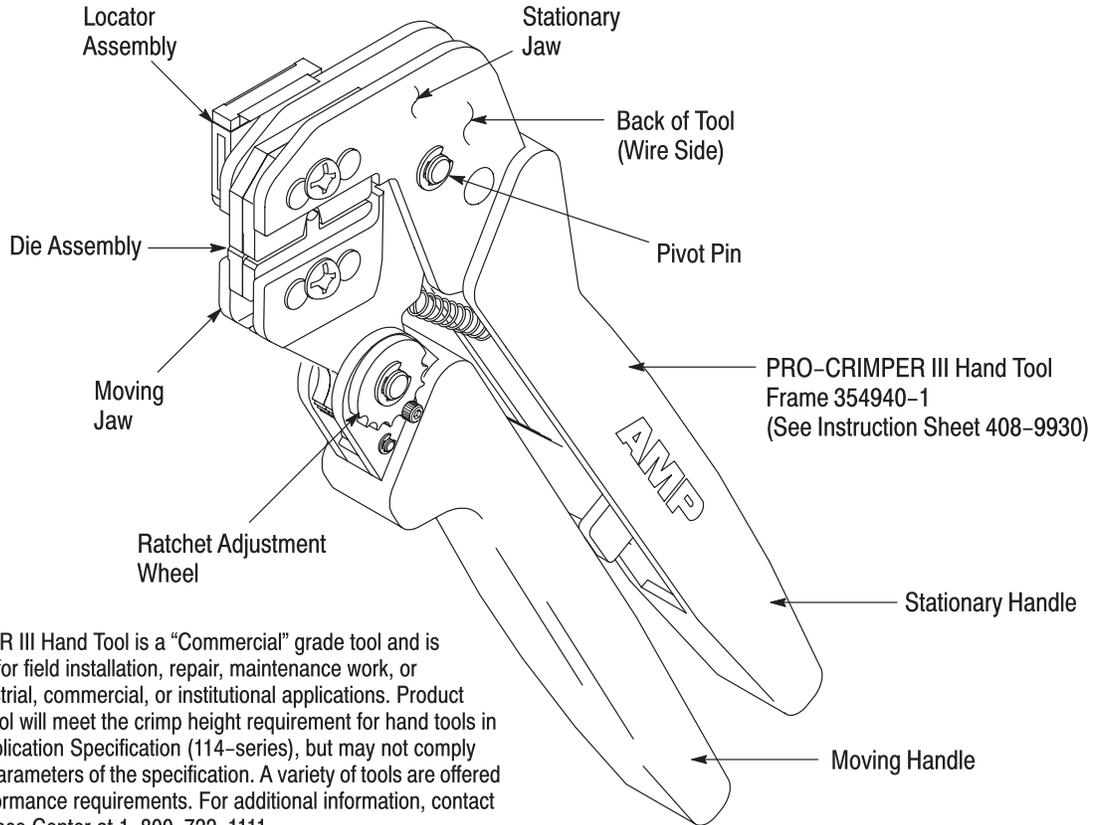


**PROPER USE GUIDELINES**

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



The PRO-CRIMPER III Hand Tool is a “Commercial” grade tool and is designed primarily for field installation, repair, maintenance work, or prototyping in industrial, commercial, or institutional applications. Product crimped with this tool will meet the crimp height requirement for hand tools in the appropriate Application Specification (114-series), but may not comply with other feature parameters of the specification. A variety of tools are offered to satisfy your performance requirements. For additional information, contact the Tooling Assistance Center at 1-800-722-1111.

DIE ASSEMBLY	LOCATOR ASSEMBLY†	SOCKET CONTACT SUPPORT‡	PRODUCT FAMILY□	WIRE		
				SIZE (AWG)	INSULATION DIAMETER RANGE	STRIP LENGTH RANGE
1976444-2	58516-1	679277-1	VAL-U-LOK* Contacts	16	1.80-3.10 mm [.071-.122 in.]	3.0-3.5 mm [.118-.138 in.]

