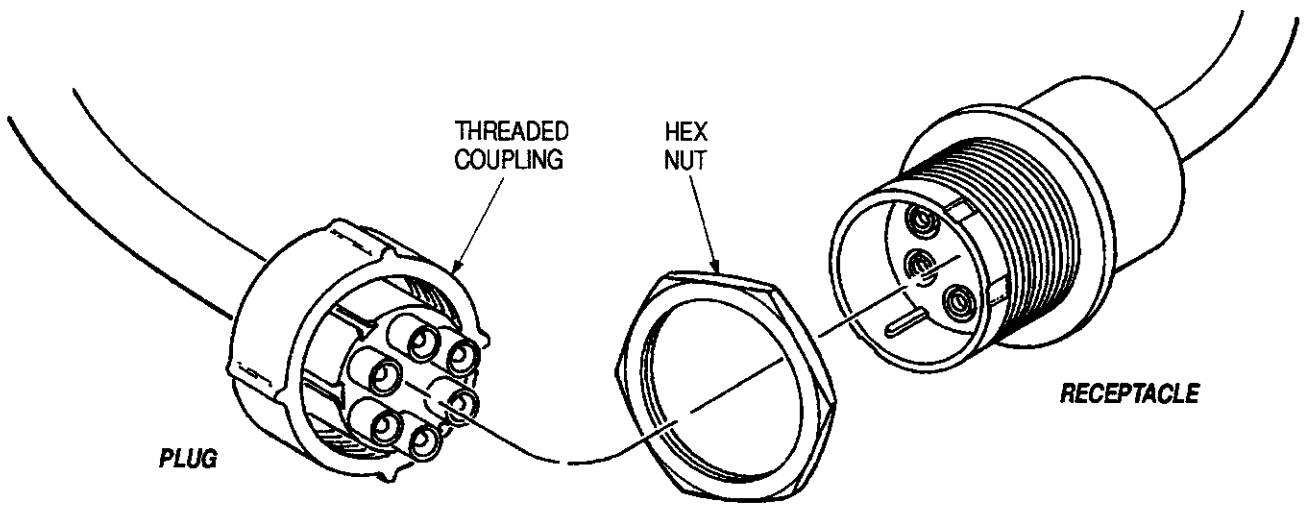
AMP* LGH* Circular High Voltage Connector with 2, 3, 4, 6, or 7 Contacts



TYPICAL, 6-CONTACT CONNECTOR SHOWN

NUMBER OF CONTACTS	WIRE SIZE (AWG)	RECEPTACLE KIT	PLUG KIT	PLUG KIT WITH STRAIN RELIEF	PLUG KIT AND RECEPTACLE KIT	PLUG (with strain relief) AND RECEPTACLE KIT
2	24 through 14	859529-[ ]	860261-[ ]	863020-[ ]	860288-[ ]	863015-[ ]
3		859528-[ ]	860263-[ ]	863021-[ ]	860287-[ ]	863016-[ ]
4		859526-[ ]	860265-[ ]	863022-[ ]	860286-[ ]	863017-[ ]
6		859527-[ ] 863031-[ ]	860267-[ ] —	863023-[ ] —	860229-[ ] —	863018-[ ] —
7		861647-[ ]	861648-[ ]	863024-[ ]	860825-[ ]	863019-[ ]

Figure 1 85-118

1. INTRODUCTION

This instruction sheet covers the assembly procedure for the AMP circular connectors listed in Figure 1. Notice that only base numbers are shown; for more specific information about a particular connector, contact AMP Product Information Center at 1-800-522-6752, or order AMP Catalog 82024. Read this sheet, and applicable referenced material, before assembling connectors or installing hardware.

NOTE *All dimensions on this document are in metric units [with U. S. customary units in brackets].*

See Paragraph 7, REVISION SUMMARY, for revision information.

