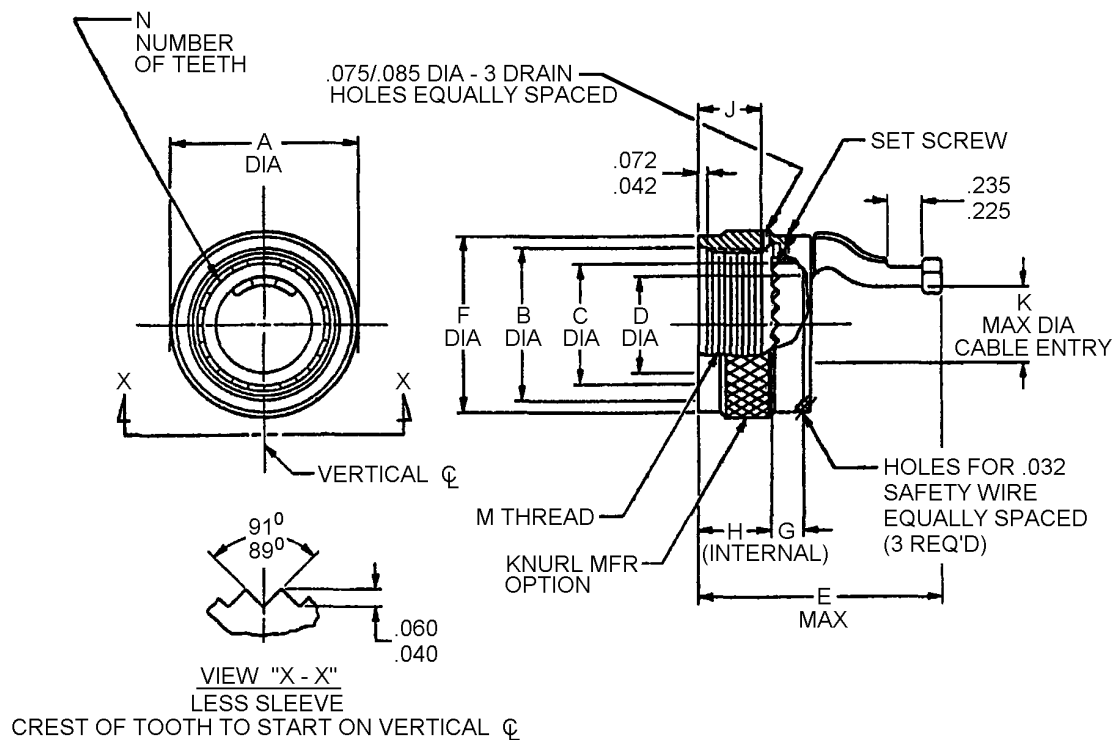


FIGURE 1. Type R, straight strain relief, rotatable support arm.

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Shell size	SAE-AS50151 size shell	A dia max	B dia	C dia	D dia	E max	F dia max
08	8S	.617	.445 .440	.300 .178	.255 .245	1.41	.517
10	10S	.734	.520 .500	.380 .341	.308 .300	1.41	.580
11	10SL	.734	.580 .560	.430 .408	.388 .380	1.41	.642
13	12S	.658	.645 .625	.480 .459	.413 .405	1.47	.705
12	12	.858	.645 .625	.480 .459	.413 .405	1.63	.705
15	14S	.984	.770 .750	.584 .362	.495 .487	1.66	.830
14	14	.984	.770 .750	.584 .582	.495 .487	1.81	.830
17	16S	1.112	.895 .875	.710 .588	.614 .608	1.65	.955
16	16	1.112	.895 .875	.710 .688	.614 .608	1.81	.955
18	18	1.218	1.020 1.000	.627 .805	.735 .727	1.85	1.080
20	20	1.345	1.145 1.125	.964 .942	.875 .867	1.99	1.205
22	22	1.468	1.270 1.280	1.095 1.073	.983 .975	2.11	1.330
24	24	1.593	1.395 1.375	1.202 1.180	1.100 1.087	2.17	1.458
28	28	1.969	1.645 1.625	1.423 1.401	1.256 1.246	2.20	1.705

FIGURE 1. Type R, straight strain relief, rotatable support arm – Continued.

