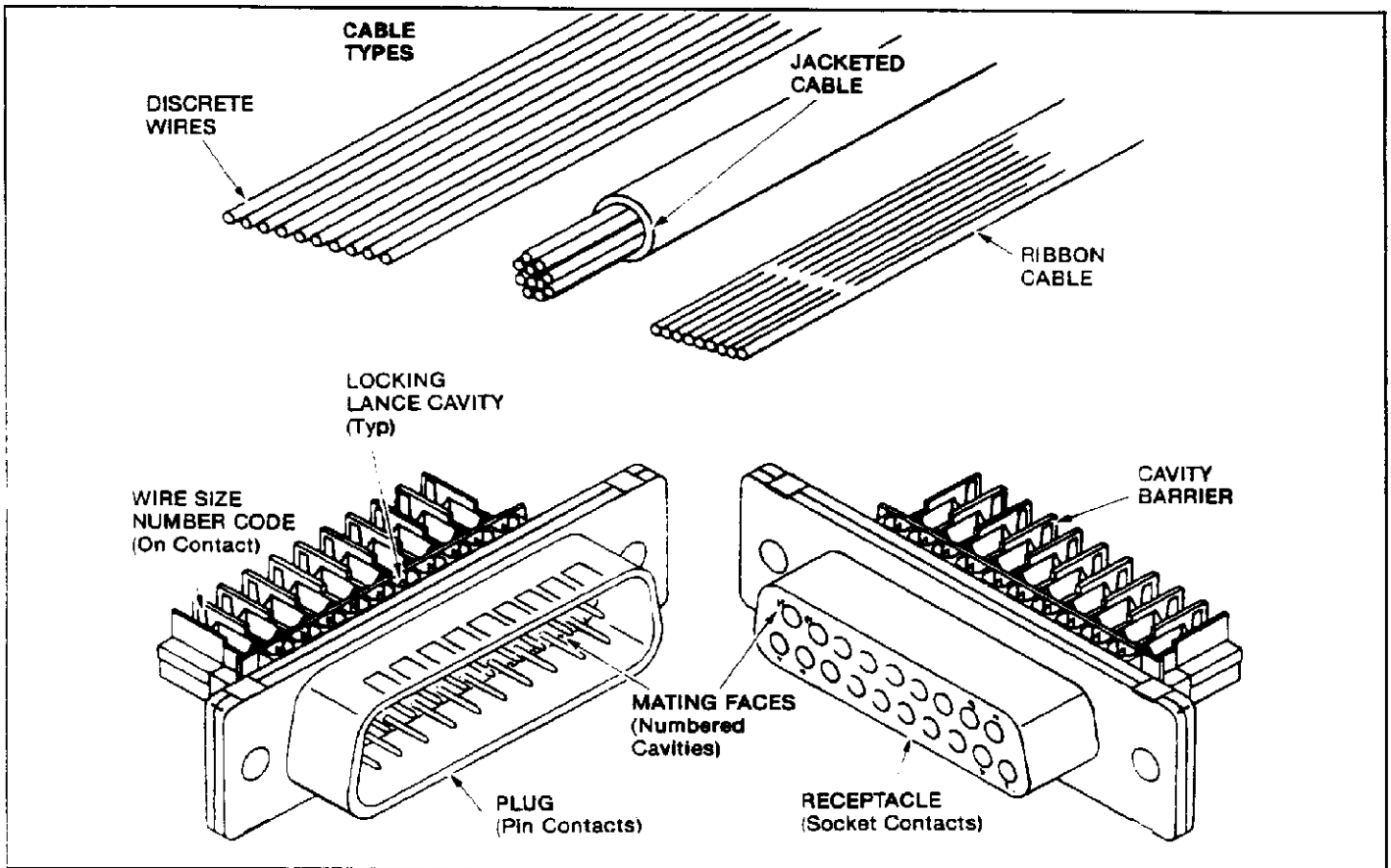
AMP INCORPORATED
Harrisburg, Pa. 17105

CUSTOMER HOTLINE 1 800 722-1111

AMP* AMPLIMITE* HIGH-DENSITY (HDE-20) INSULATION DISPLACEMENT METAL SHELL CONNECTORS

Instruction Sheet
IS 6645
RELEASED 2-4-88

REDUCED FOR PACKAGING



WIRE SIZE			CONNECTOR DESCRIPTION				
COND (AWG)	INSUL DIA	NO. CODE	TYPE	9-POSITION	15-POSITION	25-POSITION	37-POSITION
30 thru 26	.060 Max	1	Receptacle	745491-1 & -4	745493-1 & -4	745495-1 & -4	745497-1 & -4
			Plug	745492-1 & -4	745494-1 & -4	745496-1 & -4	745498-1 & -4
26 thru 22	.060 Max	2	Receptacle	745491-2 & -5	745493-2 & -5	745495-2 & -5	745497-2 & -5
			Plug	745492-2 & -5	745494-2 & -5	745496-2 & -5	745498-2 & -5
22 thru 20	.060 Max	3	Receptacle	745491-3 & -6	745493-3 & -6	745495-3 & -6	745497-3 & -6
			Plug	745492-3 & -6	745494-3 & -6	745496-3 & -6	745498-3 & -6

Fig. 1

1. INTRODUCTION

This instruction sheet (IS) covers selection and assembly of the AMPLIMITE HDE-20 Insulation Displacement Metal Shell Connectors listed in Figure 1. Read these instructions thoroughly before starting assembly.

