INCH-POUND

MS24264T <u>1 December 2016</u> SUPERSEDING MS24264R 20 August 2009

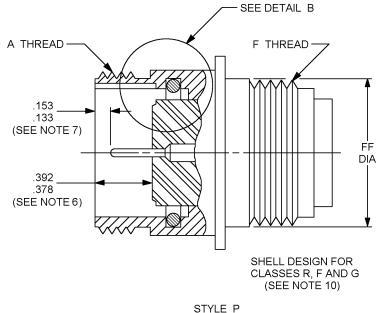
DETAIL SPECIFICATION SHEET

CONNECTORS, RECEPTACLE, ELECTRICAL, FLANGE MOUNTING, MINIATURE, CLASSES E, F, G AND R

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

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.



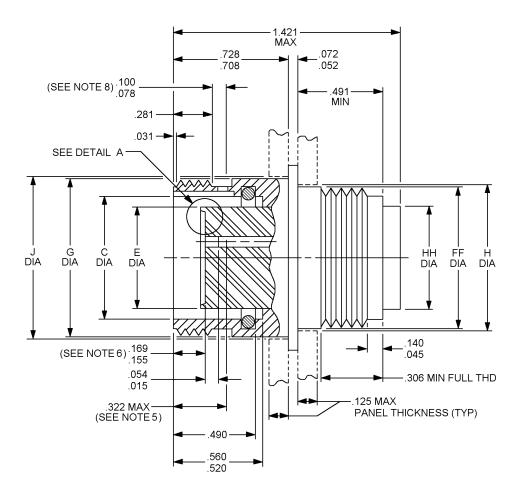




AMSC N/A

FSC 5935





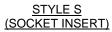


FIGURE 1. <u>Receptacle</u>, threaded, for classes F, G and R – Continued.



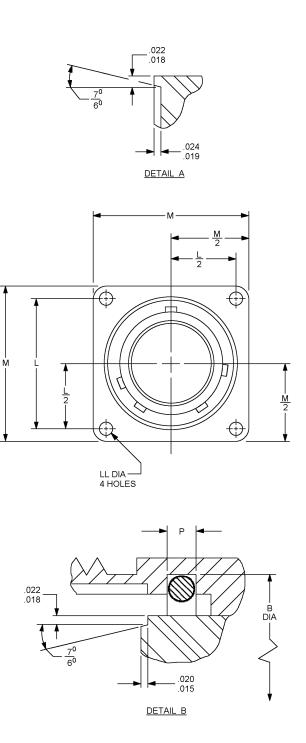


FIGURE 1. <u>Receptacle, threaded, for classes F, G and R</u> – Continued.

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.015	0.38	.052	1.32	.153	3.89	.490	12.45
.018	0.46	.054	1.37	.155	3.94	.491	12.47
.019	0.48	.072	1.83	.169	4.29	.520	13.21
.020	0.51	.078	1.98	.281	7.14	.560	14.22
.022	0.56	.100	2.54	.306	7.77	.708	17.98
.024	0.61	.125	3.18	.322	8.18	.728	18.49
.031	0.79	.133	3.38	.378	9.60	1.421	36.09
.045	1.14	.140	3.56	.392	9.96		

NOTES:

- 1. Dimensions in inches. Unless otherwise specified, tolerances on decimals is \pm .005.
- 2. Metric equivalents are given for information only.
- 3. 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.
- 4. All diameters to be concentric with each other within .015 TIR. 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 .133 may reduce to .118 minimum under pressures caused by molded cable assemblies or sharp cable bends.
- 8. Thread relief groove is optional on shell. When groove is omitted the length of full thread from front of shell will be .310 minimum and thread run out .385 maximum.
- 9. Thread relief groove is optional on shell. When groove is omitted, the length of full thread from rear of shell will be .221 minimum.
- Environment resistant (classes F and R) receptacles, type T aluminum shell material. Grounding environment resistant (class G) receptacles, type T aluminum shell material. Environment resistant (class E) receptacles, type T stainless steel shell material. These receptacles mate with plug MS24266 type T.
- 11. True position (TP) tolerances specified are for maximum material conditions (MMC).

FIGURE 1. <u>Receptacle, threaded, for classes F, G and R</u> – Continued.



