FEDERAL SUPPLY CLASS
5935

RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

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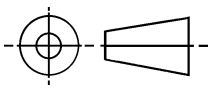
ISSUED 2000-06 REAFFIRMED 2007-06

THIRD ANGLE PROJECTION



PREPARED BY SAE SUBCOMMITTEE AE-8C1

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

CONTACTS, ELECTRICAL CONNECTOR,
SOCKET, CRIMP REMOVABLE, SHIELDED,
(FOR MIL-C-81511 SERIES 3 CONNECTORS)

AS39029/20
SHEET 1 OF 12

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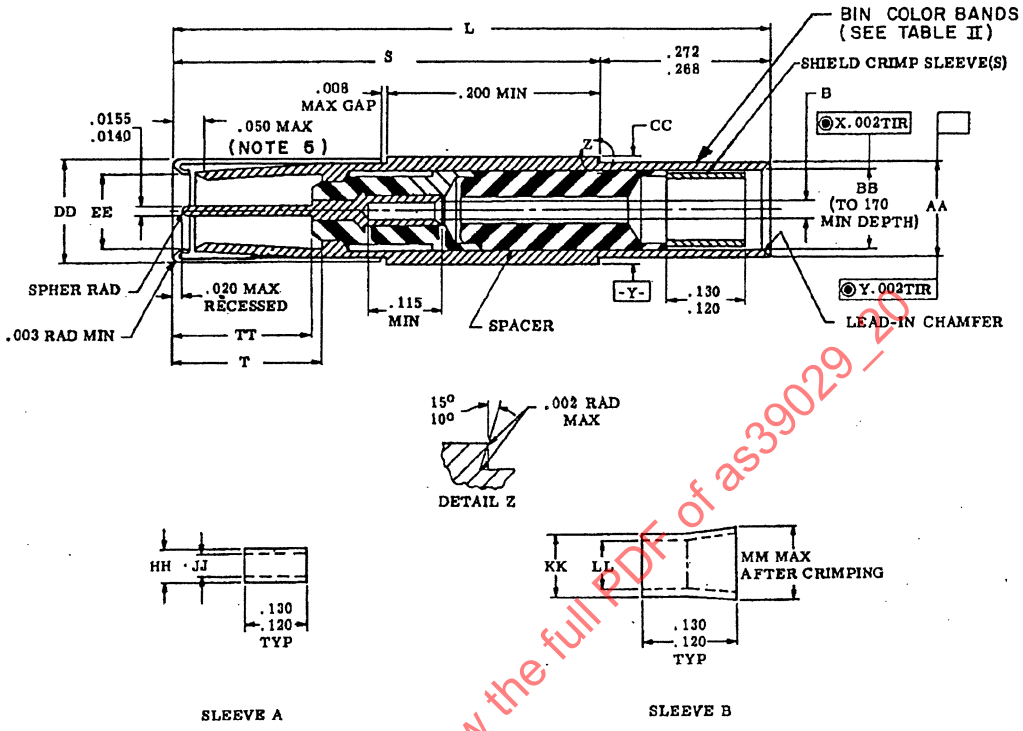
THE COMPLETE REQUIREMENTS FOR PROCURING THE CONTACTS DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF SPECIFICATION MIL-C-39029.

INACTIVE FOR NEW DESIGN



NOTES:
1. Dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.
3. Metric equivalents are in parentheses for overall length and diameter only.
4. Dimensions shown apply after plating.
5. The distance between the end of the socket contact sleeve and the point at which a gage pin having a square face and the same basic diameter as the mating pin contact, first engages the contact spring member.
6. Axial concentricity: All diameters to be concentric within .004 TIR except as noted.

FIGURE 1. CONNECTOR CONTACT.

TABLE I. DIMENSIONS.

