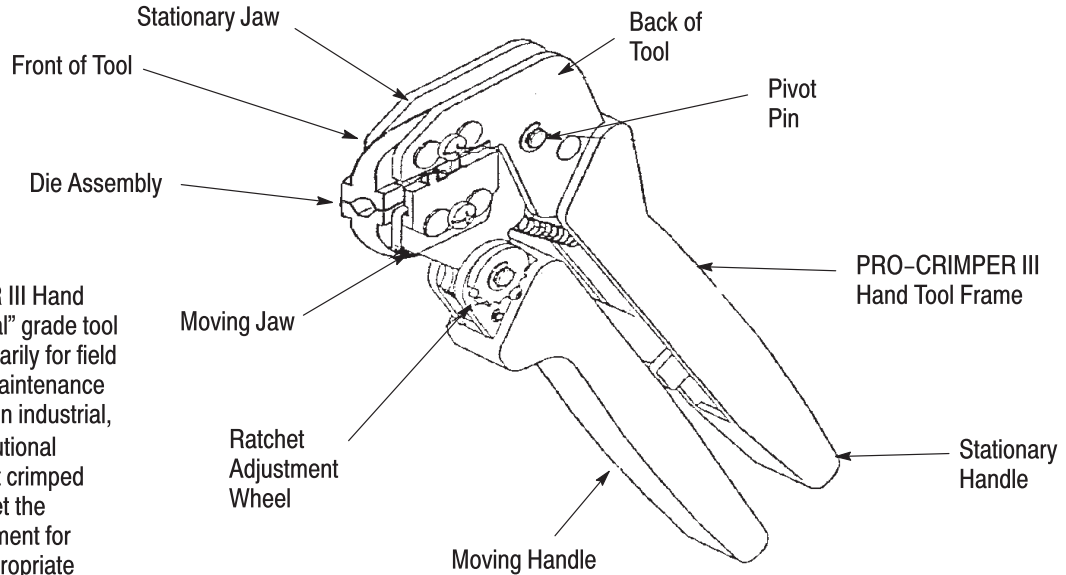


**PROPER USE GUIDELINES**

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 114 application specification, but may not comply with other feature parameters of the specification. Tyco Electronics offers a variety of tools to satisfy your performance requirements. For additional information, contact the Tooling Assistance Center at 1-800-722-1111.

PRO-CRIMPER II TOOLING			CONNECTOR	CONDUCTOR		CABLE	
Hand Tool and Die Assy	Die Assy	Hand Tool Frame	EMT Modular Plug	AWG	Insulation Diameter (mm)	Strip Length (mm)	Outer Diameter (mm)
790163-1	790163-2	354940-2	336330-1 336330-2	26-24	0.80-1.00	35 +/-5	5.0-6.0
790163-3	790163-4		336439-1				
790163-5	790163-6		336462-1				6.0-7.0

Figure 1

**1. INTRODUCTION**

PRO-CRIMPER III Hand Tool Assembly consists of the Hand Tool Frame 354940-2, and the appropriate die assembly, as listed in the table in Figure 1. The die assembly consists of an insulation and connector shield stuffer, a housing support, housing guides, die retaining pins, and mounting hardware.

**NOTE** Dimensions in this instruction sheet are in millimeters. Figures and illustrations are for identification, only, and are not drawn to scale.

**2. DESCRIPTION** (Figure 1 and Figure 2)

This tool features a tool frame, a stationary jaw and handle, a moving jaw, a moving handle, and an adjustable ratchet that ensures full and complete crimping of product. The tool frame holds a die assembly with insulation and connector shield and contact stuffer.

