

### PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. AMP hand tools are intended for occasional use and low volume applications. AMP offers a wide selection of powered application equipment for extended-use, production operations.

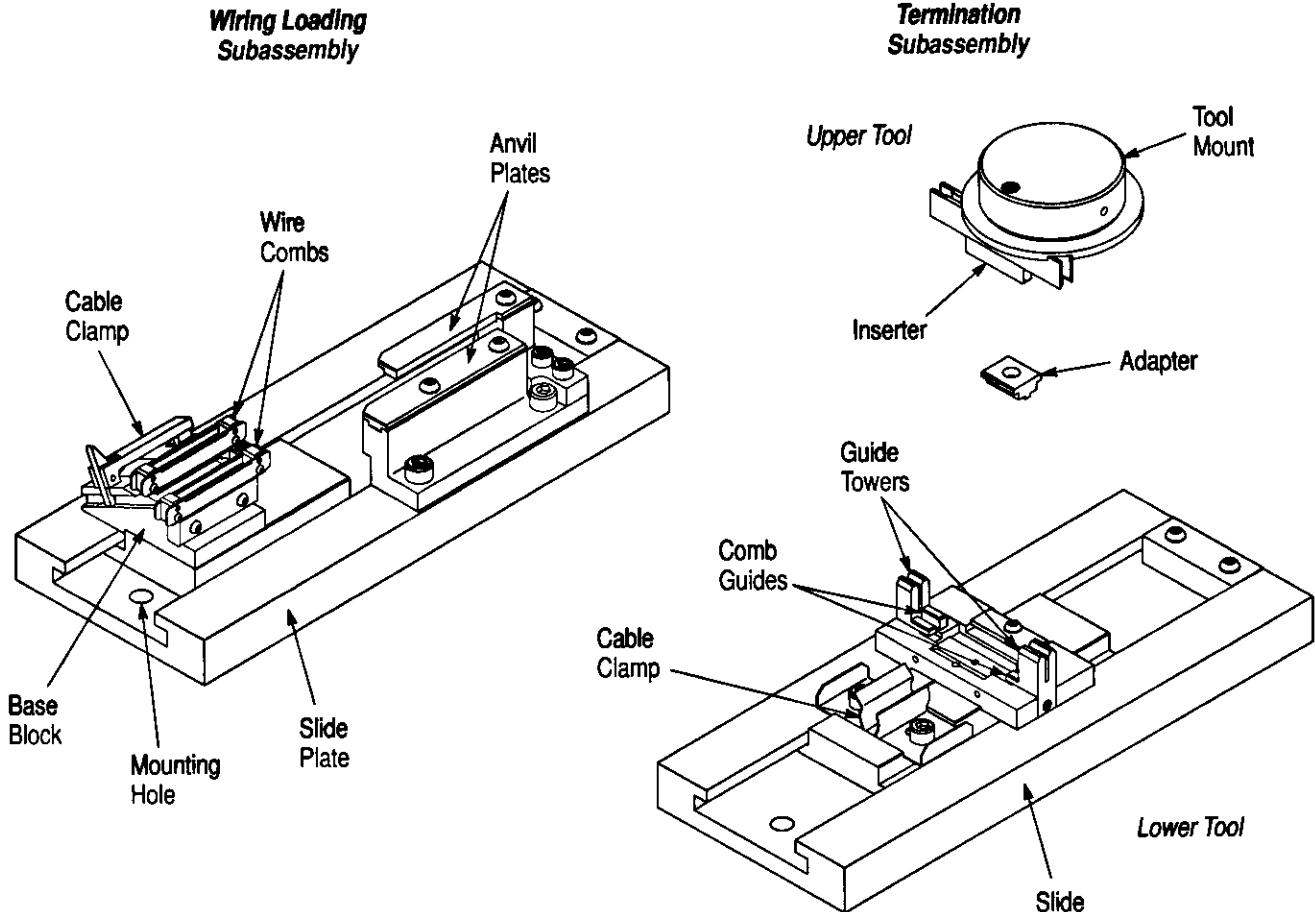


Figure 1

## 1. INTRODUCTION

AMP\* Termination Tooling Assembly 543630-1 is used to apply discrete wire to AMP 0.8mm VHDCI 68-position offset cable plug connectors. The tooling assembly is designed to be used with Manual Arbor Frame Assembly 58024-1 or Manual Miniature Applicator Frame Assembly 91295-1.