† Supplied with Die Assembly, Also Available Separately

‡ Available Separately (Pin Contact Support Supplied with Locator Assembly)

□ For specific contact part number, contact the Tooling Assistance Center at the number at the bottom of this page.

Figure 1

**1. INTRODUCTION**

PRO-CRIMPER III Hand Tool Assembly 1976444-1 consists of PRO-CRIMPER III Hand Tool Frame 354940-1 and Die Assembly 1976444-2. The tool assembly is used to crimp the contacts listed in Figure 1.

For additional information on the hand tool frame, refer to 408-9930. Read these instructions thoroughly before using the tool assembly.



*Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.*

**2. DESCRIPTION (Figure 1)**

The tool frame features a stationary jaw and handle, a moving jaw and handle, and an adjustable ratchet that ensures full crimping. The tool frame holds the die assembly.

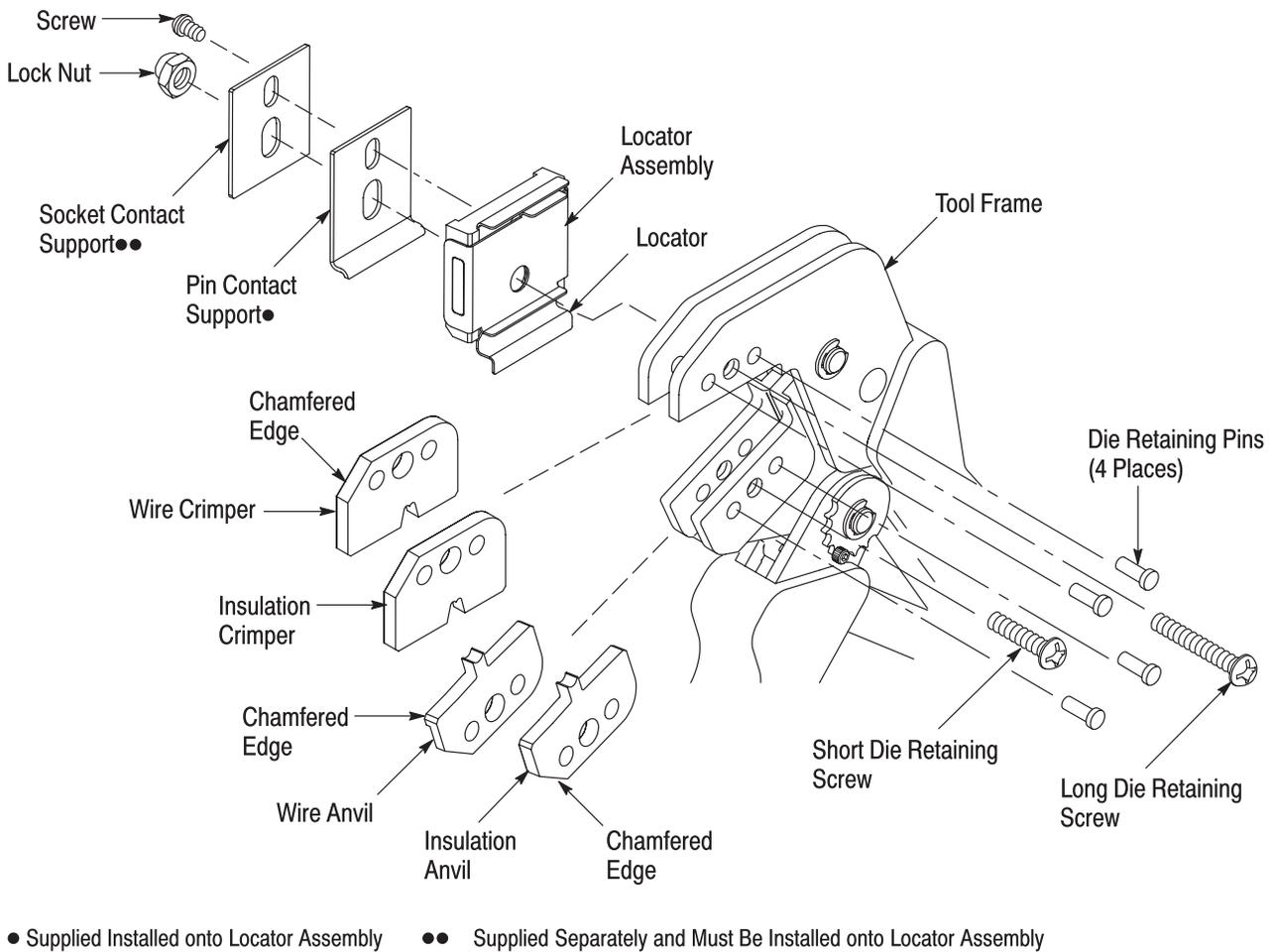


Figure 2

The die assembly consists of a wire anvil, an insulation anvil, a wire crimper, and an insulation crimper. When closed, the dies form a crimping chamber. Die retaining pins and die retaining screws are used to secure the dies in the tool frame. A locator assembly is included with the die assembly and must be attached to the outside of the tool frame. The locator assembly features a locator, spring retainer, and pin contact support. A lock nut is used to hold the locator assembly in place.

A socket contact support (supplied separately) must be installed onto the locator assembly.

**3. INSTALLATION AND REMOVAL OF DIE ASSEMBLY AND LOCATOR ASSEMBLY** (Figure 2)

1. Close the tool handles until the ratchet releases, then allow the handles to open fully.

2. Remove the two die retaining screws from the tool jaws.
3. Place the wire anvil and insulation anvil in the moving jaw so that the chamfered edges and marked surfaces face outward.
4. Insert the two die retaining pins through the outer-most holes.
5. Insert the short die retaining screw through the hole of the moving jaw and hole of both anvils, and tighten the screw just enough to hold the anvils in place. DO NOT completely tighten the screw.
6. Place the wire crimper and insulation crimper in the stationary jaw so that the chamfered corners and marked surfaces face outward.
7. Insert the two remaining die retaining pins through the outer-most holes.
