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# AMP

AMP INCORPORATED  
HARRISBURG, PA 17105

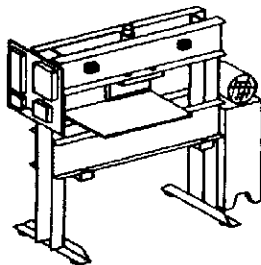
## AMP\* SEATING TOOL ASSEMBLIES 91170 FOR AMPMODU\* ACTION PIN\* DOUBLE-ROW HEADER ASSEMBLIES

# IS 9054

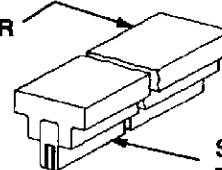
CUSTOMER HOTLINE  
1 800 722-1111

RELEASED  
3-23-90

"H" FRAME  
MACHINE  
(Ref)



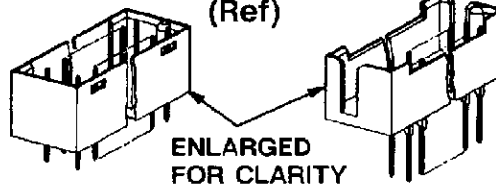
ADAPTER



AMP SEATING TOOL  
ASSEMBLY 91170

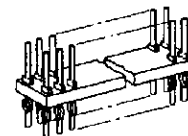
SEATING  
TOOL

TWO-PIECE  
HEADER ASSEMBLY  
(Ref)



ENLARGED  
FOR CLARITY

DOUBLE-ROW  
UNSHROUDED  
HEADER ASSEMBLY  
(Ref)



DOUBLE-ROW  
SHROUDED  
HEADER ASSEMBLY  
(Ref)

### SHROUDED HEADER ASSEMBLY

#### DOUBLE ROW, IN/OUT

PART NO.	PINS	TOOL ASSY
102557	6	91170-2
	8	-3
103182	10	-4
	12	-5
103337	14	-6
	16	-7
	18	-8
	20	-9
	22	1- -0
	24	1- -1
	26	1- -2
	28	1- -3
	30	1- -4
	32	1- -5
	34	1- -6
	36	1- -7
	38	1- -8
	40	1- -9
	42	2- -0
	44	2- -1
	46	2- -2
	48	2- -3
	50	2- -4
	52	2- -5
	54	2- -6
	56	2- -7
	58	2- -8
	60	2- -9

PART NO.	PINS	TOOL ASSY
102699	6	91170-1
	8	-2
103465	10	-3
	12	-4
	14	-5
	16	-6
	18	-7
	20	-8
	22	-9
	24	1- -0
	26	1- -1
	28	1- -2
	30	1- -3
	32	1- -4
	34	1- -5
	36	1- -6
	38	1- -7
	40	1- -8
	42	1- -9
	44	2- -0
	46	2- -1
	48	2- -2
	50	2- -3
	52	2- -4
	54	2- -5
	56	2- -6
	58	2- -7
	60	2- -8

#### DOUBLE ROW, BOARD-TO-BOARD, 2-PIECE

PART NO.	PINS	TOOL ASSY
102666	12	91170-5
102690	14	-6
102691	16	-7
103291	20	-9
534244	24	1- -1
	30	1- -4
	36	1- -7
	40	1- -9
	44	2- -1
	50	2- -4
	60	2- -9
	70	3- -0
	72	3- -1
	80	3- -2
	86	3- -3
	90	3- -4
	94	4- -4
	96	3- -5
102666	100	3- -6
102690	110	3- -7
102691	120	3- -8
102777	128	4- -5
533738	130	3- -9
	140	4- -0
	148	4- -6
	150	4- -1
	154	4- -8
	160	4- -7
	180	4- -3
	200	4- -2

### UNSHROUDED HEADER ASSEMBLY

#### DOUBLE ROW

PART NO.	PINS	TOOL ASSY
102897	4	91170-1
	6	-1
103233	8	-2
	10	-3
103234	12	-4
	14	-5
103542	16	-6
	18	-7
103991	20	-8
	22	-9
104029	24	1- -0
	26	1- -1
104256	28	1- -2
	30	1- -3
	32	1- -4
	34	1- -5
	36	1- -6
	38	1- -7
	40	1- -8
	42	1- -9
	44	2- -0
	46	2- -1
	48	2- -2
	50	2- -3
	52	2- -4
	54	2- -5
	56	2- -6
	58	2- -7
	60	2- -8
	62	2- -9
	64-72	3- -0
	74	3- -1
	76-80	3- -2

Fig. 1

## 1. INTRODUCTION

This instruction sheet (IS) covers Seating Tool Assemblies with base number 91170 and includes -1 through 4-91170-8 (refer to Figure 4). The Header assemblies range from 4 through 200 positions. The tool assemblies are used in AMP "H" Frame Unit Machine 803880-[ ]. Refer to Customer Manual supplied with machine. Read these instructions carefully prior to using any tools and seating any connectors.

