



**DEFENSE LOGISTICS AGENCY**  
**LAND AND MARITIME**  
**P.O. BOX 3990**  
**COLUMBUS, OH 43218-3990**

25 August 2016

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial drafts of MS24264S, MS27265S and MS24266R (see table below for details).

Initial Draft	Title	Project Number
MS24264S	Connectors, Receptacle, Electrical, Flange Mounting, Miniature, Classes E, F, G and R	5935-2016-183
MS24265S	Connectors, Receptacle, Electrical, Single Hole Mount, Miniature, Classes E, F, G, H and R	5935-2016-184
MS24266R	Connectors, Plug, Electrical, Straight, Miniature, Classes E, F, G and R	5935-2016-185

The drafts for the subject QPL-26500 documents, dated 25 August 2016, are now available for viewing and downloading from the DLA Land and Maritime-VA website at the following internet address:

<https://landandmaritimeapps.dla.mil/programs/milspec/default.aspx>

The subject documents have been revised to allow for an optional design for accessory threads. The specification requires the specified accessory thread “F” to be a standard thread form type UNEF class 2A (external) in accordance with MIL-S-7742 and FED-STD-H28. The proposed optional design will allow the accessory threads to have modified major diameters. This optional modified major diameter is a truncated thread. All other standard thread form requirements remain unchanged, including the theoretical crest apex and the flank angle. Currently, only FF max, the maximum diameter of the accessory thread, is specified. For the truncated thread design, “FF min” is proposed for each shell size. The proposed “FF min” column headings in the dimension tables also point to a new note under the connector figure that provides addition information on how this optional design specification is to be interpreted. This note includes a statement that only the flat across the top of the thread is allowed to increase as the truncation approaches a new “FF min” diameter. In addition, under “Requirements”, an “accessory thread strength” qualification test requirement has been added for connectors with rear accessory threads that include modified major diameters. Other minor editorial changes to ensure compliance with MIL-STD-961 are also included in the documents.

Rationale for proposed change: Although one QPL-source for qualified connectors in accordance with the subject MS sheets has been qualified since the 1970’s, the Qualifying Activity has only recently discovered that the accessory threads on these qualified parts have a modified major diameter. The modified major diameter has not caused any quality issues, and the QPL-source has complied with requalification testing requirements. The truncated threads have not impacted the ability of the connectors to accept the approved accessories for these products.

SUBJECT: Initial drafts of MS24264S, MS27265S and MS24266R (see table for details).  
– **Continued.**

In addition, preliminary accessory thread strength testing indicates that the connectors meet the same accessory thread strength requirements included in MIL-DTL-83723, a similar circular connector specification. Currently, there are no requirements in MIL-DTL-26500 for accessory thread strength testing, which is the rationale for the proposal to include this test in the slash sheets for connectors with accessory threads with the optional design.

Proposed additions to the documents are indicated in the drafts with bold lettering and /or yellow highlighting. Proposed deletions are indicated with cross-outs and /or green highlighting.

If these documents are of interest to you, please provide your comments or suggested changes. Concurrence or comments are required at this Center within 45 calendar days from the date of this letter (no later than 10 October 2016). Late comments will be held for the next coordination of the documents. Comments from military departments must be identified as either "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their military department's document custodian in sufficient time to allow for consolidation of the department's reply. Lack of a response by the above due date will be interpreted as either concurrence with or no interest in these documents. Subsequent coordination for these documents will be circulated only to those interested parties that have responded to the subject initial draft.

The point of contact for these documents is Mrs. Lisa Hoffer, phone number 614-692-7702, DSN 850-7702, facsimile transmission 614-692-6940, or e-mail [lisa.hoffer@dla.mil](mailto:lisa.hoffer@dla.mil). Comments may also be mailed via the US Postal Service to DLA Land and Maritime–VAI (ATTN: Lisa Hoffer), P.O. Box 3990, Columbus, OH 43218-3990.

Sincerely,

/ **SIGNED** /

ABDONASSER M. ABDOUNI  
Chief,  
Interconnection Branch

cc:  
DLA Land and Maritime-FMVA (D. Barman)  
DLA Land and Maritime -VQP (E. Shen)  
DSCC.Standardization@dla.mil

Note: This draft, dated **25 August 2016** and prepared by DLA Land and Maritime-VAI, has not been approved and is subject to modification.  
**DO NOT USE PRIOR TO APPROVAL.**  
(Project 5935-2016-185).