For detailed information concerning setup of the frame assemblies, refer to AMP Instruction Sheet 408-6923 for the arbor frame and 408-9817 for the miniature applicator. For cable preparation and information on connector inspection, refer to Application Specification 114-6057.

Read these instructions, and all referenced materials, thoroughly, before terminating any connectors.

### NOTE

Dimensions on this sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

## 2. DESCRIPTION (Figure 1)

The tooling assembly consists of a wire loading subassembly and a termination subassembly. The wire loading subassembly is used to dress wires into wire combs and trim the wires to the required length for terminating onto the connector. The termination subassembly holds the wire combs and the connector in position for terminating the wires into the insulation displacement slots of the contacts.

### NOTE

X-Acto® Knife 3001 with Blade No. 10 is recommended for trimming the wires.

The wire loading subassembly consists of a cable clamp, base block, two wire combs, a slide plate, and two anvil plates.

The termination subassembly consists of a lower tool with a slide, guide towers, cable clamp, and comb guides; and an upper tool with an adapter and inserter.

### Assembling Termination Subassembly onto Frame Assembly

## 3. TOOLING ASSEMBLY SETUP

The wire loading subassembly can be mounted onto a work surface using a 1/4-in. button head cap screw in the mounting hole located at the end of the slide (refer to Figure 1). The tool can also be used sitting freely on a flat, sturdy work surface.

Refer to Figure 2 and assemble the termination subassembly onto the frame assembly as follows:

1. Assemble the upper tool onto the ram of the frame assembly.
  - a. If using the arbor frame, slide the tool mount (with the upper tool inserter attached) into the ram and secure with two No. 6-32, 3/8-in. flat head screws.
  - b. If using the miniature applicator, remove the screw located on the back of the tool mount and remove the upper tool inserter. Assemble the inserter onto the upper tool adapter using the socket head cap screw (supplied with tooling assembly). Slide the adapter onto the applicator ram tooling adapter.

#### CAUTION

*Make sure that the inserter is properly oriented on the tool mount or upper tool adapter. The left end of the inserter must protrude further than the right end when the tool mount or adapter is assembled onto the tool.*

2. Assemble the slide onto the base plate of the frame assembly using the four socket head cap screws. Do NOT tighten screws at this time. See Figure 3.
3. Slide the lower tool onto the slide until the first set of guide towers (towers closest to throat of frame assembly) align with the upper tool inserter. Slowly lower the ram until the inserter enters the guide towers.
4. Hold the lower tool in place and tighten the four socket head cap screws to secure the slide.
5. Carefully lift the ram and slide the lower tool back until the second set of guide towers (towers closest to operator) align with the upper tool inserter. Slowly lower the ram until the inserter enters the guide towers.

