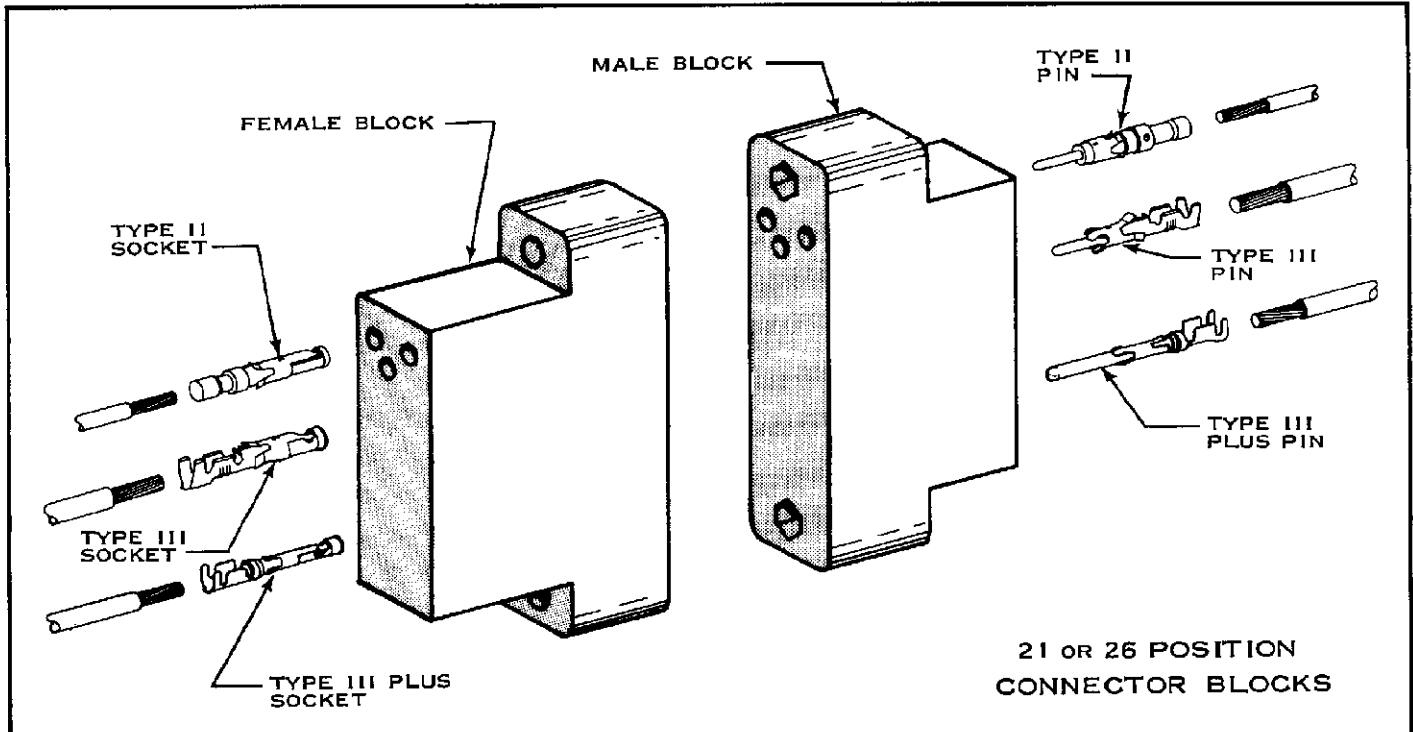


CONNECTOR PRODUCTS
DIVISION



NUMBER OF POSITIONS	FEMALE BLOCK NUMBER	MALE BLOCK NUMBER	TYPE OF COMBINATION
21	201300-□	201299-□	M-SM
26	200512-□	200513-□	M-SM
		201359-□	M-DM

Fig. 1

1. This Instruction Sheet covers selection and use of A-MP 21 & 26 Position Series "M" Connector Blocks and the Contacts and Accessories which are used with them. Each Accessory covered is especially designed for these Connectors and may be used with or without other Accessories. Read these instructions carefully before assembling the Connector.

2. CONNECTOR BLOCK SELECTION

- (a) Select proper Male and Female Connector Blocks from Figure 1.
- (b) The M-SM Combination consists of a Shallow Male Block and a Female Block and uses Pins in the Male Block and Sockets in the Female Block.
- (c) A Deep Male Block and a Female Block make up the M-DM Combination. Sockets or Pins may be used in either Block.