INCH-POUND  
**MS24266R**  
**DRAFT**  
**SUPERSEDING**  
**MS24266P**  
**7 August 2015**

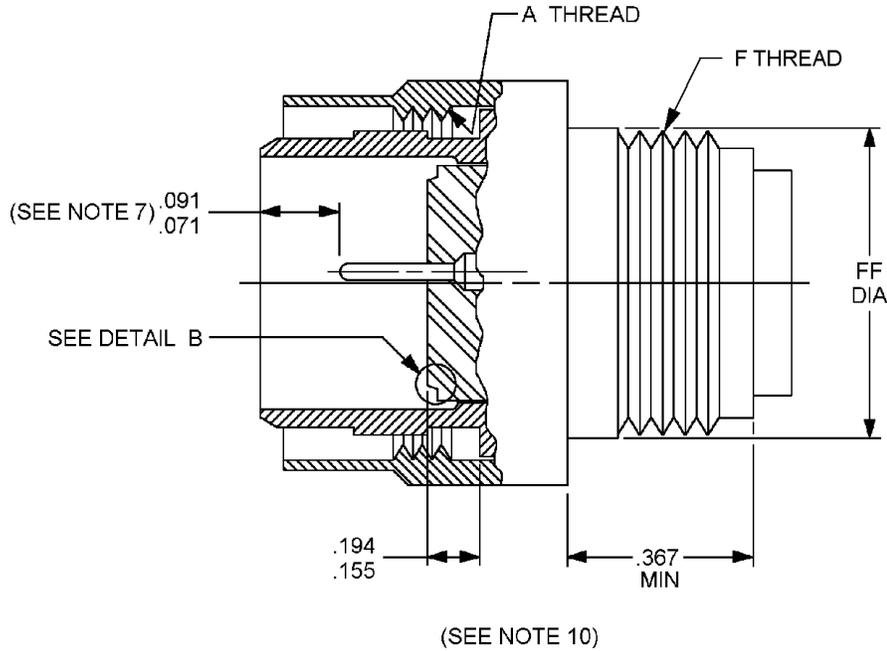
DETAIL SPECIFICATION SHEET

CONNECTORS, PLUG, ELECTRICAL, STRAIGHT,  
MINIATURE, CLASSES E, F, G AND R

Inactive for new design after 14 November 1977.  
For new design, use MIL-DTL-83723, series III.

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-DTL-26500.

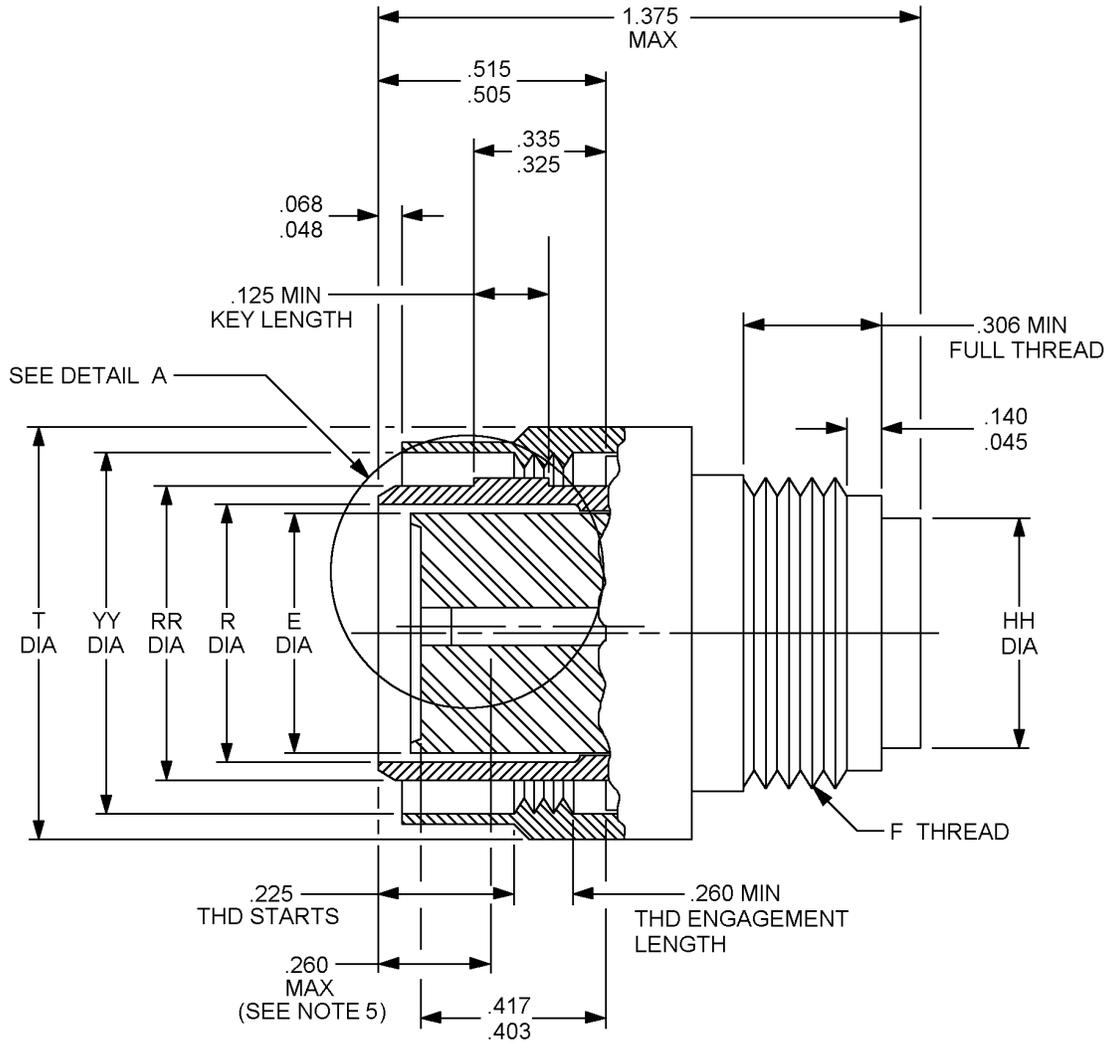


STYLE P (PIN INSERT) FOR CLASSES F, G, R AND E

FIGURE 1. Plug, threaded coupling, type T.