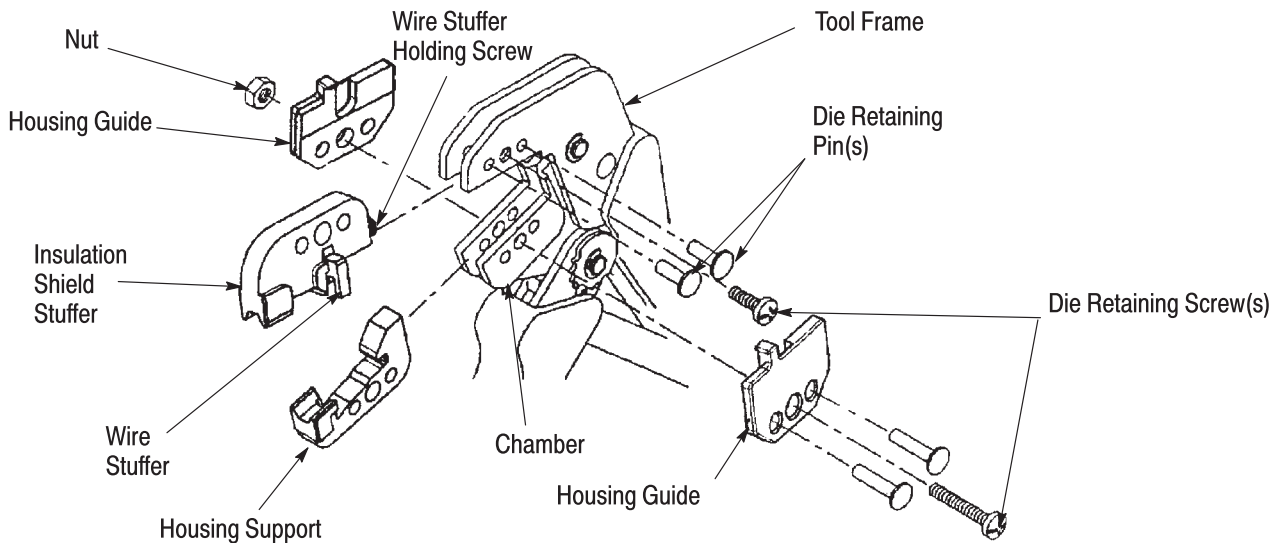


Figure 2

The die assembly consists of an insulation shield stuffer and connector shield stuffer, as well as a housing support, housing guides, die retaining pins, and die retaining screws. The die retaining pins and screws secure the die set in the tool frame. Attached to the outside of the frame are the housing guides. A nut is used on the lower die retaining screw to secure the housing guides in place.

### 3. DIE SET INSTALLATION AND REMOVAL (Figure 2)

1. Close the tool handles until the ratchet releases. Then allow the handles to open fully. Remove both die retaining screws from the tool jaws if they are present.
2. Place the insulation–connector shield/wire stuffer assembly as shown in Figure 2. Insert the short die retaining pins and short die retaining screw through the tool frame and tighten the screw.
3. Place the housing support in the moving jaw of the tool frame as shown in Figure 2. Mount the right hand housing guide using the long die retaining pins and secure with the long die retaining screw. Mount the left hand housing guide and tighten the nut.
4. To disassemble, close the tool handles until the ratchet releases, remove the nut, screws, housing guides, retaining pins, housing support, and insulation–connector shield/wire stuffer assembly.

### 4. CRIMPING PROCEDURE

#### NOTE

*This tool is provided with a crimp–adjustment feature, initially, the crimp height should be verified as in Figure 3. Refer to Section 5, CRIMP HEIGHT INSPECTION to verify the crimp height before using the tool to crimp the desired connector.*

Before proceeding, ensure that the cable and plug are compatible, and that the cable polarity is correctly maintained for your specification application.

Refer to Application Specification 114–22008 for cable preparation, conductor arrangement, insertion and crimping and proceed as follows.

1. Hold the tool so the back is facing you. Squeeze the tool handles together and allow them to open fully.
2. Insert the plug assembly (plug, cable, and shield) fully into the die cavity until the plug bottoms in the die cavity.

#### CAUTION

*Before installing the plug into the die, make sure that the connector shield is fully bottomed onto the body. In some cables with **Shielded Twisted Pairs**, this check is especially important.*

3. Squeeze the tool handles until the product is crimped and the ratchet releases.
4. Remove the terminated modular plug cable assembly.
5. Check the crimp height as described in Section 5, CRIMP HEIGHT INSPECTION. Adjust as necessary as described in Paragraph 6.1, Crimp Height Adjustment.

