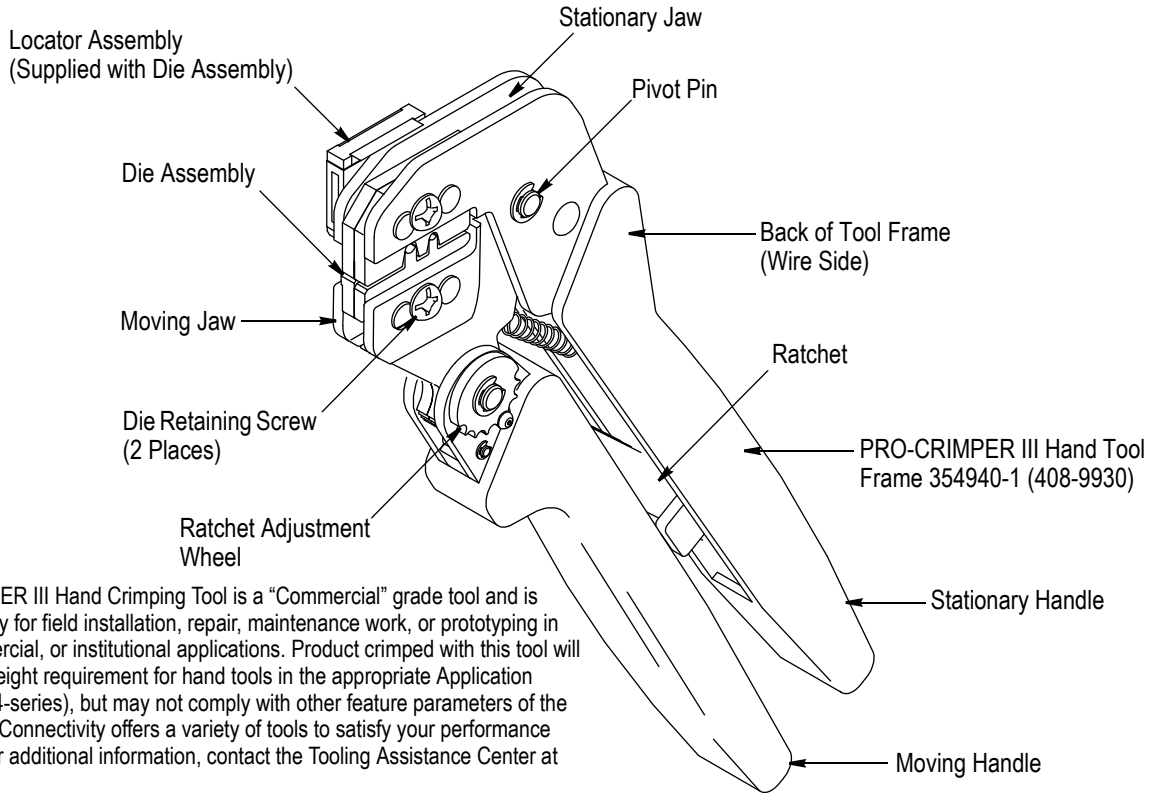
# PRO-CRIMPER* III Hand Crimping Tool Assembly 90800-1 with Die Assembly 90800-2

ORIGINAL INSTRUCTIONS

**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 Crimping 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. TE Connectivity offers a variety of tools to satisfy your performance requirements. For additional information, contact the Tooling Assistance Center at 1-800-722-1111.

| DIE ASSEMBLY | LOCATOR ASSEMBLY | PRODUCT FAMILY | WIRE | | |
|---|---|---|---|---|---|
| | | | SIZE RANGE (AWG) | INSULATION DIAMETER (mm [in.]) | STRIP LENGTH (mm [in.]) |
| 90800-2 | 58516-1 | AMPLIMITE* HD Crimp-Snap Contacts | 28-22 | 0.76-1.02 [.030-.040] | 3.56-3.96 [.140-.156] |

*Figure 1*

## 1. INTRODUCTION

PRO-CRIMPER III Hand Tool Assembly 90800-1 consists of PRO-CRIMPER III Hand Tool Frame 354940-1 and Die Assembly 90800-2. The tool assembly is used to crimp the contacts given in Figure 1,

Read these instructions thoroughly before using the tool assembly.