**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

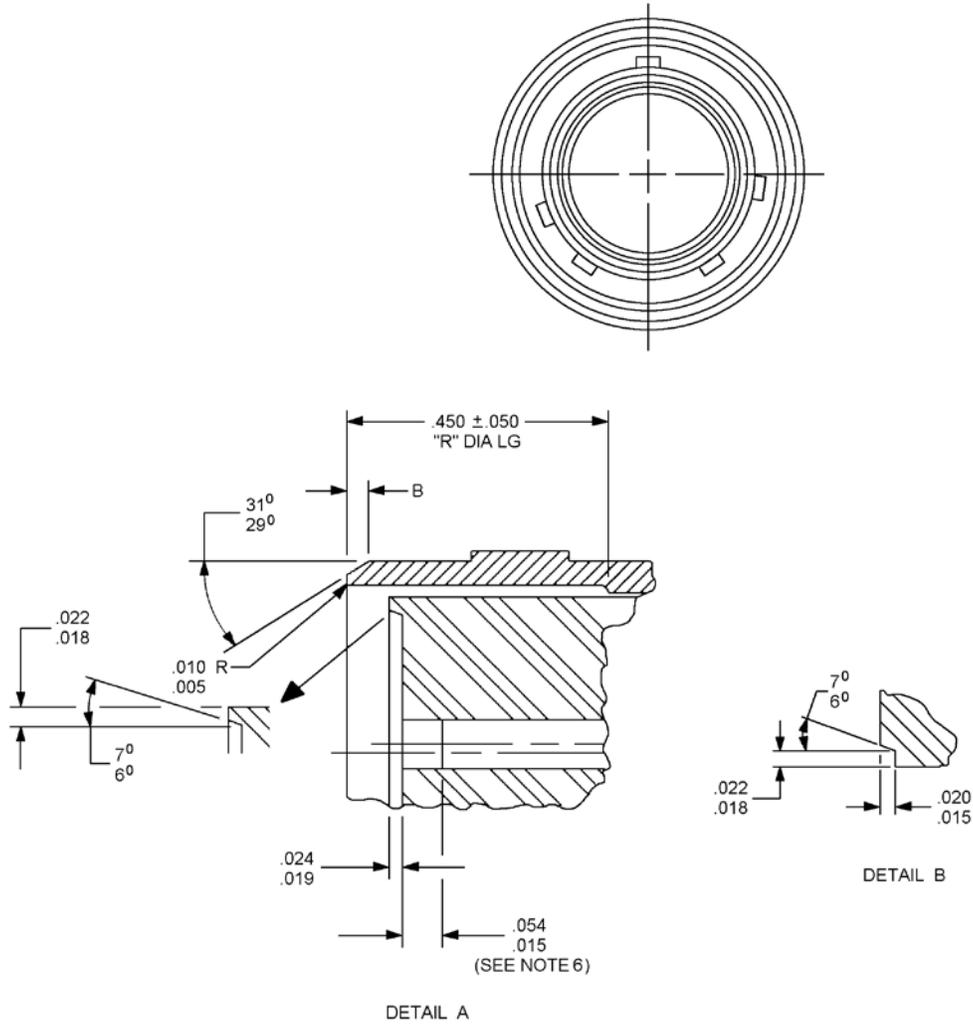


(SEE NOTE 10)

STYLE S (SOCKET INSERT), CLASSES F, G, R AND E

FIGURE 1. Plug, threaded coupling, type T – Continued.

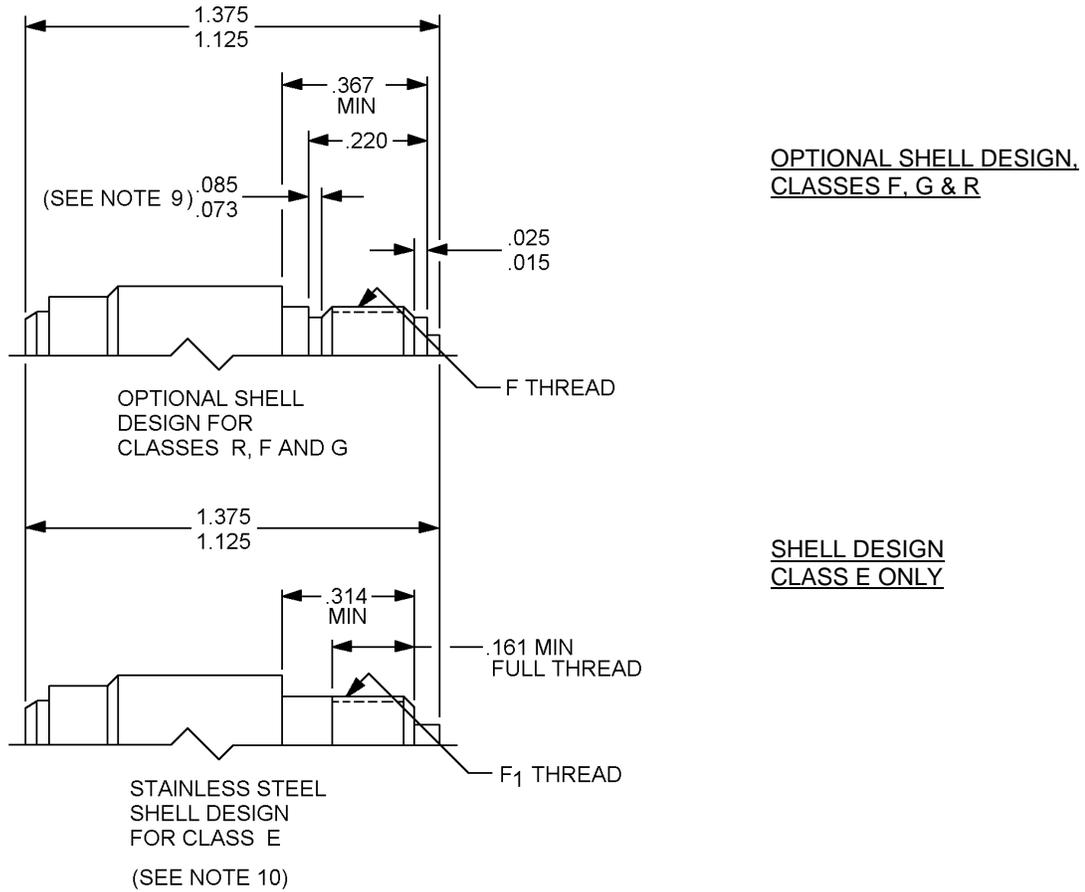
**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.005	0.13	.045	1.14	.140	3.56	.367	9.32
.010	0.25	.048	1.22	.180	4.57	.403	10.24
.015	0.38	.050	1.27	.194	4.93	.417	10.59
.018	0.46	.054	1.37	.225	5.72	.450	11.43
.019	0.48	.068	1.73	.260	6.60	.505	12.83
.020	0.51	.071	1.80	.306	7.77	.515	13.08
.022	0.56	.091	2.31	.325	8.26	1.375	34.92
.024	0.61	.125	3.18	.335	8.51		

