

SHIELDED OR UNSHIELDED 10-CONDUCTOR COPPER CABLE

OUTSIDE DIAMETER RANGE	SOLID SIGNAL CONDUCTORS			STRANDED POWER CONDUCTORS		
	Quantity	Size (AWG)	Insulation Outside Diameter Range	Quantity	Size (AWG)	Insulation Outside Diameter Range
6.3-6.5	8	24	0.92-1.02	2	18	1.50-2.79

Figure 1

1. INTRODUCTION

This instruction sheet covers the assembly and mating of CLOUDSPLITTER cable plug connector kits 2178148-[]. The plug connector accepts cable having the specifications given in Figure 1.

i **NOTE**
Dimensions in this instruction sheet are in millimeters [with inches brackets]. Figures are not drawn to scale.

i **NOTE**
These products are intended for indoor use only in communications circuits in an isolated closed loop circuit and not for telecommunications circuits (POTS).

Reasons for reissue of this instruction sheet are provided in Section 6, REVISION SUMMARY.

2. DESCRIPTION

Each plug connector kit contains a housing, load bar, plug connector shield, ferrule, strain relief boot, and 2 micro MATE-N-LOK power receptacle contacts.

3. ASSEMBLY

1. Prepare the cable as follows:

Unshielded

Strip the cable to the dimensions given in Figure 2.

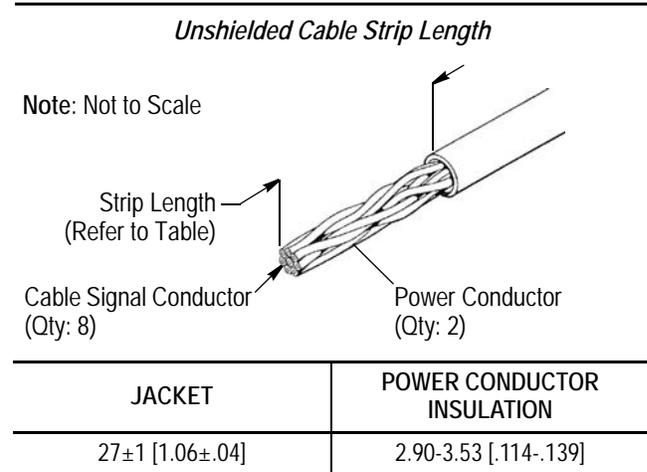


Figure 2

i **NOTE**
Take reasonable care not to nick or cut the cable conductor insulation during the stripping operation.

Shielded

- a. Insert a blade tip between the shield and jacket. Slit the jacket back from the end to the dimension given in Figure 3.

! **CAUTION**
The conductor insulation must not be nicked.

- b. Pull the jacket away from the shield, and fold it back over the cable. Cut off the slit portion of the

POTS is plain old telephone service.

jacket. Take care not to cut the shield. It is recommended that the conductors enclosed by the shield extend to the dimension given in Figure 3.

c. Using the overlap in the seam, pull the shield away from the conductors. Take care not to damage the shield.

d. Fold the shield and metalized polyester foil back over the cable.

e. Trim the shield to the approximate length given in Figure 3. Form the shield smoothly around the cable, ensuring that the conductive surface of the shield is exposed; if it is not, form another fold.

2. Crimp the power receptacle contacts using mini double action hand tool (DAHT) 2217299-1 according to 408-32090 packaged with the tool. Ensure that the crimp meets the requirements given in Application Specification 114-13000.

3. Install the strain relief boot, ferrule, and plug connector shield onto the cable in the orientation shown in Figure 4.

4. Arrange the cable signal conductors according to the following:

a. Group the conductors in pairs following electrical schematic T568C, then arrange the conductor pairs in the sequence shown in Figure 5, Detail A.

b. While holding the end of the cable jacket, untwist the conductor pairs and arrange them in positions for the electrical schematic as shown in Figure 5, Detail B.



CAUTION

IT IS CRITICAL that the conductor pairs DO NOT untwist inside the cable jacket. Ensure that Conductor 6 crosses over Conductors 4 and 5. It is extremely important that the twist for Conductor 6 be maintained as it crosses over top of Conductors 4 and 5. Refer to Figure 5, Detail C.

c. Maintaining the proper orientation of the conductors, trim the conductors evenly — leaving a length, measured from the end of the cable jacket to the tips of the conductors, that meets the dimension given in Figure 5, Detail C.



NOTE

It is recommended to maintain twist on any conductor pair outside the cable jacket if it can be achieved with conductor pairs remaining in position for the electrical schematic.

