1. INTRODUCTION

This specification covers the requirements for application of the AMP* CHAMP* ACTION PIN* connectors. The connectors are designed to be assembled onto printed circuit (pc) boards and mate with CHAMP plug and receptacle cable connectors.

NOTE: All dimensions are given in inches unless otherwise specified.

2. REFERENCE MATERIAL

2.1. AMP Product Specification 108-6019 covers product performance requirements.

2.2 AMP Instruction Sheet IS 3182 provides attaching hardware and assembly information.

2.3. Customer Drawings for specific products are available from the responsible AMP engineering department. The information on these drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by AMP Incorporated.

2.4. Each AMP product is assigned a part number. And a unique grouping within a product family is assigned a product code. It is impractical to list all numbers relating to this document. However, the following typical numbers are provided to help identify the product line allowing us to answer your questions more efficiently: REF PART NO. 554758; PRODUCT CODE 1248.

3. PRODUCT FEATURES

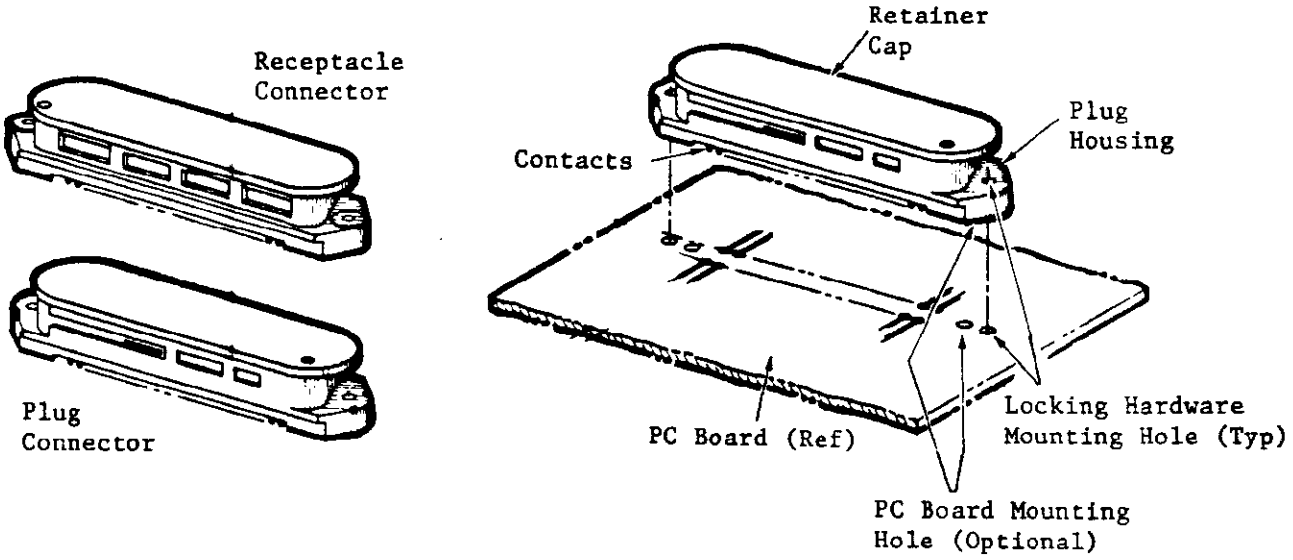

Fig. 1. Product Features

LTR	REVISION RECORD
C	0990-1027-96
B	0990-0461-96 — OBSOLETE
A	Finalize, Was Tentative

APPLICATION SPECIFICATION

AMP | AMP INCORPORATED Harrisburg, Pa. 17105

ENGINEERING APPROVAL & DATE: Bobby Hutchens 3/11/88

NO. 114-06027

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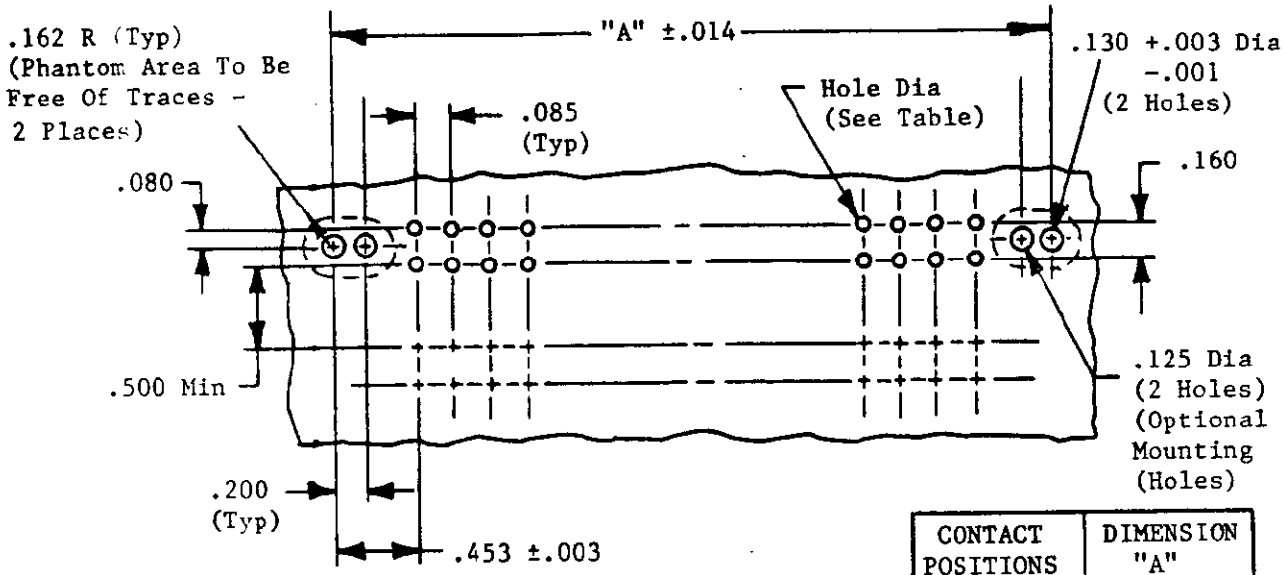
TITLE: CHAMP ACTION PIN CONNECTORS

