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**AS39029/19**

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THIRD ANGLE PROJECTION



ISSUED 2000-06

PREPARED BY SAE SUBCOMMITTEE AE-8C1



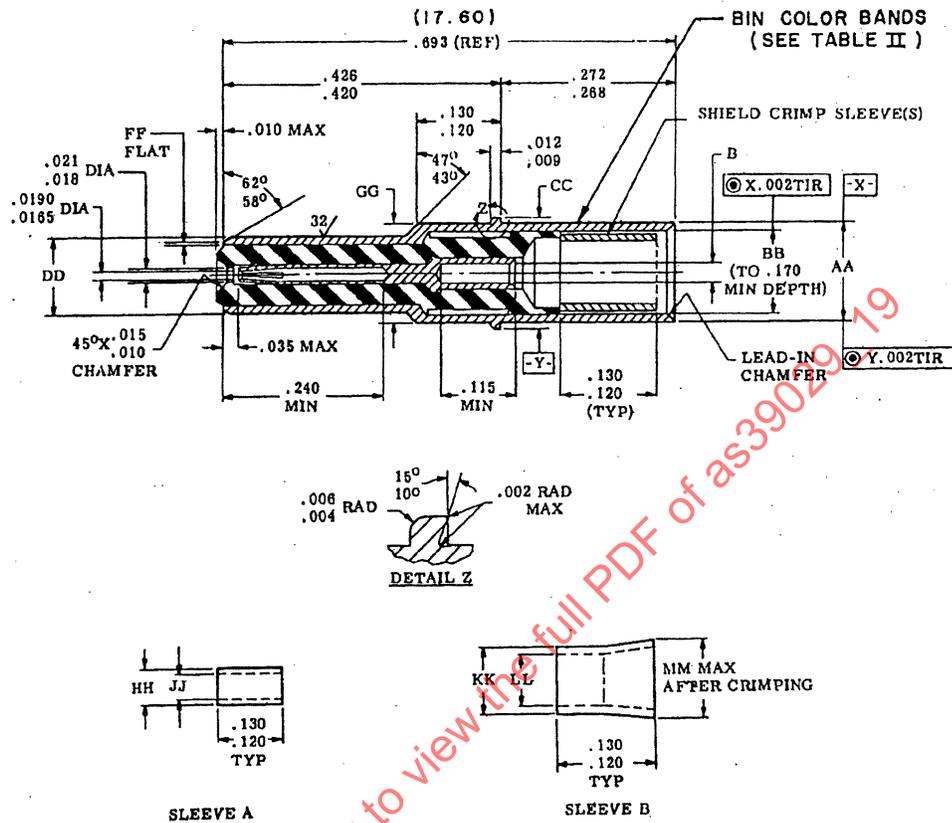
**AEROSPACE STANDARD**

CONTACTS, ELECTRICAL CONNECTOR,  
PIN, CRIMP REMOVABLE, SHIELDED,  
(FOR MIL-C-81511 SERIES 3 AND 4 CONNECTORS)

**AS39029/19**  
SHEET 1 OF 12

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. Axial concentricity: All diameters to be concentric within .004 TIR except as noted.

FIGURE 1. CONNECTOR CONTACT.

TABLE I. DIMENSIONS.

BIN code	B MIN	AA MIN	BB MIN	CC	DD	FF MAX	GG	SHIELD CRIMP SLEEVES									
								SLEEVES REQUIRED	SLEEVE A		SLEEVE B		HH MAX	JJ MIN	KK MAX	LL MIN	MM MAX
									HH MAX	JJ MIN	KK MAX	LL MIN					
181	.034	.094 (2.39)	.081	.108	.071	.004	.093	A & B	.0535	.0455	.080	.072	.080				
				.106	.069												
182	.022	.153 (3.89)	.129	.1695	.1165	.006	.152	NONE	---	---	---	---	---				
				.1675	.1140												
183	.034	.153 (3.89)	.129	.1695	.1165	.006	.152	A	.103	.081	---	---	---				
				.1675	.1140												
								A & B	.099	.091	.128	.118	.128				

## ASSEMBLY PROCEDURE (REF)

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

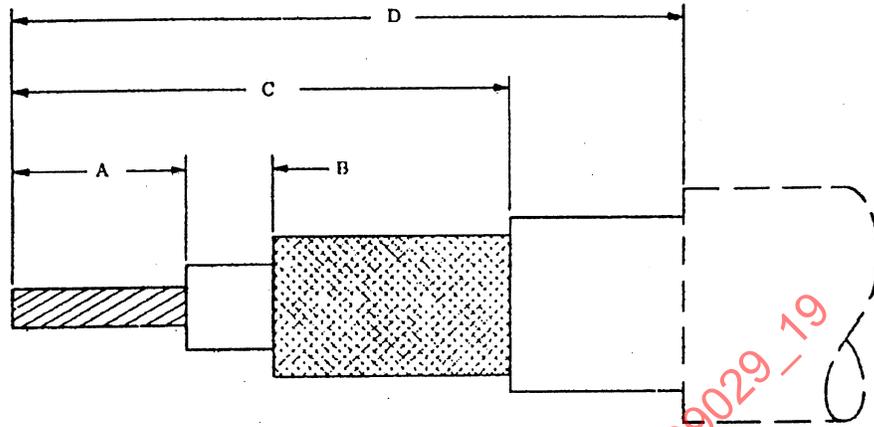


TABLE VII. CABLE ACCOMMODATION DIMENSION.

