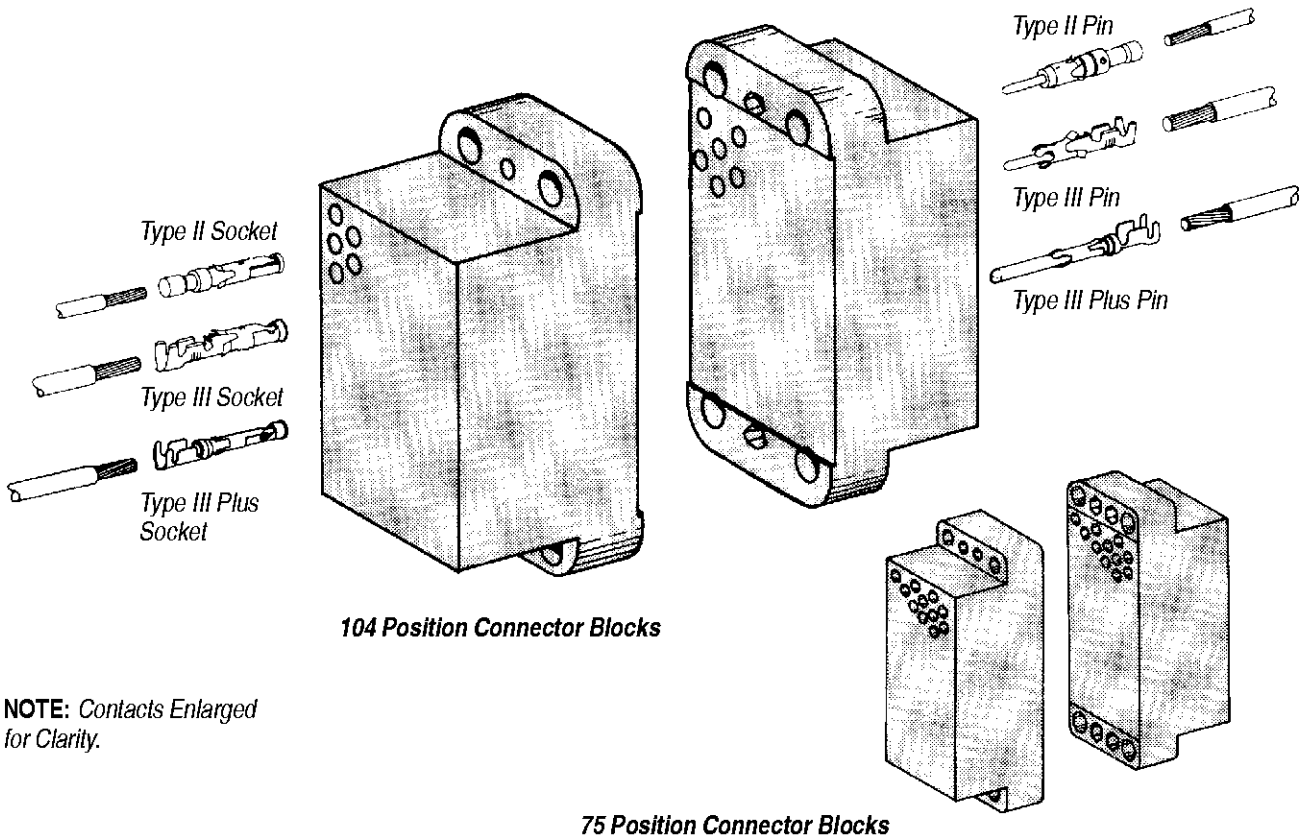
75 and 104 Position Series "M" Connectors and Accessories



104 Position Connector Blocks

NOTE: *Contacts Enlarged for Clarity.*

75 Position Connector Blocks

NUMBER OF POSITIONS	FEMALE BLOCK NUMBER	MALE BLOCK NUMBER	TYPE OF COMBINATION
75	201311–[ ]	201310–[ ]	M–DM
104	201037–[ ]	201345–[ ]	M–DM

Figure 1

1. INTRODUCTION

This instruction sheet covers the selection and use of AMP* 75 and 104 Position Series "M" Connector Blocks and the contacts and accessories for use with them. Each accessory covered in this document is especially designed for these connectors and may be used with other accessories or by itself. Read these instructions carefully before assembling the connector.

NOTE *Dimensions in this instruction sheet are in millimeters [with inches in brackets].*

Reasons for reissue of this instruction sheet are provided in Section 9, REVISION SUMMARY.