## 2. DESCRIPTION

The Seating Assembly Tool is designed for the manual insertion of AMPMODU ACTION PIN Header Assemblies into predrilled printed circuit (pc) boards. This requires the use of a pc board support fixture (customer supplied). The pc board support fixture is slotted or drilled to support the pc board, and provides clearance for the post during insertion. Suggested design and dimensions are provided in IS 6927.

## 3. REQUIREMENTS

### A. PC Board Support Fixture (Customer Supplied)

A pc board support fixture is required to ensure that: 1) each connector is aligned with the tool during the seating process, and 2) posts are protected during the procedures. Fixtures are not provided by AMP, and must be supplied by the customer.

### B. Application Tooling

The seating tool shown in Figure 1 is designed for use in AMP applicator assemblies, or similar manual applicators with sufficient ram surface and capability of applying an insertion force of 40 pounds (max) per contact post. A pneumatic machine can also be used, provided the machine is equipped with shut-height stops, board sensor, or a pressure response mode.

### C. Seating Height

Seating height — the distance from the bottom surface of the ram to the top of the pc board when the ram is DOWN — must be set at  $1.500 +.005/- .000$  in. before starting the seating procedure. See Figure 2.

### D. Shut Height

The shut height equals the seating height plus the combined thicknesses of the pc board and the pc board support fixture. See Figure 2.

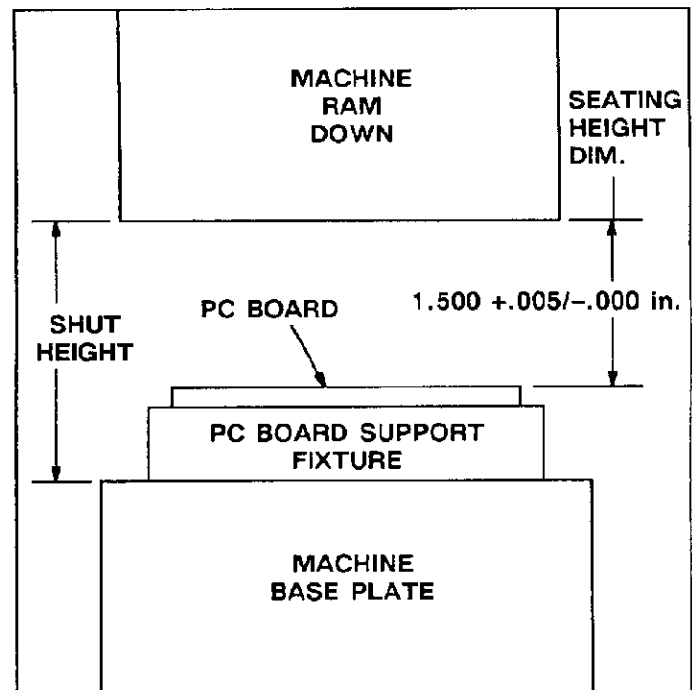


Fig. 2

## 4. SEATING PROCEDURE (Figure 3)

When setting up equipment to seat connectors, pay particular attention to the following:

- Make sure that the number of rows and positions in the header is identical to the number of rows and push pins in the tool.
- Be sure that the seating tool and header are properly aligned before cycling the applicator.

### CAUTION

*If tool and header are incompatible or improperly aligned in the equipment, damage could occur to tooling, header, or both.*

1. Place appropriate size tool inside header assembly and over top of ACTION PIN contacts.
2. Start contact posts into pc board.
3. Position pc board on pc board support fixture with header assembly and tool centered under ram of "H" Frame Machine.
4. Depress operator control pushbuttons (two) on machine and hold them until ram has bottomed to fully insert contacts.