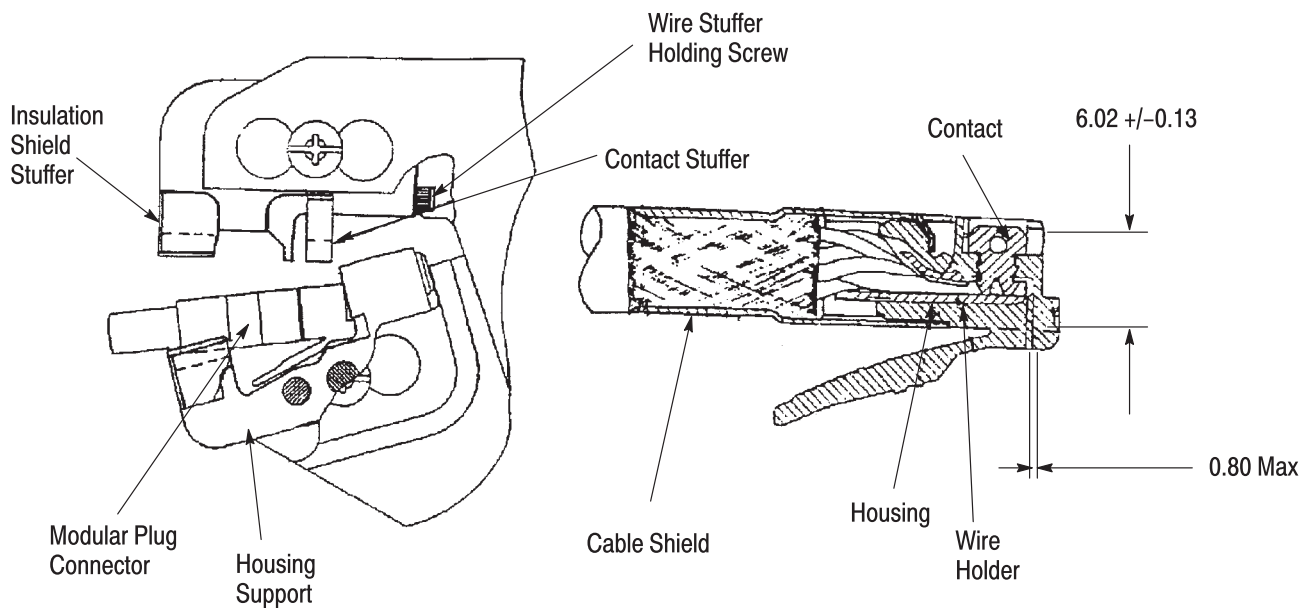


Figure 3

## 5. CRIMP HEIGHT INSPECTION

Figure 3 shows a cut-away of a typical terminated plug and the required location of the conductors. A visual inspection through the plastic housing of the plug should reveal whether the conductors are within the acceptable range.

Inspect the connector for proper crimp height using an indicator with needle-point probes. Refer to Figure 3 for the appropriate crimp height measurement. If necessary, adjust the crimp height as described in Paragraph 6.1, Crimp Height Adjustment.

5. Make a sample crimp and measure the crimp height. If the dimension is acceptable, secure the lock screw. If the dimension is unacceptable, continue to adjust the ratchet, and again measure a sample crimp.

If correct crimp height cannot be obtained, the tool and/or dies must be replaced. Refer to Section 8, PARTS REPLACEMENT.

## 6. ADJUSTMENTS

### 6.1. Crimp Height Adjustment (Figure 4)

1. Remove the lock screw from the ratchet adjustment wheel.
2. With a screwdriver, adjust the ratchet wheel from the opposite side of the tool.
3. While facing the ratchet adjustment wheel, adjust the crimp.
  - a. If a tighter crimp is required, rotate the adjustment wheel counterclockwise to a higher-numbered setting.
  - b. If a looser crimp is required, rotate the adjustment wheel clockwise to a lower-numbered setting.
4. Replace the lock screw.