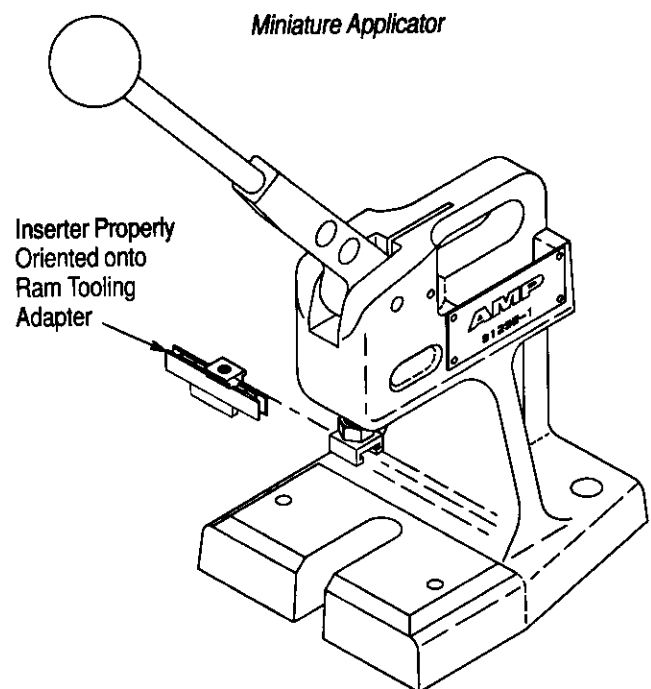
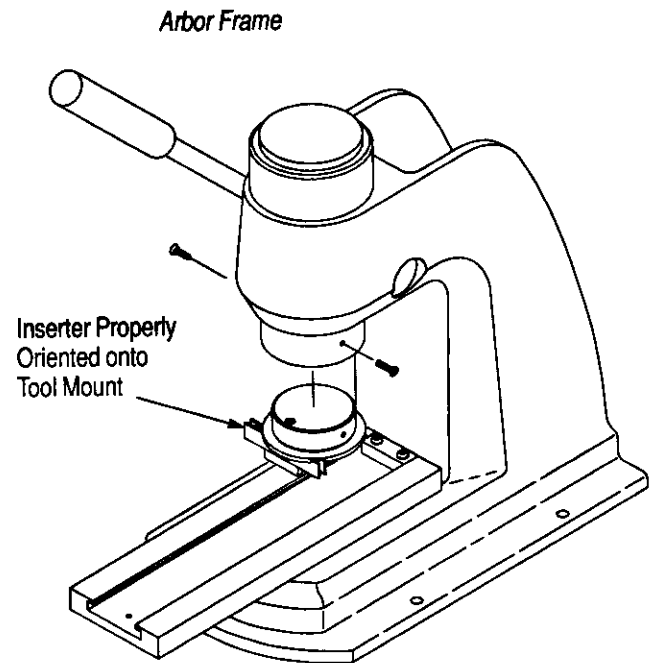


Figure 2

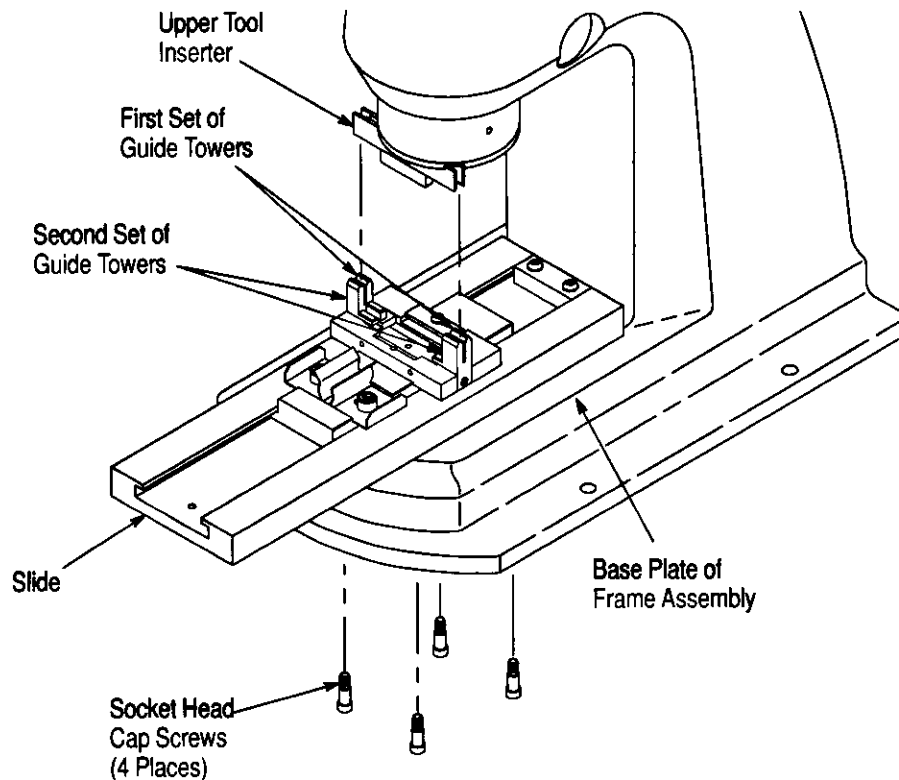


Figure 3

**NOTE**

If the inserter does not enter the towers with ease, loosen the four socket head cap screws, make sure that the slide is positioned straight, then tighten the screws.

