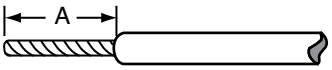
ASSEMBLY INSTRUCTIONS FOR AMPHENOL® 348 SERIES MIL-C-81511 CONNECTORS

1. WIRE PREPARATION

Strip wires to length shown at right. Do not cut or nick wire strands. Twist wire strands back to their original lay.



Contact Size	Length A (inches) +.031 −.000
#23-22, 23-28	.219
#20-20, 16-16	.268
#12-12	.281

2. CRIMPING WIRE TO CONTACTS WITH HAND TOOL

CRIMPING TOOLS FOR #23-22, #23-28 CONTACTS

Contact Size	Crimp Tool	Locator Or Positioner*	AWG Copper Wire Range	Insulation O.D. (Inches)	Tool Setting
#23-22	357-100 (Daniels M22520/2-01, Adjustable	294-1551-01 M22520/2-03	#22, #24, and #26	0.030 Min. 0.054 Max,	See Tool Data Plate
#23-28			#28, #30 and #32		
#23-22	294-297 (Buchanan Adjustable, Previously MS3198-1)	294-1551-01 or 294-1551-02	#22, #24 and #26	0.030 Min. 0.054 Max.	See Tool Data Plate
#23-28			#28, #30 and #32		

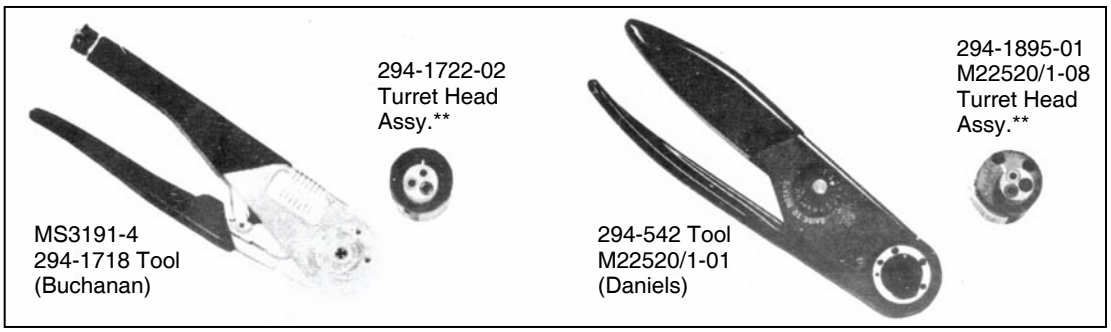
* Locator or Positioners must be ordered separately.

Select desired Crimping Tool and its associated Contact Locator or Positioner from table above. Note that there is a choice of 2 tools for size #23-22 and #23-28 contacts.

A. Insert the stripped wire into the contact pocket until wire is visible through the inspection hole.
B. Fully seat the uncrimped contact and wire into the crimp tool positiioner and crimp the contact.
C. Inspect the crimp for wire visibility through the inspection hole.

Consult Amphenol for shielded contact crimping instructions.

CRIMPING TOOLS FOR #20-20, #16-16 and #12-12 CONTACTS



Either of the 2 above listed hand crimping tools can be used to crimp the contact sizes #20-20, #16-16 and #12-12. Tools must be used with the Turret Head Assembly shown. See data plate information on Turret Head Assemblies for individual wire crimping settings.

Contact Size	AWG Copper Wire Range	Insulation O.D. (Inches)
#20-20	#20, #22, and #24	0.041 Min. 0.081 Max,
#16-16	#16, #18 and #20	0.066 Min. 0.101 Max.
#12-12	#12 and #14	0.097 Min. 0.135 Max.

** Turret Head assembly must be ordered separately.

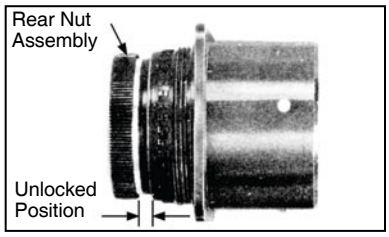
3. SEMI-AUTOMATIC CRIMPING

For large production quantities, consult Amphenol for information on semi-automatic crimping equipment.

