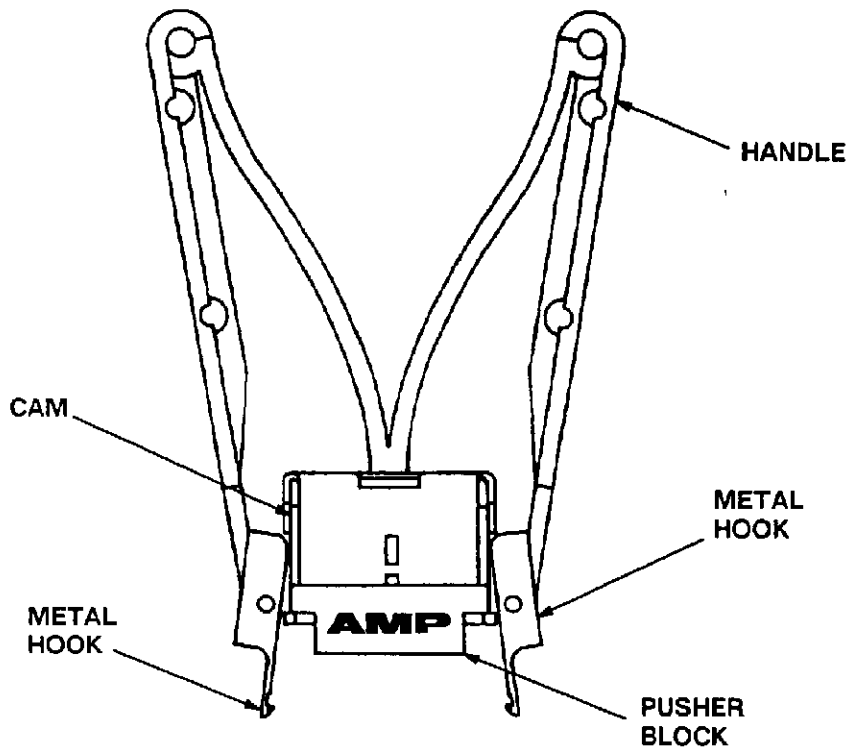


**AMP**AMP INCORPORATED  
HARRISBURG, PA 17105

REDUCED FOR PACKAGING

**IS 9516**CUSTOMER HOTLINE  
1 800 722-1111AMP\*  
MICRO-PITCH\*  
HAND TOOLSRELEASED  
4-15-91

MICRO-PITCH TOOL PART NUMBER	MICRO-PITCH PART NUMBERS		SOCKET SIZE (Positions)
	HSG SUBASSY	COVER	
821958-1	821949-4 822064-4	821939-1	100
821958-2	821949-5 822064-5	821942-1	132
821958-3	822064-6	822111-1	164
821958-4	822114-3	822115-3	144
	822114-4	822115-4	160

Fig. 1

89-261

**1. INTRODUCTION**

This instruction sheet covers the AMP MICRO-PITCH Hand Tools listed in Figure 1. These tools can be used for both inserting and extracting the Plastic Quad Flat Pack (PQFP) and cover components of the AMP MICRO-PITCH socket assemblies listed in Figure 1. Read this sheet carefully before using the hand tool.

**2. DESCRIPTION (Figure 1)**

The MICRO-PITCH hand tool is designed to provide easy PQFP and cover component insertion and extraction without producing adverse effects to the circuit board that holds the MICRO-PITCH socket assembly. Each hand tool works on a specific MICRO-PITCH socket assembly size.

**NOTE**

All dimensions on this sheet are in inches, unless otherwise noted. Figures and illustrations are for identification only and are not drawn to scale.

The hand tool features a cam, two hooks, a pusher block, and a handle. Depending on how the tool is set (insertion or extraction), the tool components may serve multiple functions.

The cam can be positioned to operate the tool either for insertion or for extraction. The cam setting is visible through a window on the cam, near the tool handle.

When the tool is set for insertion, squeezing the tool handle pivots the hooks under the MICRO-PITCH housing subassembly. After the hooks have grasped the housing subassembly, the pusher block pushes the

cover-and-PQFP assembly into the housing subassembly.