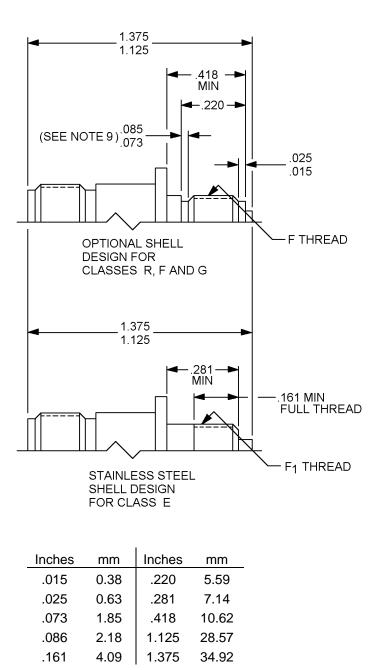


FIGURE 2. <u>Receptacle, optional shell design for classes F, G, R and</u> <u>stainless steel shell design for class E</u>.

NOTES:

- 1. Dimensions in inches. Unless otherwise specified, tolerances on decimals is \pm .005.
- 2. Metric equivalents are given for information only.
- 3. 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.
- 4. All diameters to be concentric with each other within .015 TIR. 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 .133 may reduce to .118 minimum under pressures caused by molded cable assemblies or sharp cable bends.
- 8. Thread relief groove is optional on shell. When groove is omitted the length of full thread from front of shell will be .310 minimum and thread run out .385 maximum.
- 9. Thread relief groove is optional on shell. When groove is omitted, the length of full thread from rear of shell will be .221 minimum.
- Environment resistant (classes F and R) receptacles, type T aluminum shell material. Grounding environment resistant (class G) receptacles, type T - aluminum shell material. Environment resistant (class E) receptacles, type T - stainless steel shell material. These receptacles mate with plug MS24266, type T.
- 11. True position (TP) tolerances specified are for maximum material conditions (MMC).

FIGURE 2. <u>Receptacle, optional shell design for classes F, G, R and</u> <u>stainless steel shell design for class E</u> – Continued.

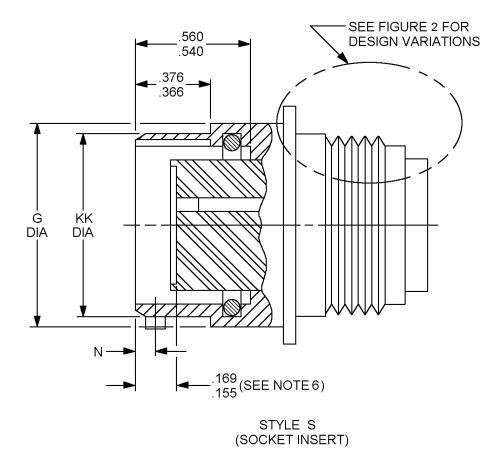


FIGURE 3. Receptacle, bayonet, optional design.



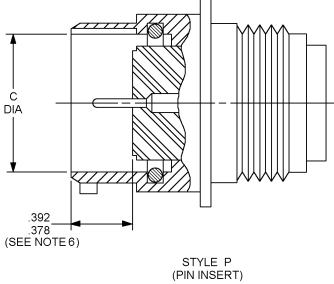
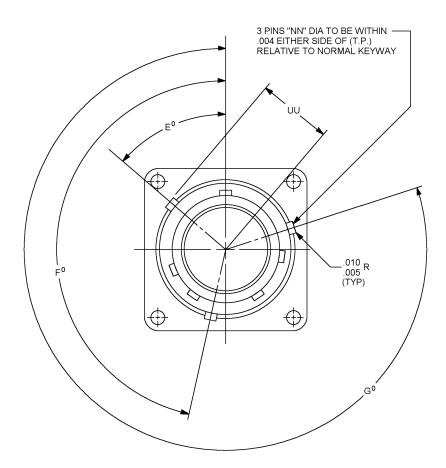


FIGURE 3. <u>Receptacle, bayonet, optional design</u> - Continued.



Inches	mm	Inches	mm
.004	0.10	.376	9.55
.005	0.13	.378	9.6
.010	0.25	.392	9.96
.155	3.94	.540	13.72
.169	4.29	.560	14.22
.368	9.35		

FIGURE 3. <u>Receptacle, bayonet optional design</u> - Continued.

NOTES:

- 1. Dimensions in inches. Unless otherwise specified, tolerances on decimals is \pm .005.
- 2. Metric equivalents are given for general information only.
- 3. 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.
- 4. All diameters to be concentric with each other within .015 TIR. 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. Dimension 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 .133 may reduce to .118 minimum under pressures caused by molded cable assemblies or sharp cable bends.
- Environment resistant (classes F and R) receptacles, type B aluminum shell material. Grounding environment resistant (class G) receptacles, type B - aluminum shell material. Environment resistant (class E) receptacles, type B - stainless steel shell material. This receptacle mates with plug MS24266, type B.
- 9. True position (TP) tolerances specified are for maximum material conditions (MMC).

