

# Amphenol® UG 1870 A/U Electrical Connector Assembly Instructions

L-2064-1

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## ASSEMBLY TOOLS

1. Cable stripping and soldering equipment.
2. Two 3/8 in. torque wrench, square drive.
  - a. 0 – 50 lb./in. range
  - b. 0 – 100 lb./in. range
3. Offset crowfoot wrench, 3.8 in. square drive, size 3/8 in.
4. Open end crowfoot wrench 3/8 in. square drive, sizes as follows: 3/4 in., 1 1/8 in., and 1 1/4 in.
5. Masking tape, cuticle scissors, dental pick

## ASSEMBLY PROCEDURE

1. Slide the following items onto the cable and back out of the way in the following sequence;  
Items 1, 2, 3 or 9\*, 5, 4\*\*, 6, 15\*\*\*, 8\*\*.

Note: Oval cable has no cable fillers or foil wrap. Therefore, if oval cable is used, any further reference made to cable filler and foil wrap is to be ignored.

2. Trim the outer jacket, copperweld braid and cable fillers to dimensions shown, being careful not to nick braid. Comb out copperweld braid and fold back. It is important that after combing, the folding back must be performed by groups of four strands and one group should not cross the next as they are folded over the outer jacket. (Figure 1)

Remove foil to allow a maximum 1/16 inch of foil wrap to extend from the copperweld braid and trim the cable filler to the same length as the braid. Comb out cable filler, splaying out and folding back equally over copper-weld braid and tape down. The braid retaining ferrule (item 6) will help hold the braid and fillers during taping operations. (Figure 2)

3. Slide one nut (item 10) over each cable and push back out of the way. Trim the two cables to the dimensions shown being careful not to nick outer conductors or braid. Pre-tin center conductors using 60/40 solder. Use this type of solder for any other soldering required. Flare braids in preparation for the next operation. (Figure 2)

See exploded view of entire assembly with parts list in Figure 8 on page 3.

\* Be sure to use the correct item. There are two variations, one with a round hole for round cable, and one with an oval hole for oval cable.

\*\* Assure that brown gasket is in internal undercut on both items 4 and 8 and that they remain in place during subsequent assembly.

\*\*\* See Figure 8 to determine position of angled portion on large ring.

### NOTE:

The connector product in this document was formerly known as a Bendix® product. This product is now manufactured and sold under the Amphenol® brand name. The name "Amphenol" will replace the name "Bendix" on products and literature in the future.

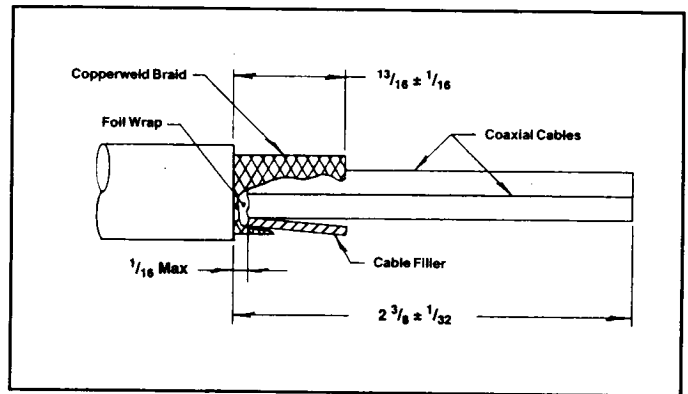


Figure 1

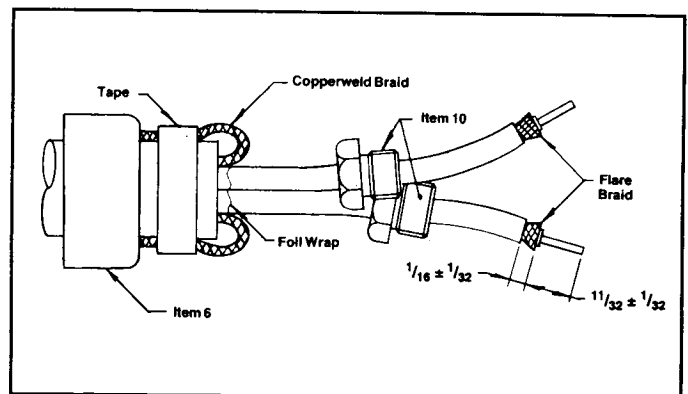


Figure 2

For further information on this product or other Amphenol products, contact:  
Amphenol Corporation, Amphenol Aerospace  
40-60 Delaware Ave.  
Sidney, New York 13838-1395  
Phone: 607-563-5011 Fax: 607-563-5157