For extraction, the tool handle is squeezed, and the pusher block travels toward the circuit board. When the pusher block bottoms on the top of the cover-and-PQFP assembly, the hooks engage the assembly, permitting easy removal of the assembly.

### 3. INSERTION PROCEDURE

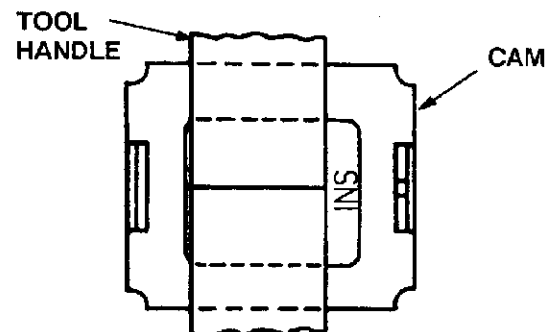
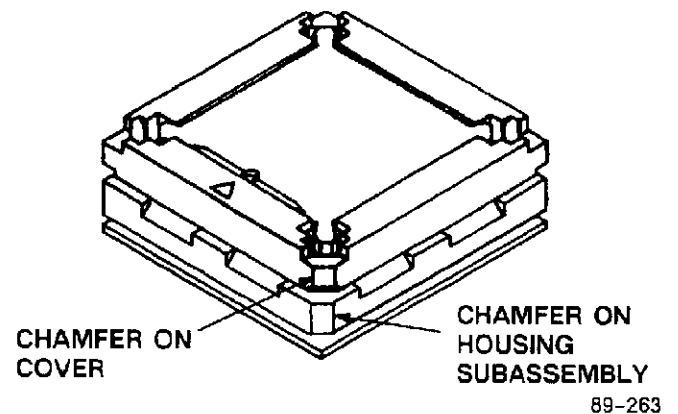
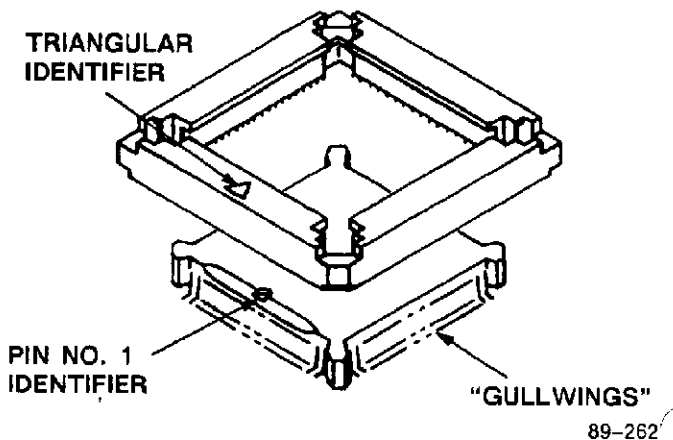
#### NOTE

*Step 1 is for inch-standard product only. For detailed information on assembling a metric-standard cover onto a metric-standard PQFP, refer to AMP Instruction Sheet IS 9703. The remainder of the insertion procedure (Steps 2 through 8) and the extraction procedure apply to either inch-standard or metric-standard product.*

1. Place the PQFP on a flat surface, with the "gullwings" facing downward. Place the cover over the PQFP, making sure to align the triangular identifier on the cover with the "pin number 1" identifier on the PQFP. Push the cover onto the PQFP until a click is heard. Check that the PQFP is fully inserted into the cover and that all PQFP leads are located in the alignment combs on the underside of the cover.

2. Place the PQFP-and-cover assembly onto the MICRO-PITCH housing subassembly. Be sure to align the corner chamfer on the cover with the chamfer on the housing subassembly.

3. Set the hand tool for insertion by positioning the cam so that the letters "INS" (for insertion) are visible through the top window of the cam.



