

Figure 1

## 1. INTRODUCTION

This instruction sheet provides selection data and covers the assembly of SDL plugs and receptacles. Refer to Figure 1. Read these instructions and all referenced material carefully before starting assembly of the plugs or receptacles.

### NOTE



*Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are for reference only and are not drawn to scale.*

Reasons for reissue of this instruction sheet are provided in Section 5, REVISION SUMMARY.

## 2. DESCRIPTION (Figure 1)

The plug is available in 4, 6, 8, and 16 positions for flat or round shielded 7-stranded cable and accept a wire size range of 28 to 24 AWG. The receptacle is available in 4, 6, 8, and 16 positions in either top- or side-entry configuration with or without a ground.

In addition to shielding, the housing of either flat- or round-cable plugs features locking latches, positive

polarization (to prevent the insertion of a plug upside-down in a receptacle), primary strain relief applied to the cable foil (shield), drain wires (providing strain relief on the cable jacket), secondary strain relief for the main cable conductors, and preloaded 1.27 [.050] centerline contacts which are terminated to the conductors using the technique of insulation displacement. Internal or external key slots are letter-coded to ensure that plugs are correctly matched to the receptacles.

In flat-cable plugs, the housing, which is already shielded, is terminated to the flat cable using specific tooling.

In round-cable plugs, the housing subassembly is first terminated to the round cable using specific tooling for housing termination. Top and bottom shielding shells are latched around the housing and a strain relief ferrule is then crimped to the cable outlets of the shells and the cable using specific tooling.

The receptacle features a shielded housing and printed circuit (pc) board tails.

### 3. ASSEMBLY PROCEDURE

#### 3.1. Plug for Flat Cable

1. Select appropriate plug and tooling. Refer to Figure 2.

**NOTE**


Refer to Instruction Sheet 408-9114 for tool crimp height adjustment procedure for flat-cable plugs.

2. Strip  $10.41 \pm 0.25$  [.410  $\pm$  .010] of the outer jacket from the cable exposing the insulated conductors.
3. Fold the cable foil and drain wires back as shown in Figure 2.
4. Refer to the instructional material packaged with the die assembly and hand tool or power unit and die holder assembly, and terminate the cable conductors of the plug.
5. Refer to Paragraph 3.3., and inspect the terminated plug for proper crimp height. For specific inspection requirements, refer to Application Specification 114-2086.

#### 3.2. Plug for Round Cable

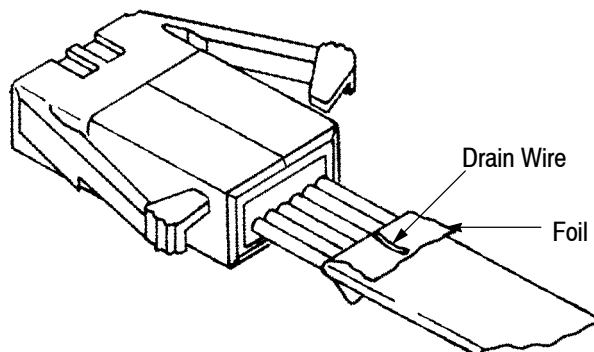
1. Select the appropriate plug housing, top and bottom shielding shells, ferrule, and tooling from Figure 3. If applicable, slide the optional plug boot (small end first) a few inches back from the end of the cable.

**NOTE**


Refer to Instruction Sheet 408-9115 for tool crimp height adjustment procedure for round-cable plugs.

2. Refer to Figure 3 for ferrule orientation, and slide it a few inches back from the end of the cable.
3. Strip the required length of the outer jacket from the cable exposing the colored insulated conductors. Refer to Application Specification 114-2090 for stripping dimensions.
4. Fold the cable foil and drain wires back as shown in Figure 3.
5. Refer to Instruction Sheet 408-9114, and terminate the conductors and plug housing.