FIGURE 1. Plug, threaded coupling, type T – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**



Inches	mm	Inches	mm	Inches	mm
.015	0.38	.161	4.09	.367	9.32
.025	0.66	.220	5.59	1.125	28.58
.073	1.85	.314	7.98	1.375	34.92
.085	2.16				

**NOTES:**

1. Dimensions are in inches. Unless otherwise specified, tolerance on decimals is  $\pm .005$ .
2. Metric equivalents are given for information only.
3. All diameters to be concentric with each other within .015 TIR.
4. All diameters in the same plane to be concentric with each other within .004 TIR.
5. Distance between end of shell and the point at which a gauge pin having the same basic diameter as the mating contact and a square face, engages socket contact spring.
6. Dimensions on pin and socket contact locations and end of shell to insert faces apply when contacts are placed in inserts for inspection or application.

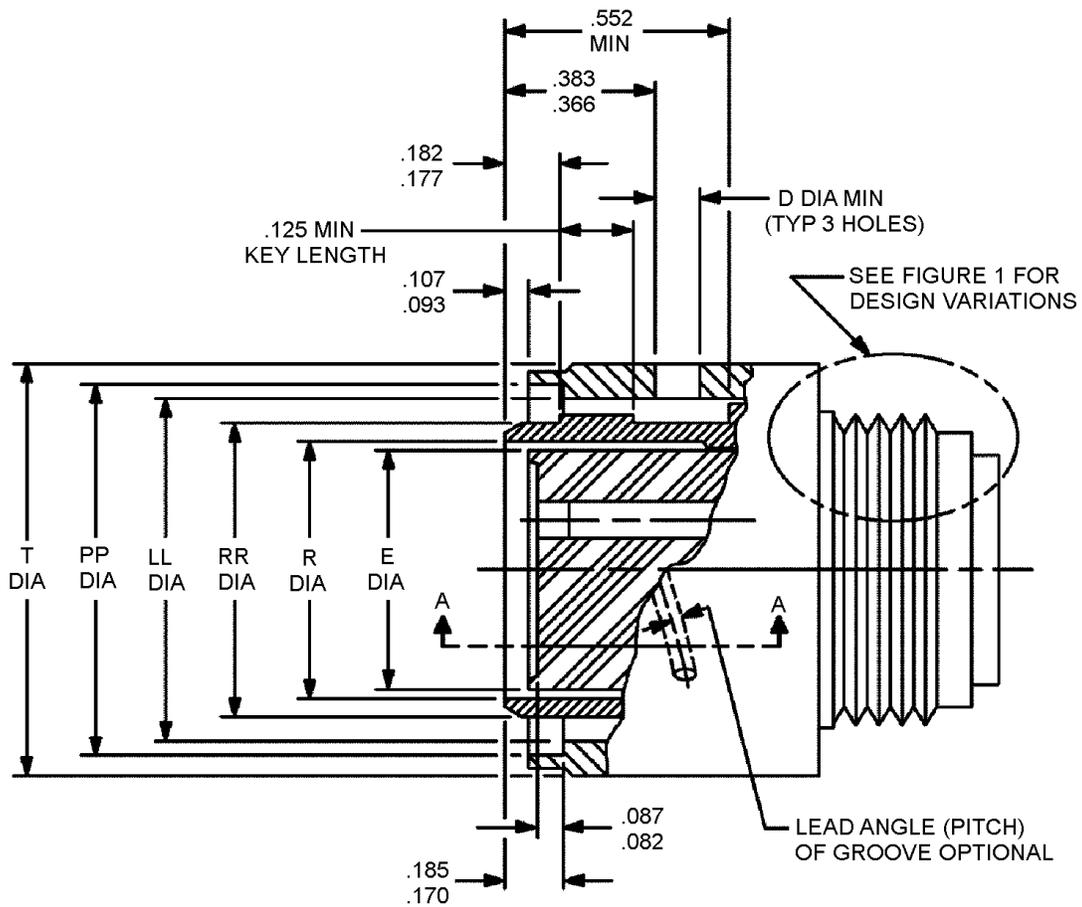
FIGURE 1. Plug, threaded coupling, type T – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

7. Dimensions .071 may reduce to .056 minimum under pressures caused by molded cable assemblies or sharp cable bends.
8. Use tool MIL-I-81969/17 to assemble contacts into this connector, and use tool MIL-I-81969/19 to remove contacts from this connector.
9. Thread relief groove is optional on shell. When groove is omitted the length of full thread from front of shell will be .221 minimum.
10. Environment resistant (classes F and R) plugs, type T aluminum shell material. Grounding environment resistant (class G) plugs, type T aluminum shell material. Environment resistant (class E) plugs, type T stainless steel shell material.
11. True position (TP) tolerances specified are for maximum material conditions (MMC).
12. Application note: For new design, use MIL-DTL-83723. Note: MIL-DTL-83723, series III, specifies accessory threads and accessories that are not fully compatible with MIL-DTL-26500 connectors. Recommend using MIL-DTL-26500 cable clamps with these connectors.