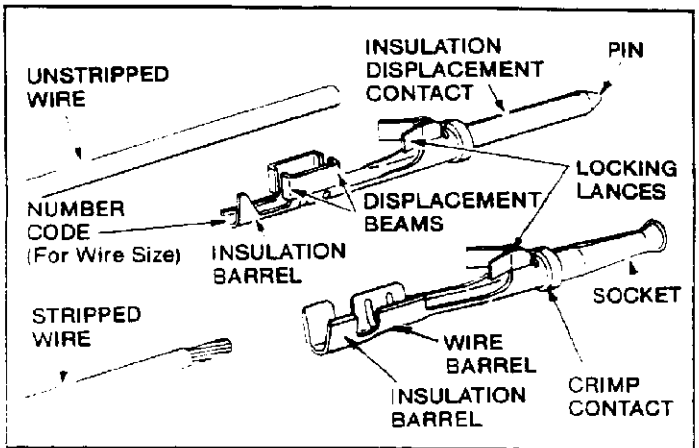
NOTE *All dimensions on this sheet are in inches unless otherwise stated.*

2. DESCRIPTION

Plug and receptacle connectors are available in 9, 15, 25, and 37 circuit positions. They are designed to terminate discrete wire, jacketed cable, and presilt ribbon cable with an insulation thickness that *must not exceed .015 in. at any point.* The conductors can be solid or stranded (7 strands) ranging from 30 to 20 AWG. Each connector consists of a housing with preloaded, insulation displacement contacts.

The housings feature easily accessible contacts, cavity barriers, and contact cavities which are numerically identified on the mating face, and have an internal design that accepts insulation displacement and crimp-type contacts. (Crimp contacts are recommended for two-wire circuits, drain wire termination, service, etc.)

Primary contacts are the insulation displacement type which are pre-assembled in the connectors listed in Figure 1. They feature two locking lances,



CONTACT				
TYPE	WIRE SIZE	NUMBER CODE	PART NO.	STYLE
Insulation Displacement	30 thru 26	1	745930	Pin
			745931	Skt
	26 thru 22	2	745888	Pin
			745890	Skt
	22 thru 20	3	745887	Pin
			745889	Skt
Crimp Type	26 thru 22	4	745266	Pin
			745269	Skt
	22 thru 18	3	745267	Pin
			745270	Skt

Fig. 2

two insulation displacement beams, a single wraparound (strain relief) insulation barrel, and a number code inside the insulation barrel that indicates the wire size to be used in the contact. See Figure 2.

Secondary contacts are crimp type contacts designed for discrete wire applications where more than one wire is required per contact, or where the bare drain wire/braid needs to be terminated. Secondary contacts feature two locking lances, an AMP F-crimp wire barrel, and a wraparound insulation barrel. See Figure 2.

Accessories for these connectors consist of various cable clamp assemblies and connector hardware and are supplied in kits.

The instructions for the selection and assembly of the various accessories are packaged with each kit. For additional information, consult your local AMP representative.

3. TERMINATING TOOLS (Figure 3)

Insulation displacement terminating tools hold the connector in place, insert wire into the insulation displacement beams, and form the insulation barrel around the insulation of the wire. The crimp terminating tools hold the contacts in position for wire insertion and termination, and form the wire and insulation barrel around the wire. There are manual and power assist tools for various types of wire and production requirements. Consult your local AMP representative for assistance in selecting tooling to meet your specific needs.

4. TERMINATING PROCEDURE

Determine the size of the wire you are terminating and proceed as follows:

1. Select connector/contacts coded for your wire size. See Figure 1.
2. Select tooling with the aid of the chart in Figure 3.
3. Position the wire in the contact according to the instructions packaged with the tool.
4. Make the termination(s) and inspect to be sure all wires are properly inserted per AMP Application Specification 114-40002 for insulation displacement contacts, and 114-40003 for crimp contacts.
5. If specified by your application requirements, attach cable clamp assembly and hardware according to the instructions packaged with the item.

5. EXTRACTION/INSERTION OF CONTACTS

AMP Extraction/Insertion Tool 91232-1 is available to extract and insert contacts into the connectors. Refer to AMP Instruction Sheet IS 6631 for procedures.

CONTACT TYPE	WIRE SIZE (AWG) +	PART NO. APPLICATION TOOLING	DESCRIPTION	MAXIMUM TERMINATIONS PER CYCLE	USED WITH
Insulation Displacement	30 thru 20	58063-1 (Head) 58074-1 (Handle)	Manual Pistol Grip Tool	1	—
		58063-1 (Head) 58075-1 (Handle)	Pneumatic Pistol Grip Tool		
		231297-1	CHAMPOMATOR * Machine (90° Termination)	2	Control Module No. 231673-1
		231298-1	CHAMPOMATOR * Machine (180° Termination)		
		91255-1 & 91255-2	Mass Termination Tool (Manual)	19	Manual Unit No. 91085-2
		91262-1	Mass Termination Tool (Pneumatic)		Pneumatic Unit No. 91112-3
Crimp	26 thru 22	90398-1	Hand Crimping Tool	1	—
	22 thru 18	90399-1	Hand Crimping Tool		
	26 thru 22	567179-2	Miniature Applicator		AMP-O-Lectric * Machine No. 565436-5
	22 thru 18	567180-2	Miniature Applicator		

Fig. 3