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AS39029/21

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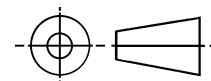
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THIRD ANGLE PROJECTION



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AEROSPACE STANDARD

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

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SHEET 1 OF 12

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Technical drawing of a crimp sleeve assembly. The drawing shows a cross-section of the assembly with various dimensions and callouts. Key dimensions include: overall length L, sleeve length S, gap dimensions (.008 MAX GAP, .030 MIN), diameters (.0155 DIA, .0140 DIA), and radii (.003 RAD MIN, .020 MAX RECESSED). Callouts include: BIN COLOR BANDS (SEE TABLE II), SHIELD CRIMP SLEEVE(S), X.X.002TIR, Y.Y.002TIR, LEAD-IN CHAMFER, and DETAIL Z. A large red watermark is present across the drawing.

FIGURE 1. CONNECTOR CONTACT.

TABLE I. DIMENSIONS.

BIN code	B	S	L (REF)	T MIN	AA MIN	BB MIN	CC MAX	DD MAX	EE	TT MIN	SHIELD CRIMP SLEEVES					
											SLEEVES			SLEEVE A		
											SLEEVES REQUIRED	HH MAX	JJ MIN	KK MAX	LL MIN	MM MAX
187	.034	.396	.664 (16.87)	.240	.094	.081	.108 (2.74)	.108	.0750	.215	A & B	.0535	.0455	.080	.072	.080
		.392			.091		.106 (2.69)		.0725		B	---	---	.080	.072	.080
188	.022	.386	.654 (16.61)	.225	.153	.129	.1695 (4.31)	.169	.1210	.200	NONE	---	---	---	---	---
		.382			.150		.1675 (4.25)		.1175		B	---	---	.128	.109	.128
189											B	---	---	.128	.113	.128
	.034	.386	.654 (16.61)	.225	.153	.129	.1695 (4.31)	.169	.1210	.200	A	.103	.081	---	---	---
		.382			.150		.1675 (4.25)		.1175		B	---	---	.128	.118	.128
											A & B	.099	.091	.128	.118	.128

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 a point at which a gage 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.

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.

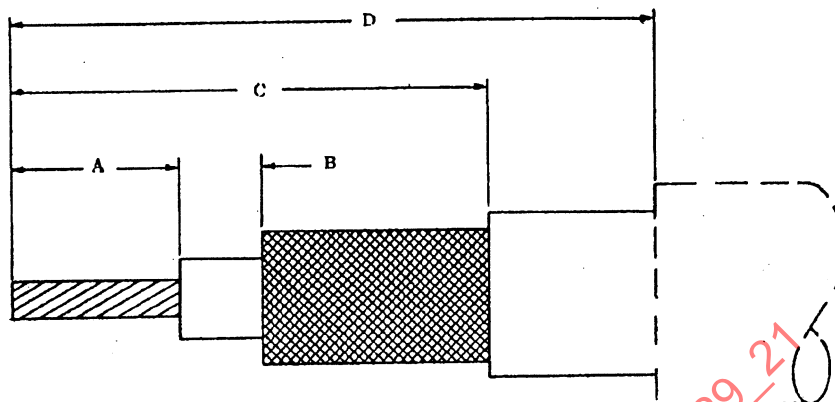


TABLE II. Cable accommodation dimension.

BIN CODE	CABLE ACCOMMODATION	A	B +.030 -.000	C +.030 -.000	D MIN
187	M81044/18-22 SHIELDED GRUMMAN GC18K1-22	.110 +.030 -.000	.065	.325	
	M27500-22RC1S6 REVERE WH95623 GRUMMAN GC875FW22-2 1/				
188	RG180B/U MICRODOT 293-3922 GRUMMAN GC875GA1	.135 +.000 -.030	.040	.345	1.110
	RAYCHEM 9530D5117 GRUMMAN GC875GC1				
189	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

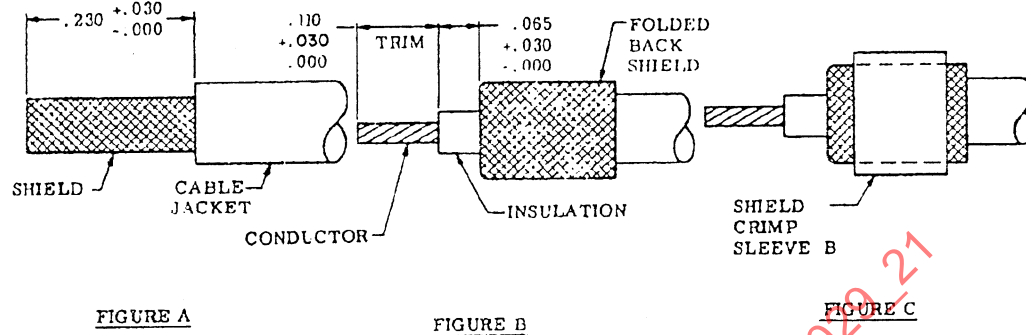
1/ See item 1.c.

Slide shield crimp sleeve over cable to cut end of outer jacket. M39029/21-02 when used with RG180B/U, MICRODOT 293-3922 or GRUMMAN GC875GA1 cable uses no shield crimp sleeve.

FIGURE 2. ASSEMBLY PROCEDURE.

ASSEMBLY PROCEDURE (REF)

- 1.a. When using M81044/18-22 or GRUMMAN GC18K1-22 cable with M39029/21-03 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 cable with M39029/21-03 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.

