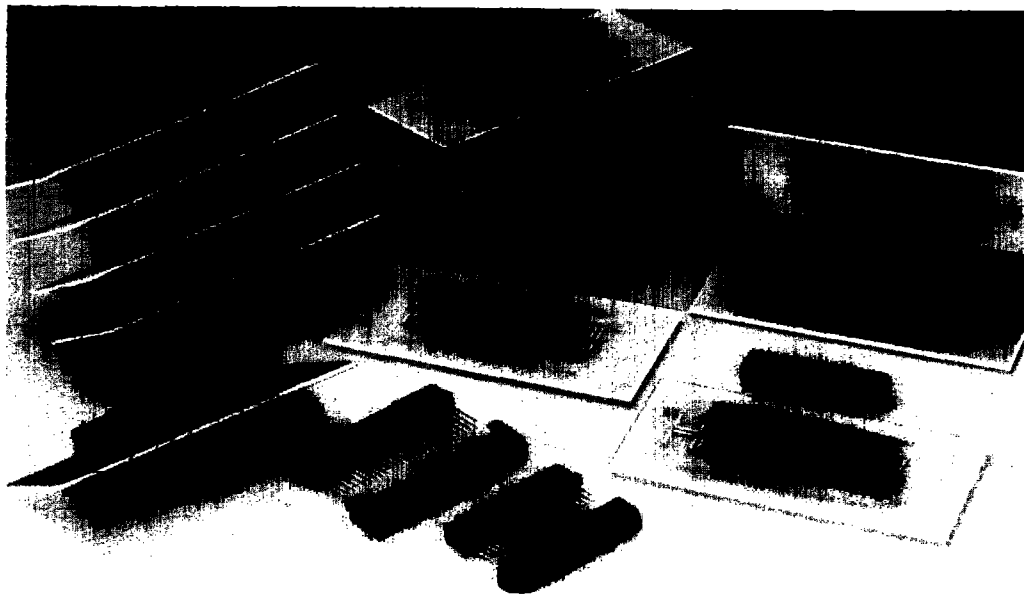


## Board to Board Connectors

### AMP ACTION PIN\* Stacking Connectors

#### Features

- Can stack multiple printed circuit boards without the need of a mother board.
- Connect bus lines in the shortest possible distance
- Receptacle assembly has ACTION PIN posts for solderless board mounting.
- Can be mounted onto the board simply by press fitting with Mini-Press.
- Receptacle assembly is easy to service and replace (up to 2 times)
- Receptacle contacts are of fork design to mate with posts at two points. No danger of scooping at mating/unmating.
- Stacking dimensions are 13.4mm or 19.0mm when using receptacle assemblies together, and 13.9mm or 19.5mm when using a combination of receptacle and post header assemblies.
- Accepts 1.6mm thick boards.
- Housing provided with polarization to prevent mismating.
- Housing made of chemical-resistant glass-filled PBT, black in color.
- Contacts are of copper alloy material with high spring characteristics, gold-over-nickel plated.
- Post hood available to protect the post portion of receptacle contacts.  
Can be selected depending on stacking dimensions.
- Connectors available in sizes of 27, 30, 34, 40, 50 and 60 positions.
- Product specification: 108-5197



AMP ACTION PIN Stacking Connectors are a family of two-piece connectors used to stack multiple printed circuit boards in parallel. They have been developed to provide a more reliable and economical means of compact wiring and high-density packaging inside a variety of electronic equipment.

The connectors have many advanced features: they can be used to connect bus lines in the shortest possible distance without the need of a mother board, thus permitting effective utilization of space above the board: compared with other methods of jumper connection using cable connectors, they make the overall board layout more clean and straight for compact packaging.

Contacts are on 2.54mm x 2.54mm grid. The connectors are available in sizes of 26, 30, 34, 40, 50 and 70 positions.

AMP ACTION PIN Stacking Connectors consist of a receptacle assembly, a mating post header assembly and a post hood to

protect the post portion of the receptacle assembly.

#### ■ Receptacle Assembly

The receptacle assembly features reliability and economy characteristic of this product line.

The mating portion of its built-in receptacle contacts is of a fork design, highly resilient and prevents damage to contacts by scooping at mating/unmating.

On the board mount side of the assembly are 0.55mm square ACTION PIN posts.

No soldering is required to mount the assembly on the board, the posts being simply press fit into the board's 0.825mm diameter holes.