5. Insert the cable signal conductors into the applicable position of the load bar and the crimped power receptacle contacts into the applicable tower of the load bar. Ensure that the locking lance of each power receptacle contact engages with the tower and that the space between the cable shield (shielded cable) or cable jacket (unshielded cable) and the notch of the load bar meets the dimension given in Figure 3, Detail A.

Shielded Cable Strip Length

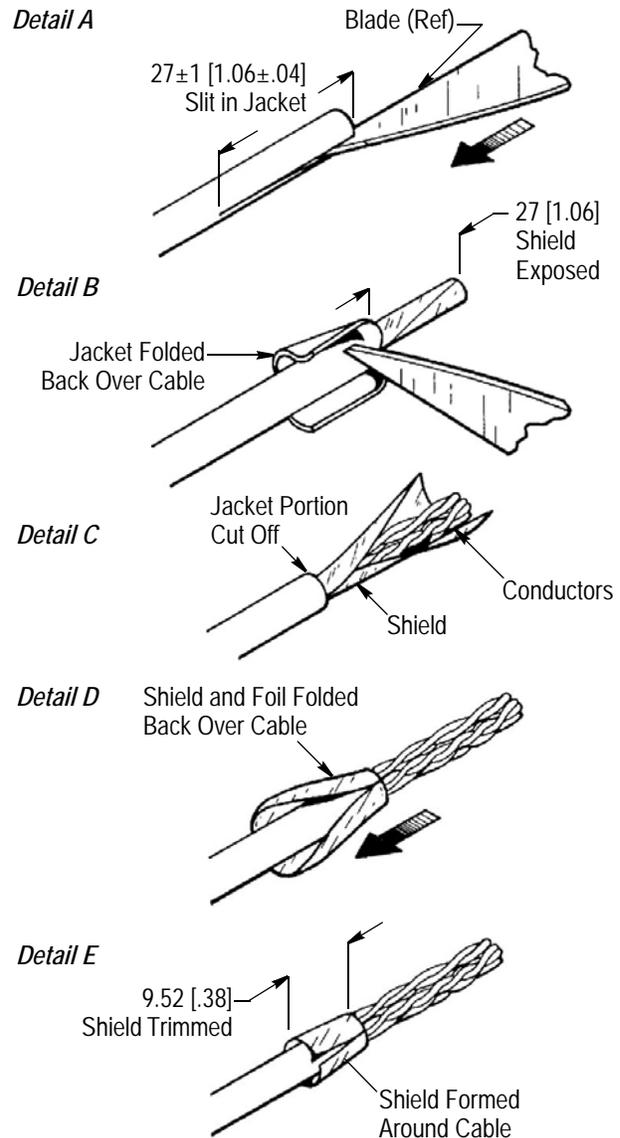


Figure 3

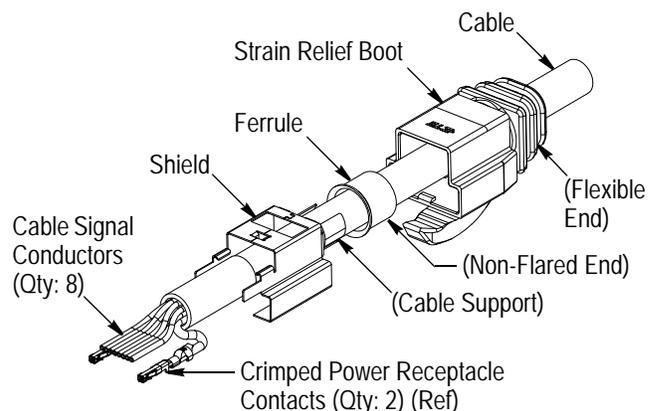


Figure 4

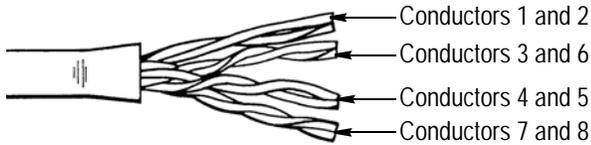


NOTE

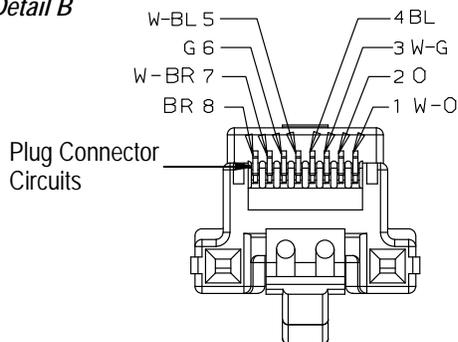
Dress the cable power conductor back over the cable in order to insert the power receptacle contact into the tower.