3. CONTACT SELECTION & CRIMPING

A-MP Type II, III or III Plus Pin and Socket Contacts are used in Series "M" Connectors.

- (a) Select proper Contacts from AMP Instruction Sheet No. 1379, which is packaged with these Connectors.
- (b) Crimp Contacts using the Tools and instructions referenced on Instruction Sheet No. 1379.

4. ENGAGEMENT ACCESSORIES

Each of the following types of Accessories affects the engagement of a pair of Connector Blocks.

(a) Guide Pins and Sockets

Guide Pins and Sockets perform three functions. They align Connector Blocks during engagement to prevent damage to improperly aligned Contacts, they provide a means of polarizing a mated pair of Connector Blocks, and they can be used to attach other Accessories to Connectors. Select Guide Pins and Sockets for your application from Figure 2. The Instruction Sheets listed in Figure 2 will show you how to use the Guide Pins and Sockets.

GUIDE PIN	GUIDE SOCKET	INSTRUCTION SHEET NO.
200389-□	200390-□	7054
201402-□	201399-□	

Fig. 2

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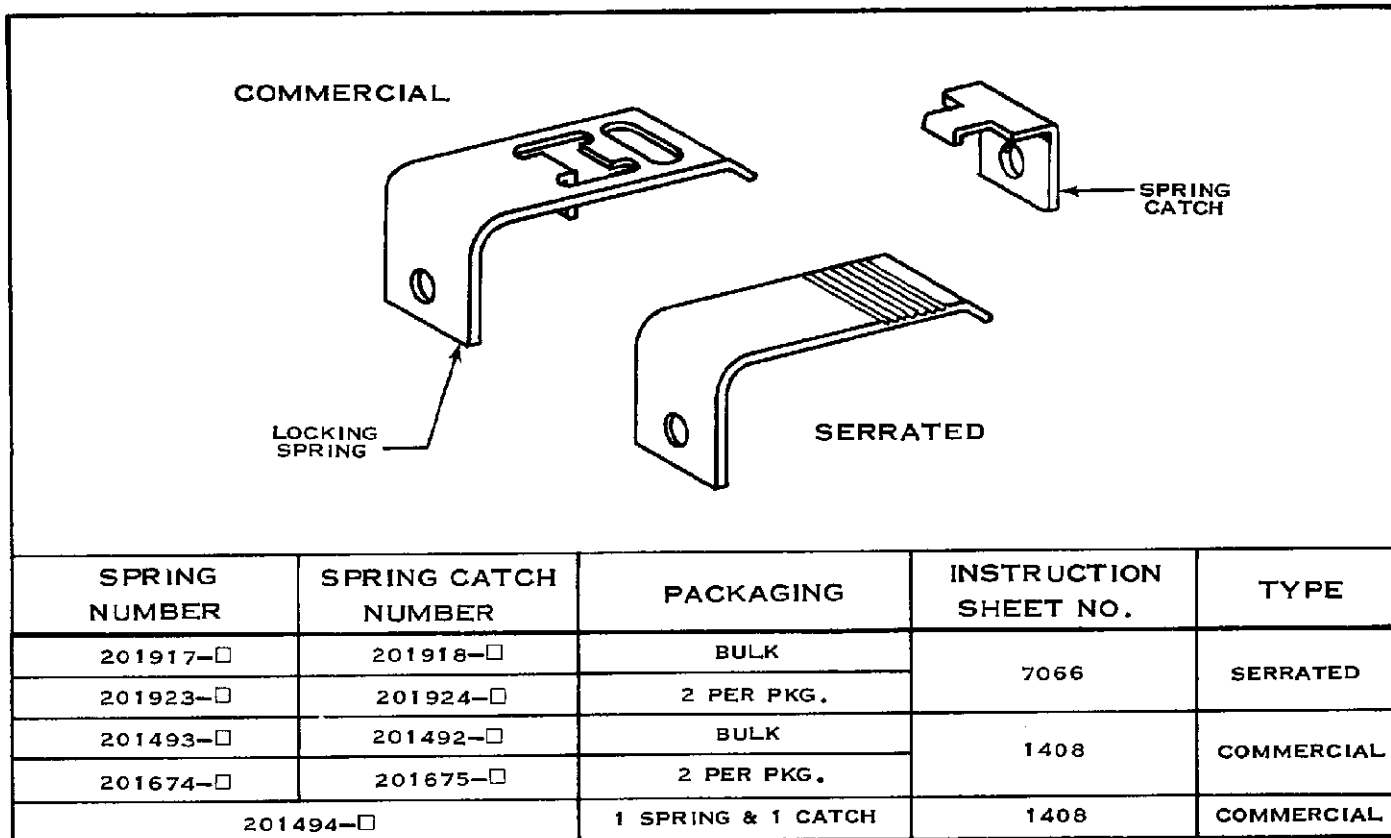