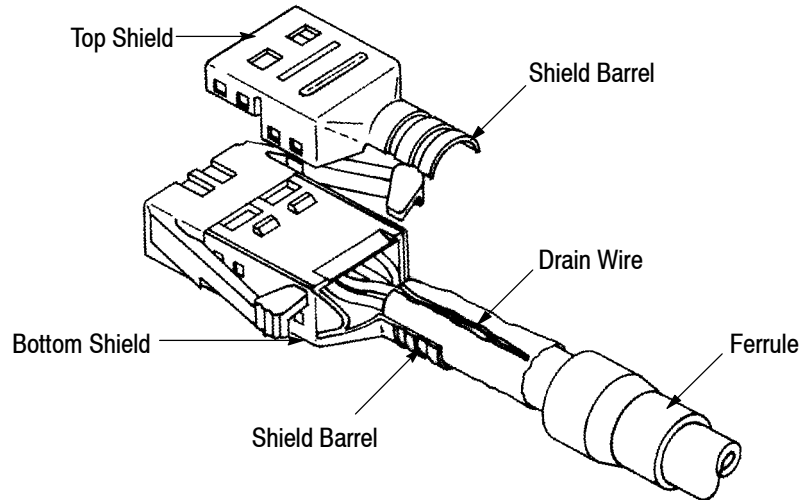
**Flat-Cable SDL Plug**



PLUG		FLAT CABLE		TOOLING	
PART NUMBER*	POSITION	CONDUCTORS	WIRE SIZE (AWG)	DIE ASSEMBLY	POWER UNIT OR HAND TOOL
X-1761184-1	4	4	24	58261-1	Pneumatic Power Unit 312522-1 (With Die Holder 58201-1) or Hand Tool 58194-1
X-1761184-2	6	6		58261-2	
X-1761184-3	8	8		58261-3	
X-1761184-6	16	16		58261-6	
Y-1761187-1	4	4	26 or 28	58261-1	
Y-1761187-3	8	8		58261-3	
Y-1761187-6	16	16		58261-6	

- The X denotes keying number 1, 3, 4, or 5. The Y denotes keying number 1 or 5.  
Call PRODUCT INFORMATION at the number at the bottom of page 1 for available keying.

*Figure 2*

**Round-Cable Plug**

PLUG PART NUMBER•	WIRE SIZE (AWG)	PLUG PART NUMBER•	WIRE SIZE (AWG)	PLUG			TOOLING	
				POSITION	TOP SHIELD	BOTTOM SHIELD	DIE ASSEMBLY	POWER UNIT OR HAND TOOL
X-520424-1	24	X-520532-1	28-26	4	520460-1	520461-1	58195-1	Pneumatic Power Unit 312522-1 (With Die Holder 58201-1) or Hand Tool 58194-1
X-520424-2		X-520532-2		6	520462-1	520463-1	58195-2	
X-520424-3		X-520532-3		8	520464-1	520465-1	58195-3	
X-520424-6		X-520532-6		16	520466-1	520467-1	58195-6	

FERRULE			CABLE		TOOLING	
PART NUMBER	POSITION	OPTIONAL PLUG BOOT	OUTSIDE INSULATION DIAMETER RANGE		DIE ASSEMBLY	POWER UNIT OR HAND TOOL
520432-1	4	520851-1	3.73-4.42 [.147-.174]		58166-1	Pneumatic Power Unit 69365-2 (With Die Holder 58201-1) or Hand Tool 69710-1
520433-1	4	520851-1	4.72-5.08 [.186-.200]		58166-2	
—	6	—	4.27-5.08 [.168-.200]		—	
520435-1	6	520852-1	5.36-5.72 [.211-.225]		1-58166-1	
520436-1	8	520853-1	4.55-5.38 [.179-.212]		58166-5	
520437-1	8	520853-1	5.69-6.20 [.224-.244]		1-58166-2	
520440-1	16	520854-1	5.82-6.91 [.229-.272]		58166-7	
520441-1	16	520854-1	7.32-7.82 [.288-.308]		1-58166-3	

• The X denotes keying number 1, 3, or 5. Call PRODUCT INFORMATION at the number at the bottom of page 1 for available keying.

*Figure 3*

6. Refer to Paragraph 3.3., and inspect the terminated plug for proper crimp height. For specific inspection requirements, refer to Application Specification 114-2090.