FIGURE 3. Receptacle, bayonet optional design - Continued.

Shell size	A UNEF-2A coupling	B dia	C dia + .005 (0.13) 000 (0.00)	E max Insert dia	F UNEF-2A access
8	.5625-24	.508	.428	.318	.4375-28
	(14.27)	(12.90)	(10.87)	(8.08)	(11.10)
10	.6875-24	.636	.530	.394	.5625-24
	(17.45)	(16.15)	(13.46)	(10.01)	(14.27)
12	.875-20	.806	.700	.564	.750-20
	(22.22)	(20.47)	(17.78)	(14.33)	(19.05)
14	.9375-20	.875	.769	.633	.8125-20
	(23.80)	(22.22)	(19.53)	(16.08)	(20.62)
16	1.0625-18	1.002	.896	.760	.9375-20
	(26.97)	(25.45)	(22.76)	(19.30)	(23.80)
18	1.1875-18	1.108	1.002	.866	1.0625-18
	(30.15)	(28.62)	(25.45)	(22.00)	(26.97)
20	1.3125-18	1.233	1.127	.991	1.1875-18
	(33.32)	(31.32)	(28.62)	(25.17)	(30.15)
22	1.4375-18	1.358	1.252	1.116	1.3125-18
	(36.50)	(34.49)	(31.80)	(28.35)	(33.32)
24	1.5625-18	1.483	1.377	1.241	1.4375-18
	(39.67)	(37.67)	(34.98)	(31.52)	(36.50)

FIGURE 4. <u>Receptacle dimensions</u>.

Shell size	F₁ -36NS-2A	F ₁ pitch dia	FF max dia	FF min dia (see note 3)	G max dia
8	.4340	.4151/.4114	.437	.428	.561
	(11.024)	(10.544/10.450)	(11.10)	(10.87)	(14.25)
10	.5634	.5454/.5415	.562	.554	.696
	(14.310)	(13.853/13.754)	(14.27)	(14.07)	(17.68)
12	.7334	.7154/.7115	.750	.728	.875
	(18.628)	(18.171/18.072)	(19.50)	(18.49)	(22.22)
14	.8032	.7841/.7806	.812	.796	.935
	(20.401)	(19.961/19.827)	(20.62)	(20.22)	(23.75)
16	.9302	.9110/.9074	.938	.923	1.062
	(23.627)	(23.134/23.048)	(23.82)	(23.44)	(26.97)
18	1.0362	1.0171/1.0134	1.062	1.029	1.187
	(26.319)	(25.834/25.740)	(26.97)	(26.14)	(30.15)
20	1.1611	1.1431/1.1385	1.182	1.156	1.312
	(29.492)	(29.034/28.918)	(30.02)	(29.36)	(33.32)
22	1.2862	1.2670/1.2633	1.312	1.279	1.437
	(32.669)	(32.182/32.088)	(33.32)	(32.49)	(36.50)
24	1.4111	1.3931/1.3885	1.432	1.406	1.562
	(35.842)	(35.385/35.268)	(36.37)	(35.71)	(39.67)

FIGURE 4. <u>Receptacle dimensions</u> – Continued.

Shell size	H min dia front mounting hole	HH max grommet dia	J min dia back mounting hole	KK dia + .000 (0.00) 005 (0.13)	L mounting hole	LL dia + .000 (0.00) 009 (0.23)
8	.447	.328	.620	.536	.594	.125
	(11.35)	(8.33)	(15.75)	(13.61)	(15.09)	(3.18)
10	.572 (14.53)	.420 (10.67)	.748 (19.00)	.659 (16.74)	.719 (18.26)	.125 (3.18)
12	.760 (19.30)	.580 (14.73)	.913 (23.19)	.829 (21.06)	.812 (20.62)	.125 (3.18)
14	.822	.664	.980	.898	.906	.125
	(20.88)	(16.86)	(24.90)	(22.81)	(23.01)	(3.18)
16	.948	.769	1.107	1.025	.969	.125
	(24.08)	(19.53)	(28.12)	(26.03)	(24.61)	(3.18)
18	1.072	.902	1.209	1.131	1.062	.125
	(28.12)	(22.91)	(30.71)	(28.73)	(26.97)	(3.18)
20	1.192 (30.28)	1.033 (26.24)	1.337 (33.96)	1.256 (31.90)	1.156 (29.36)	.125 (3.18)
22	1.322	1.152	1.452	1.381	1.250	.125
	(33.58)	(29.26)	(36.89)	(35.08)	(31.75)	(.318)
24	1.442	1.282	1.577	1.505	1.375	.154
	(36.63)	(32.56)	(40.055)	(38.25)	(34.925)	(3.91)

FIGURE 4. <u>Receptacle dimensions</u> – Continued.