Two types of receptacle assembly are available; one is used with an outermost board and the other with intermediary boards. A solder version is also available for the outer board mount assembly.

#### ■ Post Hood

When using the intermediary board mount receptacle assembly, this post

hood is used to protect the post portion of the assembly. The post hood is available in two types; one with the housing height of 10mm and the other with the housing height of 15.7mm. They can be selected, depending on stacking dimensions.

#### ■ Post Header Assembly

The post header assembly is mounted onto the outer board on the other side of the board to which an outer board mount receptacle assembly is applied. The post header assembly is preloaded with 0.55mm square soldering posts.

These posts are protected by the side walls of the housing.

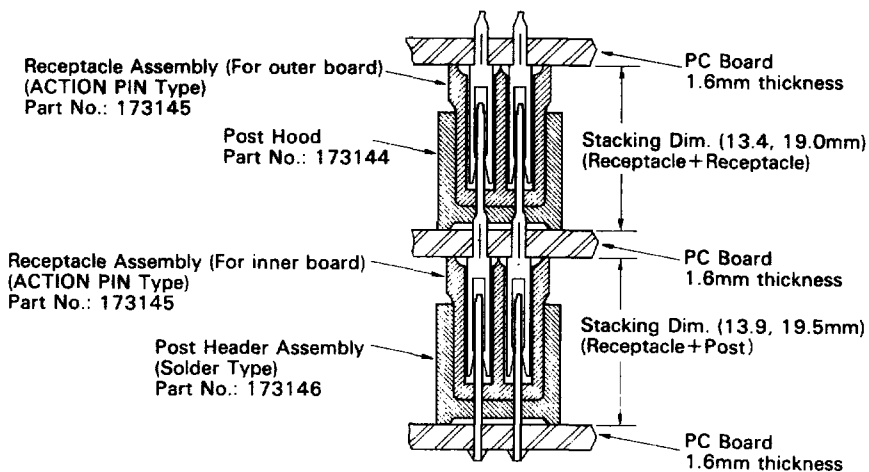
Stacking dimensions provided by this connector line are as follows:

When the outer board receptacle and intermediary board receptacle assemblies are used 13.4mm or 19.0mm.

When the intermediary board receptacle assembly and the post header assembly are used 13.9mm or 19.5mm.

## Board to Board Connectors AMP ACTION PIN Stacking Connectors

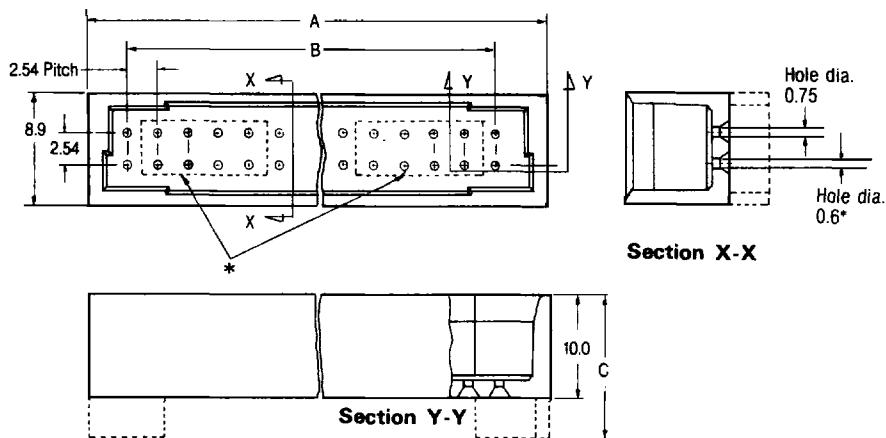
### Typical Application



### Post Hood

The post hood, mounted onto the post of the intermediary receptacle assembly, protects the post and serves as a header assembly when stacking several boards.