**NOTE**

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

For additional information on the hand tool frame, refer to 408-9930.

Reasons for reissue of this instruction sheet are provided in Section 9, REVISION SUMMARY.

## 2. DESCRIPTION (See Figure 1)

The tool consist of a stationary jaw and handle, a moving jaw and handle, and an adjustable ratchet that ensures full crimping. The tool features a ratchet adjustment wheel for adjusting the crimp height.

A locator assembly is attached to the tool frame and consists of a locator, spring retainer, and contact support. The contact support prevents the contact from bending during crimping. A nut used on the long die retaining screw holds the locator assembly in place.

The die assembly consists of two anvil dies (wire and insulation) and two crimper dies (wire and insulation).

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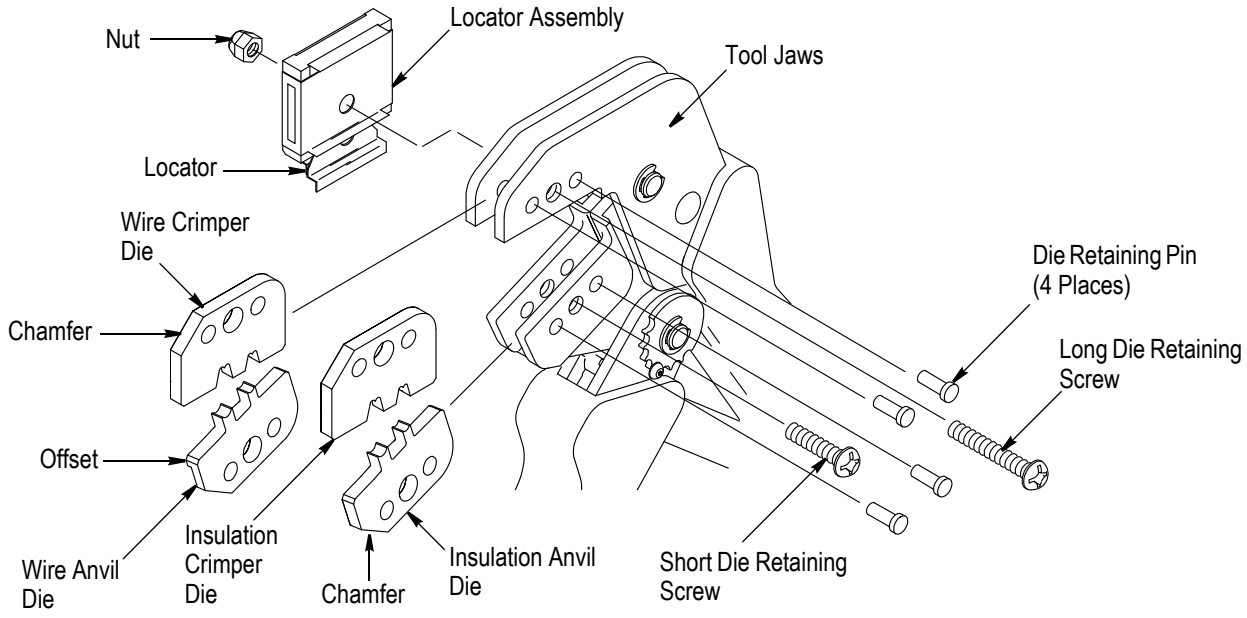



*Figure 2*

When closed, the dies form two crimping chambers. Each die is held in the tool frame by a retaining screw and two retaining pins.

## 3. INSTALLATION AND REMOVAL OF DIE ASSEMBLY AND LOCATOR ASSEMBLY

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. Slide the wire anvil and insulation anvil dies onto the moving jaw so that the chamfers and marked surfaces face outward as shown in Figure 2, then insert the two die retaining pins through the holes in the moving jaw and into the holes in the dies.