Fig. 3

(b) Locking Spring Assemblies

These items lock mated Connector Blocks together. Guide Assemblies should be used with them. The two available styles are Commercial and Serrated. The Serrated Assembly, because it has more than one locking position, can compensate for any play in the mated Connector Assembly. Use the chart in Figure 3 to select Locking Spring Assemblies and the proper Instruction Sheet for each Assembly. Locking Springs may be used with all other Accessories except Jackscrews and Two-Piece Shield and Cable Clamps.

(c) Jackscrews

Jackscrews help guide Connector Blocks into proper position prior to engagement, decrease the effort needed to engage the Blocks, and lock the mated Blocks together. Two types are available - Fixed and Turnable - and one of each type is generally used in a mated pair. Fixed Jackscrews must mate with Turnable Jackscrews, but two Turnable Jackscrews can mate with each other and are often used in this manner in applications in which the Connector Blocks are free-hanging. Jackscrews may be used with any other Accessory except One-Piece Shields, Center Guide Pins and Sockets, and Locking Springs. Figure 4 lists the Jackscrews by type and number and shows the uses for each type. Refer to AMP Instruction Sheet No. 1189 packaged with the Jackscrews.

(d) Keying Plug

When Keying Plug No. 200821-□ (see AMP Instruction Sheet No. 1340) is inserted into a Contact Cavity in a Connector Block, this Block can be mated only with another Connector Block in which the opposite Cavity has been left vacant to accept the Plug. See Figure 5.

5. PROTECTIVE ACCESSORIES

Each of the following Accessories serves to protect the Connector Blocks, Contacts and/or Wires.

(a) Strain Relief Clamps

As their name implies, Strain Relief Clamps relieve strain on the Contacts caused by the weight of free-hanging Wires. All Strain Relief Clamps may be used for both 90° and 180° Cable Outlets. They are available with either Flat Clamp Plates or Fitted Clamp Plates. The latter is recommended for use with Jacketed Cables for which they provide better retention than do the Flat Plates. When assembling the Clamp, be sure to leave enough slack in the Wires between the Clamp and Block to allow the Contacts to float. In this way the Contacts can align themselves during engagement. Figure 6 lists the Strain Relief Clamps and Instruction Sheets available for these Connectors.

(b) Shield and Cable Clamps

Hereafter referred to as Shields, these Accessories protect the Wires which protrude from the rear of the Connector Block, and relieve strain on the Contacts caused by the weight of free-hanging Wires. Two basic types are available - One-Piece for use with Guide Assemblies and Locking Springs and Two-Piece for use with Jackscrews. One-Piece Shields can be supplied for either 90° or 180° Cable Outlets and both types are available with or without elongated sides for Pin protection. See Para. 5 (c). When assembling the Cable Clamp on the Shield, use the precautions outlined in Para. 5 (a). Shields and their accompanying instructions are listed in Figure 7.