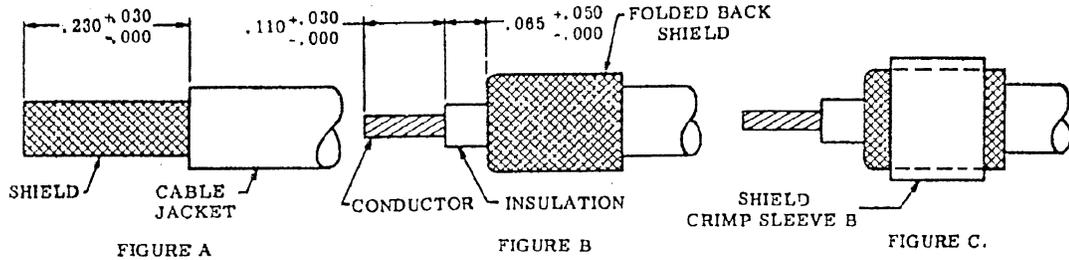
BIN CODE	CABLE ACCOMMODATION	A	B $\begin{matrix} +.030 \\ -.000 \end{matrix}$	C $\begin{matrix} +.030 \\ -.000 \end{matrix}$	D MIN
181	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	.110 $\begin{matrix} +.030 \\ .000 \end{matrix}$	.065	.325	
	M27500-22RC1S6 REVERE WH95623 GRUMMAN GC875FW22-2 1/				
182	RG180B/U MICRODOT 293-3922 GRUMMAN GC875GA1	.135 $\begin{matrix} +.000 \\ -.030 \end{matrix}$	.040	.345	1.110
	RAYCHEM 9530D5117 GRUMMAN GC875GC1	.130 $\begin{matrix} +.000 \\ -.030 \end{matrix}$	.045	.345	1.110
183	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	see item 1.a.			
	M27500-22RC1S6 REVERE WH95623 GRUMMAN GC815FW22-2	see item 1.b.			
	MICRODOT 250-4070 GRUMMAN GC875FY1	.135 $\begin{matrix} +.000 \\ -.030 \end{matrix}$	.040	.345	1.110
	RAYCHEM 5022E5111 GRUMMAN GC875GB1 1/	.130 $\begin{matrix} +.000 \\ -.030 \end{matrix}$	.045	.345	1.110

1/ See item 1.c.

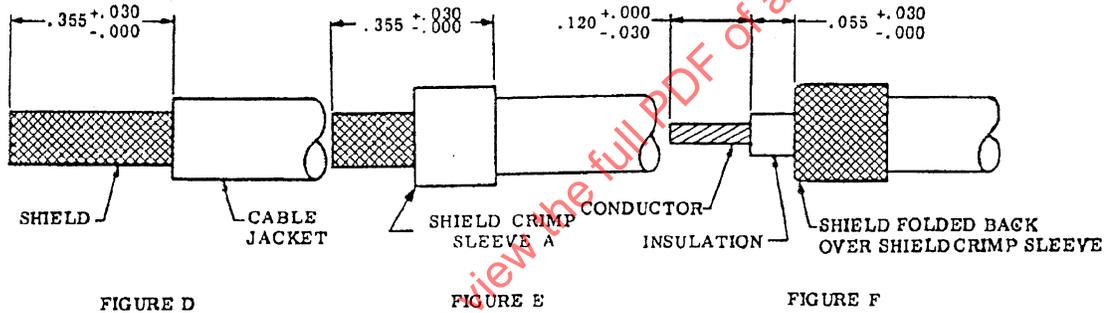
Slide shield crimp sleeve over cable to cut end of outer jacket. M39029/19-02, contact used with RG180B/U; MICRODOT 293-3922, or GRUMMAN GC875GA1 cable, does not require any shield crimp sleeve.

FIGURE 2. ASSEMBLY PROCEDURE.

1. a. When using M81044/18-22 or GRUMMAN GC18K1-22 cable with M30029/20-03 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" as shown in figure C. Trim shield ends flush with shield crimp sleeve.



1. b. When using M27500-22RC1S6, REVERE WH95623, or GRUMMAN GC875FW22-2 with M39029/20-03 contact, cut cable jacket to shield as shown on 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.