2. DESCRIPTION

Each connector kit features a plug or receptacle shell, TYPE II Pin or Socket Contacts of a specified wire size, a retaining ring or strain relief (plug kits only), and a hex nut (receptacle kits only).

The connectors are equipped with threaded caps for quick connect/disconnect capability and can be panel or bulkhead-mounted, or used for free hanging applications.

When crimping the contacts and assembling the connectors, the connectors must be sealed with a suitable potting material. Refer to Section 4, ASSEMBLY AND POTTING, for specific instructions.

3. WIRE PREPARATION (Figure 2)

Refer to Figure 2 for proper stripping dimensions, and proceed as follows:

1. Strip the insulation according to the dimensions shown in Figure 2.

2. Crimp the contact to the wire using the appropriate tooling. Refer to Figure 3 and to the instruction sheet packaged with the tool.

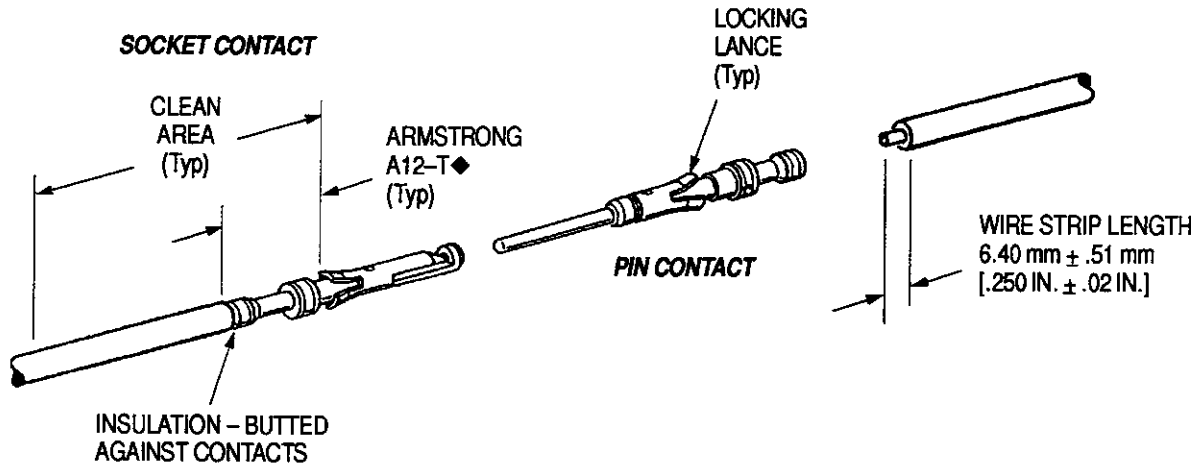


Figure 2

10-1A

3. After crimping the contact, thoroughly clean the surface of the wire and contact with alcohol, as shown in Figure 2.

NOTE

If silicone insulated wire is to be used (with silicone rubber potting material), clean the insulation with alcohol. If PTFE insulated wire is used(with silicone rubber, epoxy, or polyurethane potting material), abrade, etch, and prime the insulation according to the recommendations of the manufacturer for the appropriate potting material.

4. ASSEMBLY AND POTTING (Figures 4, 5, and 6)

Proceed as follows:

1. Roughen the inner surface of the potting area of the receptacle, plug, and strain relief (if used), by abrasive blasting. Clean abraded area thoroughly with alcohol and *allow to dry.*

2. Insert contacts into cavities of housings, making sure locking lances of contacts are fully seated in the housing. Pull back lightly on each contact to make sure it is seated properly.

NOTE

Extraction cannot be accomplished after the assembly has been fully assembled and potted; it is possible to remove contacts before potting by using AMP Extraction Tool 861751-1; see Paragraph 6, CONTACT EXTRACTION; refer to instruction sheet packaged with the tool.

3. If strain relief is used, attach it to the shell by applying Armstrong A12-T◆ epoxy to the lip of the strain relief where it makes contact. Allow to cure. Install cap on shell before attaching strain relief.