**4. TERMINATION PROCEDURE****4.1. Wire Loading**

1. Place the wire combs on the comb holders on the wire loading subassembly, making sure that, facing the *front* of the tool, the button head cap screws in each comb are on top of the holes. See Figure 4.

**CAUTION**

Wire combs must be properly oriented on their holders; otherwise, the base block will not slide under the anvil plates for trimming the wires.

2. Lift the latch and open the cable clamp bar.
3. Position the cable onto the base block, making sure that the cable jacket is aligned with the horizontal groove in the base block. See Figure 4.
4. Close the cable clamp bar and secure the latch.
5. Untwist the first pair of wires and insert the wires into the proper slots of the wire combs according to applicable wiring diagram. Make sure that each wire is pushed in far enough for the slot to grip the wire. Refer to Figure 5.

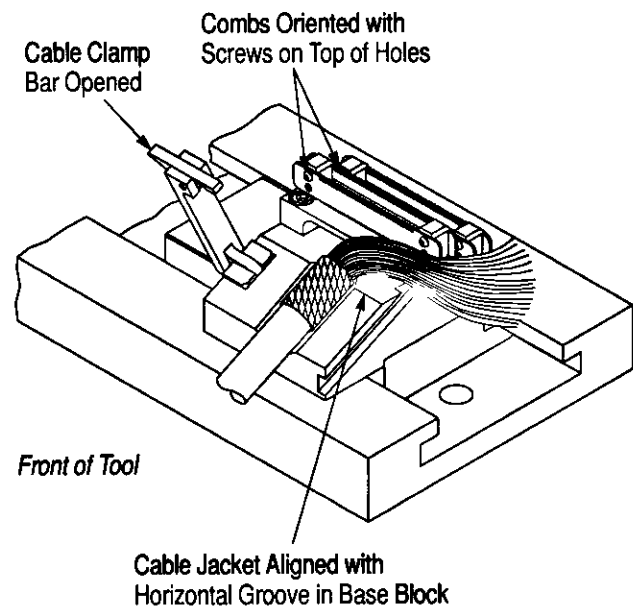


Figure 4

**NOTE**

For cross-row applications, insert one wire of the twisted pair into the first slot in the top comb then take the other wire under the top comb and insert it into the first slot in the bottom comb. For in-line applications, insert wires into the bottom comb first, then the top comb. Refer to Figure 5.

To ensure that the wires are inserted into the proper contact positions, it is important to understand the orientation of the combs when going from wire loading to wire terminating. The combs are placed in the loading subassembly on the opposite side of how they are placed in the termination subassembly. Therefore, when the combs are in the loading subassembly, the first slot in the top comb (at the left side) is position 34 and the first slot in the bottom comb is position 68.