2. CONNECTOR BLOCK SELECTION

1. Select proper male and female connector blocks from Figure 1.

2. A deep male block and a female block comprise the M–DM combination. Sockets or pins may be used in either block.

3. CONTACT SELECTION AND CRIMPING

AMP Type II, III, or III Plus socket and pin contacts are used in Series "M" Connectors.

1. Select proper contacts from AMP Instruction Sheet 408–1379, which is packaged with these connectors.

NOTE *If a pin hood is used in the connector assembly, attach it to the connector block before inserting contacts into the block.*

2. Crimp contacts using the tools and instructions referenced on instruction sheet 408–1379.

Guide Socket *Guide Pin*

CENTER GUIDE ASSEMBLIES			CORNER GUIDE ASSEMBLIES		
GUIDE PINS	GUIDE SOCKETS	INSTRUCTION SHEET	GUIDE PINS	GUIDE SOCKETS	INSTRUCTION SHEET
200389–[ ]	200390–[ ]	408–7178	201046–[ ]	201047–[ ]	408–7056

Figure 2

4. ENGAGEMENT ACCESSORIES

4.1. Guide Pins and Sockets

Guide pins and sockets perform three functions: (1) they align connector blocks and contacts during mating to prevent damage to contacts resulting from improper alignment, (2) they provide a means to polarize a mated pair of blocks, and (3) they can be used to attach other accessories to blocks.

The two types available are center guide assemblies for the center mounting holes of the connector block and corner guide assemblies for the corner holes.

1. Select guide pins and sockets for your application from Figure 2.
2. Attach guide assemblies to the block according to the instruction sheets listed in Figure 2.

4.2. Jackscrews

The purpose of jackscrews is to: (1) help guide connector blocks into position prior to engagement, (2) decrease the effort required to mate the blocks, and (3) lock the mated blocks together.

One of each type, fixed and turnable, is usually used in a mated pair, although two turnable jackscrews are often mated in applications where connector blocks are not panel–mounted. Fixed jackscrews, which always mate with turnable jackscrews, may also be used to mount connector blocks to a panel.

Jackscrews may be used with any of the accessories available for these connectors. Figure 3 lists the jackscrews by number and type and shows the uses for each type. Refer to instruction sheet 408–1189 packaged with the jackscrews.

4.3. Keying Plugs

When Keying Plug 200821–[ ] (see instruction sheet 408–1340) is inserted into a contact cavity in a connector block, this block can be mated only with another block in which the opposite cavity has been left vacant to accept the plug. See Figure 4.

5. PROTECTIVE ACCESSORIES

Each of the following accessories serves to protect the connector blocks, the contacts, and/or the wires.

5.1. Strain Relief Clamps

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.

There are two types available, one with a flat clamp plate and the other with a fitted plate. The fitted plate is recommended for jacketed cables for which it affords better retention. When assembling the clamp, leave enough slack in the wires between the clamp and block to allow the contacts to float. This ensures proper contact alignment during engagement of the connector.

Refer to Figure 5 to select strain relief clamps for these connectors.

5.2. Shield and Cable Clamps

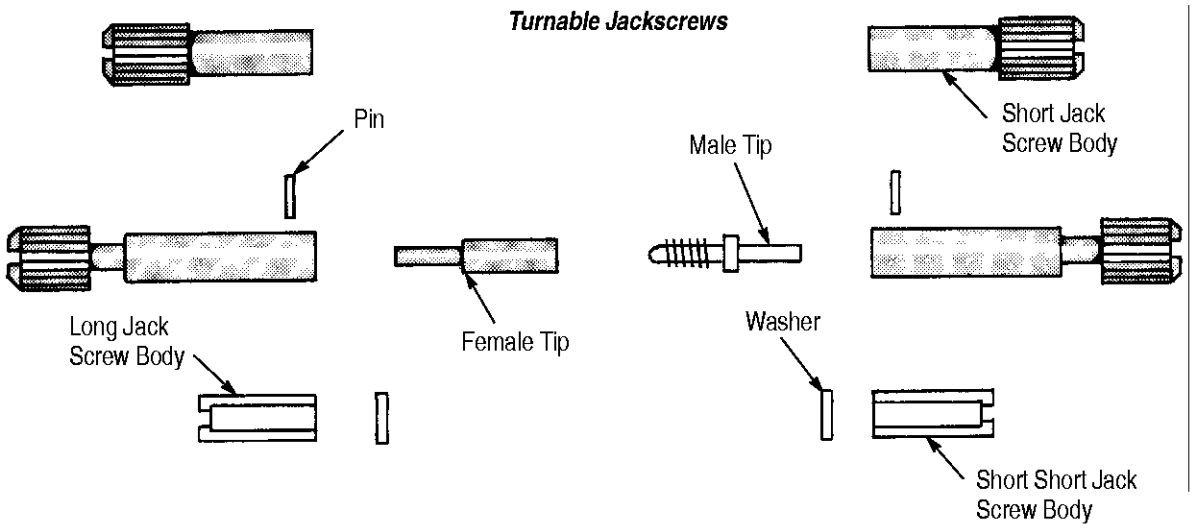
Besides providing strain relief for the contacts, shield and cable clamps (also referred to as shields) protect the wires which protrude from the rear of the connector block. Designed for use with jackscrews, the shields are available in a two–piece style with 180° cable outlet. When assembling the cable clamp portion of the shield, the precautions outlined in Paragraph 5.1, Strain Relief Clamps, must be followed.

