INSTALLATION INSTRUCTIONS FOR STANDARD (5015 TYPE) CONNECTORS INCORPORATING CRIMP CONTACTS

Amphenol® Standard (5015 type) Series Connectors incorporate MIL-STD-1651 insert arrangements as well as some special arrangements. Crimp type contacts in sizes 0, 4, 8, 12, 16 and 16S are available for use in these insert arrangements. This publication contains information for proper crimping, insertion and removal of crimp contacts in Standard (5015 type) Connectors, as well as applicable tool information.

SECTION I: INSTALLATION

1. **Cleaning**
   Inserts, contacts and inside surfaces of shells must be kept free of oil, grease and dirt throughout the installation procedure. Use a clean cloth moistened with anhydrous, isopropyl alcohol.

2. Prior to any contact crimping operations, the backshell, grommet and sleeve must be slipped on the wire bundle in proper sequence.

   Note: If a back grommet is used, identifying letters on the rear face are to be used as a guide in threading wires. The letter or letters on the grommet should align with the same letters on the rear face of the insert.

3. **Cable and Wire Preparation**
   a. Provide for sufficient wire slack to permit easy installation of the connector.

      Note: Stripping is done after placing the grommet (if used) on the wires. In some cases, where it is difficult to get wires through the grommet, the wire may be cut at a 45° angle.

   b. Using Table I as a guide, cut the wire to length and strip the insulation the appropriate distance from the end. Hot wire stripping methods are recommended wherever possible. If other methods are employed, use extreme care to avoid nicking or cutting wire strands.

   c. Check to be sure strands of wire are not separated. If necessary, reform by lightly twisting the strands together.

Table I

Contact Size	0	4	8	12	16
Strip Insulation	3/4"	1/2"	9/16"	5/16"	5/16"

4. **Crimping**
   a. Insert the stripped end of wire into the contact wire-well and apply slight pressure until it is positively bottomed. Visually check to assure that wire strands are visible in the inspection hole provided in the wire-well.

   b. Using proper information from Table IV select crimping tool and pre-set the tool in accordance with instructions provided with the tool.

   c. If the 11-7295 Series Crimping Tool is to be used, insert the contact and wire into the tool as far as possible, then close the tool handles. This tool has a built-in safety feature in that the handles cannot be reopened until the crimping cycle is completed. A complete uniform and reliable crimp is insured. BE SURE TO USE CORRECT LOCATOR WITH CRIMPING TOOL (see Table IV). Ref. Table II for tensile strength data.

   d. Where a contact must be crimped to a smaller size wire, it may be necessary to utilize a wire-well adapter. Insert the adapter in the contact wire-well prior to insertion of the smaller gage wire. Table III lists the applicable wire-well adapters for the various wire and contact combinations.

Table II
Tensile Strength for Crimp Joint Tests

Contact Size	Wire Size	Initial Min. Pull-out Force lb. (Prior to Conditioning)
16	20	20
	18	40
	16	50
12	14	70
	12	110
8	8	185
4	4	450
0	0	800

Table III
Wire Well Adapters

Mating End Size	Wire Barrel Size	Allowable Wire Size	Required Wire Adapter Sleeve
16 Short	16	16	—
		18	—
		20	—
		22*	10-74696-6
16 Long	16	16	—
		18	—
		20	—
		22*	10-74696-6
12	12	12	—
		14	—
8	8	8	—
		10*	10-74696-1
4	4	4	—
		6*	10-74696-2
0	0	0	—
		2*	10-74696-7

*When using wire adapter sleeve shown.