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Shell size	SAE-AS50151 size shell	G	H	J	K max	M thread class 2B	Number of teeth
08	8S	.365 .335	.350	.285 .272	.240	.4375-28UNEF	8
10	10S	.365 .335	.350	.285 .272	.295	.500-28UNEF	10
11	10SL	.365 .335	.350	.285 .272	.375	.5625-24 UNEF	12
13	12S	.365 .335	.350	.285 .272	.400	.625-24 UNEF	14
12	12	.365 .335	.505	.441 .428	.400	.625-24 UNEF	14
15	14S	.365 .335	.356	.285 .272	.482	.750-20 UNEF	16
14	14	.365 .335	.510	.441 .428	.482	.750-20 UNEF	16
17	16S	.365 .335	.350	.285 .272	.601	.675-20 UNEF	20
16	16	.365 .335	.510	.441 .428	.601	.675020 UNEF	20
18	18	.380 .330	.490	.441 .428	.722	1.000-20 UNEF	24
20	20	.370 .340	.495	.441 .428	.862	1.125-18 UNEF	28
22	22	.370 .340	.495	.441 .428	.970	1.250-18 UNEF	32
24	24	.310 .280	.486	.423 .410	1.082	1.375-18 UNEF	32
28	28	.310 .280	.485	.423 .410	1.241	1.625-18 UNEF	36

FIGURE 1. Type R, straight strain relief, rotatable support arm – Continued.

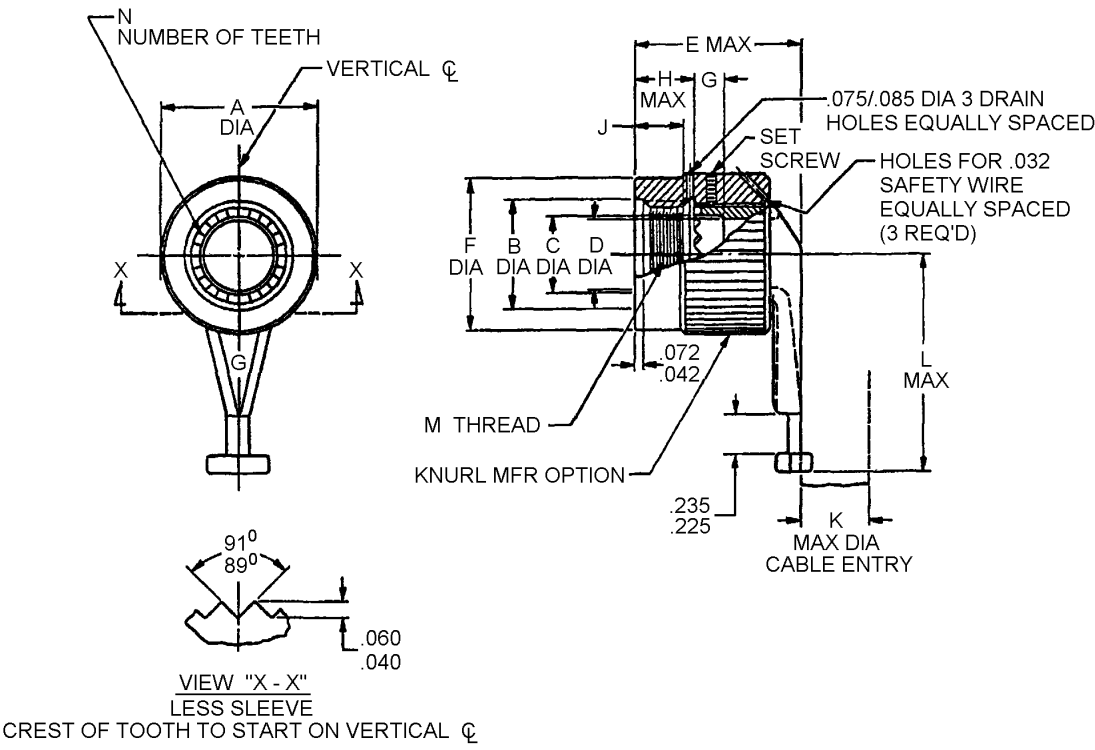


FIGURE 2. Type A, 90° strain relief.

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Shell size	SAE-AS50151 size shell	A dia max	B dia	C dia	D dia	E max	F dia max	G
08	8S	.687	.455 .440	.300 .279	.255 .245	1.060	.551	.365 .335
10	10S	.782	.520 .500	.380 .341	.308 .300	1.060	.576	.365 .335
11	10SL	.782	.580 .560	.430 .408	.388 .390	1.060	.676	.365 .335
13	12S	.937	.645 .625	.480 .459	.413 .405	1.060	.812	.365 .335
12	12	.937	.845 .828	.480 .459	.413 .405	1.215	.812	.365 .335
16	145	1.050	.770 .750	.584 .562	.495 .487	1.065	.926	.365 .335
14	14	1.050	.770 .750	.584 .562	.495 .487	1.220	.926	.365 .335
17	168	1.239	.895 .875	.710 .688	.614 .606	1.060	1.052	.365 .335
16	16	1.239	.895 .875	.710 .688	.614 .606	1.220	1.052	.365 .335
18	18	1.375	1.020 1.000	.827 .805	.735 .727	1.220	1.178	.360 .330
20	20	1.500	1.145 1.128	.964 .942	.875 .887	1.235	1.312	.370 .340
22	22	1.831	1.270 1.250	1.095 1.073	.983 .975	1.188	1.437	.370 .340
24	24	1.750	1.395 1.375	1.202 1.180	1.100 1.087	1.121	1.551	.310 .280
28	28	1.921	1.845 1.625	1.423 1.401	1.256 1.246	1.121	1.780	.310 .280

FIGURE 2. Type A, 90° strain relief – Continued.

