

# AMP

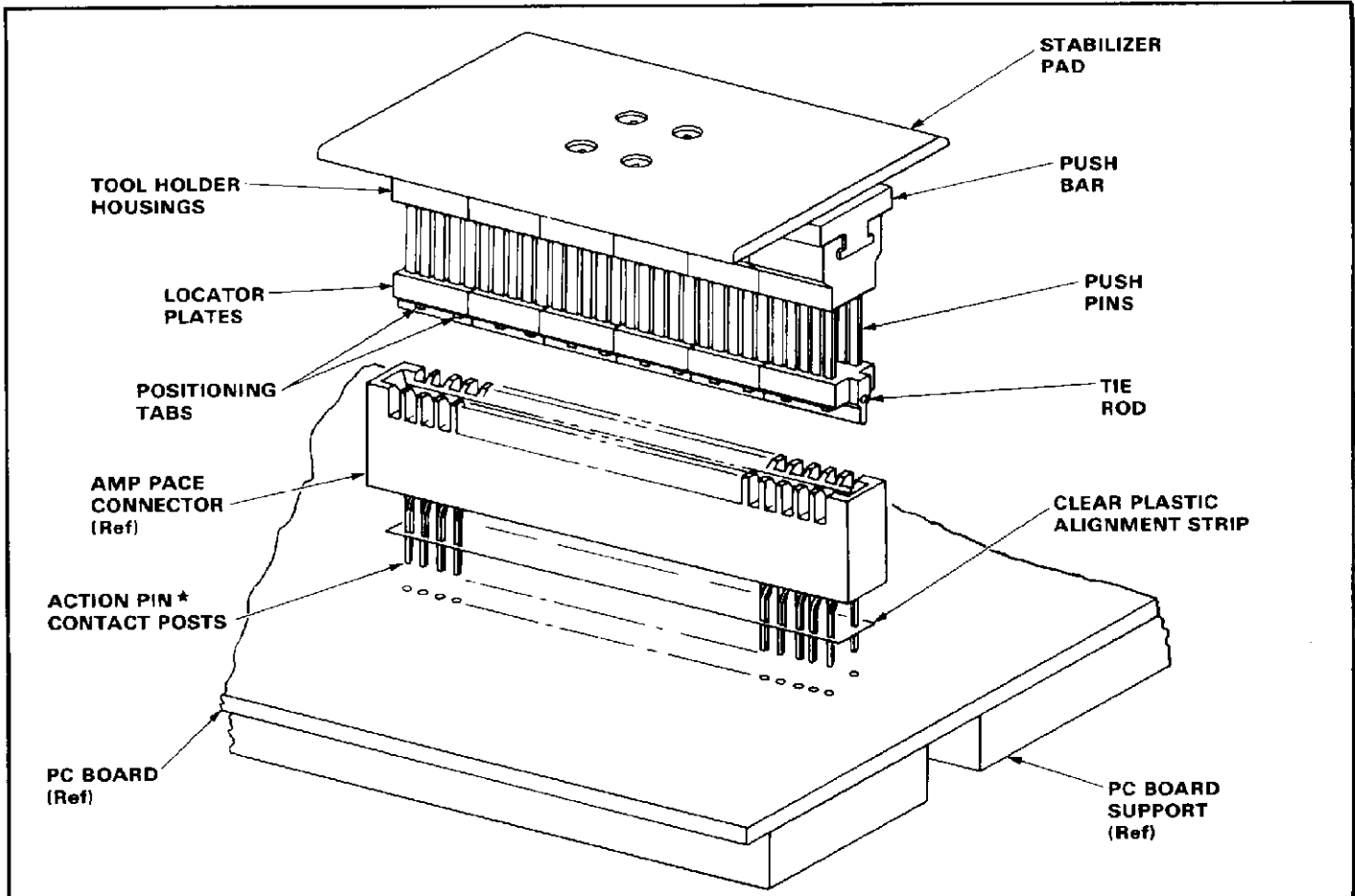
AMP INCORPORATED  
Harrisburg, Pa. 17105

## AMP PACE ★ CONNECTOR MANUAL INSERTION TOOLS WITH BASE PART NUMBER 58140

Instruction Sheet

# IS 9067

RELEASED 10 · 29 · 84



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CONNECTOR		MANUAL INSERTION TOOL	
IN-ROW AND ROW-TO-ROW CENTERLINE SPACING	PART NUMBER	NUMBER OF DUAL POSITIONS	PART NUMBER
.100 x .200	119379-1	15	58140-1
	119485-2	15	58140-1
	119163-1 thru 4-119163-7	15 thru 61	58140-1 thru 4-58140-7
	119214-1 thru 4-119214-7		
	119215-1 thru 4-119215-7		
	119216-1 thru 4-119216-7		
	1-119379-6 thru 4-119379-6	30 thru 60	1-58140-6 thru 4-58140-6
	1-119467-6 thru 4-119467-6		
	1-119468-6 thru 4-119468-6		
	1-119469-6 thru 4-119469-6		
	119384-1	30	1-58140-6
	119485-4		
	119677-3		
	119485-3	33	1-58140-9
	119560-3	33	1-58140-9
	119497-1	40	2-58140-6
	119560-1		
	119621-1		
	119677-2		
	119560-2	41	2-58140-7
119812-1	43	2-58140-9	
119384-2	50	3-58140-6	
119485-1			
119497-1			
119837-1			
119493-1	55	4-58140-1	
119677-1	60	4-58140-6	

