

INCH-POUND

MS27488N
 22 July 2008
 SUPERSEDING
 MS27488M
 29 September 2000

DETAIL SPECIFICATION SHEET

PLUG, END SEAL, ELECTRICAL CONNECTOR

This specification sheet 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.

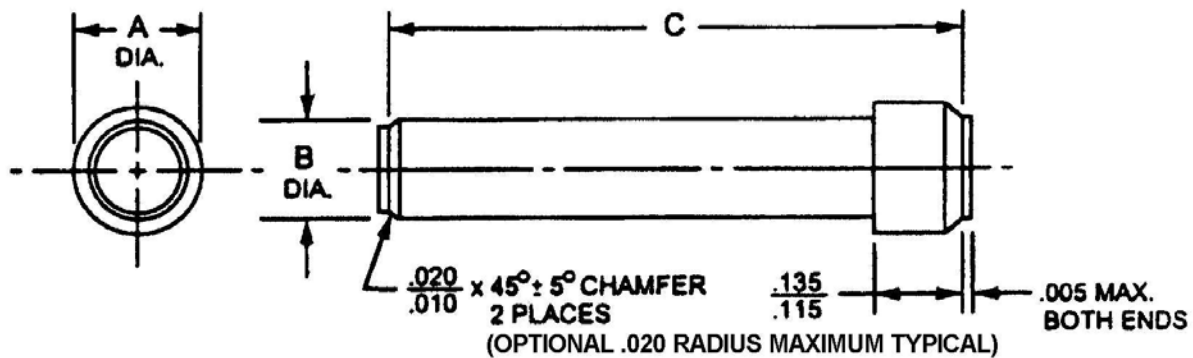
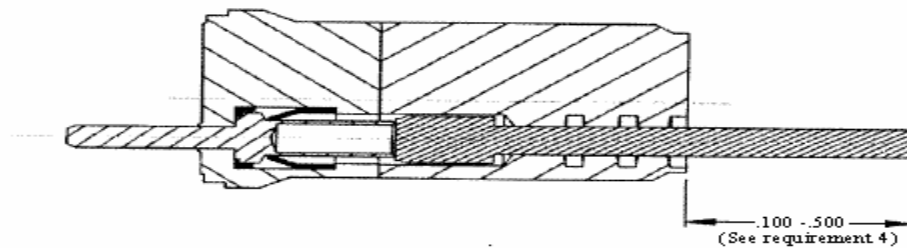


FIGURE 1. Sealing plug configuration.

MS27488N

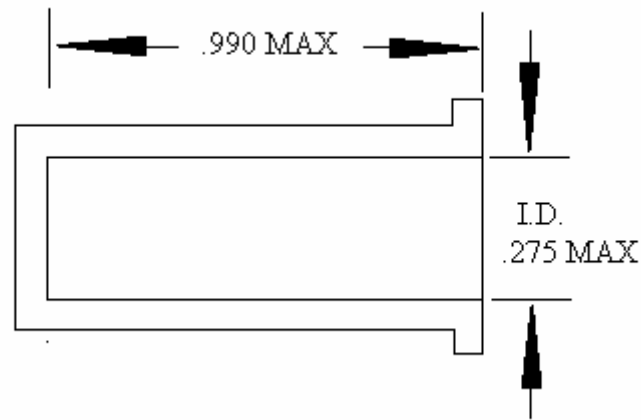
FIGURE 2. Sealing plug with unwired contact.TABLE I. Sealing plug dimensions and application information.

Dash no.	Color code	A dia. <u>1/</u>	B dia. <u>1/</u>	C dim. <u>1/</u>	Connector contact size
-22-2	Black	0.066 0.058	0.045 0.038	0.500 0.438	23-22 <u>2/</u>
-20-2	Red	0.090 0.080	0.058 0.048	0.805 0.755	20 <u>2/</u>
-16-2	Green	0.130 0.120	0.079 0.069	0.872 0.822	16 <u>2/</u>
-12-2	Orange	0.170 0.160	0.125 0.115	0.841 0.791	12 <u>2/</u>
-16-3	Blue	0.130 0.120	0.079 0.069	1.472 1.422	16 (5015) <u>3/</u>
-12-3	Yellow	0.170 0.160	0.125 0.115	1.441 1.391	12 (5015) <u>3/</u>
-8-3	Red	0.315 0.305	0.175 0.165	1.189 1.139	8 (5015) <u>3/</u>
-4-3	Blue	0.414 0.404	0.283 0.273	1.189 1.139	4 (5015) <u>3/</u>
-0-3	Yellow	0.606 0.596	0.431 0.416	1.071 1.021	0 (5015) <u>3/</u> , <u>4/</u>

NOTES:

1/ Dimensions are in inches.2/ Sealing plug is for use in all connectors and components listed in table II, with the exception of MIL-DTL-5015 connectors.3/ Sealing plug is for use in MIL-DTL-5015 connectors. See figure 3.4/ See figure 3.