SCANNED

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TABLE IV
TOOL DATA

Contact Part Number	Used with Shell Size	Contact Size**		Crimping Tool	Positioner/Turret or Locator	Insertion Tool***	Removal Tool***
		Pin	Socket				
10-40552 10-597109-161 10-113239-15S 10-113474-15S 10-229193-156	8S-16S		16S	M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7345 or 11-7365-1	11-8250
				11-7295	11-7771-1 or -101		
10-40553 10-113239-15P 10-113474-15P 10-229192-156	8S-16S	16S		M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7345 or 11-7365-1	11-8250
				11-7295	11-7771-1 or -101		
10-40556 10-597109-171 10-113239-16S 10-113474-16S 10-229193-166	12-40		16L	M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7345 or 11-7365-1	11-8250
				11-7295	11-7771-2 or -102		
10-40557 10-113239-16P 10-113474-16P 10-229192-166	12-40	16L		M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7345 or 11-7365-1	11-8250
				11-7295	11-7771-3 or -103		
10-40560 10-597109-131 10-113239-12S 10-113474-12S 10-229193-126	12-40		12	M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7082 or 11-7365-2	11-8250
				11-7295	11-7771-4		
10-40561 10-113239-12P 10-113474-12P 10-229192-126	12-40	12		M22520/1-01	Daniels Turret TH29-1 or Astro Tool Co. Turret 616266	11-7082 or 11-7365-2	11-8250
				11-7295	11-7771-4		
10-40792 10-113239-8P 10-113474-8P 10-229192-86	14-40	8		414DA-8N*	4025*	11-8220 or 11-7365-3	11-8250
10-40793 10-113239-8S 10-113474-8S 10-229193-86	14-40		8	414DA-8N*	4026*	11-8220 or 11-7365-3	11-8250
10-40564	16-40	4		414DA-4N*	4043*	11-7365-4	11-7370-4
10-40565	16-40		4	414DA-4N*	4043*	11-7365-4	11-7674-2
10-40562	20-40	0		414DA-0N*	4042*	11-7365-5	11-7370-5
10-40563	20-40		0	414DA-0N*	4042*	11-7365-5	11-7674-3

*Pico Crimping Tool Co.
**Letter Designation
S designates Short
L designates Long

***11-7365 Series Insertion Tool and 11-7370 & 11-7674 Series Removal Tools must be used with 11-7364 Arbor Press. Refer to L-632 for applicable operation instructions.

INSTALLATION INSTRUCTIONS FOR STANDARD (5015 TYPE) CONNECTORS INCORPORATING CRIMP CONTACTS, Cont'd.)

5. Installing Contacts

a. Using Table IV, determine the appropriate tool for contact insertion. Pilot pins may be used to assist in the installation of socket contacts. See figure 1. Pilot pins are available and can be ordered with reference to the following part numbers: 10-242758-16 for size 16 socket contact pilot pins, 10-242758-12 for size 12 socket pilot pins and 10-242758-8 for size 8 socket contact pilot pins. To assist in contact insertion, isopropyl alcohol may be applied to the pilot pins or pin contacts.

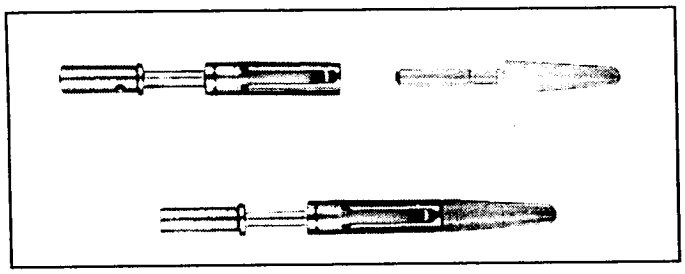

Figure 1

b. When inserting size 16 contacts, use the 11-7345 insertion pliers. The tool handles are color coded blue.

c. Grip the contact at the shoulder nearest the mating end of the contact. The contact should be positioned against the shoulder undercut in the tips of the tool. See figure 2. Insert the contact in the applicable contact hole in the rear of the insert, until the tips of the tool bottom against the insert.