Fig. 1

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## 1. INTRODUCTION

This instruction sheet (IS) covers AMP PACE Connector Manual Insertion Tools 58140-1 through 4-58140-7. The tools are used to insert AMP PACE connectors on .100- x .200-in. contact centerlines into printed circuit (pc) boards. The connectors used with these tools have the base part numbers listed in Figure 1.

**NOTE**

*All dimensions on this instruction sheet are in inches.*

## 2. DESCRIPTION (Figure 1)

The tooling is designed for manual insertion of AMP PACE connectors, with AMP ★ ACTION PIN contacts on .100- x .200-in. contact centerlines, into pc boards. Each tool features a push bar to which the tool holder housings are attached. The tool holder housings contain push pins which are held in alignment by the locator plates. Guide pins hold the locator plates in place, and a tie rod which passes through the locator plates maintains their longitudinal alignment.

Each locator plate, with guide to assist in seating the tool in the connector pc board entry slot during insertion, is keyed to fit into the end of the connector entry slot. If assembling a tool, ensure that the locator plate at each end of the tool has the key area turned *outward*. The locator plates also feature positioning tabs which assist in seating the tool.

The connector's ACTION PIN contact tips are held in alignment with a clear plastic strip. The strip aids in the correct insertion of contacts into their corresponding holes in the pc board and is not removed during or after application.

The tool has a stabilizer pad, attached to the push bar with four socket-head screws, which may be permanently attached to the ram of the manual application assembly.

**NOTE**

*The tooling is designed for use in manual application assemblies capable of applying an insertion force of 50 pounds (max) per contact post. The ram width must NOT be less than 2 in. smaller than the length of the insertion tool. (ie, A maximum length of 1 in. may extend beyond ram on both sides.)*

During insertion, the connector locator plates of the insertion tool will seat in the card entry slot of the connector, and the push pins will seat the contact posts into the pc board.

## 3. SHUT HEIGHT

The shut height — distance from bottom surface of ram to pc board after connector insertion — must be set at 1.50 in. before starting the insertion procedure.

## 4. PC BOARD SUPPORT

A *pc board support* capable of supporting the pc board and protecting the contact posts during connector insertion is required during the insertion procedure. The board support is a template of the pc board and is positioned on the table of the manual insertion assembly.

## 5. INSERTION PROCEDURE

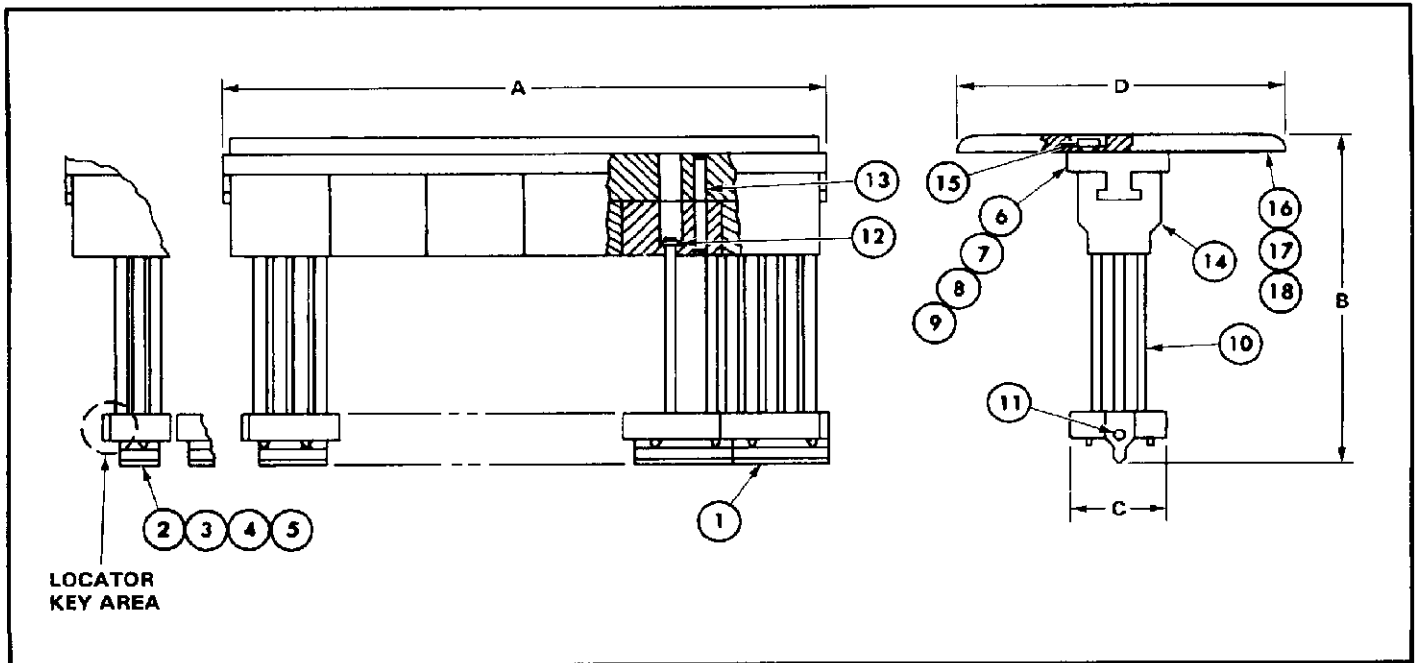
1. Determine the number of dual contact positions in the connector, and make certain that the tool number corresponds to the connector number in the manner described in Paragraph 1, INTRODUCTION.