4. Fill the housing and strain relief (if used), with HYSOL 4215● when wire insulation is TEFLON†; use GE RTV-511 or RTV-21▲ when wire insulation is silicone. Do NOT introduce voids.

WIRE		CONTACT		CRIMP TOOLING
SIZE (AWG)	INSULATION DIAMETER	PIN	SOCKET	
24 to 20	1.35 – 2.08 [.055 – .085]	200679-1	201328-1	45099
18 to 16	—	200681-1	200333-1	45098
14	—	201645-1	201568-1	45098
24 to 20	2.03 – 2.54 [.080 – .100]	—	66399-1	90067-5
18 to 16	2.03 – 2.54 [.080 – .100]	—	66101-2	90067-5
14	2.032.54 [.080 – .100]	—	66360-2	90310-3

◆ Manufactured by Armstrong Products Co., Warsaw, IN
● Manufactured by HYSOL Industrial Products
† Trademark of E. I. DuPont de Nemours & Co.
▲ Manufactured by General Electric Company

Figure 3

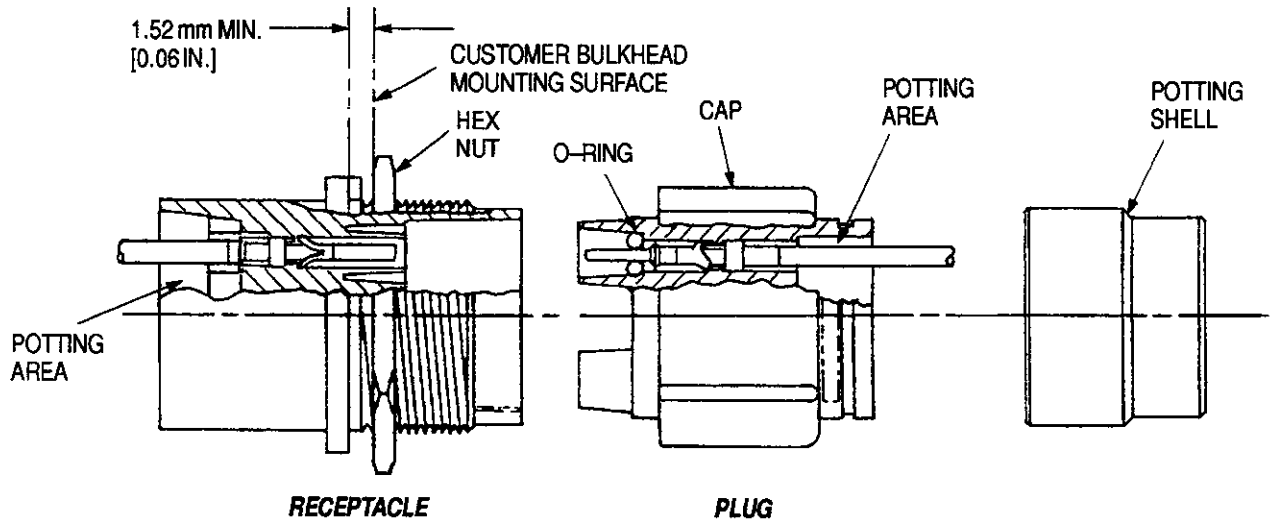


Figure 4

85–118D

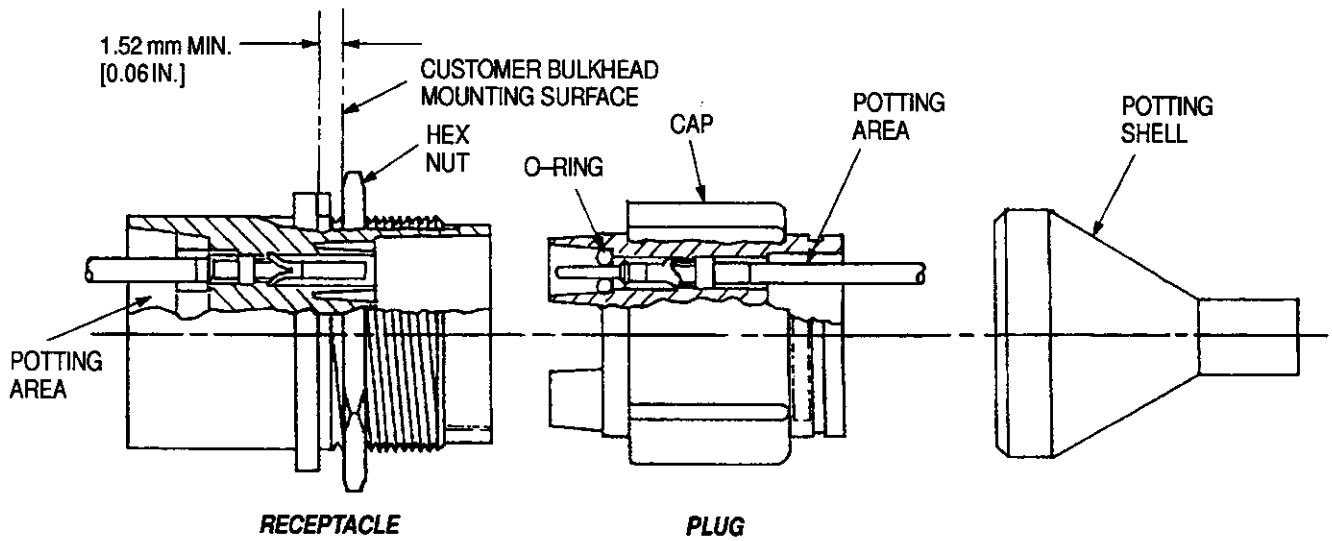


Figure 5

85–118E

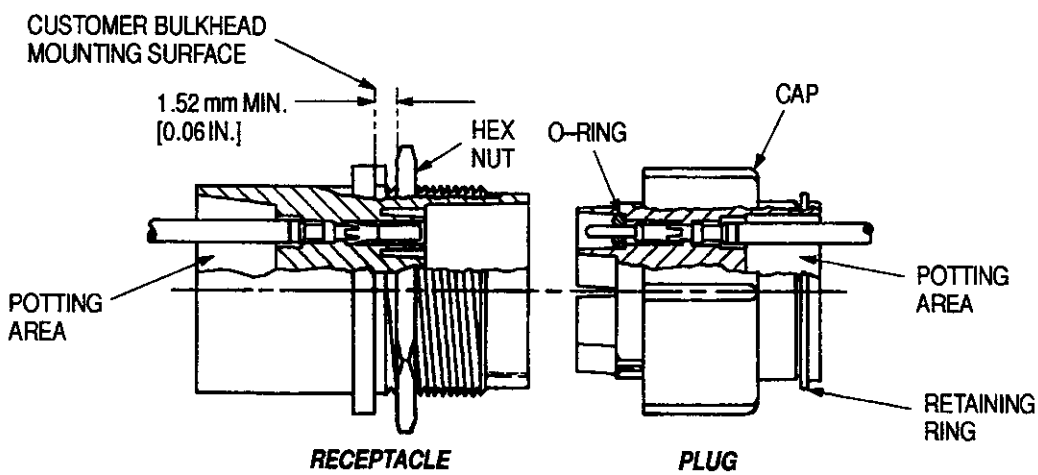


Figure 6

85–118A

5. When potting with HYSOL 4215, contact and wire sub-assemblies must be bonded with Armstrong A12-T epoxy to seal cavities. Apply adhesive to area designated in Figure 2, and insert per Paragraph 4, step 3 above. Allow epoxy to cure thoroughly.