**Material:** UL94V-0 rated, Glass-filled PBT, Black



Acceptable Post Length	No. of Pos.	Dimensions			Part Nos. of Post Hood
		A	B	C	
For 8.9 (For Stacking Dimension 13.4)	26	38.1	30.48	10.0	1-173144-1
	30	43.2	33.56	10.0	173144-2
	34	48.3	40.64	10.0	1-173144-2
	40	55.9	48.26	10.0	173144-3
	50	68.6	65.96	10.0	173144-4
	60	81.3	73.66	10.0	173144-5
For 14.5 (For Stacking Dimension 19.0)	26	38.1	30.48	15.6	1-173144-3
	30	43.2	33.56	15.6	173144-7
	34	48.3	40.64	15.6	1-173144-4
	40	55.9	48.26	15.6	173144-8
	50	68.6	65.96	15.6	3-173144-8*
	60	81.3	73.66	15.6	173144-9
					1-173144-0

Note: 0.60 Dia. apply to 16 holes on both sides. Except P/N 3-173144-8\*

# Board to Board Connectors

## AMP ACTION PIN Stacking Connectors

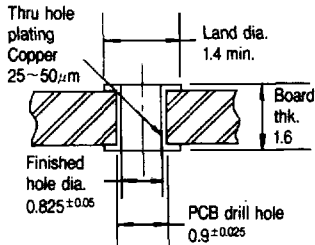
### Receptacle Assembly (With 0.55mm Square Post)

**Material & Finish:**

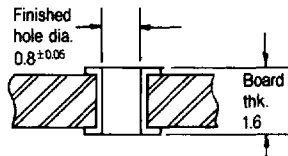
Housing—  
UL94V-0 rated, Glass-filled  
PBT, Black  
Contact—Copper Alloy  
Contact area and Post mating  
area: 0.2µm Gold over  
1.3µm min. Nickel plated  
ACTION PIN area: Gold flash  
Solder Post area:  
1~2.5µm Tin-lead over  
1.3µm min. Nickel plated

**PC Board Mounting Dimensions**

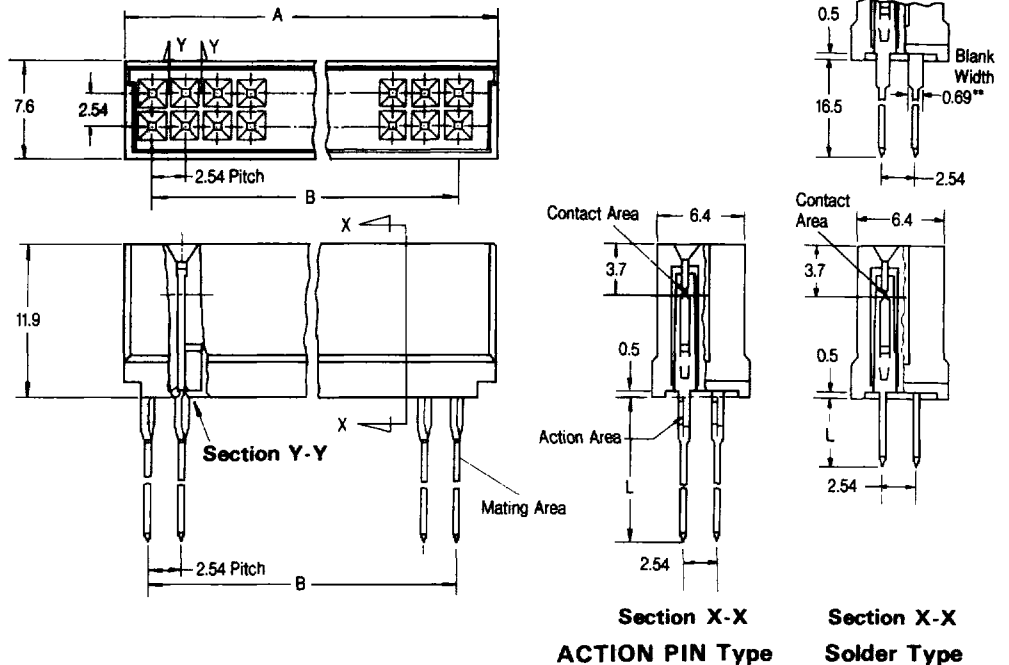
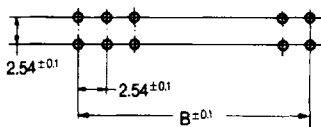
**ACTION PIN Type**



**Solder Type**



**PC Board Layout**



**For Outer Board**

Type	Post Length	No. of Positions	Dimensions		Part Nos. of Receptacle Assembly
			A	B	
ACTION PIN Post	4.2*	26	35.6	30.48	1-173145-7
		30	40.6	35.56	173145-2
		34	45.7	40.64	1-173145-8
		40	53.3	48.26	173145-3
		50	66.0	60.96	173145-4
		60	78.7	73.66	173145-5
Solder Post	4.2*	26	35.6	30.48	2-173145-8
		30	40.6	35.56	2-173145-4
		34	45.7	40.64	2-173145-9
		40	53.3	48.26	2-173145-5
		50	66.0	60.96	2-173145-6
		60	78.7	73.66	2-173145-7
					3-173145-0**