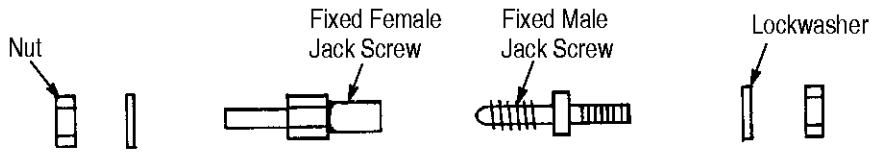
Refer to Figure 6 to select shields for your application.

5.3. Pin Hoods

Pin hoods protect pin contacts where they protrude from the connector block. Two styles are available, closed end, which are supplied in both internal and external versions, and open end, which are of the external type and include an integral mounting bracket. For pin protection on both halves of a connector, use an internal pin hood on one block and an external hood on the other. By using the pin hood–mounting bracket, you can attach all accessories to the block before mounting it to the panel.

Refer to Figure 7 for pin hoods and proper instruction sheets for use with these connectors. When using a pin hood–mounting bracket, make the panel cutout according to the dimensions on the instruction sheet packaged with the part.





JACKSCREW TYPE	JACKSCREW NUMBER		USES
	MALE	FEMALE	
FIXED	200874–[ ]	200875–[ ]	Always mate with turnable jackscrews.
LONG TURNABLE	200871–[ ]	200867–[ ]	Use with two–piece shields. Use with shield–pin hood combination.
SHORT TURNABLE	200868–[ ]	200870–[ ]	Use with pin hood and/or strain relief clamp. Use with pin hood – strain relief clamp combination.
SHORT SHORT (HEX) TURNABLE	201388–[ ]	201389–[ ]	

Figure 3

6. CONNECTOR ASSEMBLY (Figure 8)

The following steps will show you in what sequence the component parts of the connector assembly must be attached to the connector block. Some of the items in the sequence will not pertain to your application, but are listed only because they can be used in certain applications.

1. If a pin hood is used, attach it to the block before inserting the contacts.

2. Insert contacts into the connector block by pushing the contact all the way into the cavity in the connector block. Pull back lightly on the wire to make sure the contact is locked in place. When inserting contacts crimped to small, flexible wire, use AMP Insertion Tool 91002.

3. Attach jackscrews to the center mounting holes of the connector block.

NOTE *If jackscrews are used with a shield on the 75 position block, mount the jackscrews as shown on the instructions packaged with the shield.*

4. Place shield or strain relief clamp against the block.

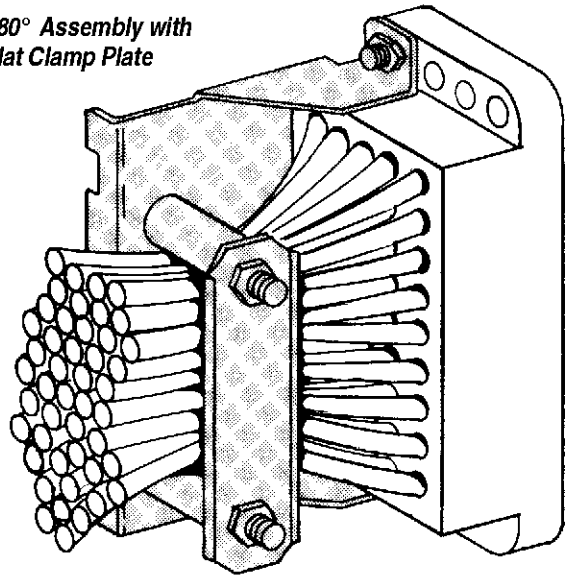
5. Attach the accessories referenced in Steps 3 and 4 using guide pins and/or sockets or No. 6–32 machine screws.