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Shell size	SAE-AS50151 size shell	H max	J	K max	L max	M thread class 2B	Number of teeth
08	8S	.350	.285 .272	.240	.88	.4375-28 UNEF	8
10	10S	.350	.285 .272	.295	.94	.500-28 UNEF	10
11	10SL	.350	.285 .272	.375	.94	.5625-24 UNEF	12
13	12S	.350	.285 .272	.400	1.00	.625-24 UNEF	14
12	12	.505	.441 .428	.400	1.00	.625-24 UNEF	14
16	145	.355	.285 .272	.462	1.32	.750-20 UNEF	16
14	14	.510	.441 .428	.482	1.32	.750-20 UNEF	18
17	168	.350	.285 .272	.601	1.37	.875-20 UNEF	20
16	16	.510	.441 .428	.601	1.37	.875-20 UNEF	20
18	18	.490	.441 .428	.722	1.42	1.000-20 UNEF	24
20	20	.495	.441 .428	.862	1.51	1.125-18 UNEF	28
22	22	.495	.441 .428	.970	1.57	1.250-18 UNEF	32
24	24	.488	.423 .410	1.082	1.64	1.375-18 UNEF	32
28	28	.488	.423 .410	1.241	1.71	1.625-18 UNEF	36

FIGURE 2. Type A, 90° strain relief – Continued.

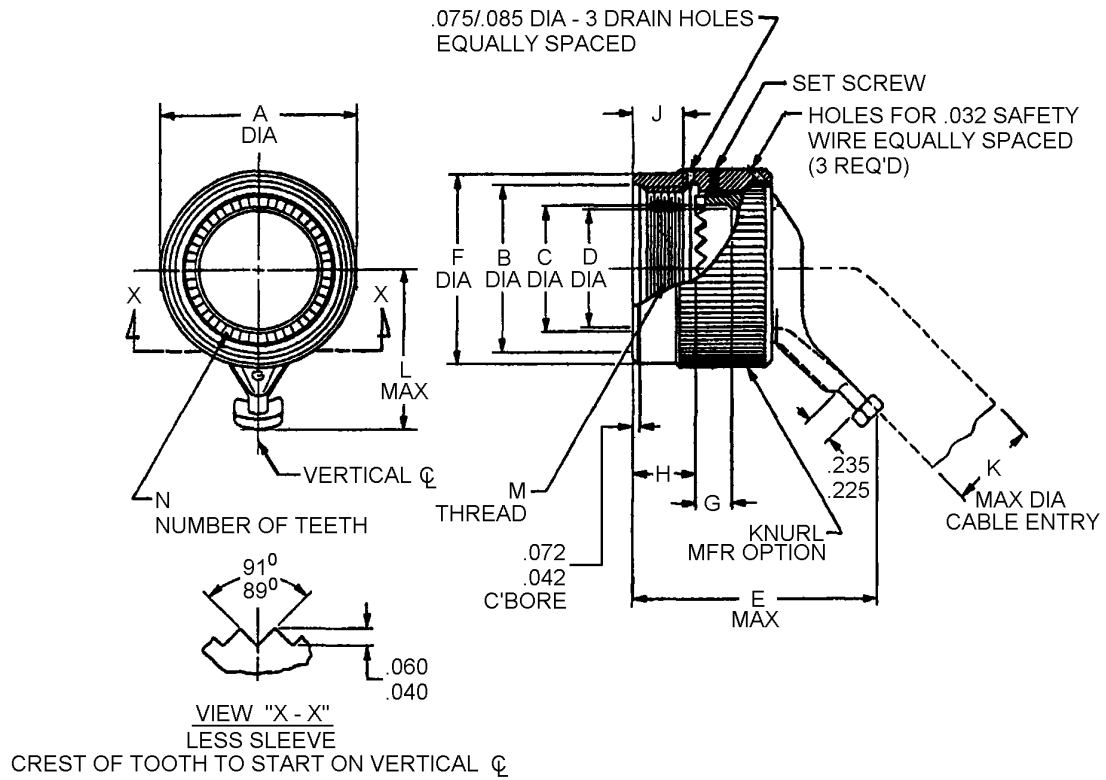


FIGURE 3. Type B, 45° strain relief.