7. Snap the top and bottom shielding shells together around the plug housing subassembly to establish shielding.

8. Fold the foil and drain wire over the cable outlet of the shield assembly, and slide the ferrule as far forward as possible over the cable outlet of the shield assembly.

9. Refer to 408-9039, and crimp the ferrule to the cable and plug.

10. If applicable, slide the optional plug boot over the assembly.

### 3.3. Crimp Height Inspection

Proper crimp height of the terminated plug is given in Figure 4.

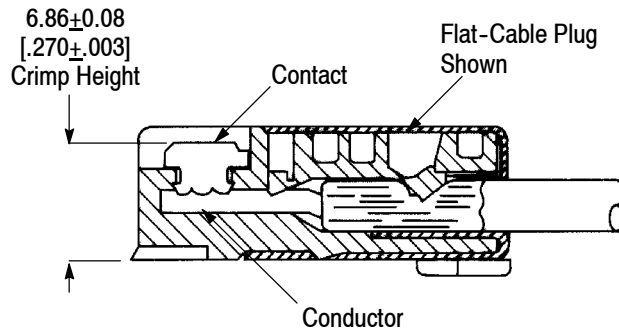


Figure 4

### 3.4. Mounting the Receptacle

Mount the receptacle according to 114-2081.

### 4. MATING PLUG AND RECEPTACLE

The keying letter codes of mating plugs and receptacles must be identical. Plugs and receptacles with dissimilar keying letter codes will not mate without the use of excessive force. When mating a plug to a receptacle, ensure that the two plastic plug latches are engaged by pulling lightly on the plug after mating.

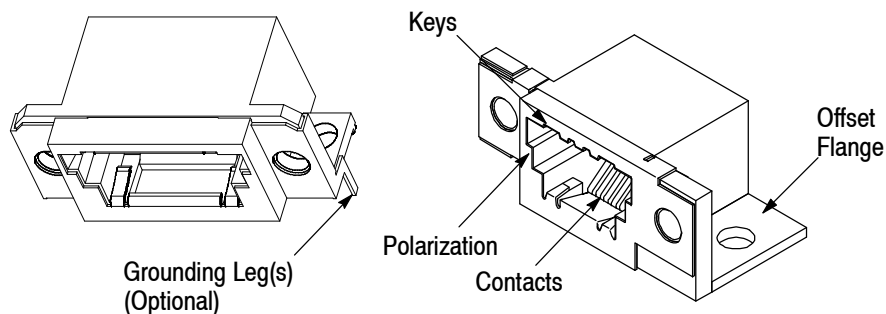
To remove a plug from a receptacle, grasp the plug by squeezing the plastic plug latches against the body of the plug and pull it straight out.

### 5. REVISION SUMMARY

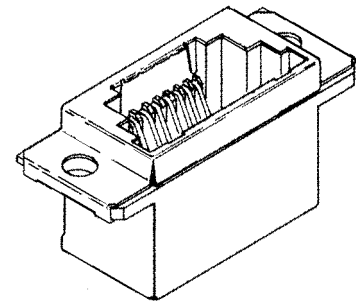
Revisions to this instruction sheet include:

- Updated instruction sheet to corporate requirements
- Modified 5th paragraph of Section 2
- Replaced plug part numbers, added plug part numbers, and modified reference bullet in Figure 2
- Replaced dash with plug part number and modified reference bullet in Figure 3
- Replaced all part numbers in Figure 5

*Side-Entry Receptacle (Typ)*



*Top-Entry Receptacle (Typ)*



POSITION	RECEPTACLE PART NUMBER■			
	SIDE-ENTRY			TOP-ENTRY (Without Ground)
	WITHOUT GROUND	WITH GROUND	WITH OFFSET FLANGE	
4	X-1761182-1	X-1761185-1	X-1761186-1	X-1761183-1
6	—	X-1761185-2	—	X-1761183-2
8	—	X-1761185-3	X-1761186-3	X-1761183-3
16	X-1761182-6	X-1761185-6	X-1761186-6	X-1761183-6

■ Prefix number of part numbers denotes keying configuration. For example, 1-1761182-1 has keying letter code A.  
Call PRODUCT INFORMATION at the number at the bottom of page 1 for available keying.

Figure 5