

CONNECTOR		MANUAL INSERTION TOOL	
IN-ROW AND ROW-TO-ROW CENTERLINE SPACING	PART NUMBER	NUMBER OF DUAL POSITIONS	PART NUMBER
$.156 \times .200$ 	119253, 119254, 119255, 199256	15 thru 43	58143-1 thru 2-58143-9
	119563, 119527	12	3-58143-0
	119784, 119785	18	58143-4
	119563, 119784, 119568, 119569, 119445, 119446, 119458, 119805, 119567, 119457, 119570	22	58143-8
	119568	27	1-58143-3
	119784	36	2-58143-2
	119445, 119446, 119458, 119805	43	2-58143-9

Fig. 1

1. INTRODUCTION

This instruction sheet (IS) covers AMP PACE Connector Manual Insertion Tools with part numbers 58143-1 through 3-58143-0. The tools are used to insert AMP PACE connectors on .156- 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. The connector dash numbers correspond to the insertion tool dash numbers. For example: A 2-119253-3 connector is inserted by using the 2-58143-3 tool.

NOTE All dimensions presented on this instruction sheet are in inches.

2. DESCRIPTION (Figure 1)

The tools are designed for manual insertion of AMP

PACE connectors, with AMP ★ ACTION PIN contacts on .156- 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 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.

Each tool has a stabilizer pad, attached to the push bar with four slotted flat head screws, which provides

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a push surface for the ram of the manual applicator assembly.

NOTE

The tools are designed for use in manual application assemblies capable of applying an insertion force of 50 pounds (max) per contact post.

3. APPLICATION

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 tool to connector. If tool and connector are incorrectly mated, damage could occur to tool, connector, or both.

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 before or after application.

The locator plates have guides to assist in seating the tool in the connector pc board entry slot during insertion.

4. INSERTION PROCEDURE

NOTE

The shut-height, which is the distance from bottom surface of applicator ram to pc board when the ram is fully bottomed, must be set at 1.50 in. before starting the insertion procedure.

CAUTION

The minimum length of ram push surface must equal length of stabilizer pad; otherwise, damage will occur to tool and/or connector.

1. Determine that insertion tool corresponds with the connector to be inserted into the pc board.

AMP PACE TOOLS 58143-1 THRU 3-58143-0

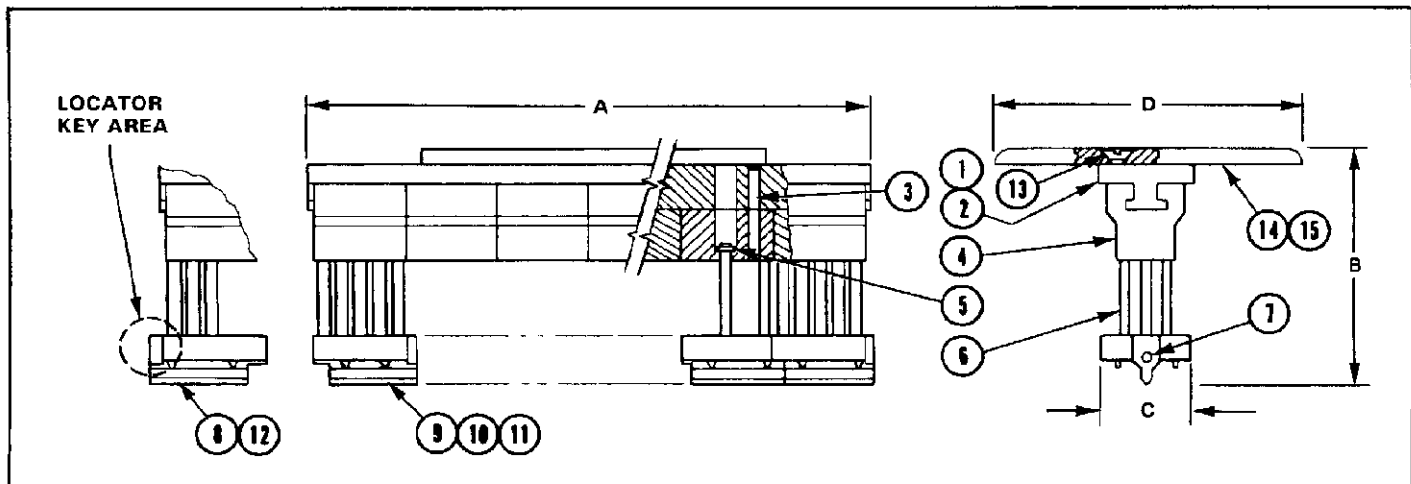
2. Obtain a pc board support capable of supporting the pc board and protecting the contact posts during connector insertion.
3. Select a pc board that has the proper hole pattern to accept the connector.
4. Insert the contact posts until the splits in the posts start to enter the pc board holes.
5. Place the pc board with the partially inserted connector onto the pc board support, and insert the locator plates of the insertion tool into the card-entry slot of the connector.
6. Center the connector and tool under ram of manual applicator assembly.
7. Lower ram of manual applicator assembly slowly and verify the alignment of tool to connector.
8. Apply force to the ram to seat the connector onto the pc board. (The insertion tool connector plates will seat in the connector card-entry slot, and the push pins will seat the contact posts into the pc board.)
9. Manually retract the ram.
10. Repeat Steps 4 through 9 until all the connectors are installed, then remove the pc board from the pc board support.

This completes the insertion procedure.

5. TOOL MAINTENANCE AND CERTIFICATION

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

Customer replaceable parts are listed in Figure 2. A complete inventory should be stocked and controlled to prevent lost time when a replacement of parts is necessary.



ITEM	PART NUMBER	DESCRIPTION	QUANTITIES REQUIRED
1	312653-1	BAR, Push (For 12-30 Dual Positions)	1
2	312653-2	BAR, Push (For 31-43 Dual Positions)	1
3	21028-8	PIN, Slotted Spring	Note 3
4	312659-1	HOUSING, Tool Holder	Note 3
5	20612-1	"E"-Ring	Note 3
6	312027-2	PIN, Push	Note 2
7	312021-1	TIE ROD	1
8	312628-3	PLATE, Locator (5 Positions)	Note 1
9	312635-1	PLATE, Modified Locator (1 Position)	1 (When Required; See Note 1)
10	312635-2	PLATE, Modified Locator (2 Positions)	1 (When Required; See Note 1)
11	312635-3	PLATE, Modified Locator (3 Positions)	1 (When Required; See Note 1)
12	312636-1	PLATE, Modified Locator (4 Positions)	1 (When Required; See Note 1)
13	1- 21065-7	SCREW, Slotted Flat Head	4
14	312637-1	PAD, Stabilizer (For 12-30 Dual Positions)	1
15	312637-3	PAD, Stabilizer (For 31-43 Dual Positions)	1

TOOL SPECIFICATIONS				WEIGHT (Approx)	ENGINEERING APPROVAL	DATE
NUMBER	DIMENSION					
	A	B	C	D		
58143-1 thru 1-58143-6	4.72	2.085	.620	2.00	1 lb (58143-1 Tool)	<i>G. Thomas</i>
1-58143-7 thru 2-58143-9	7.06					
3-58143-0	4.72					

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 3608, HARRISBURG, PA 17105.

Fig. 2