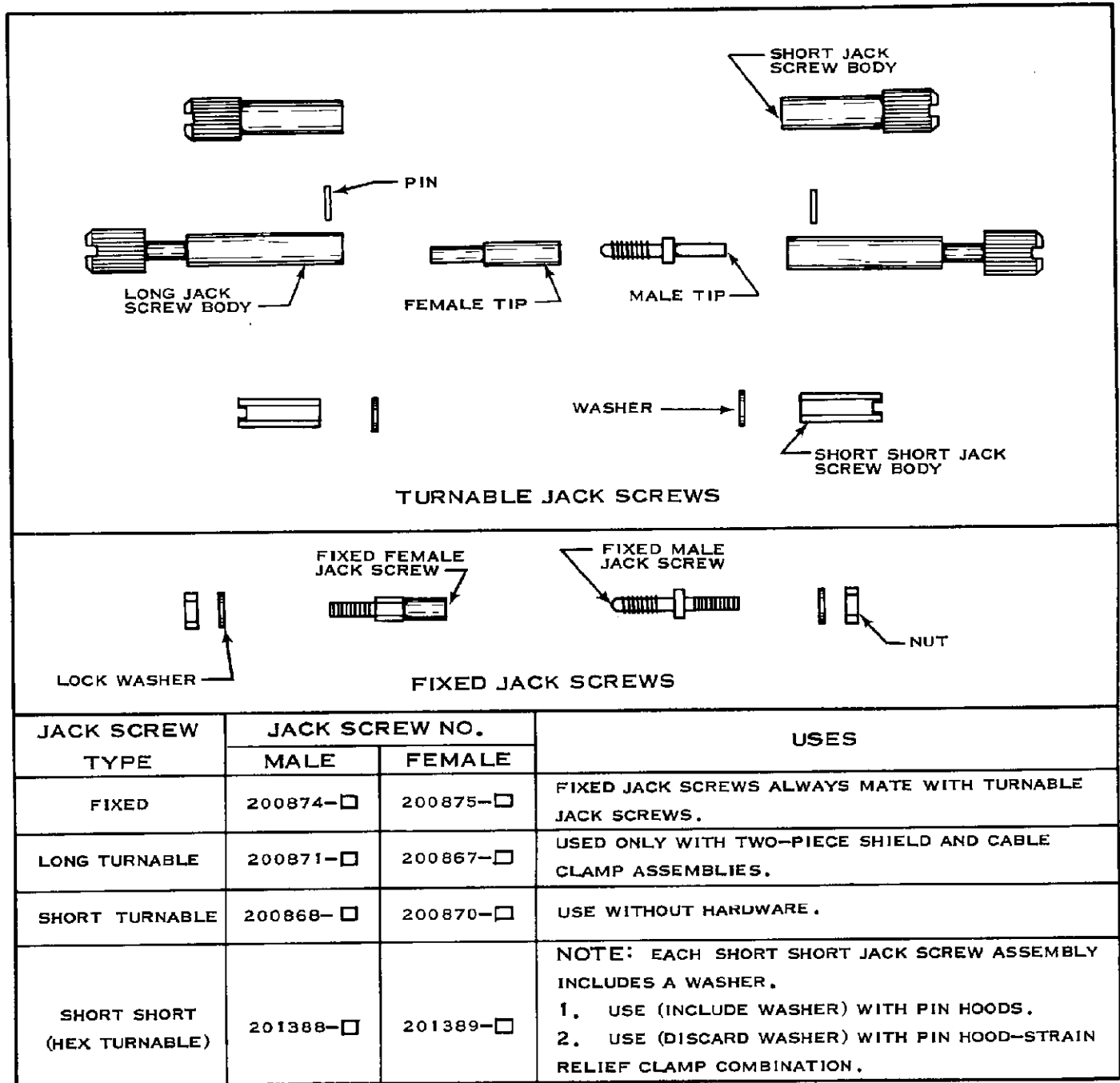


Fig. 4

(c) Pin Hoods

Pin Hoods protect Pin Contacts where they protrude from the Connector Block. Two basic styles may be had - Open End for use with Locking Springs and Closed End for use with Jackscrews. The Open End style can also be supplied with an integral Mounting Bracket which allows the user to mount all Accessories to the Block before panel-mounting. When Pin protection is needed on both Blocks in a Connector, use a Pin Hood on one Block and a Shield with long sides on the other (see Para. 5 (b) and Figure 7). Figure 8 lists the Pin Hoods and proper Instruction Sheets for these items. The instructions for the Pin Hood-Mounting Bracket show the proper

Panel Cutout Dimensions to use with these parts.