BIN code	B MIN	S	L (REF)	T MIN	AA	BB MIN	CC	DD MAX	EE	TT MIN	SHIELD CRIMP SLEEVES				
											SLEEVES REQUIRED	SLEEVE DIMENSIONS			
												HH MAX	JJ MIN	KK MAX	LL MIN	MM MAX
184	.034	.726	.994 (25.25)	.240	.094	.081	.108 (2.74)	.108	.0750	.215	A & B	.0535	.0455	.080	.072	.080
		.722			.091		.106 (2.69)		.0725		B	---	---	.080	.072	.080
185	.022	.716	.984 (24.99)	.225	.153	.129	.1695 (4.31)	.169	.1210	.200	NONE	---	---	---	---	---
		.712			.150		.1675 (4.25)		.1175		B	---	---	.128	.109	.128
186	.034	.716	.984 (24.99)	.225	.153	.129	.1695 (4.31)	.169	.1210	.200	B	---	---	.128	.113	.128
		.712			.150		.1675 (4.25)		.1175		A	.103	.081	---	---	---
											B	---	---	.128	.118	.128
											A & B	.099	.091	.128	.118	.128

ASSEMBLY PROCEDURE (REF)

1. Cut cable to dimension shown in table II. Multiple shield cable must have outer jacket and outer shield removed before stripping.

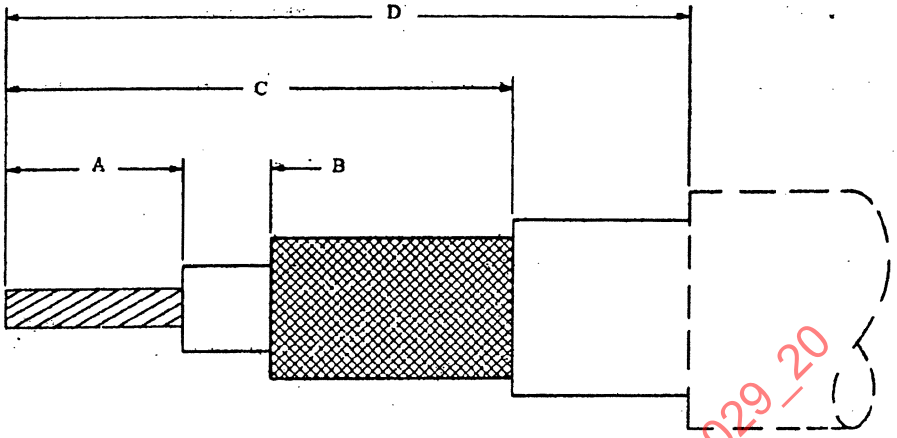


TABLE II. Cable accommodation dimension.

BIN CODE	CABLE ACCOMMODATION	A	B +.030 -.000	C +.030 -.000	D MIN
184	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	.440 +.030 -.000	.065	.655	-
	M27500-22RC1S6 REVERE WH95623 GRUMMAN GC875FW22-2 1/				
185	RG180B/U MICRODOT 293-3922 GRUMMAN GC875GA1	.465 +.000 -.030	.040	.675	1.440
	RAYCHEM 9530D5117 GRUMMAN GC 875GC1	.460 +.000 -.030	.045	.675	1.440
186	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	see item 1.a			
	M27500-22RC1S6 REVERE WH95623 GRUMMAN GC875FW22-2	see item 1.b			
	MICRODOT 250-4070 GRUMMAN GC875FY1	.135 +.000 -.030	.040	.345	1.110
	RAYCHEM 5022E5111 GRUMMAN GC875GB1 1/	.130 +.000 -.030	.045	.345	1.110

1/ see item 1.c.

Slide shield crimp sleeve over cable to cut end of outer jacket. M39029/20-02 contact used with RG180B/U, MICRODOT 293-3922 or, GRUMMAN GC875GA1 cable does not require any shield crimp sleeve.

FIGURE 2. ASSEMBLY PROCEDURE.

ASSEMBLY PROCEDURE (REF)

1.a. When using M81044/18-22 or GRUMMAN GC18K1-22 cable with M39029/20-03 contact, cut cable jacket to the shield as shown in figure A. Fold shield back tightly against cut end of jacket and trim insulation from center conductor as shown in figure B. Install shield crimp sleeve "B" over shield as shown in figure C. Trim shield ends flush with sleeve.