6. After filling the housings, allow the compound to cure FULLY before applying voltage.

7. Mount appropriate O-rings, retaining rings, threaded caps, and hex nuts as shown in Figure 4.

NOTE

AMP recommends using HYSOL 4215 or GE RTV-511 potting material and Armstrong A12-T epoxy adhesive. If these materials are NOT used, obtain materials which are compatible with the wire insulation, housings, wire preparation used, operating voltage, stress levels, and the environmental conditions in which the unit will be operated.

5. PANEL MOUNTING

Using the dimensions shown in Figures 7 or 8, make the panel cutout for the proper receptacle connector. Attach the connector to the panel using the hex nut supplied with the connector. Tighten the nut to a maximum torque of 2.26 Newton (N) [20 inch-pounds].

6. CONTACT EXTRACTION

Contacts can be extracted from the connector ***before*** potting by using AMP Extraction Tool 861751-1.

Proceed as follows:

1. Hold the connector with the mating face toward you (see Figure 9).

2. Align the sleeve of the extraction tool with the contact to be removed.

3. Holding the handle, insert the sleeve straight into the contact cavity until the sleeve bottoms. Allow the push rod button to "back out" of the handle as shown in Figure 9.

4. Rotate handle in either direction to assure that contact locking lance has released.

5. Keep the sleeve firmly bottomed in the cavity, and depress the push rod button. The contact will eject as the button is depressed.