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Shell size	SAE-AS50151 size shell	A dia max	B dia	C dia	D dia	E max	F dia max	G
08	8S	.684	.455 .440	.300 .279	.255 .248	1.085	.551	.365 .335
10	10S	.782	.520 .500	.380 .341	.308 .300	1.085	.676	.365 .335
11	10SL	.782	.580 .560	.430 .408	.388 .380	1.085	.678	.365 .335
13	12S	.937	.645 .625	.480 .459	.413 .405	1.085	.812	.365 .335
12	12	.937	.645 .625	.480 .459	.413 .405	2.01	.812	.365 .335
15	14S	1.050	.770 .750	.584 .582	.495 .487	2.37	.926	.365 .335
14	14	1.050	.770 .750	.584 .582	.495 .487	2.52	.926	.365 .335
17	18S	1.239	.895 .875	.710 .688	.814 .808	2.38	1.052	.365 .335
18	18	1.239	.895 .875	.710 .688	.814 .606	2.52	1.082	.365 .335
18	18	1.378	1.020 1.000	.827 .805	.735 .727	2.66	1.176	.360 .330
20	20	1.500	1.145 1.125	.964 .942	.875 .867	2.74	1.312	.370 .340
22	22	1.831	1.270 1.250	1.095 1.073	.983 .975	2.74	1.437	.370 .340
24	24	1.750	1.395 1.375	1.202 1.180	1.100 1.087	2.82	1.551	.310 .280
28	28	1.921	1.645 1.625	1.423 1.401	1.256 1.246	2.82	1.750	.310 .280

FIGURE 3. Type B, 45° strain relief – Continued.

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Shell size	SAE-AS50151 size shell	H max	J	K max	L max	M thread class 2B	Number of teeth
08	8S	.360	.285 .272	.240	.76	4375-28 UNEF	8
10	10S	.360	.285 .272	.295	.82	.500-28 UNEF	10
11	10SL	.360	.285 .272	.375	.82	.5625-24 UNEF	12
13	12S	.350	.285 .272	.400	.88	.625-24 UNEF	14
12	12	.505	.441 .428	.400	.88	.625-24 UNEF	14
15	14S	.355	.285 .272	.482	1.12	.750-20 UNEF	16
14	14	.510	.441 .428	.482	1.12	.750-20 UNEF	16
17	18S	.350	.285 .272	.601	1.18	.875-20 UNEF	20
18	18	.510	.441 .428	.601	1.18	.875-20 UNEF	20
18	18	.480	.441 .428	.722	1.27	1.000-20 UNEF	24
20	20	.495	.441 .428	.662	1.31	1.125-18 UNEF	28
22	22	.495	.441 .428	.970	1.37	1.250-18 UNEF	32
24	24	.488	.423 .410	1.082	1.44	1.375-18 UNEF	32
28	28	.488	.423 .410	1.241	1.57	1.625-18 UNEF	36

FIGURE 3. Type B, 45° strain relief – Continued.

REQUIREMENTS

Type, 'R', 'A', & 'B': Complete strain relief consists of an accessory nut and a follower; the accessory nut shall be captivated to, and free to rotate on, the follower. Strain relief includes one set screw for positive orientation of strain relief to connectors.

Materials: Aluminum alloy in accordance with SAE-AMS-QQ-A-225 (or ASTM-B211) or the appropriate portions of ASTM-B85/B85M, ASTM-B26/B26M, ASTM-B108/B108M & SAE-J452, SAE-J453, SAE-AMS4290, SAE-AMS4291.

Finish: (see Part or Identifying Number (PIN)) "N" electroless nickel in accordance with AMS-C-26074, class 3, grade A. "A" anodic coating in accordance with MIL-PRF-8625, type (optional), class 2 black. (Dimensions apply after finishing).

Strain relief unit is to be used with SAE-AS33671 plastic strap, MIL-DTL-713 lacing twine or A-A-52080 thru A-A-52084 Lacing tape.

Parts shall be marked in accordance with MIL-STD-1285.

Type 'R', 'A', & 'B': Type items described herein are covered by US patents 3,603,913 and/or 3,732,527.

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M83723/50 strain reliefs are not recommended for use with connectors containing number 8 AWG or larger conductors.

Preproduction tests shall consist of visual and mechanical examination, vibration, physical shock, and salt spray.

Acceptance tests: Acceptance tests shall consist of visual and mechanical examination.

Example of PIN:

M83723/ 50 R 08 N

M83723/ Military designation

50 Slash sheet

R Type

R = Straight strain relief, rotatable arm

A = 90° strain relief

B = 45° strain relief

08 Shell size

N Finish

N = Electroless nickel

A = Anodic coating

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Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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.

CONCLUDING MATERIAL

Custodians:

Army – CR
Navy – AS
Air Force – 85
DLA – CC

Preparing activity:
DLA – CC

(Project 5935-2024-067)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.