4. Thread, but do not tighten, the short die retaining screws through the holes of the moving jaw and into the holes in both anvil dies.

5. Slide the wire crimper and insulation crimper dies onto the stationary jaw so that the chamfers and marked surfaces face outward as shown in Figure 2, then insert the two die retaining pins through the holes in the stationary jaw and into the holes in the dies.

6. Thread, but do not tighten, the long die retaining screws through the holes of the moving jaw and into the holes in both crimper dies.

7. Carefully close the tool handles, making sure that the dies align properly. Continue closing the handles until the ratchet has engaged sufficiently to hold the dies in place.

8. Tighten the die retaining screws using the appropriate screwdriver.

9. Place the locator assembly over the end of the long die retaining screw, and position the locator assembly against the side of the tool jaw.

10. Place the nut onto the end of the long die retaining screw, and tighten the nut enough to hold the locator assembly in place, while still allowing the locator to slide up and down.

11. To disassemble, close the tool handles until the ratchet releases. Remove the nut, locator assembly, the two die retaining screws, and four die retaining pins, then, slide the dies out of the tool jaws.

## 4. CRIMPING PROCEDURE

**NOTE**

*The tool frame is provided with a crimp adjustment feature. Initially, the crimp height should be verified according to Section 6, CRIMP HEIGHT INSPECTION, and if necessary, adjusted according to Section 7, CRIMP HEIGHT ADJUSTMENT before using the tool.*

Refer to Figure 1, and select wire of the specified size and insulation diameter. Strip the wire to the dimension given in Figure 1, taking care not to nick or cut wire strands. Then proceed as follows:

1. Hold the tool so that the back (wire side) faces you. Close the tool handles until the ratchet releases, then allow the handles to open FULLY.

2. Insert the contact (insulation barrel first) into the front of the appropriate crimping chamber (refer to the markings on the die).

3. Position the contact so that the mating end is on the locator side of the tool frame and the open “U” of the wire barrel and insulation barrel faces the top of

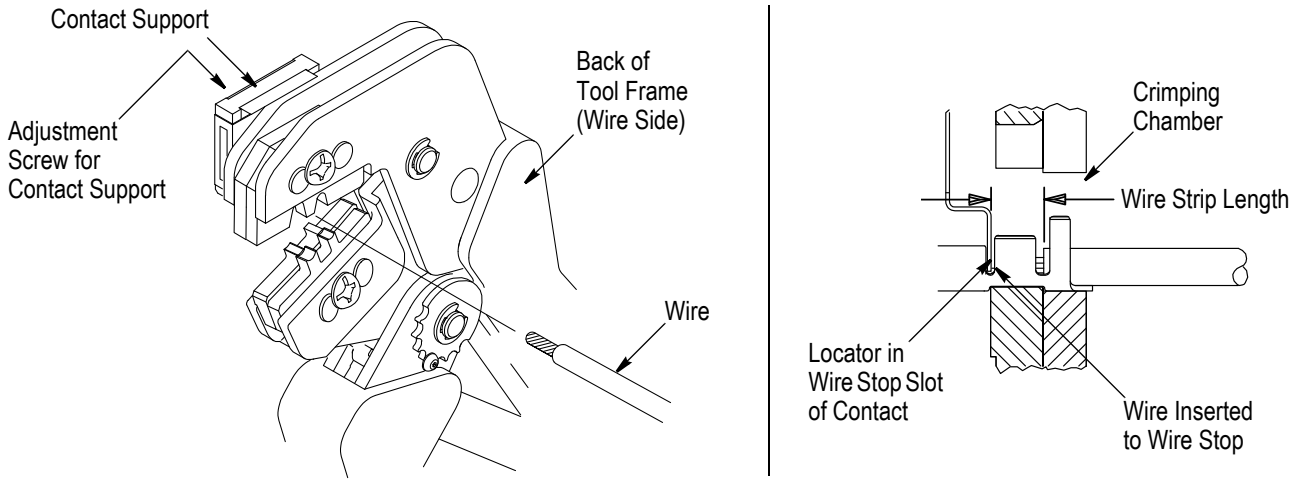



*Figure 3*

the tool frame. Place the contact up into the crimping chamber so that the locator drops into the slot in the contact. Refer to Figure 3. Butt the front end of the wire barrel against the locator.