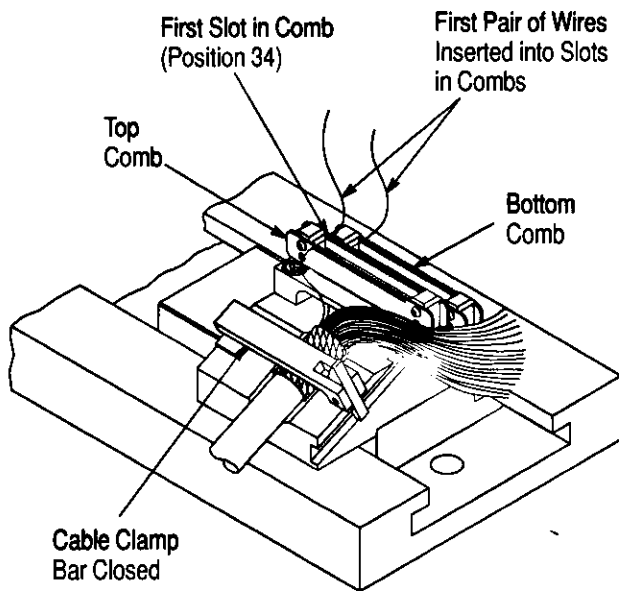


Figure 5

6. Continue inserting the wires until all wires are dressed in the combs.

7. Lift the wire tails above the combs. See Figure 6, Detail A. Slide the base block to the end of the slide plate and under the anvil plates. Smooth the wire tails over the anvil plates so that they are straight.

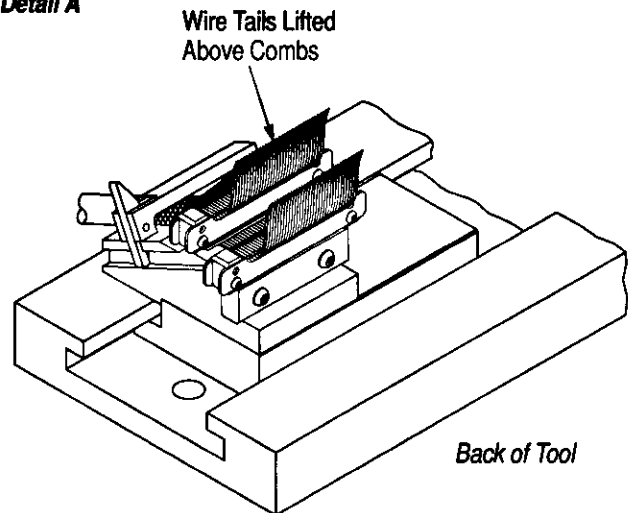
8. Position the blade of the knife tight against the upper comb and carefully, with slight pressure, drag the blade across the wires, keeping the blade in the groove in the upper anvil plate. All wires should be trimmed evenly. Repeat for the lower comb. See Figure 6, Detail B.

**NOTE** To ensure that knife trims the wires evenly, always keep the blade sharp.

9. Slide the base block away from the anvil plates and open the cable clamp bar.

10. Lift the top comb (with the wires) off of its holder then lift the lower comb (with the wires) off of its holder. Remove the cable assembly from the tool.

Detail A



Detail B

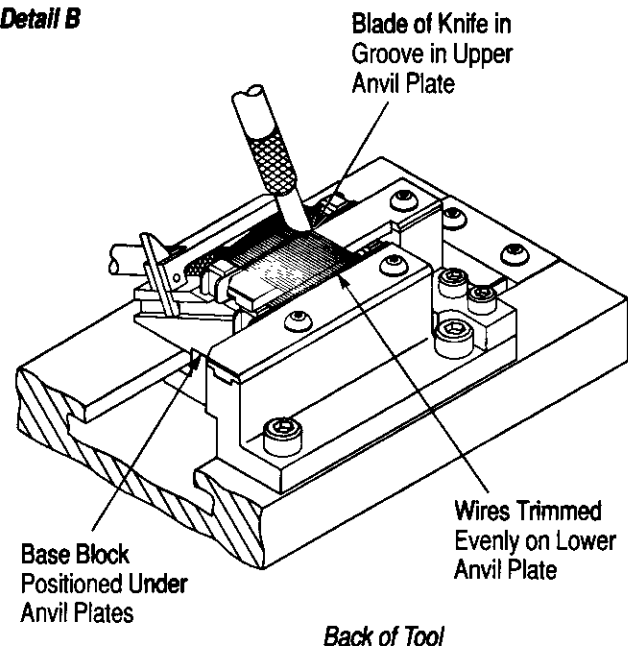


Figure 6

#### 4.2. Wire Terminating

1. Lift the ram and slide the lower tool of the termination subassembly to the front of the slide.
2. Position the connector into the nest of the base plate with the contact tines facing up and the mating end under the connector hold-down. Push the connector down into the nest until it snaps into place. See Figure 7.
3. Place the top comb (the comb with the shorter wires) between the lower comb guides and onto the connector with the laced wires facing the connector. See Figure 8.