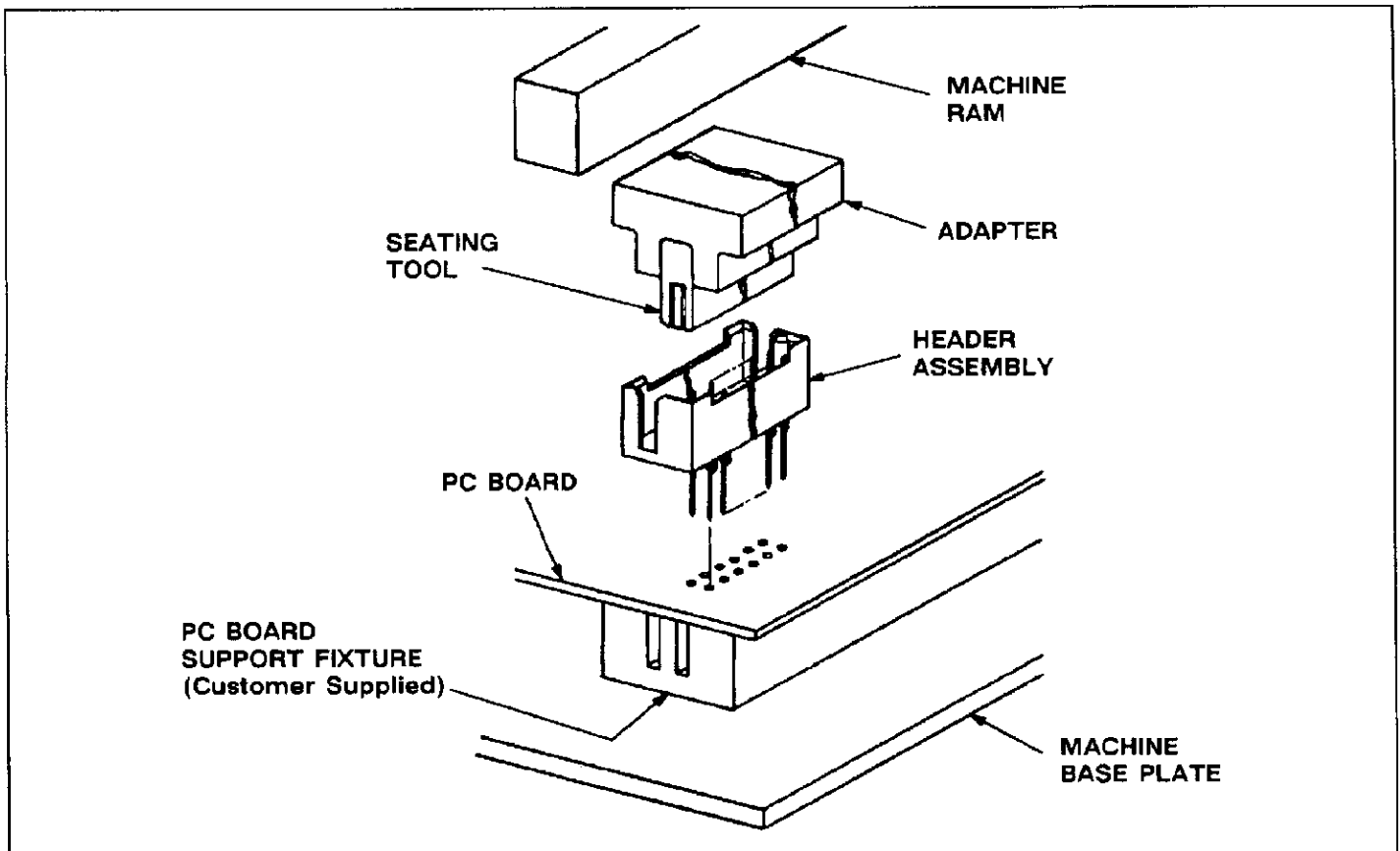


Fig. 3

5. Release pushbuttons to allow machine to return to STANDBY condition.

6. Carefully remove seating tool.

7. Continue seating headers as described in steps 1 through 6 until all headers have been seated.

8. Remove pc board with seated headers from pc board support fixture.

## 5. TOOL INSPECTION

Each seating tool is assembled and inspected before shipment. AMP recommends that the tool be inspected immediately upon its arrival in your plant to assure that it has not been damaged during shipment, and that it conforms to the dimensions given in Figure 4.