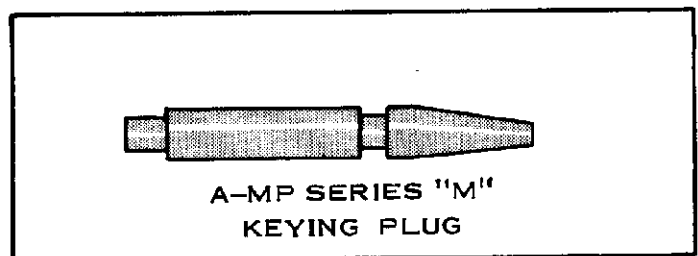


Fig. 5

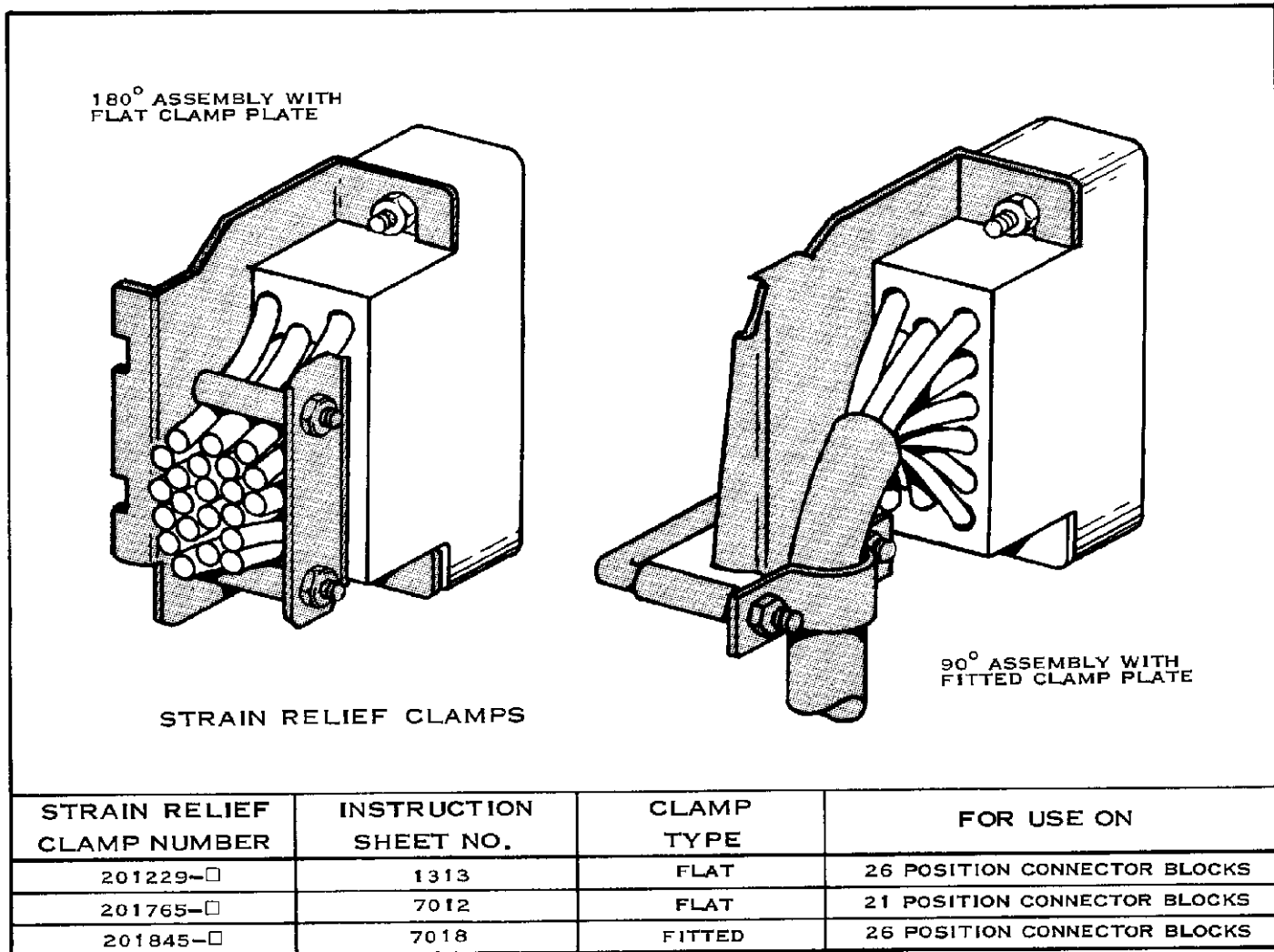


Fig. 6

6. CONNECTOR ASSEMBLY (SEE FIGURE 9)

The following steps will show you in what sequence the component parts of the Connector Assembly must be attached to the Connector Block. Bear in mind that some of the items in the sequence will not pertain to your application, but are listed only because they can be used in other applications.

(a) Place Pin Hood and/or One-Piece Shield over end of Wires before inserting Contacts.

(b) Insert Contacts into Connector by pushing Contact all the way into Cavity in Connector Block. Pull back lightly on Wire to make sure Contact is locked in place. When inserting Contacts crimped to small, flexible Wire, use A-MP Insertion Tool No. 91002.

(c) If you wish to use Turnable Jackscrews with a Pin Hood and/or Strain Relief Clamp, use the following procedure to attach Jackscrews to Connector Block:

(1) Place Pin Hood and/or Strain Relief Clamp against Block.