Cable Signal Conductor Arrangement

Detail A



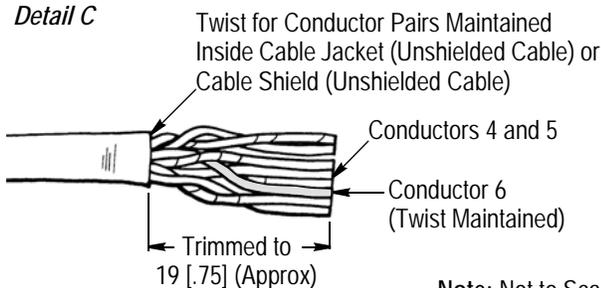
Detail B



CONDUCTOR PAIR NUMBER	CONDUCTOR COLOR CODE (Abbreviation)		CONDUCTOR NUMBER (Electrical Schematic T568C)
	OPTION 1	OPTION 2	
1	White-Blue (W-BL)	Green (G)	5
	Blue (BL) ■	Red (R)	4
2	White-Orange (W-O)	Black (BK)	1
	Orange (O)	Yellow (Y)	2
3	White-Green (W-G)	Blue (BL)	3
	Green (G) ■	Orange (O)	6
4	White-Brown (W-BR)	Brown (BR)	7
	Brown (BR) ■	Slate (S)	8

■ A white marking is acceptable.

Detail C



Note: Not to Scale

Figure 5

6. Trim the cable signal conductors so that they are square and even with the end of the power receptacle contacts. Refer to Figure 6, Detail A.

7. Pull the cable back from the load bar so that the length of the signal conductors, measured from the end of the load bar to the tip of the signal conductors, meets the dimension given in Figure 6, Detail B.

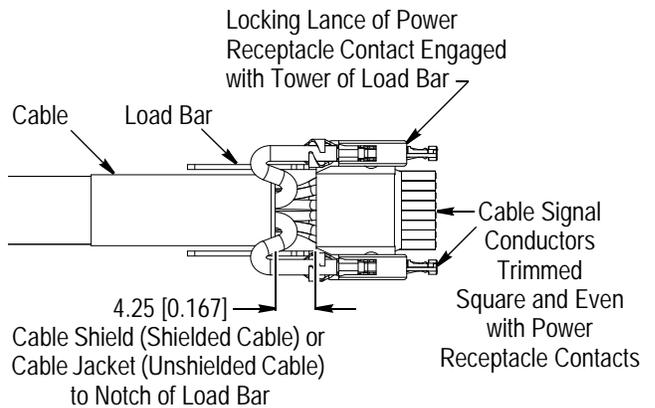
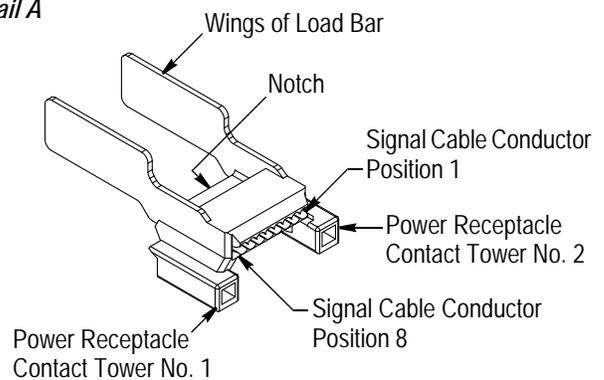


CAUTION

DO NOT allow the signal conductors to extend too far from the load bar; otherwise, the load bar will twist and become deformed when installed onto the plug connector housing.

Cable Signal Conductor and Power Receptacle Contact Insertion

Detail A



Detail B

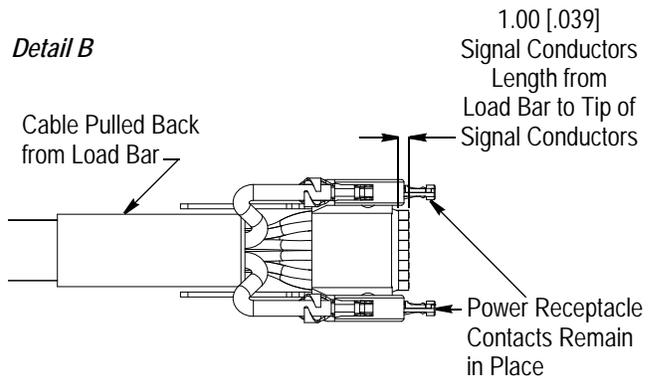


Figure 6

8. Insert the load bar into the housing so that the wings are flush with the back of the housing. Ensure that the signal conductors are bottomed in the wire entry circuits and clearly visible through the front of the housing. See Figure 7.

i **NOTE**
 If the signal conductors are not bottomed in the wire circuits, remove the load bar and re-trim the conductors, then re-insert it into the load bar. If the conductors are too short, they must be re-stripped.