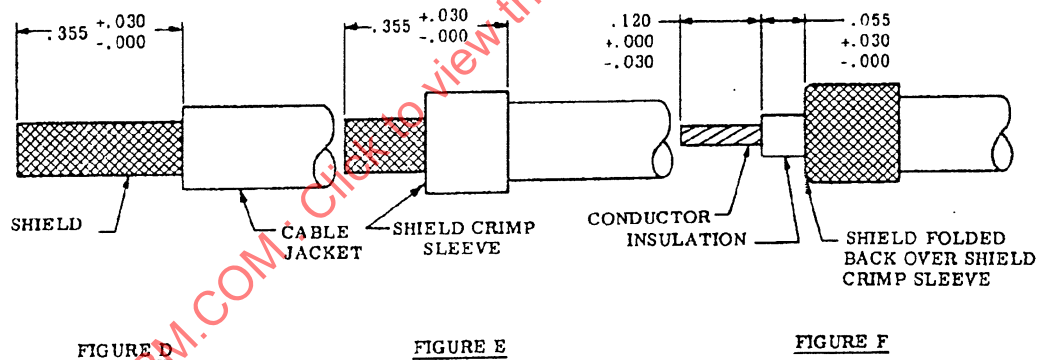


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

ASSEMBLY PROCEDURE (REF)

- 1.c. When using M81044/18-22 or GRUMMAN GC18K1-22 cable with M39029/21-01 contact or RAYCHEM 5022E5111 or GRUMMAN GC875GB1 cable shield crimp sleeve "A" and "B" are used. Insert the 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".

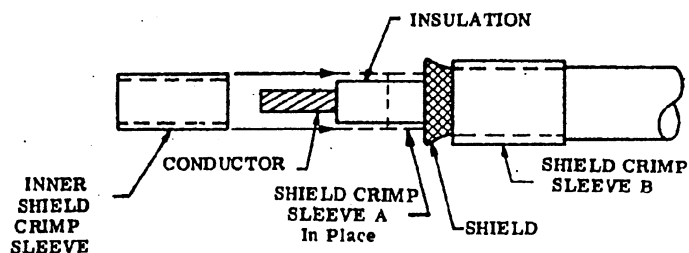
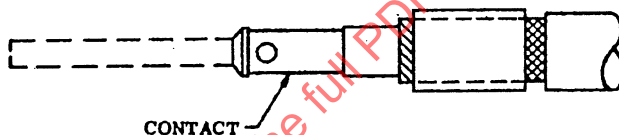


FIGURE G

2. Place inner contact on cable conductor.



- 2.a. M39029/21-01. Crimp inner contact in accordance with table IV. Push the contact insulator over the inner contact until the inner contact bottoms in the contact insulation.

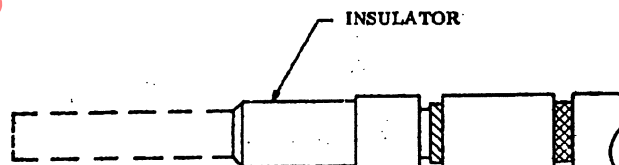
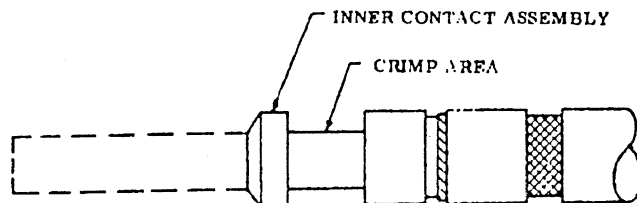


FIGURE 2. Assembly procedure. -Continued

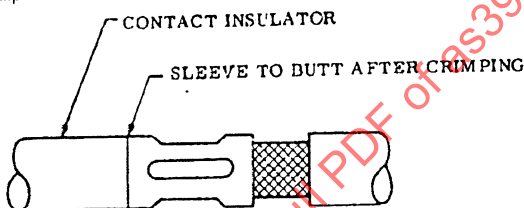
FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

ASSEMBLY PROCEDURE (REF)

- 2.b. M39029/21-02 and M39029/21-03. Crimp inner contact through contact insulator using tooling in accordance with **table IV**.



3. Butt the shield crimp sleeve against the contact insulator 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 M39029/19-02 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 the cable until the inner contact seat within the outer contact. Press cable into the outer contact while crimping the outer contact using tooling in accordance with **table IV**. Inspect for proper assembly in accordance with the figure below.

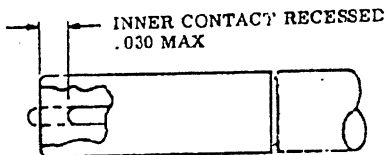


FIGURE 2. ASSEMBLY PROCEDURE. - CONTINUED

TABLE III. DESIGN CHARACTERISTICS.

BIN code	Color bands			Contact cavity size	Cables accommodated ^{1/}	Sleeves required	Type	Class
	1st	2nd	3rd					
187	Brown	Gray	Violet	16	M81044/18-22 SHIELDED GRUNMAN GC18K1-22	A & B		B
					M27500-22RC1S6 REVERSE WH95623 ^{2/} GRUNMAN GC875FW22-2	B		
188	Brown	Gray	Gray	12	RG-180B/U ^{3/} MICRO DOT 293-3922 GRUNMAN GC875GAI	None		B
					RAYCHEM 9530DS117 GRUNMAN GC875GC1	B		
189	Brown	Gray	White	12	M81044/18-22 SHIELDED GRUNMAN GC18K1-22	B		A
					M27500-22RC1S6 REVERSE WH95623 ^{2/} GRUNMAN GC875FW22-2	A		
					MICRO DOT 250-4070 GRUNMAN GC875FY2	B		
					RAYCHEM 5022ES111 GRUNMAN GC875GB1	A & B		

^{1/} or equivalent

^{2/} Reverse 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
187	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
188	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-02	6
	M22520/2-01	M22520/2-29	1	M22520/22-01	M22520/22-02	3
189	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	5
	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