(2) Insert Jackscrew Tip into front of Block so it protrudes thru the mounting hole in the Pin Hood and/or Strain Relief Clamp.

(3) Slide Jackscrew Body over Jackscrew Tip and assemble them according to the instructions packaged with the Jackscrews.

(d) If you wish to use Turnable Jackscrews with a Two-Piece Shield:

(1) Attach Jackscrews to Block according to instructions packaged with Jackscrews.

(2) Attach Shield to Block according to instructions packaged with Shield.

(e) If you wish to use Locking Springs with a Pin Hood, One-Piece Shield and/or Strain Relief Clamp, use the following procedure:

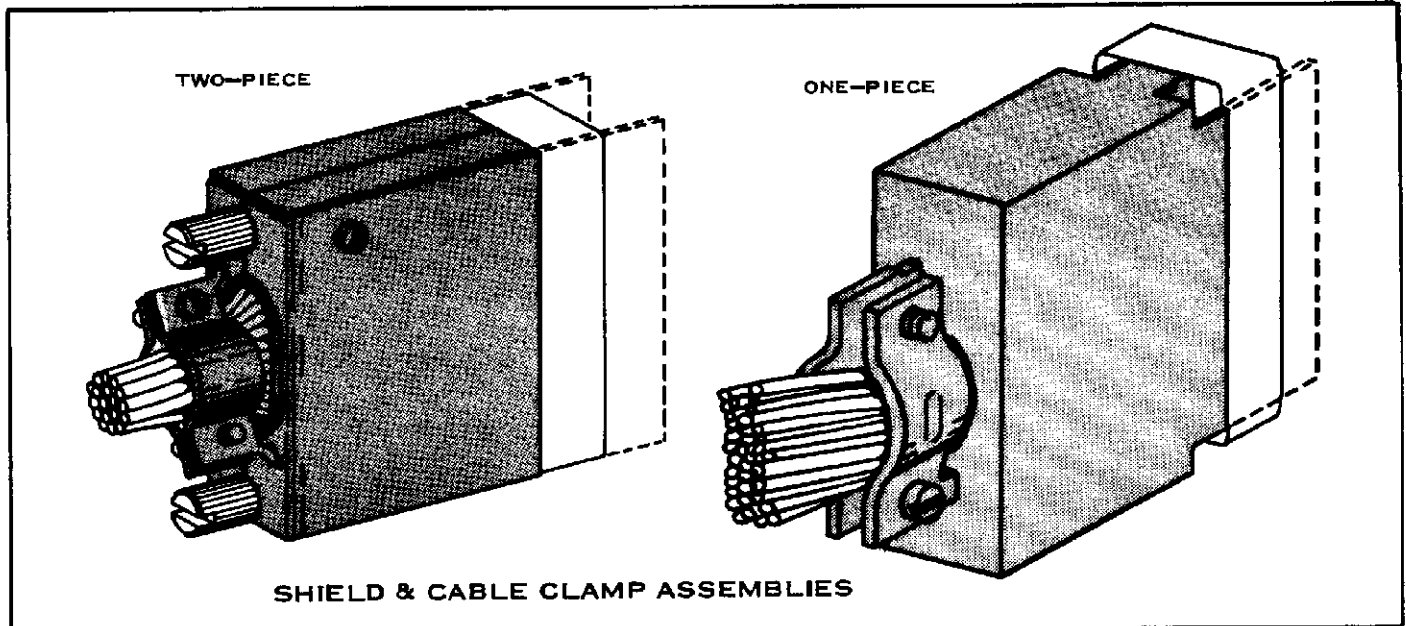
(1) Place Locking Spring against Block.

(2) Place Pin Hood against Locking Spring.

(3) Place Strain Relief Clamp or One-Piece Shield against Pin Hood.

(4) Attach above items to Block using A-MP Guide Pins and Sockets or #4-40 Machine Screws.

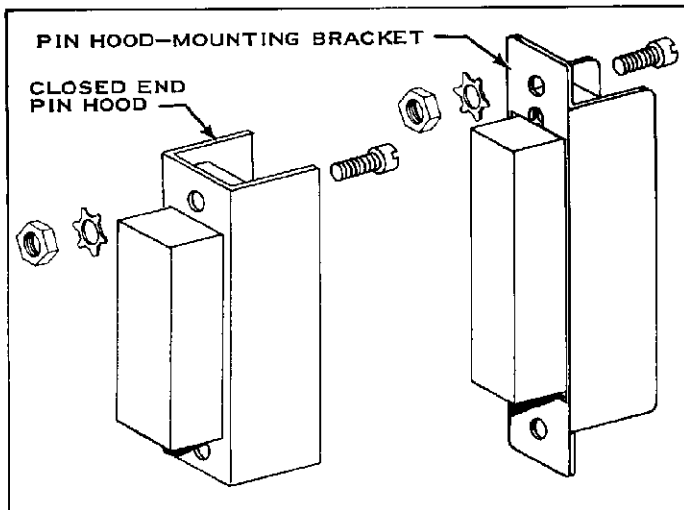
(f) Assemble Strain Relief Clamp or Shield according to the instructions packaged with the item.