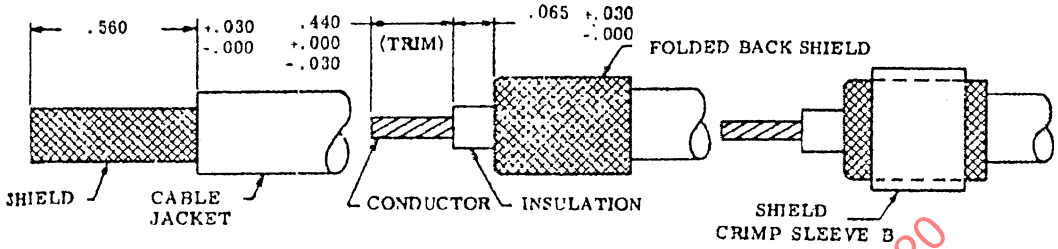


FIGURE A FIGURE B FIGURE C

1.b. When using 27500-22RC1S6, REVERE WH95823 or GRUMMAN GC875FW22-2 with M39029/20-03 contact, cut cable jacket to shield as shown in figure D. Place shield crimp sleeve "A" over shield and butt against cut end of cable jacket as shown in figure E. Fold shield back tightly over the shield crimp sleeve and trim shield ends flush with the shield crimp sleeve. Trim insulation from center conductor as shown in figure F.

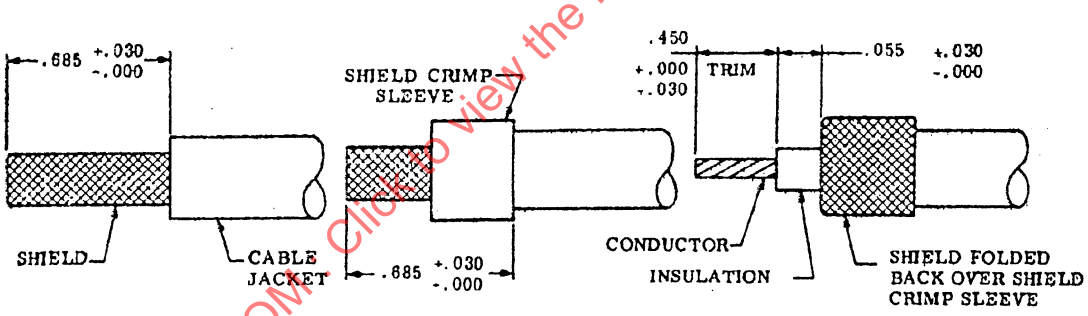


FIGURE D FIGURE E FIGURE F

FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

ASSEMBLY PROCEDURE (REF)

1.c. When using M81044/18-22 or GRUMMAN GC18K1-22 cable with M39029/20-01 contact or RAYCHEM 5022E5111 or GRUMMAN GC875GB1 cable with M39029/20-03 contact, shield crimp sleeves "A" and "B" are used. Insert sleeve "A" between the insulation and the shield until shield crimp sleeve "A" is flush with the end of the shield. Slide shield crimp sleeve "B" back over the shield until it is flush with both the shield and crimp sleeve "A". (See figure G).

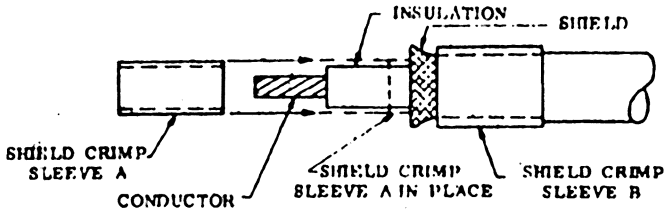
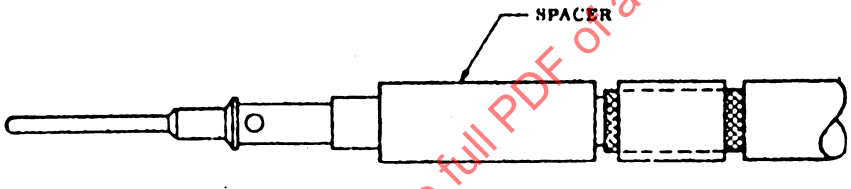


FIGURE G

2. Butt spacer against cable insulation and install inner contact on cable conductor.



2.a. M39029/20-01. Crimp inner contact in accordance with table IV. Push contact insulator over the inner contact until contact bottoms in the contact insulator or the contact insulator butts against the spacer.