4. REQUIREMENTS

4.1. A pc board of .062 to .125 thickness is recommended. The pc board may have plated-thru or unplated holes. For plated-thru holes, termination may be accomplished either by press fitting the contacts in the holes, or by both press fitting then soldering. For unplated holes, the contacts must be soldered after being press fitted.

Layout shall be according to dimensions shown in Figure 2.

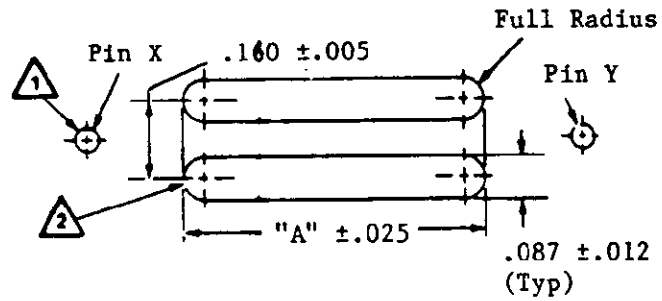


PLATED THROUGH HOLE DIAMETER AFTER REFLOW	DRILLED HOLE DIAMETER	THROUGH HOLE PLATING THICKNESS	
		COPPER UNDERPLATE	TIN-LEAD PORE FREE
.030-.035	.037-.039	.001-.002	.0003-.0012

CONTACT POSITIONS	DIMENSION "A"
14	1.416
24	1.842
36	2.352
50	2.946
64	3.542

Fig. 2. PC Board Layout

4.2. The support fixture provides a foundation for the pc board and protects the contact posts during insertion. Refer to Figure 3 for the suggested support fixture layout dimensions.



CONTACT POSITIONS	DIMENSION "A"
14	0.625
24	1.050
36	1.560
50	2.155
64	2.750

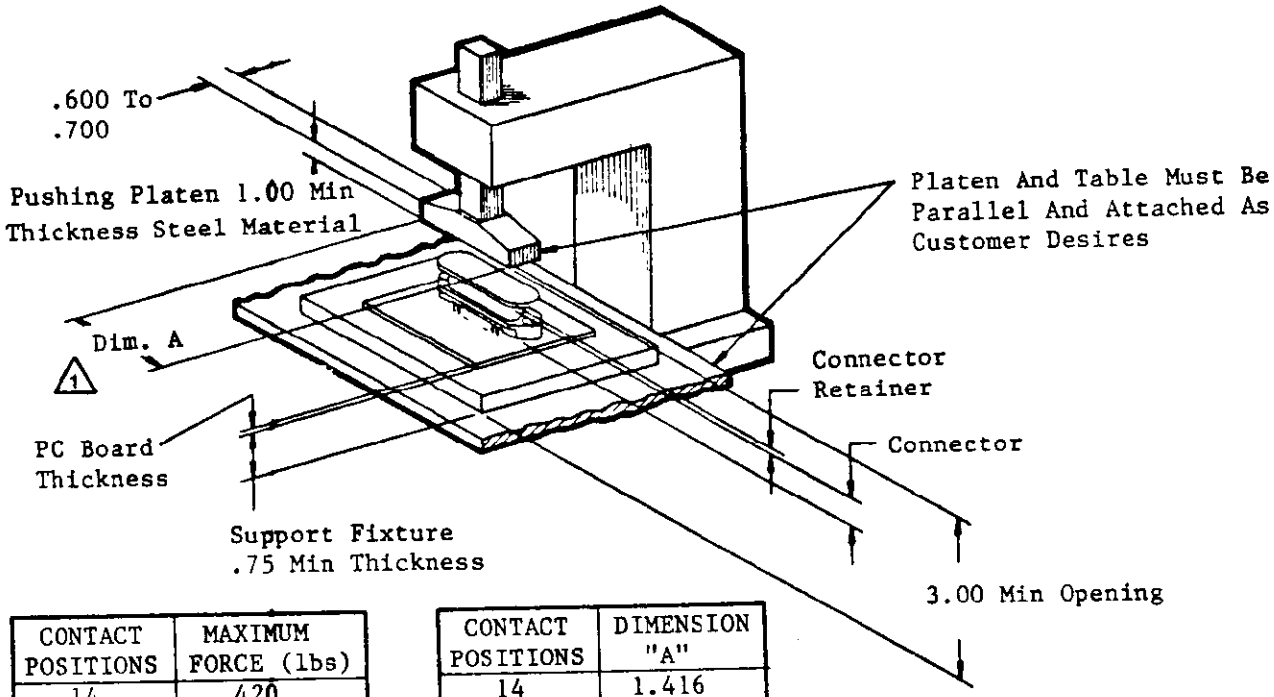
1 Pins X and Y Location and Size Shall Be Determined By Customer.