SHIELD & CABLE CLAMP ASSEMBLIES

ASSEMBLY NUMBER	DESCRIPTION	IS NO.	FOR USE ON	CLAMP CAPACITY
200488-□	1-PC., 90° OUTLET, LONG SIDE	1296	26 POS. BLOCKS	26 WIRES - .070" DIA.
200514-□	2-PC., SHORT SIDES	1192	26 POS. BLOCKS	26 WIRES - .065" DIA.
201169-□	1-PC., 180° OUTLET, SHORT SIDES	1312	26 POS. BLOCKS	26 WIRES - .070" DIA.
201328-□	1-PC., 180° OUTLET, LONG SIDES	1298	26 POS. BLOCKS	26 WIRES - .070" DIA.
201468-□	1-PC., 90° OUTLET, SHORT SIDES	1297	26 POS. BLOCKS	26 WIRES - .070" DIA.
201472-□	1-PC., 90° OUTLET, SHORT SIDES	7026	21 POS. BLOCKS	21 WIRES - .045" DIA.
201576-□	2-PC., LONG SIDES	1192	26 POS. BLOCKS	26 WIRES - .065" DIA.
201303-□	1-PC., 90° OUTLET, SHORT SIDES	1297	21 POS. BLOCKS	21 WIRES - .070" DIA.

Fig. 7



PIN HOOD NUMBER	FOR USE ON	INSTRUCTION SHEET NO.	TYPE
201349-□	26 POSITION BLOCKS	7013	CLOSED END (EXTERNAL)
201785-□	26 POSITION BLOCKS	7013	OPEN END (EXTERNAL)
202118-□	26 POSITION BLOCKS	7096	OPEN END (EXTERNAL) INTEGRAL MOUNTING BRACKET

Fig. 8

7. PANEL MOUNTING

Mount Connector Block to Panel using the Panel Cutout Dimensions in Figure 10, except as noted in Para. 5 (c). You may use #4-40 Machine Screws, Guide Assemblies or Fixed Jackscrews.

8. To extract Contacts from Connector Blocks, use A-MP Extraction Tool No. 305183 See AMP Instruction Sheet No. 1216 which is packaged with the Tool.