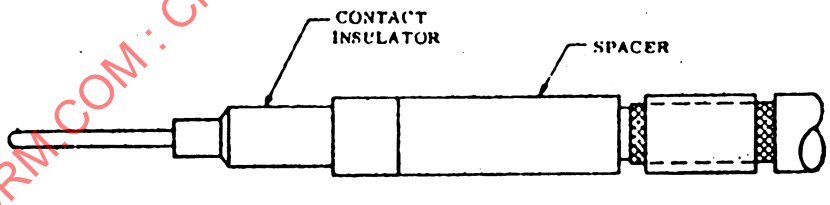
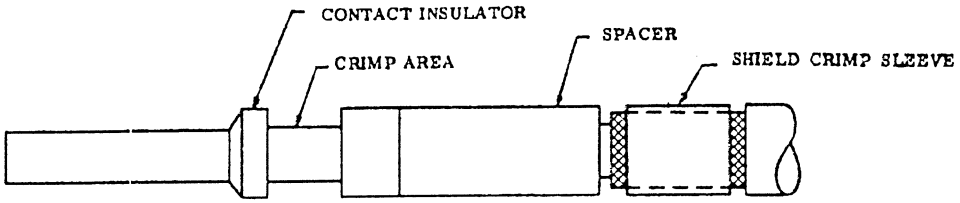


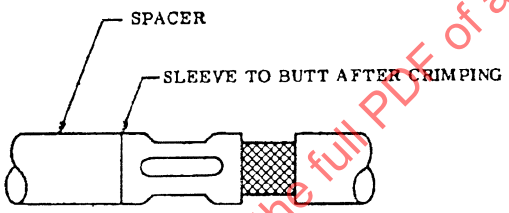
FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

ASSEMBLY PROCEDURE (REF)

2.b M39029/20-02 and M39029/20-03. Crimp inner contact through contact insulator in accordance with table IV.



3. Butt the shield crimp sleeve against the spacer and crimp the shield crimp sleeve in accordance with table IV. This crimp is not required when using M39029/19-02 contact with cables RG-180B/U, MICRODOT 293-3922, and GRUMMAN GC875GA1 which uses no shield crimp sleeves, or M39029/19-03 contact with cables M27500-22RC1S6, REVERE WH95623, and GRUMMAN GC875FW-22-2, which uses only shield crimp sleeve "A".



4. Install the inner contact and cable assembly into the outer contact. Push on cable until inner contact seats within outer contact. Press cable into outer contact while crimping the outer contact. Inspect for proper assembly in accordance with the figure below.

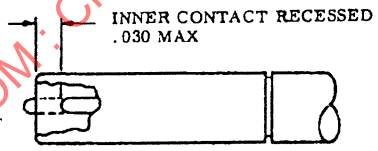


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

TABLE III. DESIGN CHARACTERISTICS.

RIN code	Color bands			Contact cavity size	Cables accommodated 1/	Sleeves required	Type	Class
	1st	2nd	3rd					
184	Brown	Gray	Yellow	16	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	A & B	D	B
					M27500-22RC1S6 REVERE WH95623 2/ GRUMMAN GC875FW22-2	B		
185	Brown	Gray	Green	12	RG-180B/U 3/ MICRO DOT 293-3922 GRUMMAN GC875GA1	None		
					RAYCHEM 9530D5117 GRUMMAN GC875GC1	B		
186	Brown	Gray	Blue	12	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	B		
					M27500-22RC1S6 REVERE WH95623 2/ GRUMMAN GC875FW-22-2	A		
					MICRO DOT 250-4070 GRUMMAN GC875FY2	B		
					RAYCHEM 5022E5111 GRUMMAN GC875GB1	A & B		

1/ or equivalent
2/ Revere WH95623 is a two conductor cable: One AWG22 wire and one AWG22 shielded conductor conforming to M27500-22RC1S6.
3/ RG-180B/U may be used when impedance matching is not required.

TABLE IV. INNER CONTACT AND SHIELD CRIMP SLEEVE TOOLING.

BIN code	Inner contact tooling			Shield crimp sleeve tooling		
	Basic crimping tool	Positioner	Positioner setting	Basic crimping tool	Positioner	Positioner setting
184	M22520/2-01	M22520/2-28	4	M22520/20-01	M22520/20-03	3
	M22520/2-01	M22520/2-28	4	M22520/20-01	M22520/20-03	4
185	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-03	4
	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-03	5
186	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-03	4
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-03	5
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-03	6
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-03	5