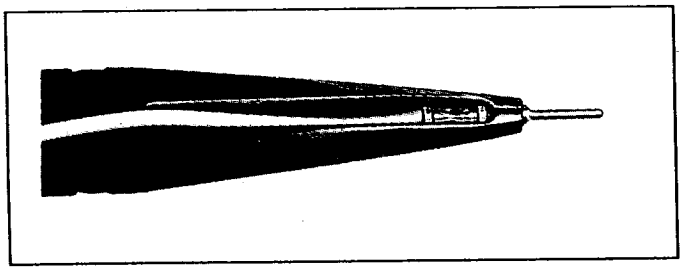

Figure 2

d. Remove and reposition the plier tips against the shoulder nearest the wire-well end of the contact. See figure 3. Insert the contact to its "fully-seated" position.

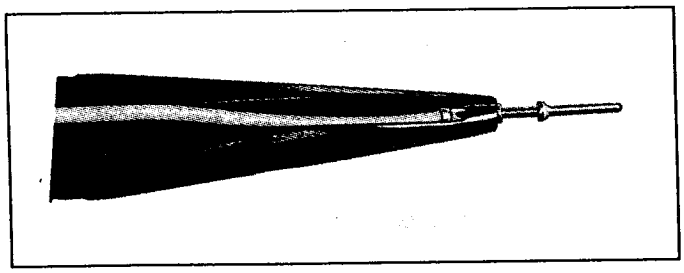

Figure 3

Note: The two stage insertion method for size 16 contacts described above is recommended to avoid possible contact bending.

e. When inserting size 12 contacts, use the 11-7082 Insertion Pliers. The tool handles are color coded yellow.

When inserting size 8 contacts, use the 11-8220 Insertion Pliers. The tool handles are color coded green.

f. Grip the contact at the shoulder nearest the wire-well end of the contact. The contact should be positioned against the shoulder undercut in the tips of the tool. See figure 4. Insert the contact into the applicable contact hole and seat the contact in position.

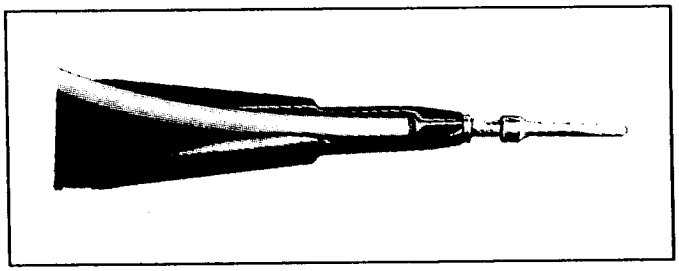

Figure 4

g. The Arbor Press (11-7364) can be used for inserting 16, 12 and 8 contacts. It has to be used to insert the 4 and 0 contacts. When the Arbor Press (11-7364) method of insertion is used, contacts and attached wire should be placed in the predetermined insertion tip and inserted into their applicable insert hole. Positive stop setting of the arbor press will control contact insertion depth.

h. Continue in like manner (depending upon method of insertion) to seat the remainder of the contacts. If the contact becomes separated from the insertion tool during operation, DO NOT PROBE in an attempt to reposition the tool on the contact. The contact should be removed and reinstalled in the prescribed manner.

i. Personnel inserting contacts will normally "feel" the contact reach its fully seated position. Visually check the mating ends of the connector to be sure all contacts are properly inserted to the same depth.

j. After installation and inspection of contacts has been completed, slide all rear accessories forward and tighten with the 11-6147-1 padded pliers.

SECTION II: REMOVAL/REPLACEMENT OF CONTACTS

Note: Contacts should not be removed unless absolutely necessary, since continuous removal tends to reduce contact retention.

1. Removing Contacts for Replacement

a. Loosen all rear accessories and unscrew them from the connector shell. Slide all parts back along the wires.

b. Determine the appropriate removal tool from Table IV. Be sure to use the correct contact removal tip with the tool. Working from the front face of the connector, position the tool tip on the contact and push the contact back through the insert and remove.

Note: When removing contacts always push in a straight line parallel to the contacts to avoid possible damage.

c. To replace contacts follow the procedure given in Section I, "Installation".

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