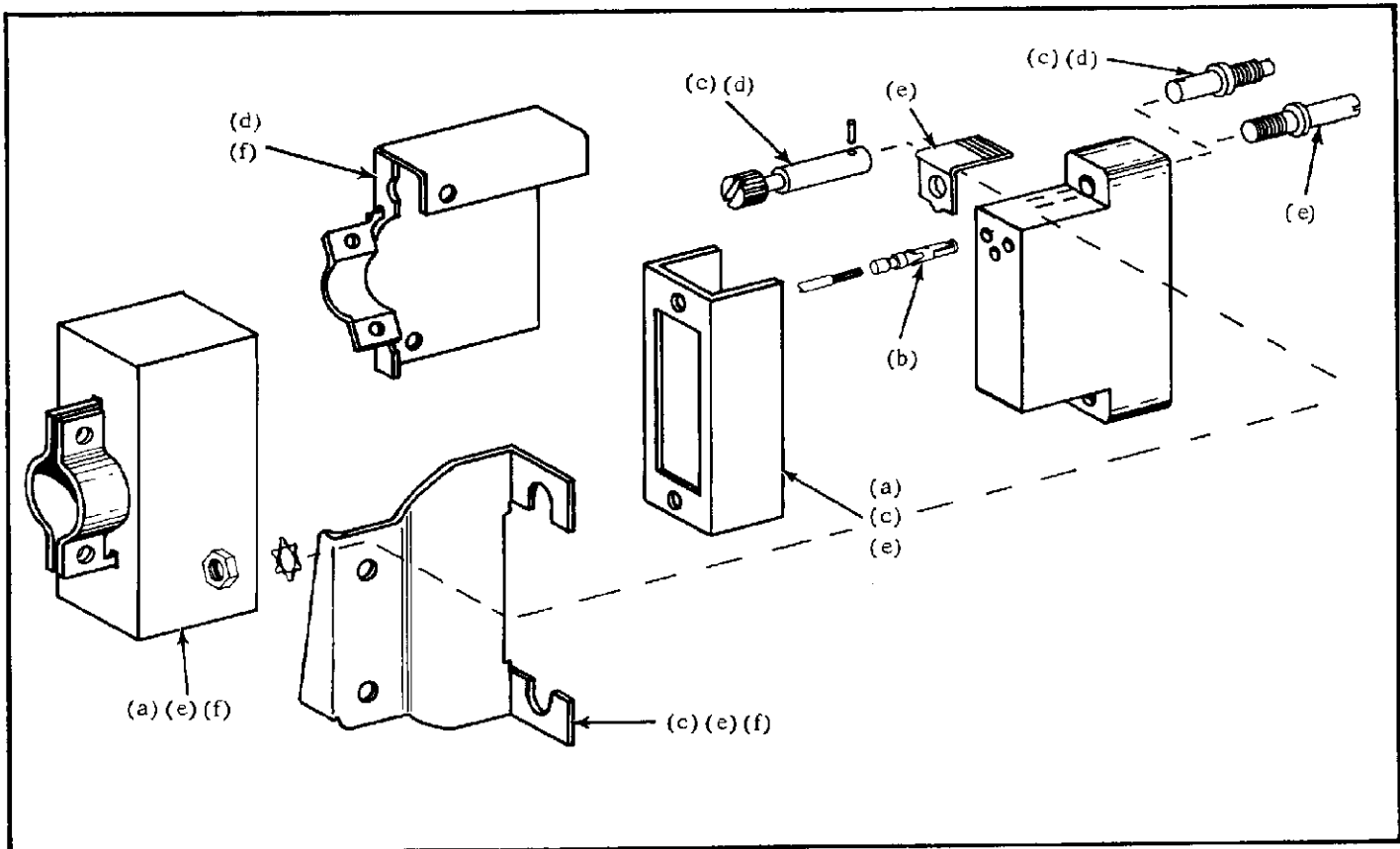


Fig. 9

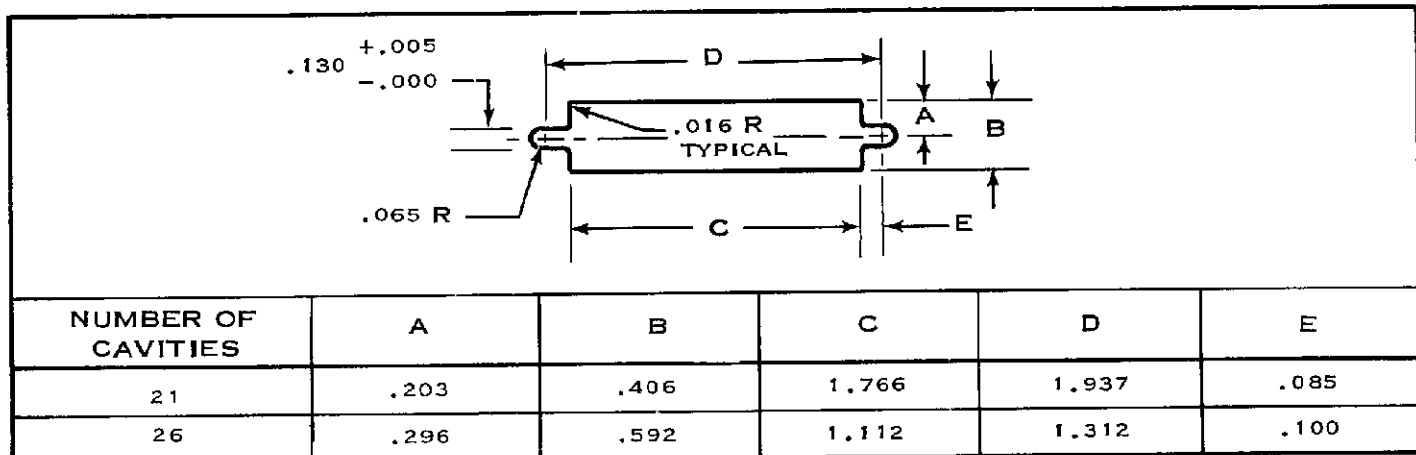


Fig. 10