Shall	М	Ν	NN	Р	UU
Shell size	length	+ .000 (0.00)	+ .000 (0.00)	+ .000 (0.00)	+ .000 (0.00)
SIZE	side	004 (0.10)	004 (0.10)	005 (0.13)	+ .009 (0.23)
8	.812	.101	.078	.076	.310
0	(20.62)	(2.56)	(1.93)	(1.93)	(7.87)
10	.937	.094	.093	.089	.374
10	(23.80)	(2.39)	(2.36)	(2.26)	(9.50)
12	1.031	.094	.093	.089	.459
12	(26.19)	(2.39)	(2.36)	(2.26)	(11.66)
14	1.125	.094	.093	.089	.494
14	(28.58)	(2.39)	(2.36)	(2.26)	(12.55)
16	1.250	.094	.093	.089	.557
10	(31.76)	(2.39)	(2.36)	(2.26)	(14.15)
18	1.343	.094	.093	.089	.610
10	(34.11)	(2.39)	(2.36)	(2.26)	(15.49)
20	1.437	.094	.093	.089	.673
20	(36.50)	(2.39)	(2.36)	(2.26)	(17.09)
22	1.562	.094	.093	.089	.735
22	(39.67)	(2.39)	(2.36)	(2.26)	(18.67)
24	1.703	.094	.093	.089	.798
24	(43.26)	(2.39)	(2.36)	(2.26)	(20.27)

	Shell size 8			Shell size 10			Shell sizes 12 thru 24		
Position	E°	F°	G°	E°	F°	G°	E°	F°	G°
Normal	60	180	300	60	180	300	50	170	290
6	46	166	286	46	166	286	50	170	290
7	46	166	286	46	166	286	50	170	290
8	60	180	300	60	180	300	50	170	290
9	89	209	329	89	209	329	50	170	290
Y	-	-	-	60	180	300	50	170	290

FIGURE 4. <u>Receptacle dimensions</u> – Continued.

NOTES:

- 1. Dimensions are in inches.
- 2. Metric equivalent are given for information only.
- 3. The accessory threads may be formed with an optional modified major diameter. The following details apply: The major diameter of the accessory thread may be modified by truncation. The truncated major diameter 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 4. <u>Receptacle dimensions</u> – Continued.

Weight chart						
Maximum co	Maximum connector weight in lbs					
Pin insert						
MS PIN	Less contacts	With contacts				
MS24264R8T2PN	.023 (0.58)	.025 (0.64)				
MS24264R10T2PN	.039 (0.99)	.041 (1.04)				
MS24264R10T5PN	.038 (0.96)	.042 (1.07)				
MS24264R10T20PN	.038 (0.96)	.042 (1.07)				
MS24264R12T3PN	.053 (1.35)	.058 (1.47)				
MS24264R12T12PN	.051 (1.30)	.061 (1.55)				
MS24264R14T3PN	.057 (1.48)	.067 (1.70)				
MS24264R14T4PN	.057 (1.48)	.072 (1.83)				
MS24264R14T7PN	.057 (1.48)	.070 (1.78)				
MS24264R14T12PN	.057 (1.48)	.070 (1.78)				
MS24264R14T15PN	.057 (1.48)	.071 (1.80)				
MS24264R16T10PN	.067 (1.70)	.085 (2.16)				
MS24264R16T24PN	.067 (1.71)	.087 (2.21)				
MS24264R18T8PN	.081 (2.06)	.110 (2.79)				
MS24264R18T11PN	.079 (2.01)	.103 (2.62)				
MS24264R18T14PN	.080 (2.03)	.105 (2.67)				
MS24264R18T31PN	.079 (2.01)	.105 (2.67)				
MS24264R20T16PN	.095 (2.41)	.123 (3.12)				
MS24264R20T25PN	.092 (2.34)	.130 (3.30)				
MS24264R20T28PN	.093 (2.36)	.128 (3.25)				
MS24264R20T39PN	.093 (2.36)	.128 (3.25)				
MS24264R20T41PN	.093 (2.36)	.127 (3.22)				
MS24264R22T12PN	.106 (2.69)	.149 (3.78)				
MS24264R22T19PN	.108 (2.74)	.142 (3.61)				
MS24264R22T32PN	.109 (2.77)	.152 (3.86)				
MS24264R22T55PN	.104 (2.64)	.151 (2.16)				
MS24264R24T43PN	.126 (3.20)	.181 (4.60)				
MS24264R24T57PN	.125 (3.18)	.178 (4.52)				
MS24264R24T61PN	.123 (3.12)	.174 (4.42)				

FIGURE 5. Weights for threaded connectors, classes F, G and R.

