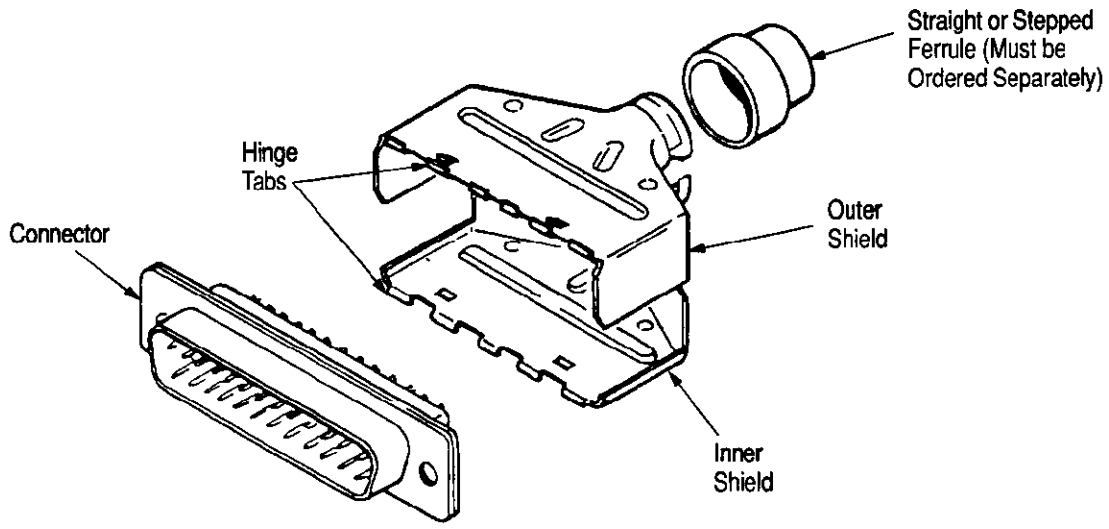

SHIELDING HARDWARE KIT			FERRULE■	CABLE DIAMETER RANGE (mm [in.])	CRIMPING DIE ASSEMBLY•	TOOLING•
CONTACT POSITION	PLUG	RECEPTACLE				
9	748038–[ ]	748039–[ ]	747579–8	4.19–4.83 [.165–.190]	543424–3 (408–9507)	Hand Crimping Tool 543344–1 (408–9315) or 2700–lb Pneumatic Power Unit 312522–3 (409–5843) fitted with Die Holder 58449–1 (408–9721)
				4.83–5.51 [.190–.217]	543424–2 (408–9507)	
				5.51–6.25 [.217–.246]	543424–8 (408–9507)	
15	748040–[ ]	748041–[ ]	1–747580–0	5.84–6.73 [.230–.265]	543425–2 (408–9508)	
			1–747579–0	6.25–7.21 [.246–.284]	543424–1 (408–9507)	
				7.21–8.23 [.284–.324]	543424–7 (408–9507)	
			1–747579–1	8.23–9.52 [.324–.375]	543424–6 (408–9507)	
25	748042–[ ]	748043–[ ]	1–747579–2	9.52–11.05 [.375–.435]	543424–5 (408–9507)	
			1–747579–4	10.16–11.56 [.400–.455]	543424–4 (408–9507)	

■ Must be ordered separately from shielding hardware kit.
• Instruction material shown in parenthesis.

Figure 1

1. INTRODUCTION

This instruction sheet covers soldering and assembly procedures for the AMP* shielding hardware kits with AMPLIMITE HD–20 solder contact connectors listed in Figure 1. The kits are used to construct an RFI/EMI–shielded connector assembly.

Read these instructions, and all referenced material, before assembling the kits. Detailed operating procedures are provided in the instructions packaged with the crimping die assemblies and tooling.

NOTE *Dimensions on this sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.*

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

Each kit includes an AMPLIMITE HD–20 solder contact connector, an inner shield, and an outer shield.

The connector (plug or receptacle) features non–removable solder contacts which are oriented for ease of soldering. The connector also features slots on the rear of the metal shell which are keyed to accept hinge tabs of the corresponding shields.

The metal shields are designed to hinge on the rear of the metal shell of the connector. The two parts of

the shield assembly are designed as inner and outer due to their mating characteristics. The inner shield always hinges on the shorter side of the keystone configuration and the outer shield hinges on the longer side. The inner shield locks into the outer shield with a pair of latching tabs.