\* After mounted on board, dimension of extrude length from board is 2.6mm.  
\*\* Post Length = 17.0mm, Blank Width = 0.69 (See above figure) (Finished hole dia 1.0mm)

## Board to Board Connectors AMP ACTION PIN Stacking Connectors

### For Inner Board Receptacle Assembly (With 0.55mm Square Post)

#### Material & Finish:

Housing—

UL94V-0 rated, Glass-filled  
PBT, Black

Contact—Copper Alloy

Contact area and Post mating  
area: 0.2μm Gold over

1.3μm min. Nickel plated

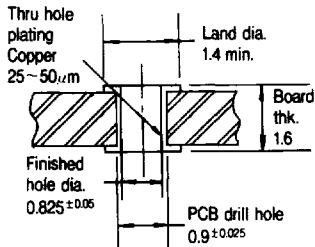
ACTION PIN area: Gold flash

Solder Post area:

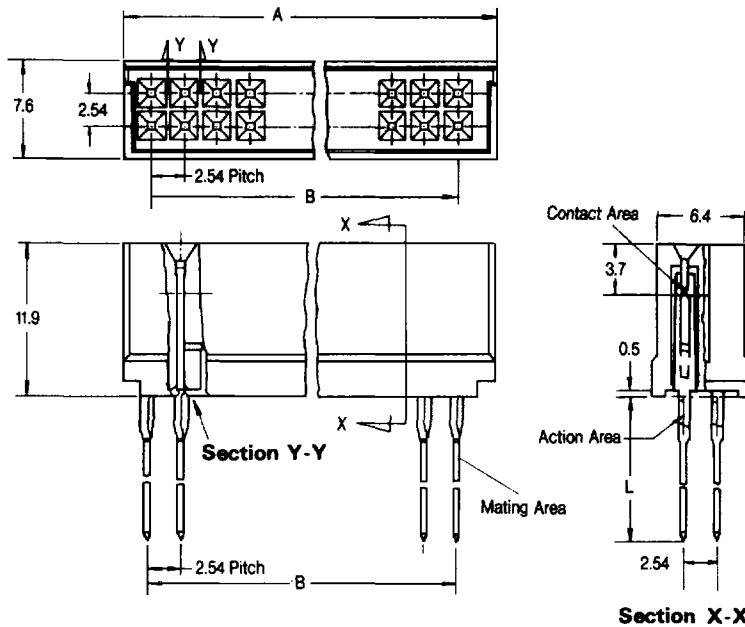
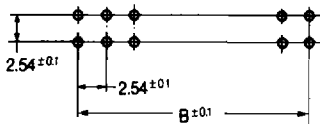
1~2.5μm Tin-lead over

1.3μm min. Nickel plated

#### PC Board Mounting Dimensions



#### PC Board Layout



Stacking Dimensions	Post Length L	No. of Pos.	Dimensions		Part Nos. of Receptacle Assembly
			A	B	
13.4	8.9	26	35.6	30.48	<b>3-173145-6</b>
		30	40.6	35.56	<b>3-173145-2</b>
		34	45.7	40.64	<b>3-173145-7</b>
		40	53.3	48.26	<b>3-173145-3</b>
		50	66.0	60.96	<b>3-173145-4</b>
		60	78.7	73.66	—
13.4	10.9	26	35.0	30.48	—
		30	40.6	35.56	<b>173145-7</b>
		34	45.7	40.64	—
		40	53.3	48.26	<b>173145-8</b>
		50	66.0	60.96	<b>173145-9</b>
		60	78.7	73.66	<b>1-173145-0</b>
19.0	14.5	26	35.6	30.48	—
		30	40.6	35.56	<b>3-173145-8</b>
		34	45.7	40.64	<b>4-173145-3</b>
		40	53.3	48.26	<b>3-173145-9</b>
		50	66.0	60.96	<b>4-173145-0</b>
		60	78.7	73.66	<b>4-173145-1</b>
19.0	16.5	26	35.6	30.48	<b>2-173145-1</b>
		30	40.6	35.56	<b>1-173145-2</b>
		34	45.7	40.64	<b>2-173145-2</b>
		40	53.3	48.26	<b>1-173145-3</b>
		50	66.0	60.96	<b>1-173145-4</b>
		60	78.7	73.66	<b>1-173145-5</b>

\*\* Contact area and post mating area : 0.5μm min Gold over 1.3μm min. Nickel plated.