FIGURE 1. Plug, threaded coupling, type T – Continued.

MS24266S  
 DRAFT DATED 25 AUGUST 2016



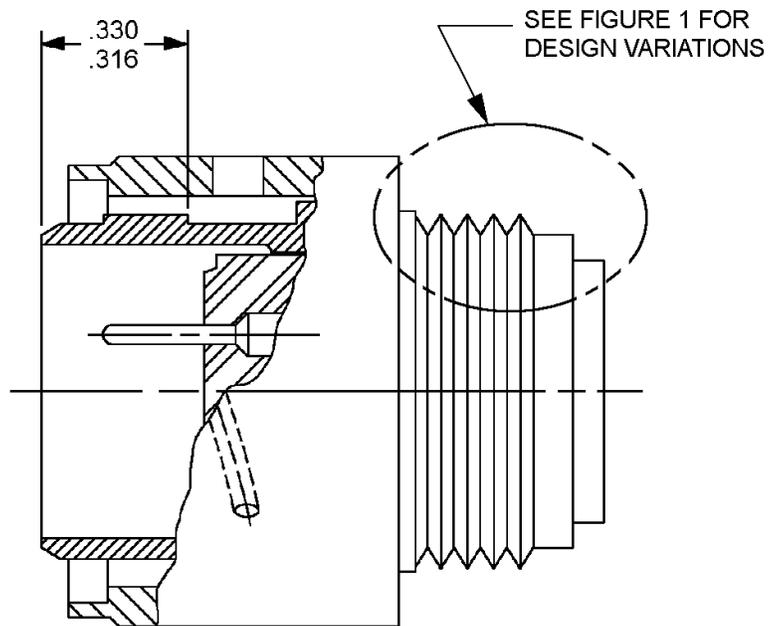
(SEE NOTE 10)

STYLE S  
 SOCKET INSERT

STYLE S (SOCKET INSERT) FOR CLASSES F, G, R AND E

FIGURE 2. Plug, bayonet coupling, type B.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**



(SEE NOTE 10)

STYLE P  
PIN INSERT

STYLE P (PIN INSERT) FOR CLASSES F, G, R AND E

Inches	mm	Inches	mm	Inches	mm
.004	0.10	.107	2.71	.330	8.38
.005	0.13	.125	3.18	.366	9.30
.082	2.08	.177	4.50	.383	9.73
.087	2.21	.188	4.78	.552	14.02
.093	2.36	.316	8.03		

FIGURE 2. Plug, bayonet coupling, type B – Continued.

MS24266S  
DRAFT DATED 25 AUGUST 2016

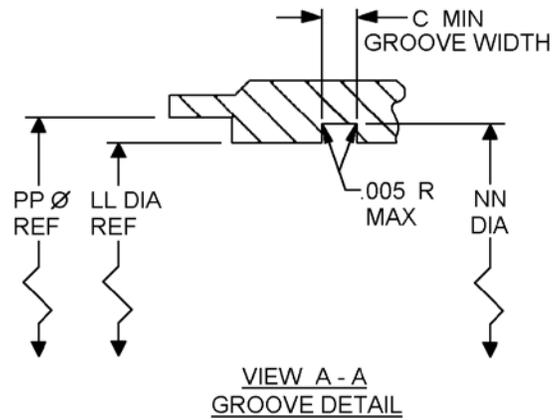
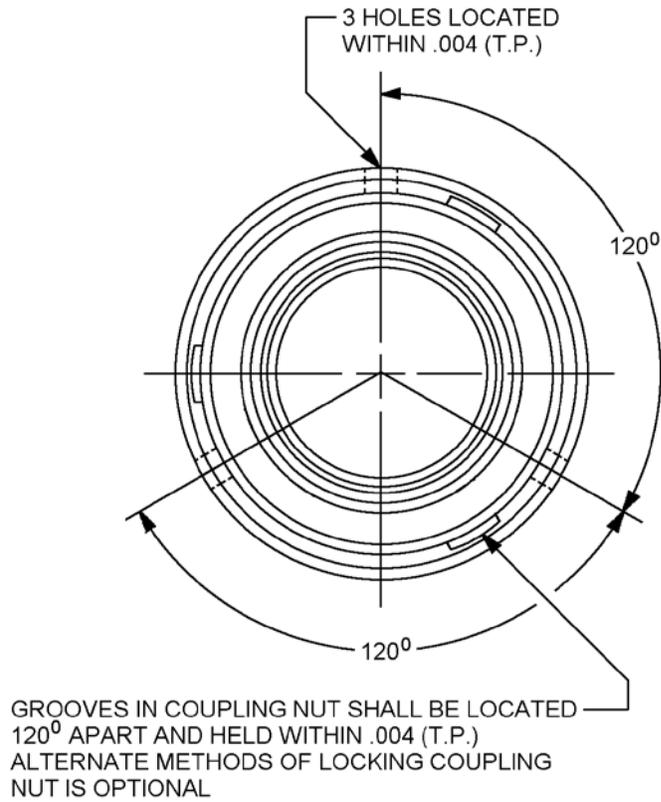