An appropriate ferrule must be ordered separately. It is crimped by tooling fitted with a die assembly and is used to secure the shield assembly and cable. The larger diameter end of the ferrule fits onto the braid crimp area of the shield assembly, and the smaller diameter end fits over the cable jacket.

3. PREPARATION

The solder contacts will accept solid or stranded wire with a maximum individual wire size of 20 AWG. Multiple stranded–wire jumpers that equal wire size 18 AWG or two 22 AWG wires may be used. Prepare the cable as follows:

1. Obtain the connector and cable of the type and size required for your application.

2. Slide the appropriate ferrule, smaller diameter end first, onto the cable. See Figure 2.

CAUTION *The ferrule MUST be placed on the cable before terminating the connector and installing the metal shields. The metal shields cannot be crimped onto the cable without using a ferrule.*

3. Strip the jacket to dimension shown in Figure 2. Then fold braid back over cable jacket.

NOTE *Braid may be trimmed to 12.7 mm [.50 in.] now, or trimmed after ferrule crimping.*

4. Strip the insulation from end of each individual wire to the dimension shown in Figure 2. Tin the leads if required.

4. CONTACT SOLDERING PROCEDURE

The duplex tin/lead–plated solder cup of the contact readily accepts tinned leads and securely strain–relieves the wire(s) when properly soldered.

NOTE *The American National Standards Institute Standards for Soldering Electronic Interconnections (ANSI/IPC–S–185A) is recommended for use in establishing soldering quality guidelines.*

The soldering procedure is as follows:

1. Ensure that surfaces to be soldered are clean and free of any contaminants that may inhibit solderability.

2. Obtain rosin flux, 40/60 alloy solder, and a low–wattage soldering iron.

Cable Stripping Dimensions

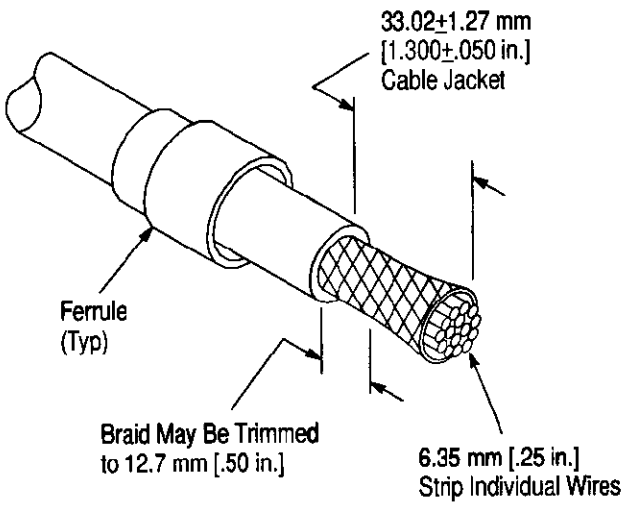

Figure 2

3. Coat the stripped portion of each wire with the flux, and insert the wire into the solder cup of the desired contact until the conductor of the wire bottoms in the solder cup cavity.

4. Heat the solder cup of the contact with the soldering iron and allow the solder to flow into the cup until the cavity is filled (but not overflowing) with solder.

5. Continue to solder wires until all desired contact positions are terminated.

6. Clean the soldered connections with a suitable alcohol/water rinse to remove flux and solder residue. Allow the terminated connector assembly to dry thoroughly.

5. SHIELD ASSEMBLY PROCEDURE

1. Measure the terminated length of the assembly as shown in Figure 3.

CAUTION *The length must be as indicated in Figure 3 and must conform to the configuration as shown in the illustration; otherwise, wires may be pinched between the shields when they are closed. The proper length and configuration may be achieved by twisting (and thereby shortening) the wire bundle after solder termination; however, make certain that no undue stress is placed on the soldered contacts during the procedure. The MAXIMUM amount that the bundle may be twisted to achieve the desired length is 90°.*

2. Insert the hinge tabs of the inner shield into the corresponding slots of the connector and rotate the shield 90° toward the cable. See Figure 4.