MS27488N

FIGURE 3. Optional design for MS27488-0-3.TABLE II. Components that use MS27488 sealing plugs.

Document	Component type
MIL-DTL-5015	Electrical connector
MIL-PRF-22885/103	Pushbutton switch
MIL-PRF-22885/108	Pushbutton switch
MIL-S-24317/12	Pushbutton switch
MIL-DTL-26482, Series 1 and 2	Electrical connector
MIL-DTL-26500	Electrical connector
MIL-DTL-26518	Electrical connector
MIL-DTL-28804	Electrical connector
MIL-C-29600	Electrical connector
MIL-DTL-38999	Electrical connector
MIL-C-81511, Series 3 and 4	Electrical connector
MIL-C-81582/2	Electrical connector
SAE-AS81659	Electrical connector
MIL-C-81703	Electrical connector
SAE-AS81714	Terminal Junction System
SAE-AS81714/1	Terminal Junction System
SAE-AS81714/2	Terminal Junction System
SAE-AS81714/3	Terminal Junction System
SAE-AS81714/4	Terminal Junction System
SAE-AS81714/6	Terminal Junction System
SAE-AS81714/7	Terminal Junction System
SAE-AS81714/8	Terminal Junction System

MS27488N

TABLE II. Components that use MS27488 sealing plugs - Continued.

Document	Component type
SAE-AS81714/9	Terminal Junction System
SAE-AS81714/17	Terminal Junction System
SAE-AS81714/25	Terminal Junction System
SAE-AS81714/26	Terminal Junction System
SAE-AS81714/27	Terminal Junction System
SAE-AS81714/28	Terminal Junction System
SAE-AS81714/30	Terminal Junction System
SAE-AS81714/31	Terminal Junction System
SAE-AS81714/60	Terminal Junction System
SAE-AS81714/61	Terminal Junction System
SAE-AS81714/63	Terminal Junction System
MIL-DTL-83527	Electrical connector
MIL-DTL-83538	Electrical connector
MIL-DTL-83723, Series II and III	Electrical connector
MIL-C-83723/66	Electrical connector
MIL-C-83723/67	Electrical connector
MIL-C-83723/68	Electrical connector
MIL-C-83723/69	Electrical connector
MS21346	Toggle switch
MS21347	Toggle switch
MS27722	Toggle switch
MS27723	Toggle switch
MS27724	Toggle switch
MS27781	Toggle switch
MS27782	Toggle switch
MS27783	Toggle switch
MS27784	Toggle switch
MS27785	Toggle switch
MS27786	Toggle switch
MS27787	Toggle switch
MS27788	Toggle switch
MS27789	Toggle switch

MS27488N

TABLE III. Metric equivalents.

Inch	Millimeter	Inch	Millimeter	Inch	Millimeter	Inch	Millimeter
0.010	0.254	0.115	2.921	0.404	10.262	0.872	22.149
0.020	0.508	0.120	3.048	0.414	10.516	0.822	20.879
0.038	0.965	0.125	3.175	0.416	10.566	0.841	21.361
0.045	1.143	0.130	3.302	0.431	10.947	0.990	25.146
0.048	1.219	0.135	3.429	0.438	11.125	1.021	25.933
0.058	1.473	0.160	4.064	0.500	12.700	1.071	27.203
0.066	1.676	0.165	4.191	0.596	15.138	1.139	28.931
0.069	1.753	0.170	4.318	0.606	15.393	1.189	30.200
0.079	2.007	0.175	4.445	0.755	19.177	1.391	35.331
0.080	2.032	0.273	6.934	0.791	20.091	1.422	36.119
0.090	2.286	0.275	6.985	0.796	20.218	1.441	36.601
0.100	2.540	0.283	7.188	0.805	20.447	1.472	37.389

NOTE: Metric equivalents (to the nearest 0.001 mm) are given for general information only and are based upon 1 inch = 25.4 mm.