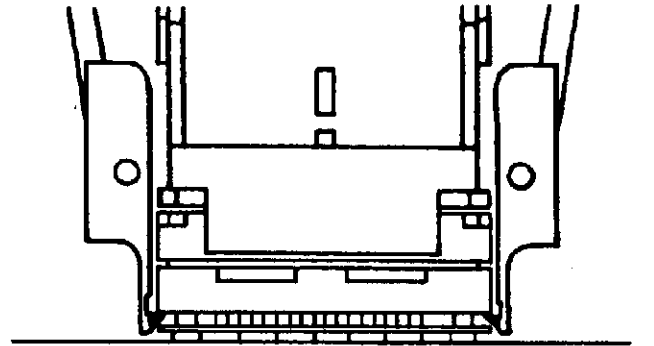
4. Place the hand tool directly over both the MICRO-PITCH housing subassembly and the cover-and-PQFP assembly. Make sure that both metal hooks lie squarely on the circuit board.

5. While squeezing the tool handle, apply a light pressure in the direction of the circuit board. The tool should engage the assembly as shown.

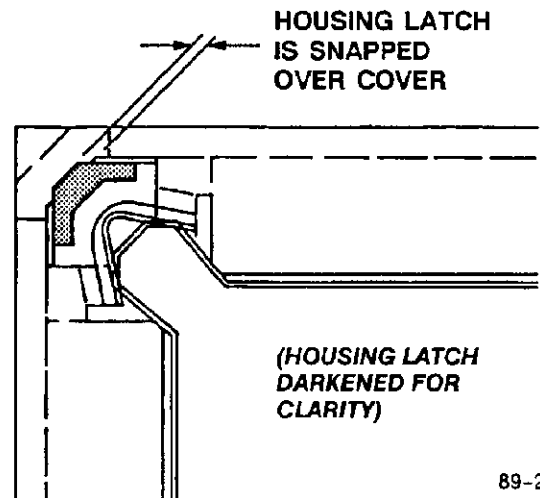
6. When the pusher block reaches the bottom of its stroke, the cover-and-PQFP assembly is fully inserted into the MICRO-PITCH housing subassembly. Release the handle and remove the tool.

7. Make sure that the cover is fully latched by inspecting each of the housing latches. The housing latch should clearly be snapped out over the cover as shown. Also check that a uniform gap of no larger than .010 in. (.254 mm) exists between the cover and housing.

If the cover does not fully latch, remove the PQFP-and-cover assembly as described below, make sure that the gullwing leads are not damaged and are located in the alignment combs, then repeat the insertion procedure, beginning with Step 2.



89-265



89-265A

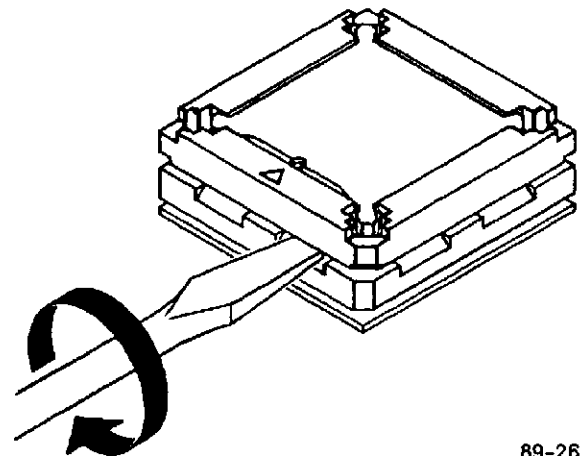
**4. EXTRACTION PROCEDURE**

There are two methods that may be used to remove the cover-and-PQFP assembly from the housing subassembly. The first method unlatches each housing latch individually, and the second method unlatches two housing latches simultaneously. The second method can cause additional wear on the latches, so where space limitations are not restrictive, use of the first method is recommended.