FIGURE 2. Plug, bayonet coupling, type B – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

NOTES:

1. Dimensions are in inches. Unless otherwise specified, tolerance on decimals is  $\pm .005$ .
2. Metric equivalents are given for information only.
3. All diameters to be concentric with each other within .015 TIR.
4. All diameters in the same plane to be concentric with each other within .004 TIR.
5. Distance between end of shell and the point at which a gauge pin having the same basic diameter as the mating contact and a square face, engages socket contact spring.
6. Dimensions on pin and socket contact locations and end of shell to insert faces apply when contacts are placed in inserts for inspection or application.
7. Dimension .071 may reduce to .056 minimum under pressures caused by molded cable assemblies or sharp cable bends.
8. Use tool MIL-I-81969/17 to assemble contacts into this connector, and use tool MIL-I-81969/19 to remove contacts from this connector.
9. Thread relief groove is optional on shell. When groove is omitted the length of full thread from front of shell will be .221 minimum.
10. Environment resistant (classes F and R) plugs, type B, aluminum shell material. Grounding environment resistant (class G) plugs, types B, -aluminum shell material. Environment resistant (class E) plugs, types B, -stainless steel shell material.
11. True position (TP) tolerances specified are for maximum material conditions (MMC).
12. Application note: For new design, use MIL-DTL-83723. Note: MIL-DTL-83723, series III, specifies accessory threads and accessories that are not fully compatible with MIL-DTL-26500 connectors. Recommend using MIL-DTL-26500 cable clamps with these connectors.

FIGURE 2. Plug, bayonet coupling, type B – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Shell size	A UNEF-2B coupling	B	C min	D min dia	E max insert dia	F UNEF-2A access thd
8	.5625-24 (14.27)	.025 (0.66)	.079 (2.01)	.079 (2.01)	.318 (8.08)	.4375-28 (11.10)
10	.6875-24 (17.45)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.394 (10.01)	.5625-24 (14.27)
12	.875-20 (22.22)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.564 (14.33)	.750-20 (19.05)
14	.9375-20 (23.80)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.633 (16.08)	.8125-20 (20.62)
16	1.0625-10 (26.97)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.760 (19.30)	.9375-20 (23.80)
18	1.1875-18 (30.15)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.866 (22.00)	1.0625-18 (26.97)
20	1.3125-18 (33.32)	.031 (0.79)	.094 (2.39)	.094 (2.39)	.991 (25.17)	1.1875-18 (30.15)
22	1.4375-18 (36.50)	.031 (0.79)	.094 (2.39)	.094 (2.39)	1.1161 (28.35)	1.3125-18 (33.32)
24	1.5625-18 (39.67)	.031 (0.79)	.094 (2.39)	.094 (2.39)	1.241 (31.52)	1.4375-18 (36.50)

FIGURE 3. Plug dimensions.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Shell size	F <sub>1</sub> -36NS-2A (class E, only)	F <sub>1</sub> pitch dia (class E, only)	FF max dia	FF min dia (see note 13)
8	.4340	.4151/.4114 (10.544/10.450)	.437 (11.10)	.428 (10.87)
10	.5634	.5454/.5415 (13.853/13.754)	.562 (14.27)	.554 (14.07)
12	.7334	.7154/.7115 (18.171/18.072)	.750 (19.50)	.728 (18.49)
14	.8032	.7841/.7806 (19.961/19.827)	.812 (20.62)	.796 (20.22)
16	.9302	.9110/.9074 (23.134/23.048)	.938 (23.82)	.923 (23.44)
18	1.0362	1.0171/1.0134 (25.834/25.740)	1.062 (26.97)	1.029 (26.14)
20	1.1611	1.1431/1.1385 (29.034/28.918)	1.182 (30.02)	1.156 (29.36)
22	1.2862	1.2670/1.2633 (32.182/32.088)	1.312 (33.32)	1.279 (32.49)
24	1.4111	1.3931/1.3885 (35.385/35.268)	1.432 (36.37)	1.406 (35.71)

FIGURE 3. Plug, dimensions.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Shell size	HH max grommet dia	LL dia +.005 (0.12) -.000 (0.00)	NN min dia	PP min dia	R min dia
8	.328 (8.33)	.539 (13.69)	.632 (16.05)	.632 (16.05)	.352 (8.94)
10	.420 (10.67)	.662 (16.81)	.760 (19.30)	.760 (19.30)	.428 (10.87)
12	.580 (14.73)	.832 (21.13)	.930 (23.62)	.930 (23.62)	.598 (15.19)
14	.664 (16.86)	.901 (22.88)	.999 (25.37)	.999 (25.37)	.667 (16.94)
16	.769 (19.53)	1.028 (26.11)	1.126 (28.60)	1.126 (28.60)	.794 (20.17)
18	.902 (23.37)	1.134 (28.80)	1.232 (31.29)	1.232 (31.29)	.900 (22.86)
20	1.033 (26.24)	1.261 (32.03)	1.357 (34.47)	1.357 (34.47)	1.025 (26.04)
22	1.152 (29.26)	1.384 (35.15)	1.482 (37.66)	1.482 (37.66)	1.150 (29.21)
24	1.282 (32.56)	1.511 (38.38)	1.607 (40.82)	1.607 (40.82)	1.275 (32.38)