### 6.2. Wire Stuffer Adjustment

If the wire stuffer is not assembled onto the insulation stuffer (or there are doubts about a correct adjustment of these two parts), proceed as described below.

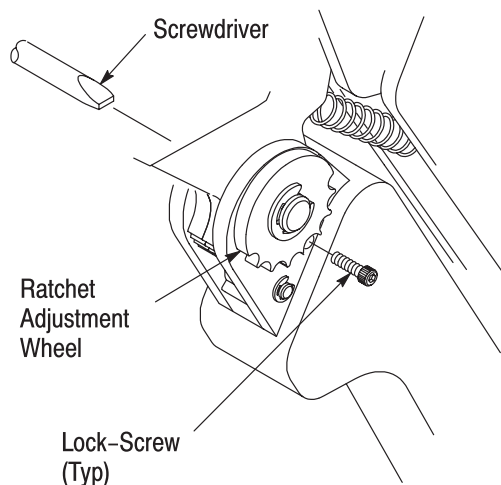


Figure 4

1. Assemble the wire stuffer onto the insulation stuffer with the 4–40 UNC X .621 In. socket head cap screw included with the die set.

**NOTE** Do NOT tighten the screw. Loosen it if it is already tight.

2. Open the tool jaws and insert a plug assembly (without the cable) into the jaw cavity.
3. Squeeze the tool handles and keep them closed.
4. Insert a key into the wire stuffer holding screw and tighten it.
5. Open the tool and remove the crimped plug. At this point the wire stuffer is held in its proper position.

## 7. MAINTENANCE AND INSPECTION

### 7.1. Daily Maintenance

Tyco Electronics recommends that operators of the tool be made aware of, and are responsible for, the following steps of daily maintenance.

1. Remove dust, moisture, and any other contaminants from the tool with a clean, soft brush, or a clean, soft, lint-free cloth. Do NOT use hard or abrasive objects that could damage the tool.
2. Make certain that the retaining pins are in place and that they are secured with retaining rings.
3. All pins, pivot points, and bearing surfaces should be protected with a thin coat of any good grade SAE 20 motor oil.

**NOTE** Do not oil excessively.

4. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged in the crimping jaws.
5. Store the tool in a clean, dry area.

### 7.2. Periodic Inspection

Regular inspection of the tool should be performed by quality control personnel. A record of the scheduled inspections should remain with the tool or be supplied to supervisory personnel responsible for the tool.

Inspection frequency should be based on:

- amount of use;
- working conditions;
- operator training and skill; and
- established company standards.

### 7.3. Visual Inspection

The crimping dies should be inspected on a regular basis to ensure they have not become worn or damaged. Inspect the crimp sections for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the tool must be replaced. Refer to Section 8, PARTS REPLACEMENT.

1. Remove all lubrication and accumulated film by immersing the tool (handles partially closed) in a suitable commercial degreaser that will NOT affect paint or plastic material.
2. Make certain that the retaining pins are in place and that they are secured with retaining rings.
3. Close the tool handles until the ratchet releases, and then allow the handles to open freely. If they do not open quickly and fully, the spring is defective and must be replaced.
4. Inspect the tool frame for wear or damage, paying particular attention to the tool jaws and the pivot points. If damage is evident, replace it. If damage is not evident, lubricate the pivot point and return the tool to service.
5. Check the dies occasionally to make sure the dies are not broken or chipped. If damage is evident, replace them.

## 8. CUSTOMER REPLACEABLE PARTS

Customer-replaceable parts are shown in Figure 1. Available separately, PRO-CRIMPER III 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 and replaceable parts through your Tyco Electronics Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

CUSTOMER SERVICE (38-35)  
TYCO ELECTRONICS CORPORATION  
P.O. BOX 3608  
HARRISBURG, PA 17105-3608

## 9. REVISION SUMMARY

New release per EC 0990-0929-04