REQUIREMENTS:

1. Material. Plastic rod, molded and extruded - temperature limit 200 °C minimum. The material used to fabricate sealing plugs shall be polytetrafluoroethylene (PTFE) in accordance with ASTM-D1710, or fluorinated ethylene propylene (FEP) in accordance with ASTM-D2116, or perfluoroalkoxy (PFA) in accordance with ASTM-D3307, or polyphenylsulfone (PPSU) in accordance with ASTM-D6394.
2. Color. Color of items shall be in accordance with EIA-359.
3. Resistivity. Material resistivity shall be not less than 100 megohms when tested in accordance with ASTM-D257.
4. Installation. When installing sealing plugs in connector, component or module grommets, the head of the sealing plug shall be inserted first. The sealing plug is designed for use with an unwired contact installed in connector applications. The sealing plug shall be pushed into the grommet until the head is positioned against the end of the unwired contact.
5. Workmanship. The item shall be free from flash and burrs. The length of diameter B shall be free of all molding marks, protrusions, and blemishes. Molding marks, protrusions, and blemishes from gate cutoffs are permissible but only on the plug ends or side of the head and shall not be greater than 0.005 inch in height.

MS27488N

6. Part marking. Marking is not required. Items shall be identified at the bag or higher packaging level.
7. Connector, module, and switch manufacturers, their distributors, and agents supplying military connectors, modules, and switches as noted, shall only furnish end seal plugs with the connectors, modules, and switches in accordance with this specification sheet.

NOTES:

1. Dimensioning and tolerancing per ASME Y14.5M.
2. Table IV lists the documents that use MS27488 sealing plugs along with their status and superseding document information.

TABLE IV. Document status and supersession information.

Document	Status	Superseding Document
MIL-DTL-5015	Active	None
MIL-W-5088	Inactive for New Design	SAE-AS50881
MIL-PRF-22885/103	Active	None
MIL-PRF-22885/108	Active	None
MIL-S-24317/12	Inactive for New Design	None
MIL-DTL-26482, Series 1 and 2	Active	None
MIL-DTL-26500	Inactive for New Design	None
MIL-DTL-26518	Inactive for New Design	None
MIL-DTL-28804	Active	None
MIL-C-29600	Active	None
MIL-DTL-38999	Active	None
MIL-C-81511, Series 3 and 4	Inactive for New Design	None
MIL-C-81582/2	Active	None
MIL-C-81659	Canceled	SAE-AS81659
MIL-C-81703	Inactive for New Design	SAE-AS81703
MIL-T-81714	Canceled	SAE-AS81714
MIL-T-81714/1	Canceled	SAE-AS81714/1
MIL-T-81714/2	Canceled	SAE-AS81714/2
MIL-T-81714/3	Canceled	SAE-AS81714/3
MIL-T-81714/4	Canceled	SAE-AS81714/4

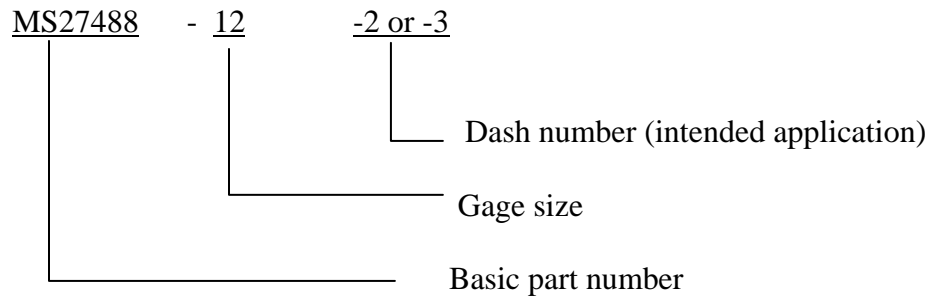
MS27488N

TABLE IV. Document status and supersession information – Continued.