8. Insert the long die retaining screw through the hole of the stationary jaw and hole of both crimpers, and tighten the screw just enough to hold the crimpers in place. DO NOT completely tighten the screw.

**NOTE** *The ratchet has detents that create audible clicks as the tool handles are closed.*

9. Carefully close the tool handles, making sure that the anvils and crimpers align properly. Continue closing the tool handles until the ratchet engages sufficiently to hold the anvils and crimpers in place, then tighten both die retaining screws.

10. Remove the screw that secures the pin contact support onto the locator assembly. With the pin socket support against the locator assembly, position the socket contact support against the pin socket support. Re-insert the screw, and thread the screw just enough to hold the contact supports in place while still allowing them to slide up and down.

11. Place the hole of the locator assembly over the end of the long screw and against the side of the tool jaw, then place the lock nut onto the end of the long screw. Tighten the lock nut just enough to hold the locator assembly in place while still allowing the locator to slide up and down.

12. Adjust each contact support until they meet the dimensions given in Figure 3. Tighten the screw, and close the tool handles until the ratchet releases.

13. To disassemble, close the tool handles until the ratchet releases, remove the lock nut, the locator assembly (with contact supports), and the two die retaining pins, then slide the dies out of the tool jaws.

**4. CRIMPING PROCEDURE**

**NOTE** *This tool is provided with a crimp adjustment feature. Initially, the crimp height of a sample contact should be verified in accordance with Section 5.*

Refer to Figure 1, and select wire of the specified size and insulation diameter. Strip the wire to the length indicated in Figure 1, taking care not to nick or cut wire strands.

Refer to Figure 4, and proceed as follows:

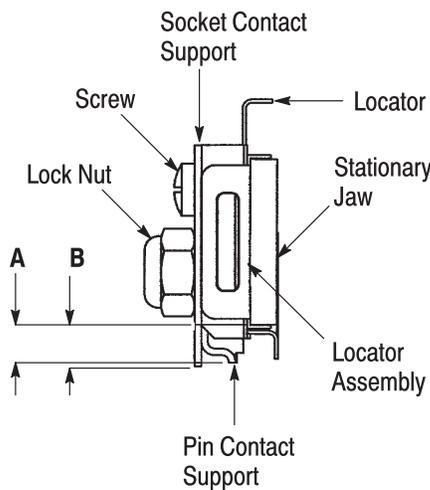
1. Hold the tool so that the back (wire side) is facing you. Squeeze tool handles together and allow them to open fully.
2. Holding the contact by the mating end, insert the contact — insulation barrel first — into the front of the anvil. Make sure that the insulation barrel and wire barrel sit on the nest of the anvils and the open part of the wire barrel faces the top of the tool.