**CAUTION**

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

4. Hold the contact in position, and close the tool handles until the ratchet engages sufficiently to hold the contact in position. DO NOT deform the insulation barrel or wire barrel.

5. Insert the stripped wire into contact insulation barrel and wire barrel until it is butted against the wire stop as shown in Figure 3.

6. Holding the wire in place, close the tool handles until the ratchet releases.

7. Allow the tool handles to open FULLY, and remove the crimped contact.

**NOTE**

*The crimped contact may stick in the crimping area; however the contact can be removed by pushing downward on the top of the locator (see Figure 3).*

8. Check the contact crimp height, and if necessary, adjust the crimp height

**CAUTION**

*DO NOT use defective or damaged products.*

## 5. ADJUSTMENTS

### 5.1. Contact Support

The contact support is preset prior to shipment, but minor adjustment may be necessary if the contact is bending during crimping.

Proceed as follows:

1. Make a sample crimp and determine if the contact is bending (upward or downward).

2. Loosen the screw that holds the contact support onto the locator assembly.

3. Place a contact with a wire into the proper crimping chamber, and close the tool handles until the ratchet reaches the sixth click or until the contact support touches the contact.

**NOTE**

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

4. Slightly loosen the nut that holds the locator assembly onto the tool frame.

5. Move the contact support as required to eliminate the bending of the contact.

6. Tighten the nut, then close the handles until the ratchet releases.

7. Remove and inspect the contact. Make another sample crimp. If the contact is straight, tighten the contact support screw. If the contact is still being bent during crimping, repeat the adjustment procedure.

### 5.2. Ratchet Adjustment

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. If the crimp is not acceptable, adjust the ratchet as follows:

1. Remove the lockscrew from the ratchet adjustment wheel. Refer to Figure 4.

2. Using a screwdriver, adjust the ratchet wheel from the front of the tool.

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

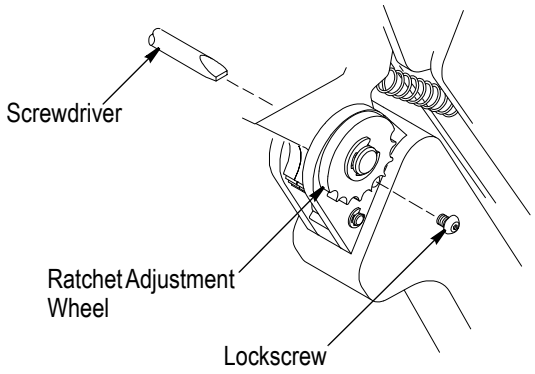



*Figure 4*

4. Re-install the lockscrew.

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

## 6. CRIMP HEIGHT INSPECTION

Crimp height inspection is performed through the use of a micrometer with a modified anvil, commonly referred to as a crimp height comparator. TE does not market crimp height comparators. Refer to Instruction Sheet 408-7224 for detailed information on obtaining and using a crimp height comparator.

Proceed as follows:

1. Refer to Figure 5, and select a maximum size wire for each crimping chamber.

2. Crimp the contacts according to Section 4.

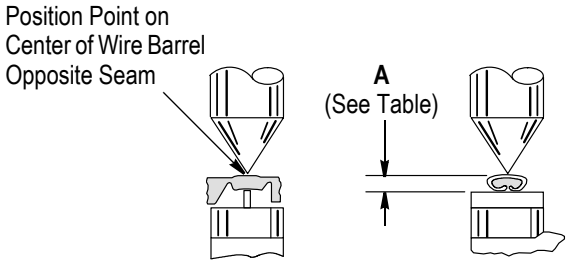
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 4. If the crimp height conforms to the dimension, the tool assembly is considered dimensionally correct. If not, the tool frame must be adjusted. Refer to Paragraph 5.2, Crimp Height Adjustment.