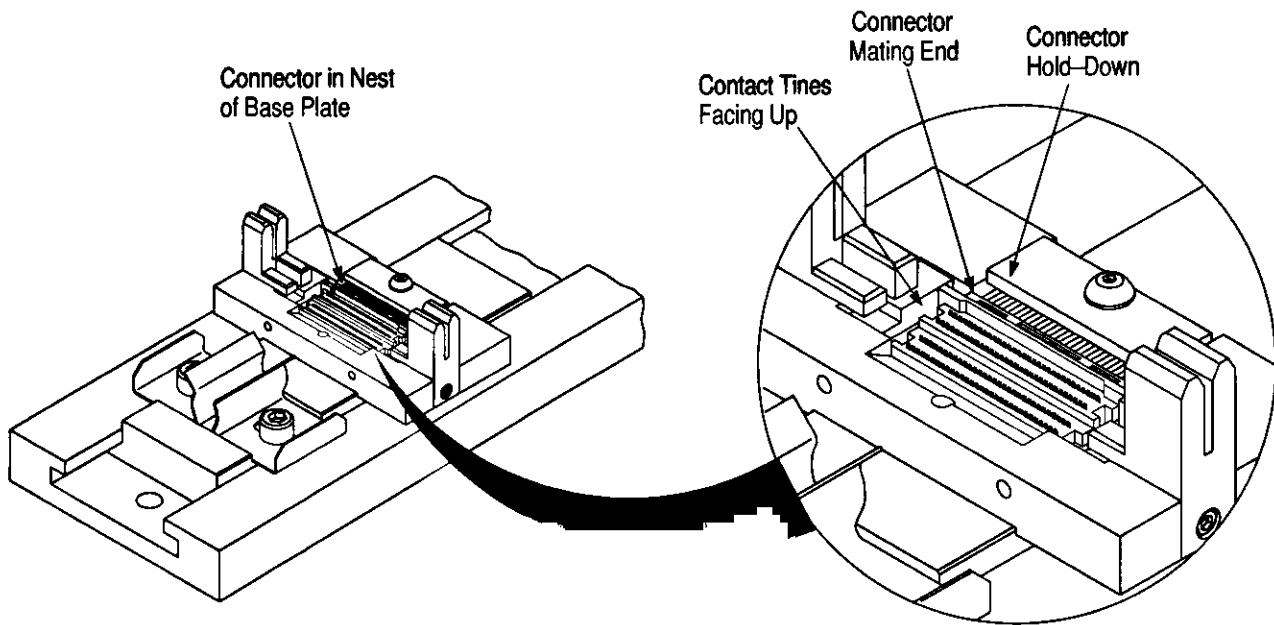


Figure 7

4. Push the cable into the cable clamp until it is secure. Then carefully fold the bottom comb and its wires toward the cable clamp. See Figure 8.

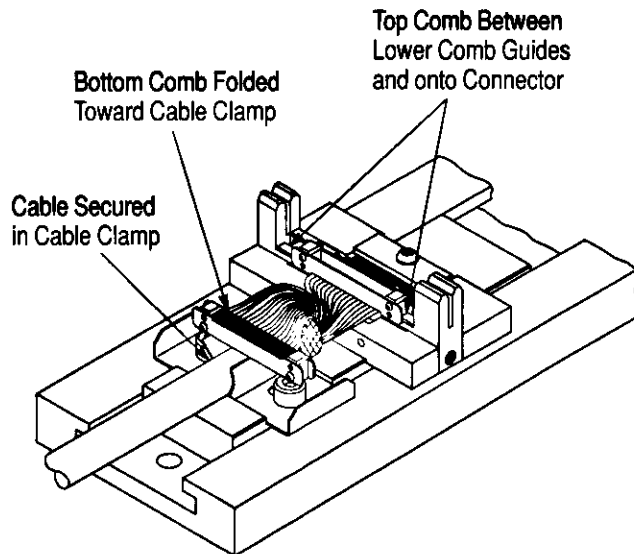


Figure 8

5. Slide the lower tool to the back of the slide until the second set of guide towers aligns with the inserter. See Figure 9.