**CAUTION** *Make sure that both sides of the insulation barrel are started evenly into the anvil. DO NOT attempt to crimp an improperly positioned contact.*

3. Position the contact so that the locator drops into the wire stop slot of the contact. Make sure that the front of the wire barrel butts against the locator.
4. Hold the contact in position, and squeeze the tool handles together until ratchet engages sufficiently to hold the contact. DO NOT deform the insulation barrel or wire barrel.
5. Insert the stripped wire into the insulation barrel and wire barrel until it butts against the locator.
6. Holding the wire in place, squeeze the tool handles together until the ratchet releases. Allow the tool handles to open, and remove the crimped contact.

**NOTE** *If the crimped contact sticks in the crimping chamber, remove the contact by pushing downward on the top of the locator.*

7. Inspect the contact crimp height according to Section 5.



DIMENSION A	DIMENSION B
3.81 [.150] Bottom of Locator Cover to Bottom of Pin Contact Support	4.29 [.169] Bottom of Locator Cover to Bottom of Socket Contact Support

Figure 3

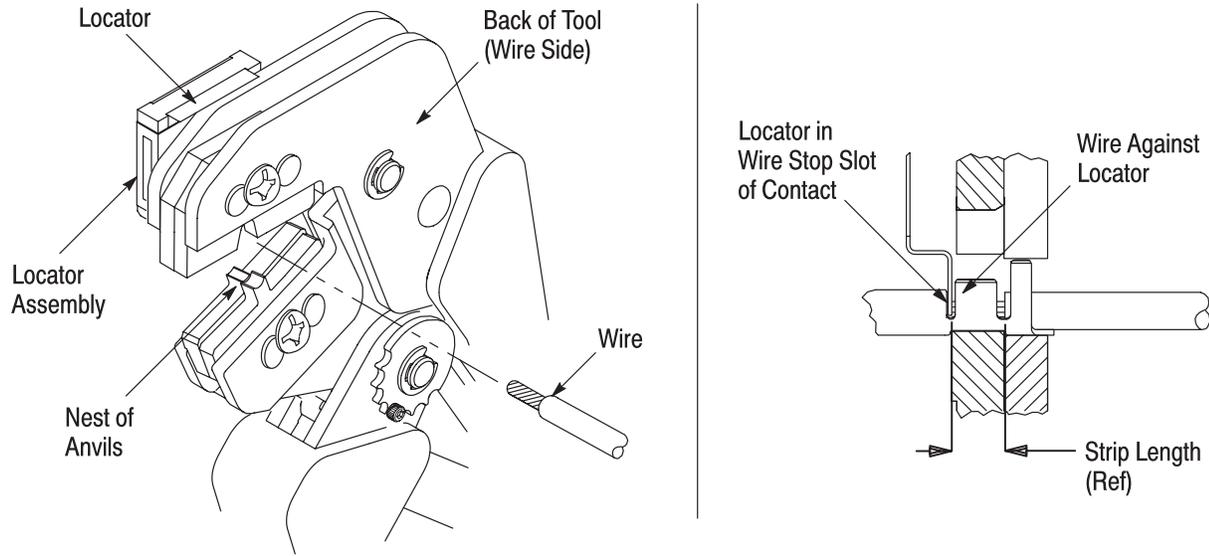


Figure 4

**5. CRIMP HEIGHT INSPECTION**

This inspection requires the use of a micrometer with a modified anvil. It is recommended using a modified micrometer (Crimp Height Comparator RS-1019-5LP) which may be purchased from:

Shearer Industrial Supply Co.	VALCO
717-767-7575	610-691-3205

Proceed as follows:

1. Crimp a contact according to Section 4, CRIMPING PROCEDURE.
2. Center the most compressed area of the wire barrel crimp (opposite the seam) on the anvil of the crimp height comparator, and rotate the movable handle until the spindle tip touches the wire barrel. DO NOT go beyond initial contact; otherwise, this could cause a depression and result in an inaccurate reading.
3. Check the height of the crimped wire barrel against the crimp height dimension given in Figure 5. If the crimp height conforms to the dimension, the tool is considered dimensionally

correct. Lubricate the tool with a thin coat of any good SAE 20 motor oil. If it does not, adjust the crimp height according to Section 7.

**6. CRIMP HEIGHT ADJUSTMENT (Figure 6)**

The tool ratchet mechanism features an adjustment wheel with numbered settings. The adjustment wheel controls the amount of handle pressure exerted on the jaws during crimping. Check the crimp height according to Section 5. If the crimp height is not acceptable, adjust the crimp height as follows:

1. Remove the lockscrew from the ratchet adjustment wheel.
2. With a screwdriver, adjust the ratchet wheel from the front of the tool.

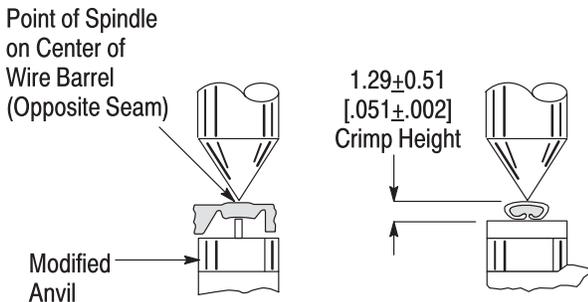


Figure 5

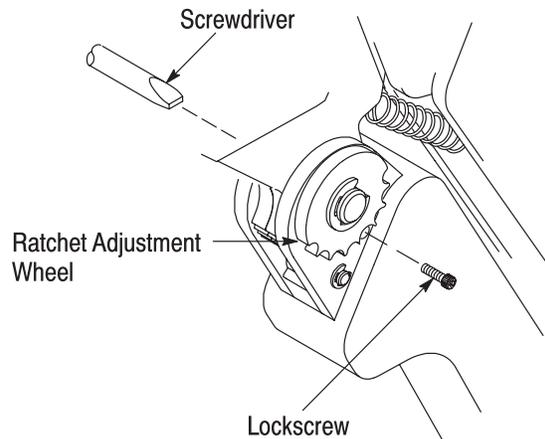


Figure 6

3. Observe the ratchet adjustment wheel. If a tighter (smaller) crimp height is required, rotate the adjustment wheel *counterclockwise* to a higher-numbered setting. If a looser (larger) crimp height is required, rotate the adjustment wheel *clockwise* to a lower-numbered setting.

4. Re-assemble the lockscrew.

5. Make a sample crimp. If the crimp height is acceptable, the adjustment setting is correct. If the crimp height is unacceptable, continue to adjust the ratchet, and again measure a sample crimp.

## 7. MAINTENANCE AND INSPECTION

### 7.1. Maintenance

Ensure that the tool frame and dies are clean by wiping them with a clean, soft cloth. Remove any debris with a clean, soft brush. Do not use objects that could damage any components. When not in use, keep tool handles closed to prevent objects from becoming lodged in the dies, and store in a clean, dry area.

### 7.2. Visual Inspection

Inspection of the dies should be made on a regular basis to ensure that they have not become worn or damaged. Inspect the crimping chambers for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the dies must be replaced. Refer to Section 7, REPLACEMENT.

## 8. REPLACEMENT

Customer-replaceable parts are shown in Figure 1. Available separately, Repair Kit 679221-1 includes a replacement lock nut and a variety of pins, rings, screws, and springs. If the dies are damaged or worn excessively, they must be replaced. Order the repair kit and replaceable parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
TYCO ELECTRONICS CORPORATION  
PO BOX 3608  
HARRISBURG PA 17105-3608

## 9. REVISION SUMMARY

- Initial release of instruction sheet