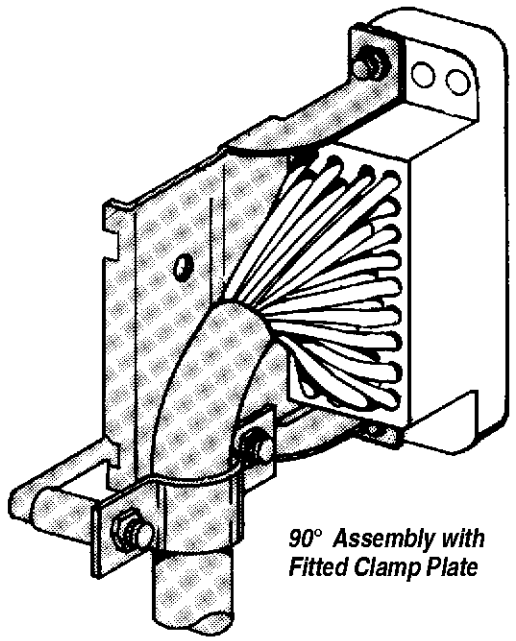
6. Assemble shield or strain relief clamp according to the instructions packaged with the part.

AMP Series Keying Plug

Figure 4

180° Assembly with Flat Clamp Plate



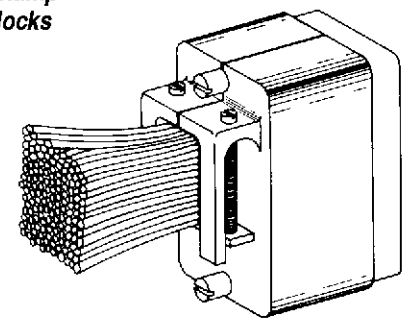


90° Assembly with Fitted Clamp Plate

STRAIN RELIEF CLAMP NUMBER	INSTRUCTION SHEET	CLAMP TYPE	FOR USE ON
200730–[ ]	408–1368	FLAT	75 Position Connector Blocks
201848–[ ]	408–7216	FITTED	75 Position Connector Blocks
201849–[ ]	408–7020	FITTED	104 Position Connector Blocks

Figure 5

Shield and Cable Clamp for 104 Position Blocks

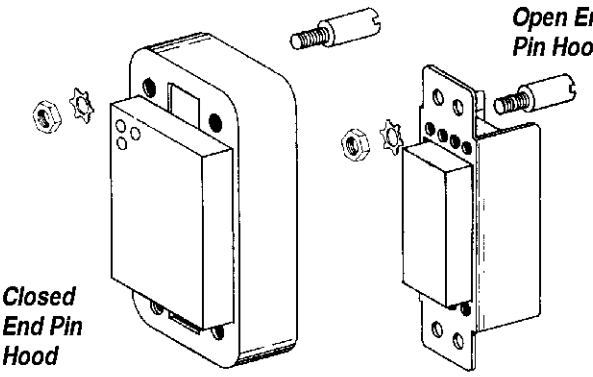


SHIELD AND CABLE CLAMP NUMBER	INSTR. SHEET	FOR USE ON	CLAMP CAPACITY
201131–[ ]	408–1321	104 Position Connector Blocks	104 Wires at 2.03 mm [.080 In.] Dia.

Figure 6

Open End Pin Hood

Closed End Pin Hood



PIN HOOD NUMBER	PIN HOOD TYPE	FOR USE ON
201346–[ ]	Closed End – External	104 Position Connectors
201364–[ ]	Closed End – Internal	
201368–[ ]	Closed End – External	75 Position Connectors
201369–[ ]	Closed End – Internal	
202097–[ ]	Open End – External with Mounting	
	Mounting Bracket	