FIGURE 3. Plug dimensions – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Shell size	RR dia +.000 (0.00) -.005 (0.12)	T max OD coupling nut	YY min dia
8	.424 (10.77)	.776 (19.71)	.583 (14.81)
10	.526 (13.36)	.906 (23.01)	.707 (17.96)
12	.696 (17.68)	1.078 (27.38)	.895 (22.73)
14	.765 (19.43)	1.141 (28.98)	.957 (24.31)
16	.892 (22.66)	1.266 (32.16)	1.084 (27.53)
18	.998 (25.35)	1.375 (34.47)	1.209 (30.71)
20	1.123 (28.52)	1.510 (38.35)	1.334 (33.88)
22	1.248 (31.70)	1.625 (41.28)	1.459 (37.06)
24	1.373 (34.87)	1.760 (44.70)	1.584 (40.23)

**NOTES:**

1. Dimensions are in inches. Unless otherwise specified, tolerance on decimals is  $\pm .005$ .
2. Metric equivalents are given for general information only.
3. All diameters to be concentric with each other within .015 TIR.
4. All diameters in the same plane to be concentric with each other within .004 TIR.
5. Distance between end of shell and the point at which a gauge pin having the same basic diameter as the mating contact and a square face, engages socket contact spring.
6. Dimensions on pin and socket contact locations and end of shell to insert faces apply when contacts are placed in inserts for inspection or application.
7. Dimension .071 may reduce to .056 minimum under pressures caused by molded cable assemblies or sharp cable bends.
8. Use tool MIL-I-81969/17 to assemble contacts into this connector, and use tool MIL-I-81969/19 to remove contacts from this connector.
9. Thread relief groove is optional on shell. When groove is omitted the length of full thread from front of shell will be .221 minimum.
10. Environment resistant (classes F and R) plugs, types B and T, aluminum shell material.  
 Grounding environment resistant (class G) plugs, types B and T, aluminum shell material.  
 Environment resistant (class E) plugs, types B and T, stainless steel shell material.

FIGURE 3. Plug, dimensions – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

11. True position (TP) tolerances specified are for maximum material conditions (MMC).
12. Application note: For new design, use MIL-DTL-83723. Note: MIL-DTL-83723, series III, specifies accessory threads that are not fully compatible with MIL-DTL-26500 connectors. Recommend using MIL-DTL-26500 cable clamps with these connectors.
- 13. The accessory threads may be formed with an optional modified major diameter. The following details apply: The truncated major diameter accessory thread shall be greater than FF min. The width of the flat across the top of the thread may increase as the truncation approaches FF min. All other features of the accessory thread, including the theoretical crest apex and the flank angle, shall meet standard thread form limits. The truncation of the major diameter shall not be less than the pitch diameter.**

FIGURE 3. Plug, dimensions – Continued.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Weight chart		
Maximum connector weight in pounds		
Pin insert		
MS PIN	Less contacts	With contacts
MS24266R8T2PN	.028	.030
MS24266R10T2PN	.040	.042
MS24266R10T5PN	.039	.043
MS24266R10T20PN	.040	.044
MS24266R12T3PN	.055	.060
MS24266R12T12PN	.053	.063
MS24266R14T3PN	.059	.069
MS24266R14T4PN	.059	.074
MS24266R14T7PN	.059	.072
MS24266R14T12PN	.059	.072
MS24266R14T15PN	.059	.073
MS24266R16T10PN	.072	.090
MS24266R16T24PN	.071	.091
MS24266R18T8PN	.081	.110
MS24266R18T11PN	.078	.102
MS24266R18T14PN	.078	.103
MS24266R18T31PN	.078	.104
MS24266R20T16PN	.098	.126
MS24266R20T25PN	.095	.133
MS24266R20T28PN	.097	.132
MS24266R20T39PN	.097	.132
MS24266R20T41PN	.097	.131
MS24266R22T12PN	.110	.153
MS24266R22T19PN	.110	.154
MS24266R22T32PN	.110	.153
MS24266R22T55PN	.106	.153
MS24266R24T43PN	.129	.184
MS24266R24T57PN	.128	.181
MS24266R24T61PN	.125	.176

Weight chart		
Maximum connector weight in pounds		
Socket insert		
MS PIN	Less contacts	With contacts
MS2466R8T2SN	.029	.031
MS2466R10T2SN	.041	.043
MS2466R10T5SN	.040	.044
MS2466R10T20SN	.041	.045
MS2466R12T3SN	.057	.062
MS2466R12T12SN	.054	.064
MS2466R14T3SN	.061	.070
MS2466R14T4SN	.061	.076
MS2466R14T7SN	.061	.072
MS2466R14T12SN	.061	.074
MS2466R14T15SN	.061	.074
MS2466R16T10SN	.071	.089
MS2466R16T24SN	.074	.094
MS2466R 18T8SN	.084	.112
MS2466R18T11SN	.082	.105
MS2466R18T14SN	.082	.107
MS2466R18T31SN	.082	.107
MS2466R20T16SN	.101	.129
MS2466R20T25SN	.099	.136
MS2466R20T26SN	.099	.133
MS2466R20T39SN	.099	.133
MS2466R20T41SN	.099	.133
MS2466R22T12SN	.117	.156
MS2466R22T19SN	.117	.150
MS2466R22T32SN	.117	.160
MS2466R22T55SN	.112	.157
MS2466R24T43SN	.134	.188
MS2466R24T57SN	.133	.185
MS2466R24T61SN	.131	.181

FIGURE 4. Weights, plugs, threaded coupling type T, classes F, G and R.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

**REQUIREMENTS:**

Dimensions and configuration: See figures 1 through 4.