Document	Status	Superseding Document
MIL-T-81714/6	Canceled	SAE-AS81714/6
MIL-T-81714/7	Canceled	SAE-AS81714/7
MIL-T-81714/8	Canceled	SAE-AS81714/8
MIL-T-81714/9	Canceled	SAE-AS81714/9
MIL-T-81714/17	Canceled	SAE-AS81714/17
MIL-T-81714/25	Canceled	SAE-AS81714/25
MIL-T-81714/26	Canceled	SAE-AS81714/26
MIL-T-81714/27	Canceled	SAE-AS81714/27
MIL-T-81714/28	Canceled	SAE-AS81714/28
MIL-T-81714/30	Canceled	SAE-AS81714/30
MIL-T-81714/31	Canceled	SAE-AS81714/31
MIL-T-81714/60	Canceled	SAE-AS81714/60
MIL-T-81714/61	Canceled	SAE-AS81714/61
MIL-T-81714/63	Canceled	SAE-AS81714/63
MIL-DTL-83527	Active	None
MIL-DTL-83538	Active	None
MIL-DTL-83723, Series II and III	Active	None
MIL-C-83723/66	Active	None
MIL-C-83723/67	Active	None
MIL-C-83723/68	Active	None
MIL-C-83723/69	Active	None
MS21346	Active	None
MS21347	Active	None
MS27722	Active	None
MS27723	Active	None
MS27724	Active	None
MS27781	Active	None
MS27782	Active	None
MS27783	Active	None
MS27784	Active	None
MS27785	Active	None
MS27786	Active	None
MS27787	Active	None
MS27788	Active	None
MS27789	Inactive for New Design	None
MIL-STD-1760	Active	None

MS27488N

3. Example of part or identifying number:



4. MS27488 part numbers supersede part numbers from MIL-C-81511/39, MIL-C-83723/28, MS27186, MS27187, and MS27488, revision M as follows:

- a. MS27488-22-2 supersedes MS27488-22-1, M81511/39-22 and MS27488-22.
- b. MS27488-20-2 supersedes MS27488-20-1, M81511/39-20, M83723/28-20, MS27186-1, MS27187-3, and MS27488-20.
- c. MS27488-16-2 supersedes M81511/39-16, M83723/28-16, MS27186-2, MS27187-1, and MS27488-16.
- d. MS27488-16-3 supersedes MS27488-16-1. (MS27488-16-3 is for use in MIL-DTL-5015 electrical connectors only. See information given in table I, MS27488-16-2 for all other applications.)
- e. MS27488-12-2 supersedes M81511/39-12, M83723/28-12, MS27186-3, MS27187-2, and MS27488-12.
- f. MS27488-12-3 supersedes MS27488-12-1. (MS27488-12-3 is for use with MIL-DTL-5015 electrical connectors only. See information given in table I, MS27488-12-2 for all other applications.)
- g. MS27488-8-3 supersedes MS27488-8-1, M83723/28-8, and MS27488-8.
- h. MS27488-4-3 supersedes MS27488-4-1, M83723/28-4, MS27187-4, and MS27488-4.
- i. MS27488-0-3 supersedes MS27488-0-1, M83723/28-0, and MS27488-0.

5. The MS27488 gage size given as part of the part number matches the connector contact size and grommet cavity size for which the corresponding end seal plug is used.

6. For design purposes, this specification sheet takes precedence over acquisition documents referenced herein.

7. Contact installing tools listed in table IV may be used for installing the seal plugs. The use of tools for seal plug sizes 12 and smaller will aid in the installation by supporting the plug during

MS27488N

head first insertion. The tool rides against the shoulder on the back of the plug head during insertion rather than pushing on the tail end of the unsupported plug. The tools will not remove the seal plugs. Plugs must be removed by grasping the tail end of the plug that is left protruding outside the grommet. The tools are not recommended for seal plug sizes 8 and larger.

TABLE V. Installation tools.

Seal plug	Tool part number
MS27488-22-2	M81969/14-01
MS27488-20-2	M81969/14-11
MS27488-16-2	M81969/14-03
MS27488-12-2	M81969/14-04
MS27488-16-3	M81969/14-03
MS27488-12-3	M81969/14-04

8. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

9. Connector, module, and switch manufacturers, their distributors, and agents are permitted to supply MS27488, revision M sealing plugs for 12 months after the date of this revision or exhaust their inventories, whichever comes first.

CONCLUDING MATERIAL

Custodians:

Army - CR

Navy - AS

Air Force - 85

Preparing activity:

Navy - AS

(Project 5935-2006-035)

Review activities:

Army - AR, MI

Navy - EC

Air Force - 19, 99

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 <http://assist.daps.dla.mil>.