## 6. MAINTENANCE/QUALITY CONTROL

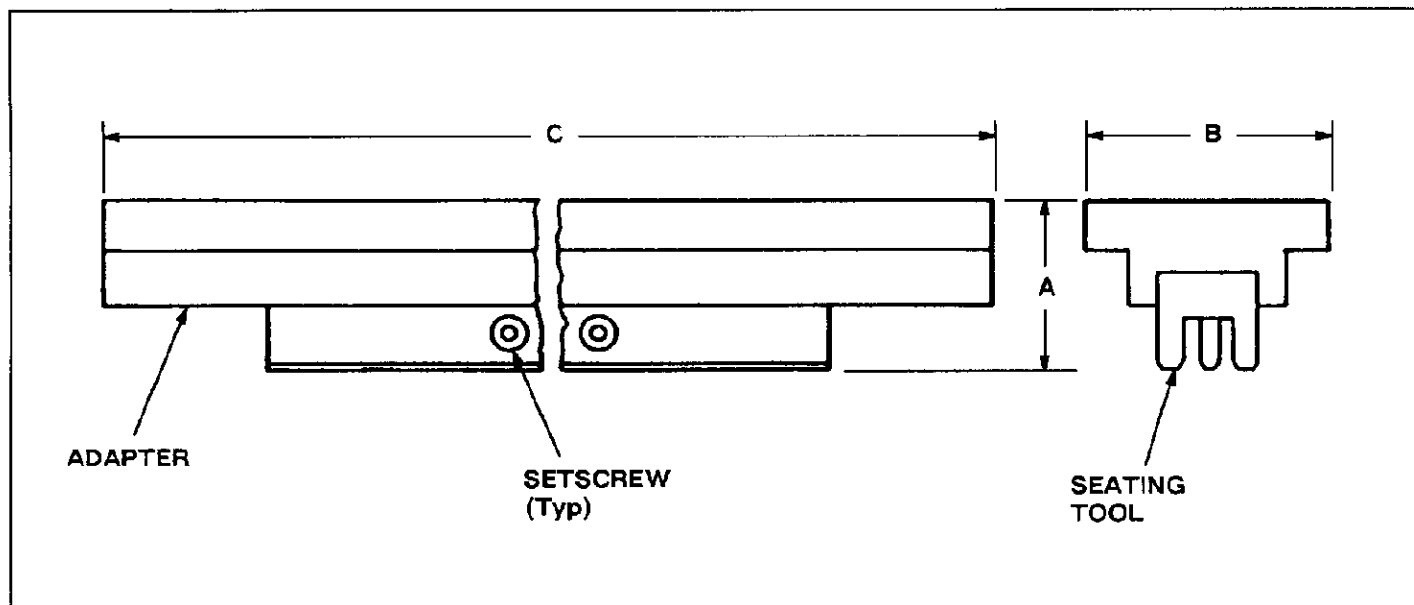
### A. Daily Maintenance

It is recommended that each operator be made aware of, and responsible for, the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean, soft brush or clean, lint-free cloth. Do NOT use objects that could damage the push pins or other tool components.
2. Ensure that the setscrews are in place and secured.
3. When the tool is not in use, store it in a clean dry area.

### B. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool or be supplied to supervisory personnel responsible for the tool. The inspection frequency should be based on the amount of use, working conditions, operator training and skill, and established company standards.



SEATING TOOL ASSEMBLY PART NUMBER	WEIGHT (Max, lb)	DIMENSIONS			REPLACEMENT PARTS		
		A	B	C	ADAPTER	SEATING TOOL	SETSCREW (.188 In. L)
91170-1 thru 2-91170-2	.18	1.37	1.10	2.50	312678-2	312403-1 thru 2-312403-2	2-21012-0
2-91170-3 thru 2-91170-9	.23			3.12	312641-1	2-312403-3 thru 2-312403-9	
3-91170-0 thru 3-91170-2	.30			4.12	312641-2	3-312403-0 thru 3-312403-2	
3-91170-3 thru 3-91170-8	.45			6.12	312678-1	3-312403-3 thru 3-312403-8	
3-91170-9 thru 4-91170-1	.56			7.62	312679-1	3-312403-9 thru 4-312403-1	
4-91170-2	.74			10.12	312680-1	4-312403-2	
4-91170-3	.65			9.12	312680-3	4-312403-3	
4-91170-4	.45			6.12	312678-1	4-312403-4	
4-91170-5 thru 4-91170-6	.56			7.62	312679-1	4-312403-5 thru 4-312403-6	
4-91170-7	.65			9.12	312680-3	4-312403-7	
4-91170-8	.56			7.62	312679-1	4-312403-8	

**NOTE:** If necessary to order individual seating tool(s) for a particular size and type of header assembly, use the prefix and suffix with the part number (312403) that is listed in the part number of the seating tool assembly for that header assembly (Figure 1). For example, the part number of the seating tool for a 200-position, double row, board-to-board, two-piece shrouded header assembly is 4-312403-2.

Fig. 4

## 7. REPAIR

When repair is necessary, to ensure the quality and reliability of the tool, return the tool with a written description of the problem to:

AMP Incorporated  
Customer Repair  
1523 North 4th Street  
Harrisburg, PA 17102-1604

Customer-replaceable parts, specified in Figure 4, can be ordered from:

AMP Incorporated  
P. O. Box 3608  
Harrisburg, PA 17105-3608

or a wholly owned subsidiary of AMP Incorporated.