Figure 7

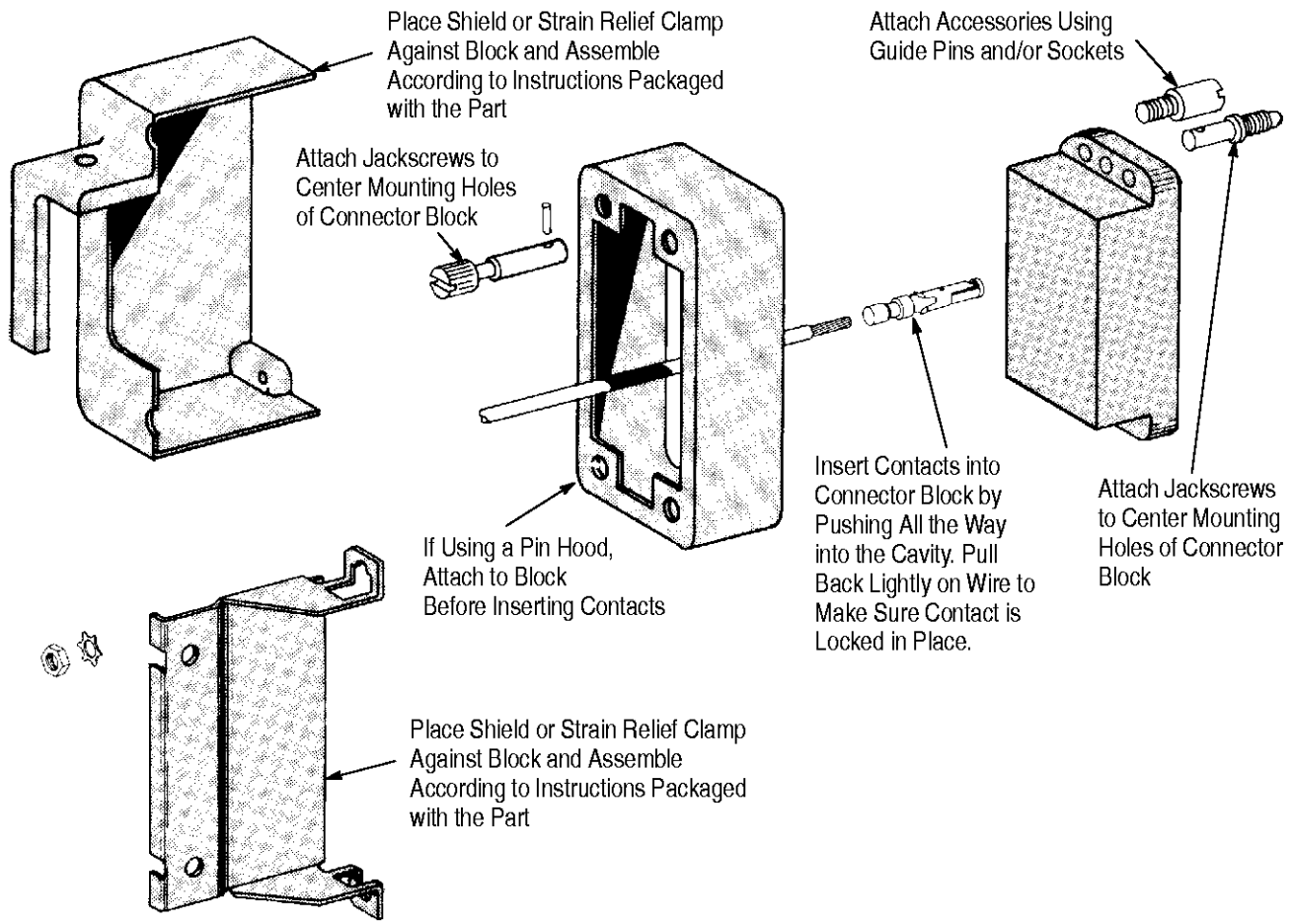


Figure 8

7. PANEL MOUNTING

Mount a connector block to a panel using the panel cutout dimensions in Figures 9 and 10 except as noted in Paragraph 5.3, Pin Hoods. You may use No. 6–32 machine screws, guide assemblies, or fixed jackscrews.

8. CONTACT EXTRACTION FROM CONNECTOR BLOCKS

Use AMP Extraction Tool 305183. Refer to instruction sheet 408–1216, packaged with the tool.