2 Slot Depth Shall Be A Minimum Of .275 Minus Customer PC Board Thickness.

Fig. 3. Support Fixture Layout

4.3. The connectors do not require precision applicatiors to assemble them to pc boards. The contacts of the selected connector are aligned with the holes of a pc board backed by a support fixture. Then, the connector is pressed into place using any device that will apply sufficient force evenly distributed over the length of the connector.

Certain parameters must be considered, however, in the selection of an assembly applicator. The force required to insert the connectors varies slightly with the number of contact positions. Refer to the table for the maximum force needed to insert the connectors. The clearance required to position the connector and pc board is also a factor. Refer to Figure 4 for applicator dimensional guidelines and to Paragraph 5, TOOLING TYPES, for applicator tooling available.



CONTACT POSITIONS	MAXIMUM FORCE (lbs)
14	420
24	720
36	1080
50	1500
64	1920

CONTACT POSITIONS	DIMENSION "A"
14	1.416
24	1.842
36	2.352
50	2.946
64	3.542

1 Platen Length Is Determined By The Customer. Platen Should Be Equal To The Largest Connector To Be Used. See Table For Platen Lengths (Dimension "A").

Fig. 4. Assembly Applicator

4.4. Seated connectors shall be bottomed on pc board as shown in Figure 5.

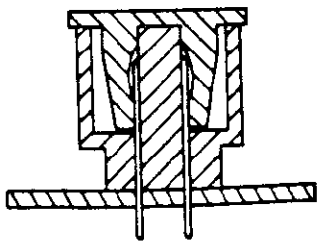
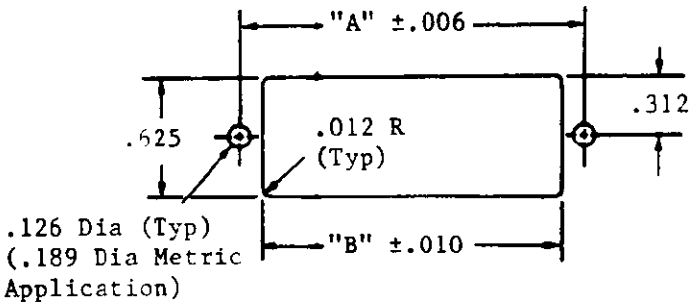


Fig. 5. Seated Connector

4.5. Plug and receptacle connectors may be rear panel mounted after being assembled onto the pc board. A panel of .062 thickness is recommended for standard 4-40 hardware applications, or .062 to .093 thickness for metric applications.

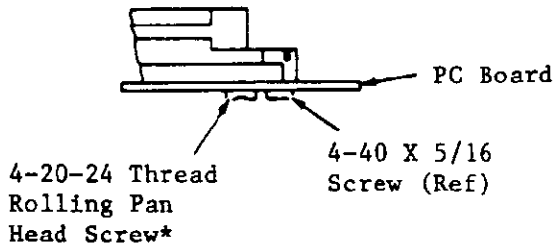
Refer to Figure 6 for the suggested panel mounting layout dimensions.



CONTACT POSITIONS	DIMENSION	
	"A"	"B"
14	1.416	1.151
24	1.842	1.575
36	2.352	2.085
50	2.946	2.700
64	3.542	3.275

Fig. 6. Panel Mounting Layout

4.6. Secure CHAMP ACTION PIN connector to pc board with self-tapping screws or by 4-40 X 5/16 screws, see Figure 7.



* Screw Part No. 552820-1 For .062-.093 PC Board Thickness and 552820-2 For .125 PC Board Thickness. This Screw Is Optional. It Is Required Only When Forces Exerted By Mating Connector Exceeds One Pound Per Terminal (ex: 50 lbs for 50 Position Connector).

Fig. 7. Mounting Hardware

5. TOOLING TYPES

The AMP Arbor Frame Assemblies 58019-1 and 91085-1 provide the forces and clearances recommended in Paragraph 4.3.