Connector mating: This connector mates with MS24264, MS24265, MS27034, MS27613 and MS27614. Dummy stowage receptacles for use with MS24266 include M83723/61-1 (coupling type T) and M83723/61-2 (coupling type B).

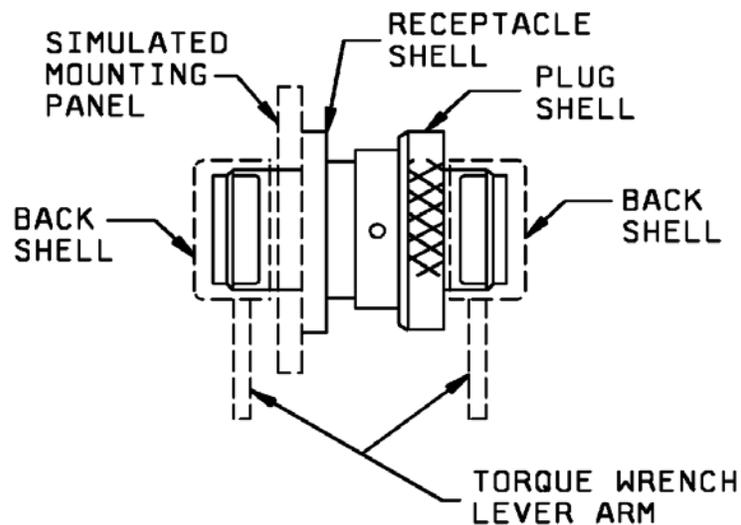
For insert arrangements and alternate insert keying position: See MIL-STD-1554.

For accessories used with this connector: See MIL-DTL-26500.

Contacts: In accordance with SAE-AS39029.

**Accessory thread strength:**

Connectors with rear accessory threads with optional modified major diameters shall be capable of withstanding the accessory thread strength test. The following details apply: The accessory thread torque for shell sizes 8 through 18 shall be  $50 \pm 5$  inch-pounds. The accessory thread torque for shell sizes 20 through 24 shall be  $100 \pm 10$  inch-pounds. Note: These torque values are intended for qualification testing only. Mated connector pairs shall be mounted as in normal service to a rigid panel. The torque wrench shall be attached as shown in the figure below. After mating the plug and receptacle connectors, a torque shall be applied to the accessory end of the plug at a rate of approximately 10 pound-inches per second until the required torque is achieved. The applied load shall be held for 1 minute, then the load shall be released. The test shall then be repeated on the accessory end of the receptacle.



**TEST SET-UP - REAR ACCESSORY THREAD STRENGTH**

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

**Following accessory thread strength testing, connectors shall be unmated and inspected for damage or breakage through a device having approximately 3X magnification.**

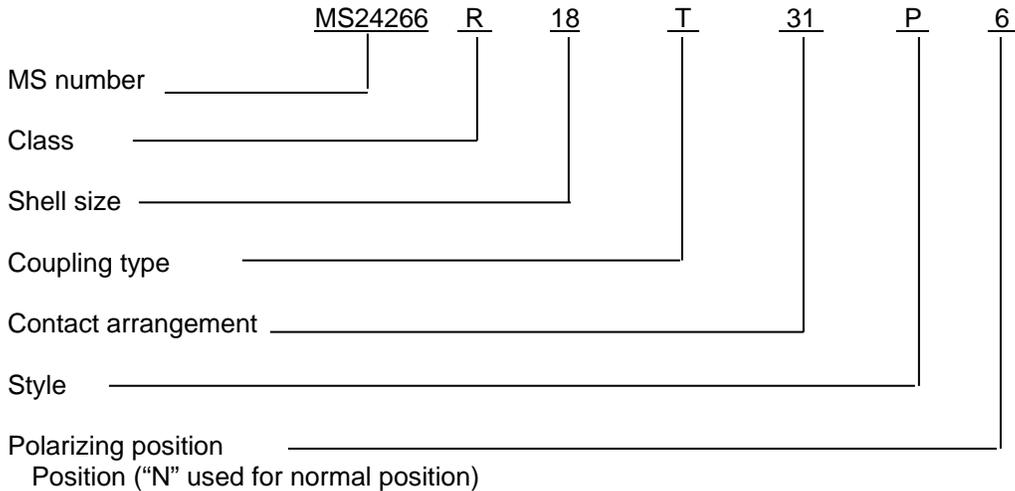
**Qualification (connectors with accessory threads with modified major diameters):**  
**Qualification shall be in accordance with MIL-DTL-26500, except the following additional test group shall be required on two mated pairs in each shell size. For initial qualification, accessory thread strength testing may be included in group 1, following the initial visual and mechanical examination:**

**Visual and mechanical examination**

**Accessory thread strength**

**Visual and mechanical examination**

Part or Identifying Number (PIN) example:



Changes from previous issue. The margins of this specification sheet 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.

**MS24266S**  
**DRAFT DATED 25 AUGUST 2016**

Referenced documents. In addition to MIL-DTL-26500, this document references the following:

MIL-DTL-83723  
MIL-I-81969/17  
MIL-I-81969/19  
MIL-STD-1554  
MS24264  
MS24265  
MS27034  
MS27613  
MS27614  
SAE-AS39029

CONCLUDING MATERIAL

Custodians:

Army – AV  
Air Force – 85  
DLA – CC

Preparing activity:

DLA – CC

**(Project 5935-2016-185)**

Review activities:

Army - MI  
Air Force – 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 <https://assist.dla.mil>.