1. c. When using M81044/18-22 or GRUMMAN GC18K1-22 with M39029/19-01 contact or RAYCHEM 5022E5111 or GRUMMAN GC875GB1 with M39029/19-03 contact, shield crimp sleeves "A" and "B" are used. Insert shield crimp sleeve "A" between the insulation and the shield until it is flush with the end of the shield as in figure G. Slide shield crimp sleeve "B" back over the shield until it is flush with both the shield and shield crimp sleeve "A".

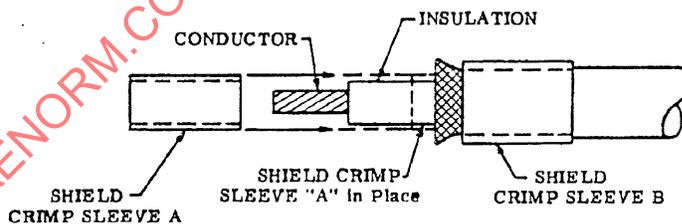
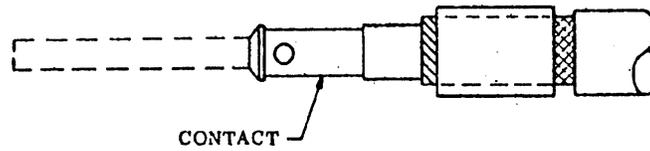
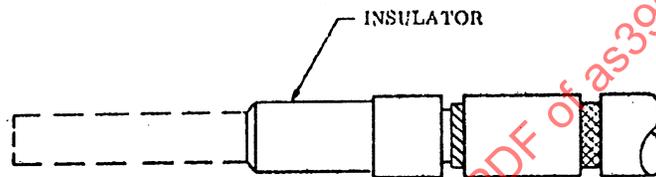


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

2. Place inner contact on cable conductor.



- 2.a. M39029/19-01 - Crimp inner contact in accordance with table III. Push the contact insulator over the inner contact until the inner contact bottoms in the contact insulator.



- 2.b. M39029/19-02 and M39029/19-03 - Crimp inner contact through contact insulator using tooling in accordance with table III.

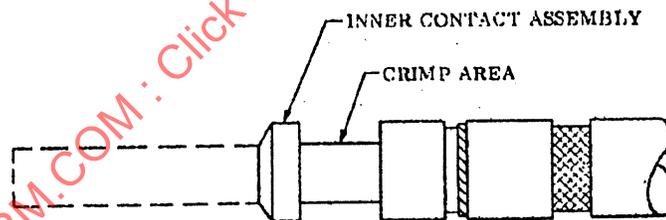
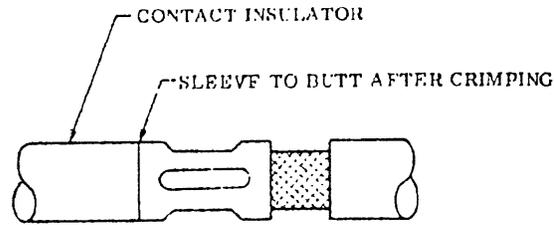


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

3. Butt the shield crimp sleeve against the contact insulator and crimp the shield crimp sleeve in accordance with table III. **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 GC875FW22-2, 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 using tooling in accordance with table III. Inspect for proper assembly in accordance with the figure below.

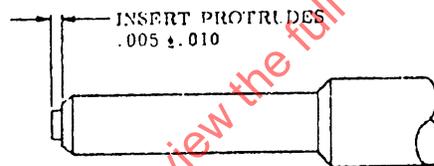


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

TABLE II. DESIGN CHARACTERISTICS.

BIN code	Color bands			Contact cavity size	Cables accommodated <sup>1/</sup>	Sleeves required	Type	Class
	1st	2nd	3rd					
181	Brown	Gray	Brown	16	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	A & B	D	B
		Brown						
182	Brown	Gray	Red	12	RG-180B/U <sup>3/</sup> MICRO DOT 293-3922 GRUMMAN GC875GA1	None	D	B
		Gray						
183	Brown	Gray	Orange	12	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	B	D	B
		Gray						
183	Brown	Gray	Orange	12	M27500-22RC1S6 REVERE WH95623 <sup>2/</sup> GRUMMAN GC875FW-22-2	A	D	A
		Gray						
183	Brown	Gray	Orange	12	MICRO DOT 250-4070 GRUMMAN GC875FY1	B	D	B
		Gray						
183	Brown	Gray	Orange	12	RAYCHEM 502E5111 GRUMMAN GC875GB1	A & B	D	A & B
		Gray						

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.

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TABLE III. 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
181	M22520/2-01	M22520/2-28	4	M22520/20-01	M22520/20-02	3
	M22520/2-01	M22520/2-28	4	M22520/20-01	M22520/20-02	4
182	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-02	4
	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-02	3
183	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-02	4
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-02	3
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-02	6
	M22520/2-01	M22520/2-29	4	M22520/22-01	M22520/22-02	5

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