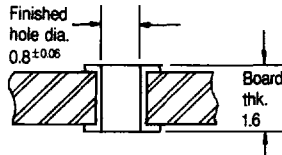
**Board to Board Connectors  
AMP ACTION PIN Stacking Connectors**

**Post Header Assembly**  
(0.55mm Square Post)

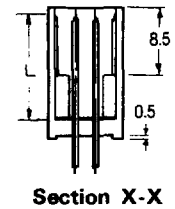
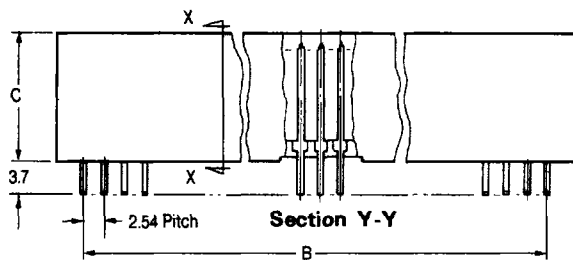
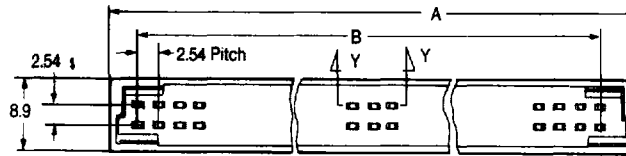
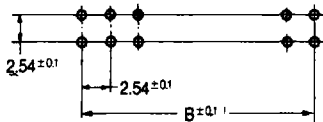
**Material & Finish:**

Housing—  
UL94V-0 rated, Glass-filled PBT, Black  
Contact—Copper Alloy  
Contact Area: 0.2μm min.  
Gold over 1.3μm min.  
Nickel plated  
Post Area: 1 ~ 1.5μm Tin-lead over 1.3μm min. Nickel plated

**PC Board Mounting Dimensions**



**PC Board Layout**

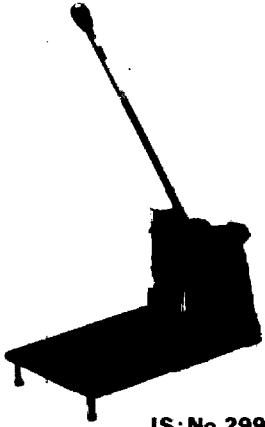


Stacking Dimensions	Post Length L	No. of Pos.	Dimensions			Part Nos. of Post Header Assembly
			A	B	C	
13.9	5.8	26	38.1	30.48	10.5	3-173146-5
		30	43.2	35.56	10.5	3-173146-1
		34	48.3	40.64	10.5	3-173146-6
		40	55.9	48.26	10.5	3-173146-2
		50	68.6	60.96	10.5	3-173146-3
	60	81.3	73.66	10.5	3-173146-4	
	7.8	26	38.1	30.48	10.5	2-173146-1
		30	43.2	35.56	10.5	1-173146-7
		34	48.3	40.64	10.5	2-173146-2
		40	55.9	48.26	10.5	1-173146-8
50		68.6	60.96	10.5	4-173146-3*	
60		81.3	73.66	10.5	1-173146-9	
19.5	11.4	26	38.1	30.48	16.1	4-173146-1
		30	43.2	35.56	16.1	3-173146-7
		34	48.3	40.64	16.1	4-173146-2
		40	55.9	48.26	16.1	3-173146-8
		50	68.6	60.96	16.1	3-173146-9
	60	81.3	73.66	16.1	4-173146-0	
	13.4	26	38.1	30.48	16.1	2-173146-8
		30	43.2	35.56	16.1	2-173146-4
		34	48.3	40.64	16.1	2-173146-9
		40	55.9	48.26	16.1	2-173146-5
50		68.6	60.96	16.1	2-173146-6	
60	81.3	73.66	16.1	2-173146-7		

\* Contact mating area : 0.5μm min Gold over 1.3μm. Nickel plated.