6. Slowly lower the ram until the inserter enters the guide towers and sits on the comb. Complete the cycle to terminate the contacts.

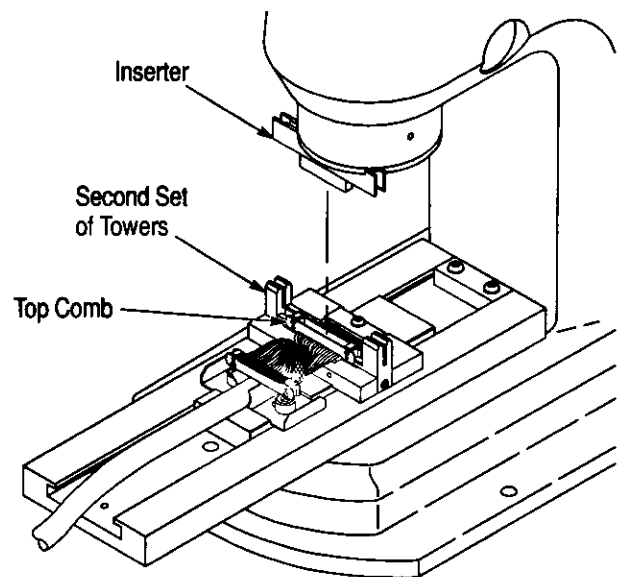


Figure 9

7. Slide the lower tool to the front of the slide and remove the comb (the comb might stick to the inserter). Keep the cable in the cable clamp.

8. Secure the connector termination cover over the terminated contacts. See Figure 10.

9. Place the bottom comb (the remaining comb) between the upper comb guides (refer to Figure 10) and onto the connector with the laced wires facing the connector.

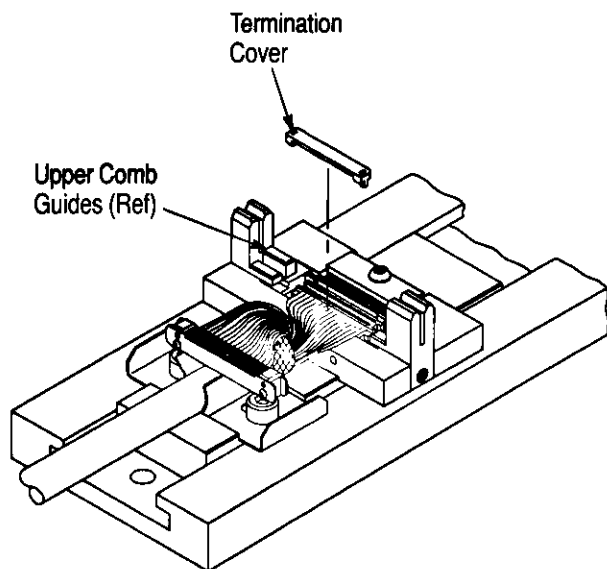


Figure 10

10. Slide the lower tool to the back of the slide until the first set of guide towers aligns with the inserter. Slowly lower the ram until the inserter enters the guide towers and sits on the comb. Complete the cycle to terminate the contacts. Slide the lower tool to the front of the slide and remove the comb.

11. Secure the connector termination cover over the terminated contacts.

12. Remove the cable from the cable clamp and lift the cable assembly up, removing it from the tool.

## 5. MAINTENANCE AND REPAIR

The tooling assembly requires little maintenance other than to keep it clean. Remove debris and contaminants from the tooling with a clean, soft, lint-free cloth or a clean, soft brush. Do not use objects that could damage the tooling and do not use any solvents that could harm paint or plastic material. When not in use, store the tooling in a clean, dry area.

Tooling may be returned to AMP for evaluation and repair. For repairs, send tooling assembly, with a written description of the problem, to:

CUSTOMER REPAIR (01-12)  
AMP INCORPORATED  
1523 NORTH 4TH STREET  
HARRISBURG PA 17102-1604