**4.1. METHOD ONE**

1. Insert and turn a small, flat-bladed screwdriver between the cover and the housing as shown.

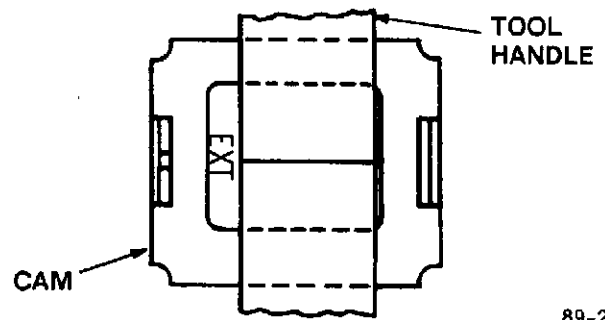
2. Repeat Step 1 on the three remaining sides to unlatch each housing latch.



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## 4.2. METHOD TWO

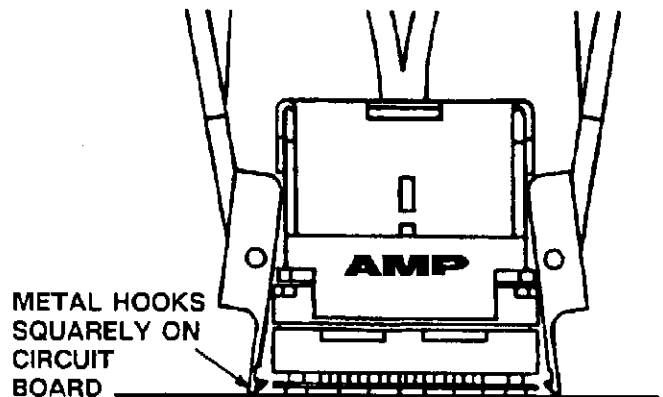
1. Set the hand tool for extraction by positioning the cam so that the letters "EXT" (for extraction) are visible through the top window of the cam, as shown.



89-264

2. Place the hand tool directly over the MICRO-PITCH socket, making sure that both metal hooks lie squarely on the circuit board.

3. While squeezing the tool handle, apply a light pressure in the direction of the circuit board.



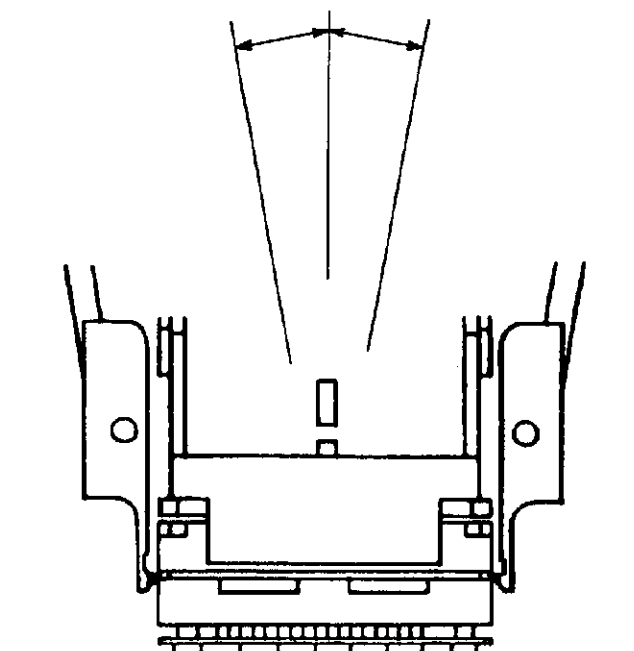
89-266

4. When the tool handle is fully squeezed, gently rock the hand tool in the direction of one of the hooks until a click is heard. The full movement of the tool handle should be about 10° from the vertical position. After hearing the click, gently rock the tool in the opposite direction, again approximately 10° beyond vertical.

5. With the tool handle kept fully squeezed, lift the tool, with the cover-and-PQFP assembly, away from the housing subassembly.

6. Release the tool handle, and allow the cover-and-PQFP assembly to drop freely.

10° (APPROX)



89-267

## 5. ORDERING INFORMATION

If additional MICRO-PITCH hand tools are required, they can be ordered by contacting:

CUSTOMER SERVICE (38-35)  
AMP INCORPORATED  
P.O. BOX 3608  
HARRISBURG, PA 17105-3608