6. Remove the tool from the contact cavity.

RECOMMENDED PANEL CUTOUT FOR 2, 3, AND 4 CONTACTS

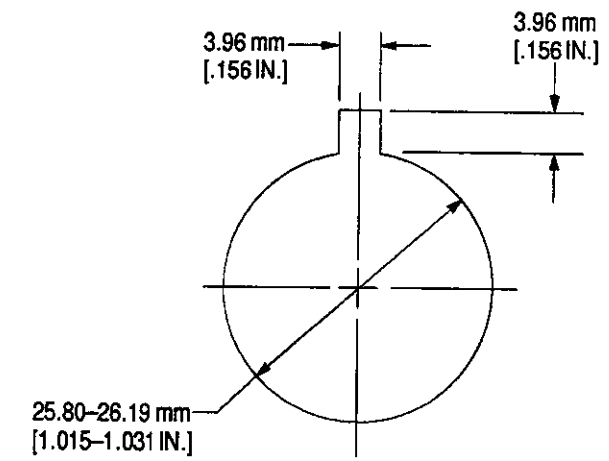


Figure 7

RECOMMENDED PANEL CUTOUT FOR 6 AND 7 CONTACTS

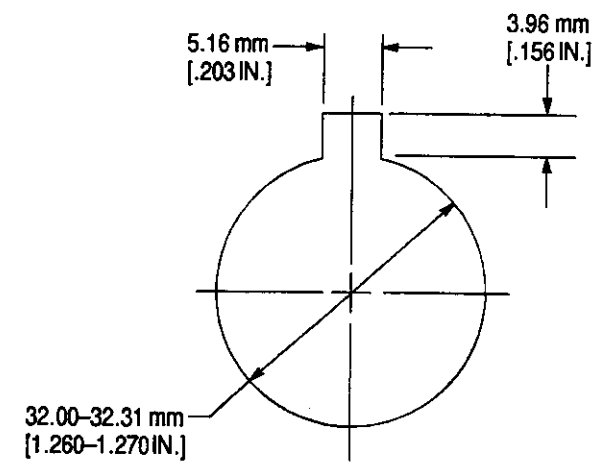


Figure 8

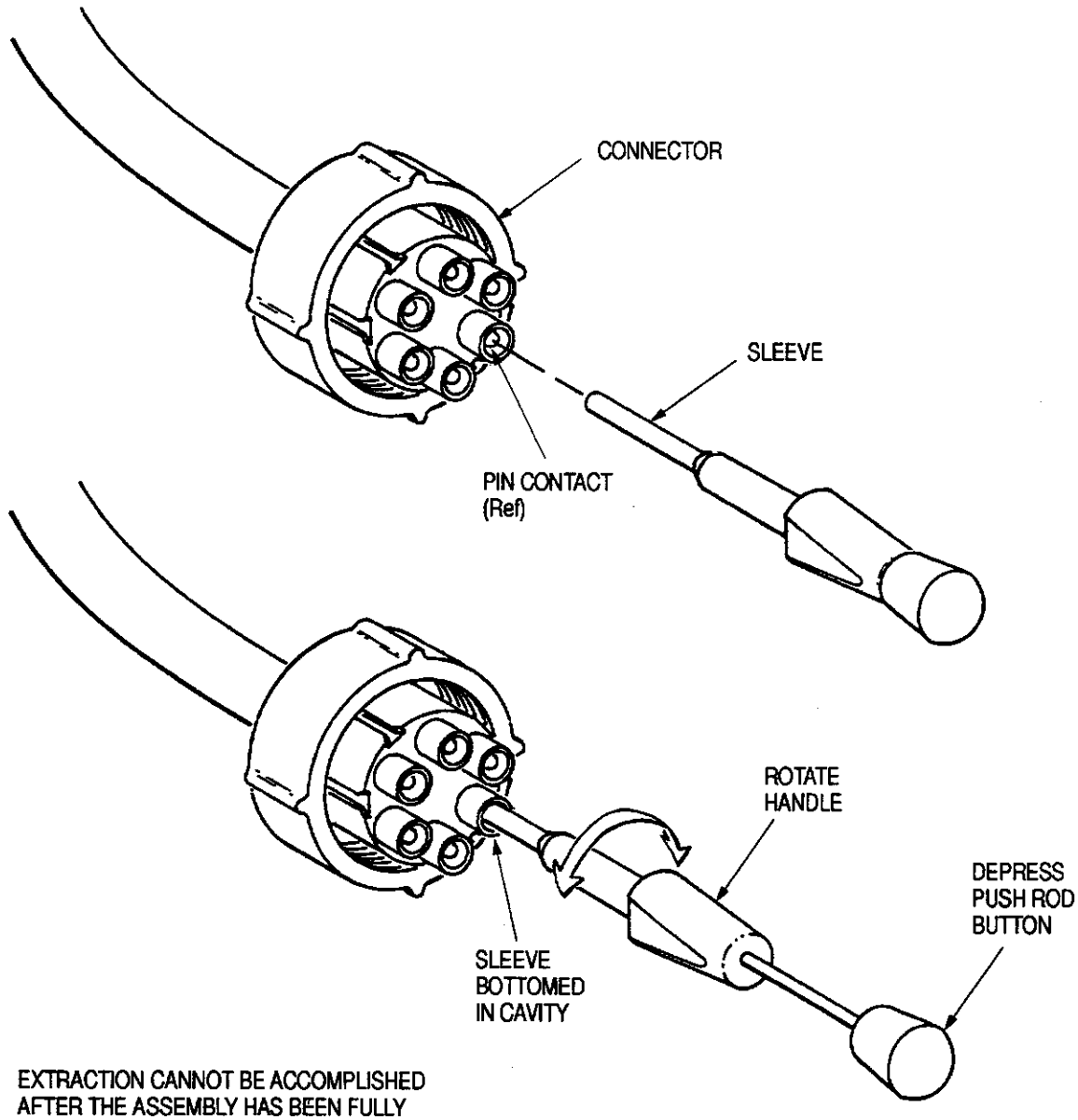
7. REVISION SUMMARY

Since the previous release, the following change was made to this document:

Per EC 0600-1886-94:

- Changed part number of the 7-contact plug kit in Figure 1

CONTACT EXTRACTION



NOTE: EXTRACTION CANNOT BE ACCOMPLISHED AFTER THE ASSEMBLY HAS BEEN FULLY ASSEMBLED AND POTTED.

Figure 9

85-118C