Weight chart						
Maximum cor	Maximum connector weight in lbs					
So	cket insert					
MS PIN	Less contacts	With contacts				
MS24264R8T2SN	.024 (0.61)	.026 (0.66)				
MS24264R10T2SN	.040 (1.02)	.042 (1.07)				
MS24264R10T5SN	.039 (0.99)	.043 (1.09)				
MS24264R10T20SN	.040 (1.02)	.044 (1.12)				
MS24264R12T3SN	.055 (1.40)	.060 (1.52)				
MS24264R12T12SN	.052 (1.32)	.062 (1.57)				
MS24264R14T3SN	.063 (1.60)	.072 (1.83)				
MS24264R14T4SN	.059 (1.50)	.074 (1.88)				
MS24264R14T7SN	.059 (1.50)	.072 (1.83)				
MS24264R14T12SN	.059 (1.50)	.072 (1.83)				
MS24264R14T15SN	.059 (1.50)	.072 (1.83)				
MS24264R16T10SN	.071 (1.80)	.089 (2.26)				
MS24264R16T24SN	.070 (1.78)	.090 (2.29)				
MS24264R18T8SN	.084 (2.13)	.112 (2.84)				
MS24264R18T11SN	.081 (2.06)	.104 (2.64)				
MS24264R18T14SN	.084 (2.13)	.109 (2.77)				
MS24264R18T31SN	.083 (2.11)	.108 (2.74)				
MS24264R20T16SN	.100 (2.54)	.128 (3.25)				
MS24264R20T25SN	.097 (2.46)	.134 (3.40)				
MS24264R20T28SN	.097 (2.46)	.131 (3.33)				
MS24264R20T39SN	.097 (2.46)	.131 (3.33)				
MS24264R20T41SN	.097 (2.46)	.131 (3.33)				
MS24264R22T12SN	.111 (2.82)	.153 (3.89)				
MS24264R22T19SN	.115 (2.92)	.148 (3.76)				
MS24264R22T32SN	.116 (2.95)	.159 (4.04)				
MS24264R22T55SN	.110 (2.79)	.155 (3.94)				
MS24264R24T43SN	.134 (3.40)	.188 (4.78)				
MS24264R24T57SN	.130 (3.30)	.182 (4.62)				
MS24264R24T61SN	.128 (3.25)	.178 (4.52)				

FIGURE 5. Weights for threaded connectors, classes F, G and R – Continued.

REQUIREMENTS:

Insert arrangements and alternate insert keying positions shall be in accordance with MIL-STD-1554.

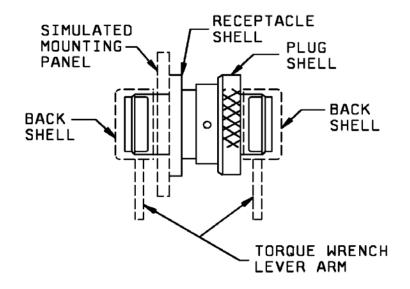
Dimensions and configurations: See figures 1 through 5.

Connector mating: This connector mates with MS24266 and MS27615.

Contacts: In accordance with SAE-AS39029.

For accessories used with this connector, see MIL-DTL-26500.

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 size 8 shall be 75 ± 5 inch-pounds. The accessory thread torque for shell size 10 shall be 100 ± 5 inch-pounds. The accessory thread torque for shell size 12 shall be 140 ± 5 inch-pounds. The accessory thread torque for shell size 12 shall be 140 ± 5 inch-pounds. The accessory thread torque for shell sizes 14 through 18 shall be 150 ± 5 inch-pounds. The accessory thread torque for shell sizes 20 through 24 shall be 175 ± 10 inch-pounds. 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

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

Initial qualification and group C requalification (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:

	<u>MS24264</u>	<u>R</u>	<u>18</u>	B	31	<u>P</u>	6
MS number							
Class							
Shell size ———							
Coupling type							
Contact arrangement							
Style							
Polarizing position ("N" used for normal p	oosition)						

Application note: The specified torque values are intended for qualification testing only. Using the specified torque values in applications may damage the connectors or equipment.

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-DTL-26500, this document references the following:

SAE-AS39029 MIL-DTL-83723 MIL-I-81969/17 MIL-I-81969/19 MIL-STD-1554 MS24266 MS27615

CONCLUDING MATERIAL

Custodians:

Army - CR Air Force – 85 DLA – CC Preparing activity:

DLA – CC

(Project 5935-2016-183)

Review activities: Army - AV Air Force – 99

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