## 7. MAINTENANCE AND INSPECTION

### 7.1. Maintenance

1. 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.

2. When not in use, keep tool handles closed to prevent objects from becoming lodged in the dies, and store in a clean, dry area.




| CRIMPING CHAMBER MARKING | MAXIMUM WIRE SIZE (AWG) | DIMENSION A CRIMP HEIGHT (mm [in.]) |
|---|---|---|
| 26-28 | 26 | 0.69±0.05 [.027±.002] |
| 22-24 | 22 | 0.79±0.05 [.031±.002] |

*Figure 5*

3. Remove all lubrication and accumulated film from the dies by immersing the dies in a suitable commercial degreaser.

### 7.2. Visual Inspection

1. Inspection of the tool and dies should be made on a regular basis to ensure that they have not become worn or damaged.

2. Make sure that the proper die retaining screws are properly secured.

3. Inspect the crimping chambers of the die assembly for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the dies must be replaced. Refer to Section 7, REPLACEMENT AND REPAIR.

## 8. REPLACEMENT AND REPAIR

Available separately, Repair Kit 679221-1 includes a replacement 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, tool assembly, and die assembly 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

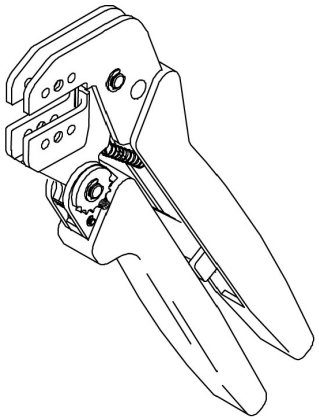
## 9. REVISION SUMMARY

Revisions to this instruction sheet include:

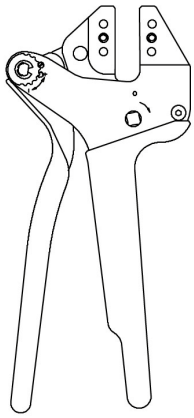
- Updated document to corporate requirements
- New logo

*Tooling Compatible with Die Assembly 90800-2*

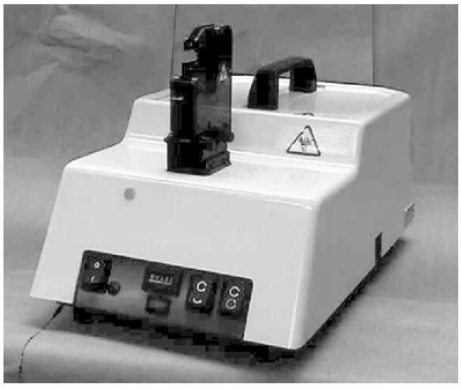
***PRO-CRIMPER III Hand Tool Frame 354940-1***
(Instruction Sheet 408-9930)



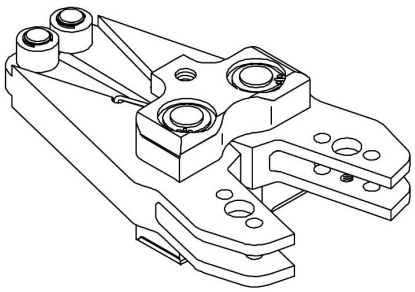
***SDE-SA Hand Tool 9-1478240-0***
(Instruction Sheet 408-8851)



***SDE Bench Terminator 1490076-2***
(Customer Manual 409-10052)



***626 Adapter 679304-1***
(Instruction Sheet 408-4070)



***Closed Head Assembly 2031460-1***
***With Pin Dies or Shoulder Dies***
(Instruction Sheet 408-10312)

***"C"-Head Assembly 2031450-1***
***With Shoulder Dies Only***
(Instruction Sheet 408-10311)

***Electro-Hydraulic (BT 3500 Battery-Hydraulic)***
***Hand Tool Kits 2031400-[ ]***
(Customer Manual 409-10095)

