

MIL-DTL-38999* SERIES I, II AND III TYPE CONNECTORS Installation Instructions

L-624-6

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I. Crimping Tools:

1. M22520 Series is recommended. See Tool Table for choice of turret head and selection setting according to contact size, part number and wire gauge size.
2. Setting Up and Operation: Consult tool manufacturer's manual.

II Wire Preparation and Crimping:

1. Strip wire to required length. (See Figure 1) When using hot wire stripping do not wipe melted insulation material on wire strands; with mechanical strippers do not cut or nick strands.

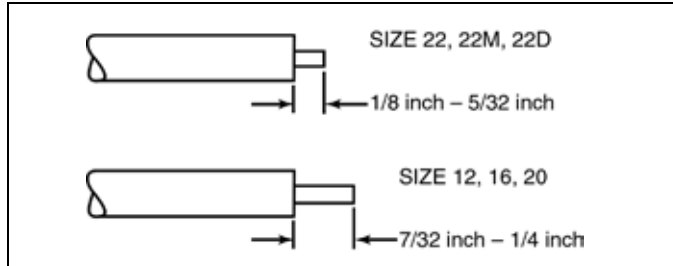


Figure 1 Stripping Dimensions

2. See Table 1 for proper finished outside wire dimensions.

Table 1:

Contact Size	Wire Dimension (in.)**	
	Min.	Max.
10	0.135	0.162
12	0.097	0.142
16	0.065	0.109
20	0.040	0.077
22	0.034	0.060
22M, 22D	0.030	0.050

** Min. diameters to insure moisture proof assembly; max diameters to permit use of metal removal tools.

3. Twist strands together to form a firm bundle.
4. Insert stripped wire into contact applying slight pressure until wire insulation butts against wire well. Check inspection hole to see that wire strands are visible. If there are strayed wire strands, entire wire end should be re-twisted.
5. Insert wire and contact into crimping tool as far as possible. Crimp contact wire well.

III. Contact Insertion and Removal:

1. When inserting or removing contacts, first remove securing devices and slide devices over wires in proper sequence.
2. Consult Tool Table for correct insertion or removal tool (metal or plastic) according to contact size.
3. Insertion:
 - a. Slip correct size tool (with plastic tool use colored end) over wire insulation and slide forward until tool bottoms against rear contact shoulder. Contact must be aligned with grommet hole and not inserted at an angle. Push forward until contact is felt to snap into position within insert. Remove tool, holding forward on the wire in order to prevent contact from being dragged back with tool. Gently pull each wire to ensure contact is properly seated.

b. Uncrimped Contacts and Sealing Plugs:

Fill in unused holes with an uncrimped contact. Follow with a teflon sealing plug, large diameter first, so that one end protrudes out the rear of grommet. See Table 2 for sealing plug application data.

Table 2:

Sealing Plugs		
Contact Size	Color Code	MS Part Number
10	Green	M85049/81-10
12	Orange	MS27488-12-2
16	Green	MS27488-16-2
20	Red	MS27488-20-2
22, 22M, 22D	Black	MS27488-22-2

- c. Slide securing devices forward and tighten using connector pliers. Connector holding tools are recommended while tightening back accessories.
- d. When using strain relief:
 - Center wires at bar clamp. Slide clamp grommet into position and tighten clamp bar screws. When tightening screws, pressure should be applied in the same direction clamp is threaded to rear threads of connector. When not using clamp grommet, build up wire bundle with vinyl tape so clamp bar will maintain pressure on wires.

CAUTION

WHEN INSERTING OR REMOVING CONTACTS
DO NOT SPREAD OR ROTATE TOOL TIPS.

4. Removal:

- a. Slip correct sized tool (with plastic tool use white end) over wire insulation and slide forward on wire until tool tips enter rear grommet and come to a positive stop. Hold tool tip firmly against positive stop on contact shoulder, grip wire and simultaneously remove tool, contact and cable. (On occasion, it may be necessary to remove tool, rotate 90° and reinsert.
- b. Unwired Contacts:
 - Remove sealing plugs.
 - Standard Removal Tools:** Using applicable removal tool, insert and carefully work tool tips over wire well. When tips bottom, contact will release from internal retention clip. Push contact from connector front face out connector rear with round ended non-metallic rod. Rod will follow contact. (See Tool Table for applicable removal tool and correct rod diameter).
 - Unwired Removal Tool (11-10050-XX):** Removal procedure is same as with standard tools with the exception that tool will withdraw contact without pushing from front. Push plunger to remove contact from tool. (See Tool Table for correct size).

* MIL-DTL-38999 supersedes MIL-C-38999.

Amphenol

TOOL TABLE

CONTACT			CRIMP TOOLS						INSERTION/REMOVAL TOOLS									
Size	Military Part Number	Pin or Socket	M22520/1-01			M22520/7-01			M22520/2-01			A. A. Part No.			Type		Rod Dia. ±.001	
			Turret M22520/	AWG Size	Selector Setting No.	Turret M22520/	AWG Size	Selector Setting No.	Turret M22520/	AWG Size	Selector Setting No.	Military Part Number	11- Tools: Metal 10- Tools: Plastic	Color Code	Ins	Re		Unwired Contacts 11-10050
10	M39029/58-528	Pin	See note**	10										X			N/A	.130
	M39029/56-527	Socket		12										X	X			
12	M39029/58-365	Pin	1-04	12										X			-11	0.101
	M39029/57-359	Socket		14										X	X			
16	M39029/58-364	Pin	1-04	16										X			-10	0.070
	M39029/57-358	Socket		18										X	X			
20	M39029/56-352	Socket		20										X			-9	0.046
	M39029/58-363	Pin	1-04	20										X	X			
22	M39029/57-357	Socket		22										X			-8	0.033
	M39029/56-351	Socket		24										X	X			
22M	M39029/58-362	Pin												X			-7	0.033
	M39029/57-356	Socket												X	X			
22D	M39029/56-349	Socket												X			-7	0.033
	M39029/58-360	Pin												X	X			
22D	M39029/57-354	Socket												X			-7	0.033
	M39029/56-348	Socket												X	X			

*Refer to SAE AS39029 for Bin Code Identification.

**Use Daniels Crimp Tool 1716P-1 for assembly of size 10 contacts.

NOTE: All plastic tools are double-ended insertion/removal tools.