## Board to Board Connectors AMP ACTION PIN Connectors

### AMP Mini-Press



IS: No. 299J

No. of Pos.	Part No.
26	758030-8
30	758030-9
34	1-758030-0
40	1-758030-1
50	1-758030-2
60	1-758030-3

The part number above includes Mini-Press unit, insertion support plate and press-fit jig.

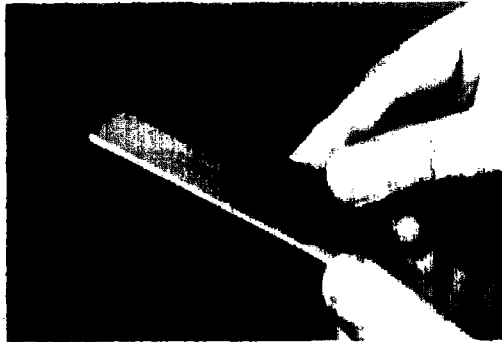
#### Mini-Press Unit P/N: 758030-1

When ordering press-fit jig only, consult the table below.

#### Press-fit Jig (separate order)

No. of Pos.	Part No.
26	907459-1
30	907459-2
34	907459-3
40	907459-4
50	907459-5
60	907459-6

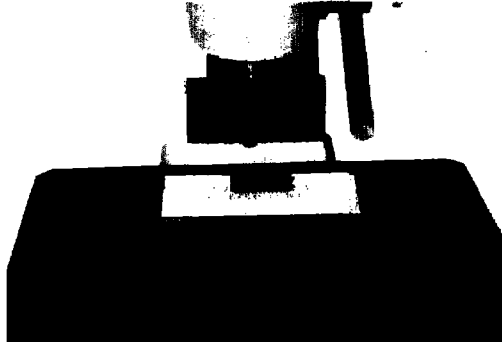
Also, optional insertion support plates are obtainable by separate order to meet your specific requirements for improved board handling.



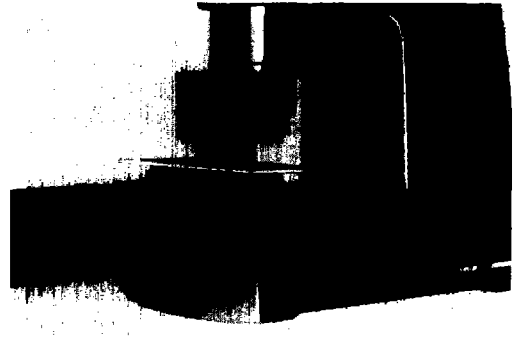
1. Insert connector into the board tentatively (Be sure that connector is in the right direction).



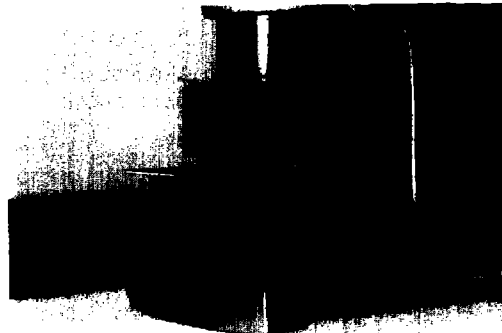
2. Attach insertion support plate to the leg portion of connector from below.



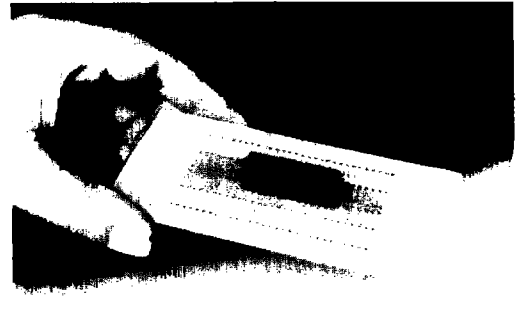
3. Set insertion support plate in place by butting it against Mini Press platform



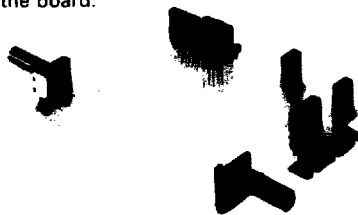
4. By pressing Mini-Press handle down, rest the press-fit/jig against connector.



5. Press handle down gently and insert connector into the board.



6. Now connector has been mounted to the board securely.



Insertion Support Unit  
(Option)