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4. Contacts, one male (item 11) and one female (item 12), are assembled on each cable. (Figure 3) Slide items 11 and 12 over dielectric and under the braid of their respective inner cables. Center conductor should be visible in contact inspection hole. Solder center conductor to contact thru solder hole and remove excess solder. (Figure 4)
5. Drop one red "O" ring (item 13) into outer male contact and one red "O" ring into outer female contact. Insert male contact into outer contact "A" and the female contact into outer contact "B". (Figure 8)
6. Guide the two nuts (item 10) forward and thread into the respective contacts. Tighten each nut (3/8 in. hex) to a torque of 15 – 20 lb./in. The nuts should bottom on rear of contacts.
7. Thread the middle body (item 8) into the front body assembly (item 14). Tighten to 80 – 85 lb./in. with 1 1/4 in. flats. (Mating connector will be required to tighten above). Pull slightly on cable.
8. Insert split ferrule (item 7) into main body (item 8). Twist cable 360° so inner cables come together. (This makes seating of ferrule into body much easier). (Figure 5)
9. Remove tape and allow copperweld braid and cable fillers to extend over edge of main body. (Figure 6)
10. Push retaining ferrule (item 6) onto copperweld braid and cable fillers which will force them into the main body and over the split ferrule as shown in Figure 7.
11. Thread back body (item 4) onto middle body (item 8), taking care not to crosstread. Tighten item 4 (1 1/8 in. flats) to a torque of 58 – 63 lb./in. Back body must be within 3/16 in. of shoulder on item 8.
12. Slide items 5, 3 and 2 into back body (item 4) by compressing strain relief grip and sliding it up into back body until it bottoms on sealing gland (item 3). While still compressing the wire grip, push slightly on cable forcing it into connector, then release wire grip.
13. Thread retaining nut (item 1) into back body (item 4), taking care not to crosstread. Preload strain relief grip (item 2) by stretching it back along the cable away from the connector. Tighten item 1 (3/4 in. flats) to a torque of 24 – 28 lb./in. which will cause grip to bite into the outer cable jacket. Maximum torque of 28 lb./in. must not be exceeded and shoulder of retaining nut must not bottom against rear of the back body.
14. Additional lubricant may be added to item 16 to facilitate assembly. The lubricant must meet MIL-S-8660.