3. Insert the hinge tabs of the outer shield into the corresponding slots of the connector. See Figure 4.

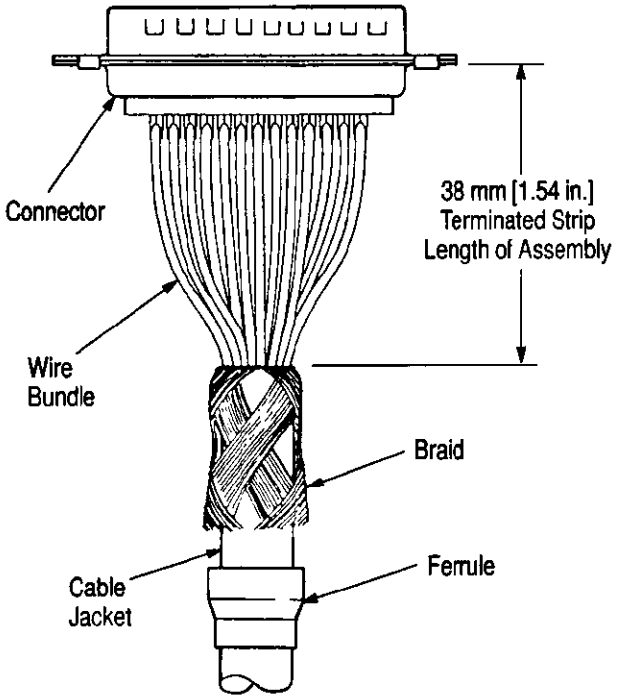

Figure 3

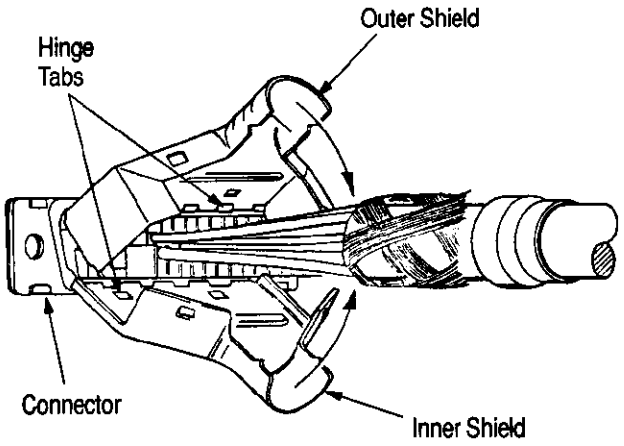

Figure 4

4. Make sure that the inner shield is in its final position and close the outer shield until it latches onto the inner shield with the two latching tabs fully engaged. See Figure 5.

CAUTION *Take care not to pinch any individual wires between the shields.*

5. Slide the braid over the braid crimp area of the mated shields. See Figure 5.

6. Slide ferrule forward until it is over the braid and butted against the shield assembly.

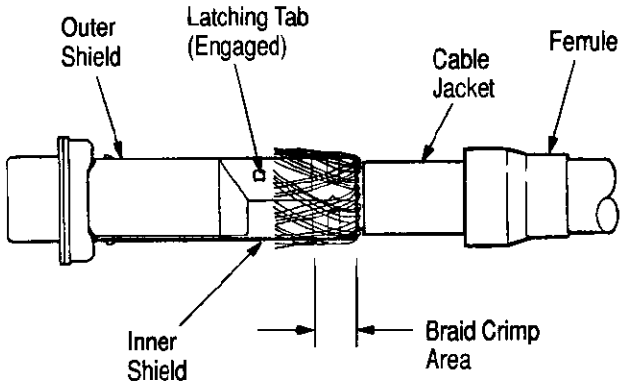

Figure 5

6. CRIMPING THE FERRULE

1. Refer to Figure 1 and determine the crimping die assembly and tooling to be used for crimping the ferrule.

2. Crimp the ferrule onto the shield assembly and cable.

3. Examine the terminated assembly according to Figure 6 and, if necessary, trim excess cable braid from the braid crimp area.

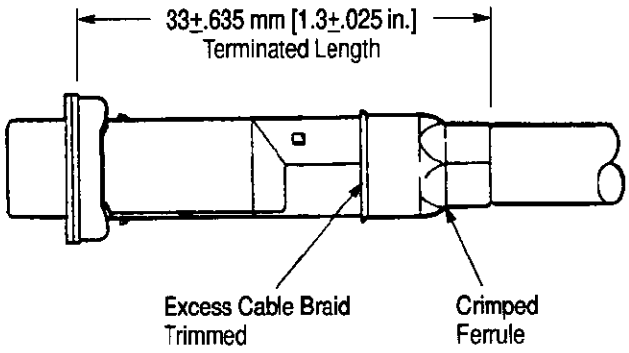

Figure 6

7. REVISION SUMMARY

Revisions to this instruction sheet include:

Per EC 0990–1010–96:

- Removed obsolete shielding hardware kits for contact position 37
- Added ferrule part numbers and corresponding data to Figure 1
- Changed pneumatic power unit part number, die holder part number, and instruction document references in Figure 1
- Modified Figure 2