**CAUTION**

*It is important to determine the compatibility of the tooling and the connector. If tooling is incorrectly mated with connector, damage could occur to tooling, connector, or both.*

2. Insert contact posts of connector until splits in posts start to enter pc board holes.
3. Place pc board with partially inserted connector on pc board support, and center connector under insertion tool on ram of manual application assembly.
4. Lower ram of manual application assembly slowly, and verify alignment of insertion tooling to connector.
5. Apply force to ram to seat connector onto pc board.
6. Manually retract ram, and remove tool from inserted connector.
7. Repeat Steps 2 through 6 until all connectors are installed, then remove pc board from base of manual application assembly.

This completes the insertion procedure.



ITEM	PART NUMBER	DESCRIPTION	QUANTITIES REQUIRED
1	312628-1	PLATE, Locator (5 Positions)	Note 1
2	312631-1	PLATE, Modified Locator (1 Position)	1 (When Required; See Note 1)
3	312631-2	PLATE, Modified Locator (2 Positions)	1 (When Required; See Note 1)
4	312631-3	PLATE, Modified Locator (3 Positions)	1 (When Required; See Note 1)
5	312632-1	PLATE, Modified Locator (4 Positions)	1 (When Required; See Note 1)
6	312650-1	BAR, Push (For 15-30 Dual Positions)	1
7	312650-2	BAR, Push (For 31-45 Dual Positions)	1
8	312650-3	BAR, Push (For 46-60 Dual Positions)	1
9	312650-4	BAR, Push (For 61 Dual Positions)	1
10	312027-1	PIN, Push	Note 2
11	312021-1	ROD, Tie	1
12	20612-1	"E"-Ring	Note 3
13	21028-8	PIN, Roll	Note 3
14	312656-1	HOUSING, Tool Holder	Note 3
15	1- 21065-7	SCREW, Flat Socket Head Cap	4
16	312637-1	PAD, Stabilizer	1
17	312637-2	PAD, Stabilizer	1 (-32 thru -46)
18	312637-3	PAD, Stabilizer	1 (-47)

TOOL SPECIFICATIONS					WEIGHT (Approx)	ENGINEERING APPROVAL	DATE
NUMBER	DIMENSION						
	A	B	C	D			
58140-1 thru 1-58140-6	3.04	2.08	.624	2.00	1 lb (58140-1 Tool)	<i>G. Hoover</i>	11/6/84
1-58140-7 thru 3-58140-1	4.54						
3-58140-2 thru 4-58140-6	6.04						
4-58140-7	7.54						

NOTE 1: THE NUMBER OF LOCATOR PLATES REQUIRED FOR A GIVEN TOOL IS DETERMINED BY DIVIDING THE NUMBER OF DUAL CONTACT POSITIONS BY FIVE. THE REMAINDER OF POSITIONS, IF ANY, WILL REQUIRE AN APPROPRIATE MODIFIED LOCATOR PLATE.

NOTE 2: THE NUMBER OF PUSH PINS REQUIRED FOR A GIVEN TOOL IS DETERMINED BY MULTIPLYING THE NUMBER OF DUAL CONTACT POSITIONS BY TWO.

NOTE 3: THE NUMBER OF PARTS REQUIRED IS EQUAL TO THE NUMBER OF DUAL POSITIONS IN THE TOOL DIVIDED BY FIVE WITH THE REMAINDER COUNTING AS ONE ADDITIONAL.

COMPONENTS LISTED IN FIGURE 2 ARE CUSTOMER-REPLACEABLE. FOR ADDITIONAL TOOLS AND REPLACEMENTS CONTACT: AMP INCORPORATED, P.O. BOX 3808, HARRISBURG, PA 17105.

Fig. 2