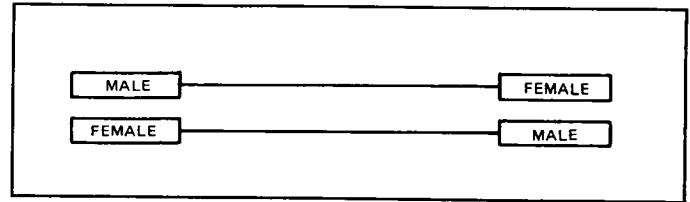


Figure 3

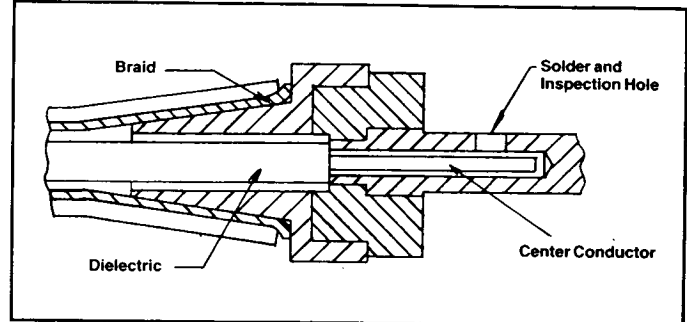


Figure 4

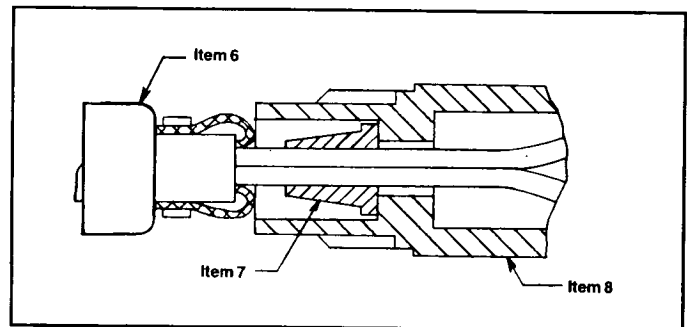


Figure 5

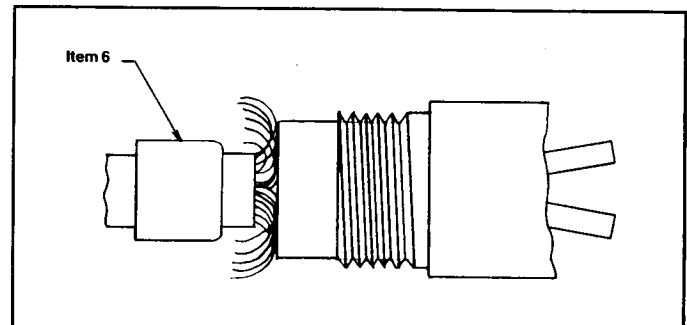


Figure 6

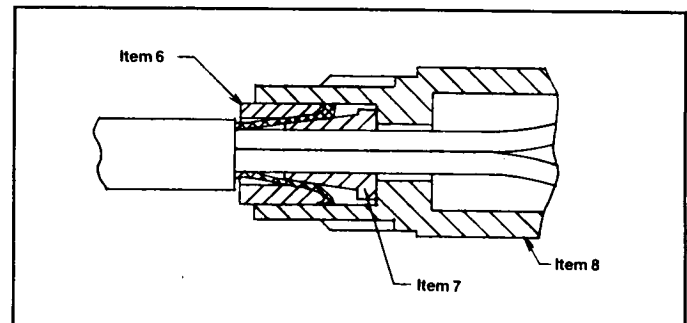


Figure 7

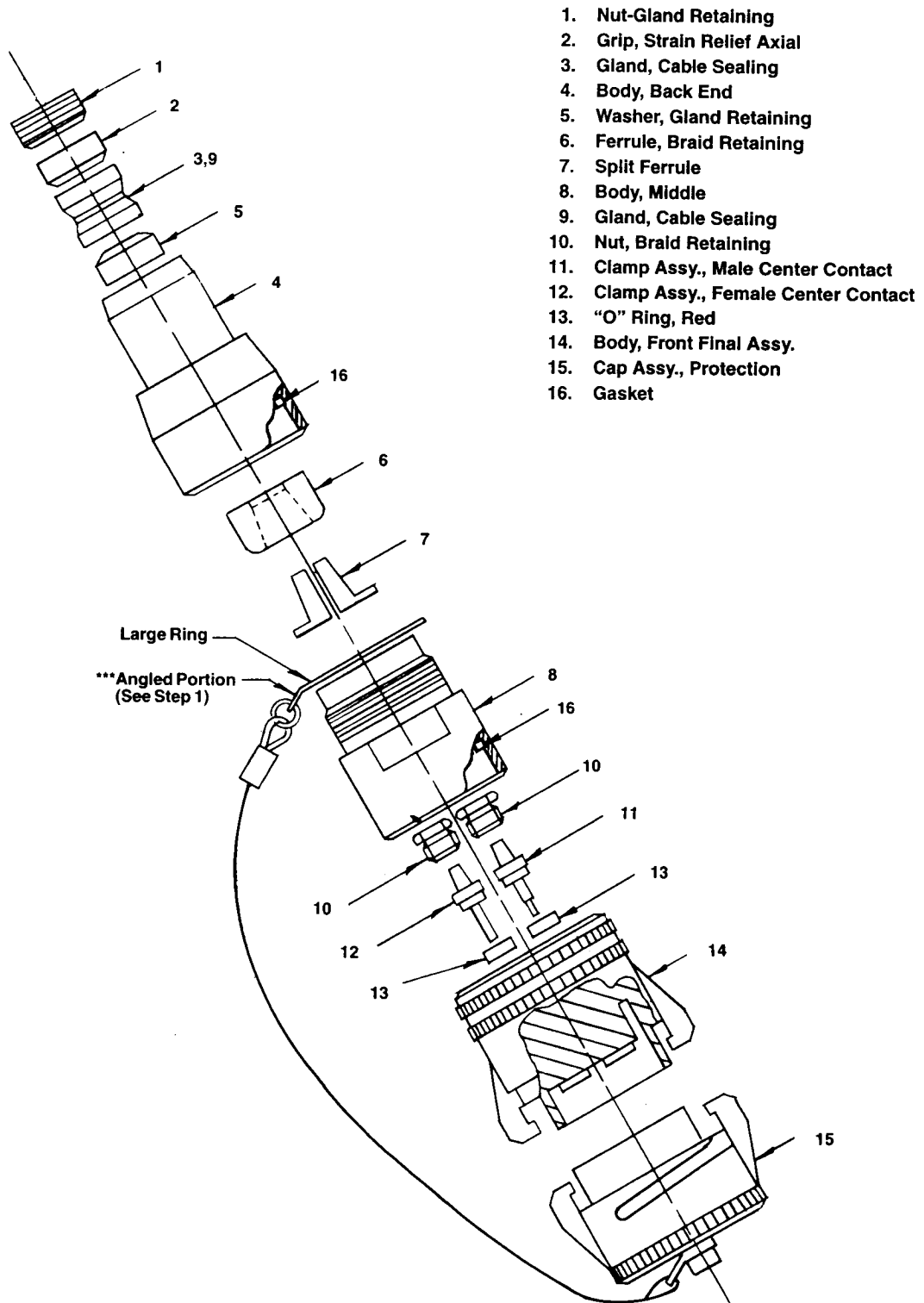


Figure 8