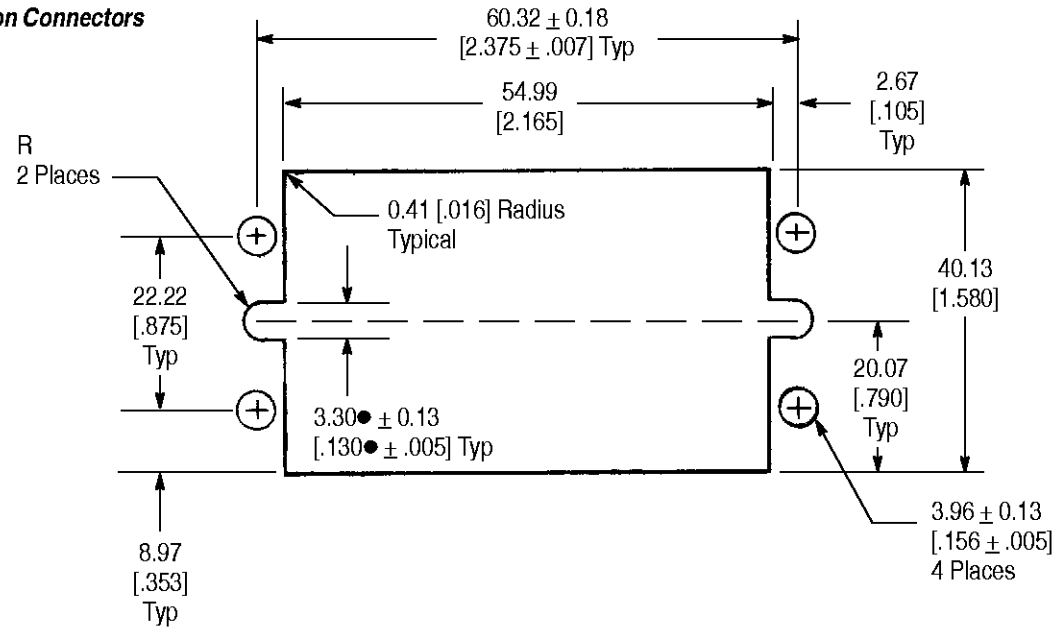
9. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

Per EC 0990–1238–98

- Updated document to corporate requirements.
- Deleted obsolete male block part numbers in Figure 1 and related text in Section 2 regarding shallow male blocks.
- Deleted obsolete guide pin and socket part numbers in Figure 2. Changed instruction sheet reference from 408–7054 to 408–7178.
- Deleted obsolete strain relief clamp numbers in Figure 5. Changed instruction sheet reference from 408–7020 to 408–7216.
- Deleted obsolete shield and cable clamp number in Figure 6.
- Updated dimensions in Figures 9 and 10 to match current prints.

104 Position Connectors



● Optional size for jackscrew 5.54 ± 0.13 [.218 ± .005]

Figure 9

75 Position Connectors

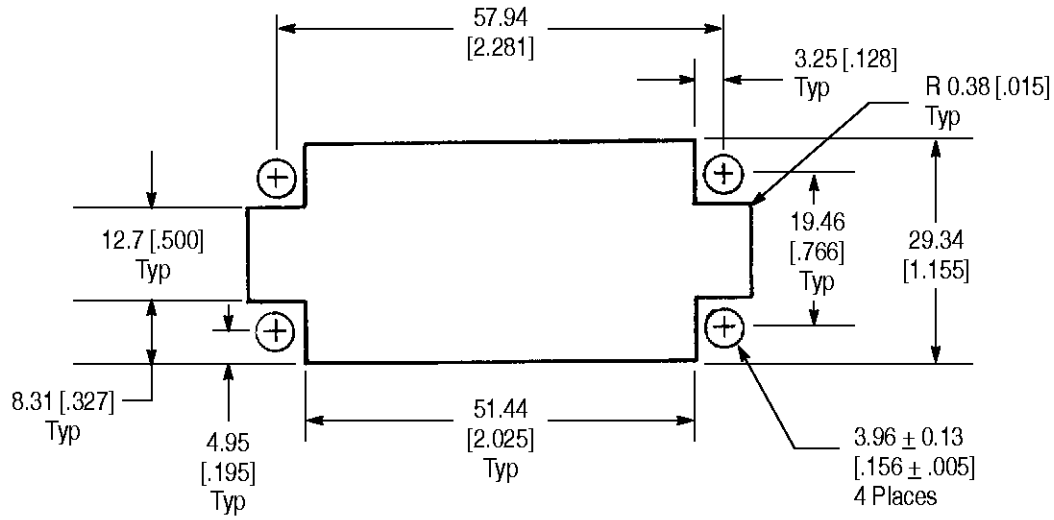


Figure 10