4. CONTACT INSERTION AND REMOVAL TOOLS

Contact Size	Amphenol Part No. Pin & Socket Insertion Tool	Pin & Socket Insertion Tool	Amphenol Part No.		MS Part No.		
			Removal Pin Tool	Removal Socket Tool	Removal Pin Tool	Removal Socket Tool	Tool Color Code
#23-22, #23-28	294-278	M81969/2-01	294-286	294-287	M81969/3-05	M81969/3-01	Green
#20-20	294-27	M81969/2-02	294-28	294-29	M81969/3-06	M81969/3-02	Red
#16-16	294-30	M81969/2-03	294-31	294-32	M81969/3-07	M81969/3-03	Blue
#12-12	294-33	M81969/2-04	294-34	294-35	M81969/3-08	M81969/3-04	Yellow

5. HOW TO INSERT 348 SERIES* CONTACTS

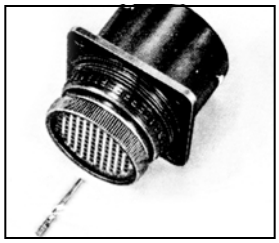


1. The rear nut assembly must be unlocked before any contacts can be inserted. Turn it counter-clockwise until some resistance to turning is felt. (2 1/2 turns, or .075 min. space is required.)

2. Place the crimped contact into the desired hole as straight as possible by hand until only the crimped portion of the contact extends from the grommet. This positions the contact into the retention disc contact pocket. Then position the insertion tool around the rear of the contact shoulder.

3. The tool should be aligned onto the contact at a slight angle to avoid having the tool slip off the contact and damage the resilient grommet. When the contact is properly seated, its shoulder will provide a positive stop and the line on the tool will be hidden within the grommet indicating full insertion.

4. Remove the tool by sliding it along the wire insulation until it clears the resilient grommet.

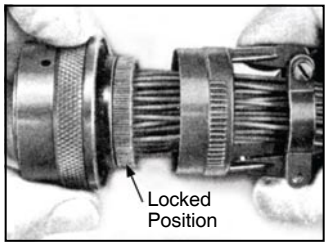


5.To provide proper sealing, insert unwired contact and an MS27488 sealing plug - small diameter first - into all unused holes. After assuring that all contacts are fully seated, rotate the rear nut assembly by turning it clockwise until the colored stripe is not visible. The nut must be fully bottomed against the rear of the shell (as shown in photo 1 below). It is recommended to torque the nut to the values shown in Table 1. Then slide the cable support hardware to the rear grommet and tighten.

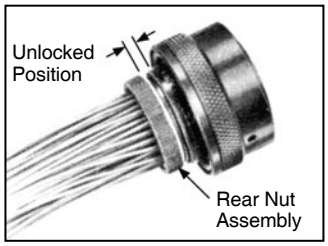
TABLE 1

Shell Size	Torque in lbs.
8	2
10	5
14	9
19	14
18-24	22

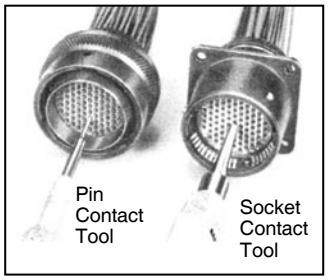
6. HOW TO REMOVE 348 SERIES* CONTACTS



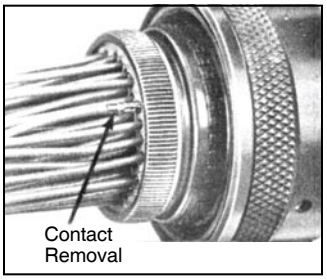
1. Remove cable support or accessory hardware back over wire bundle. Caution: Loosen cable straps prior to removal of clamp.



2. Loosen the rear nut assembly by turning it counter-clockwise until some resistance to turning is left. 2 1/2 turns or .075 minimum space is required.



3. Select the proper contact removal tool. To remove pin contact, align and place tool over exposed pin probe. To remove the socket contact, place tool probe through insert and into socket contact body. Note: The protective sleeve will retract into the tool as force is applied. Then apply force with a straight axial motion perpendicular to the insert face.



4. When the tool has bottomed against the insert face, the contact will appear at the grommet end and may be removed by pulling on the wire. Caution: remove only one contact at a time to prevent possible grommet damage.

* U.S. Pat. No. 3,4777,061