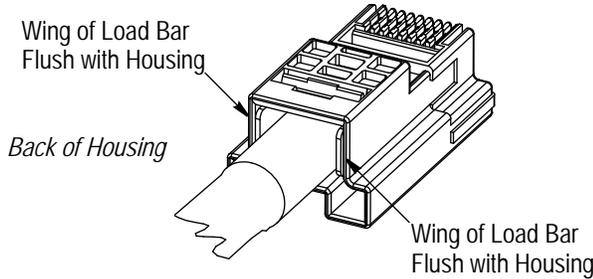


Figure 7

9. Position the plug connector shield over the housing, and the ferrule over the cable support of the plug connector shield. Refer to Figure 8.

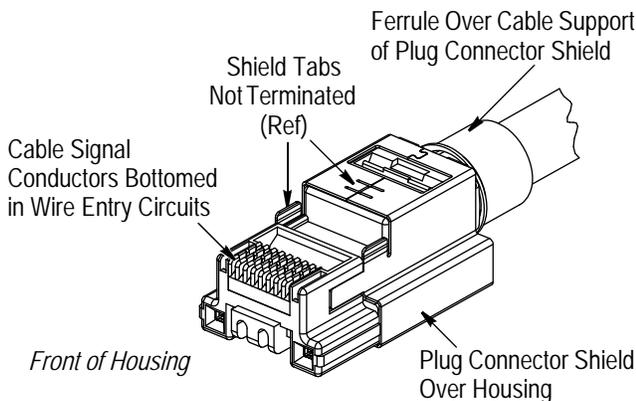


Figure 8

10. Using Crimping Tool 2217400-1, crimp the plug connector according to 408-32098. Inspect the crimp using the following criteria (refer to Figure 9):

- it is preferred that all signal conductors be bottomed against the end of the wire entry circuits; if individual conductors are not completely inserted in the housing, they must be inserted at least past the signal contacts to ensure a proper electrical interface
- all signal contacts are approximately the same height
- the top and side tabs of the plug connector shield are formed tightly to the housing

i **NOTE**
 For detailed crimp inspection requirements, refer to Application Specification 114-32099.

11. Slide the cable boot over the plug connector shield so that latches of the cable boot engage with the openings of the plug connector shield. See Figure 9.

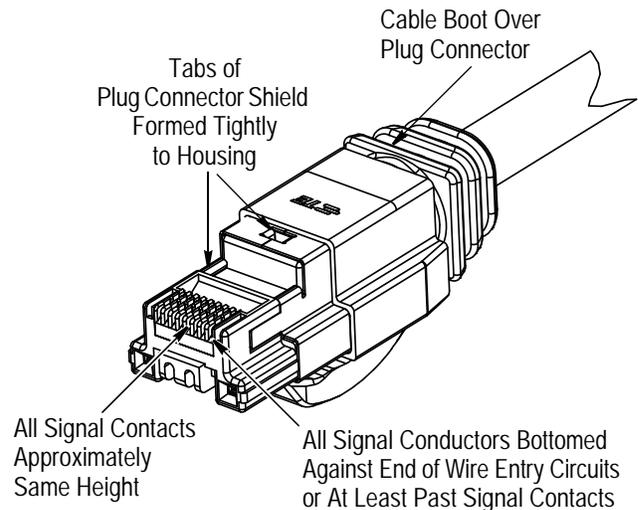


Figure 9

4. MATING

Insert the plug connector into the mating jack until it bottoms. When fully inserted, the plug connector locking latch will engage the jack connector housing. To unmate the connectors, fully depress the plug connector locking latch, and pull them straight apart.

5. REPLACEMENT AND REPAIR

DO NOT use defective or damaged product. The plug connectors cannot be repaired.

To replace a plug connector, cut the cable from the plug connector and re-terminate it onto a new plug connector.

6. REVISION SUMMARY

Revisions to this instruction sheet include:

- Modified table in Figure 1