

**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.

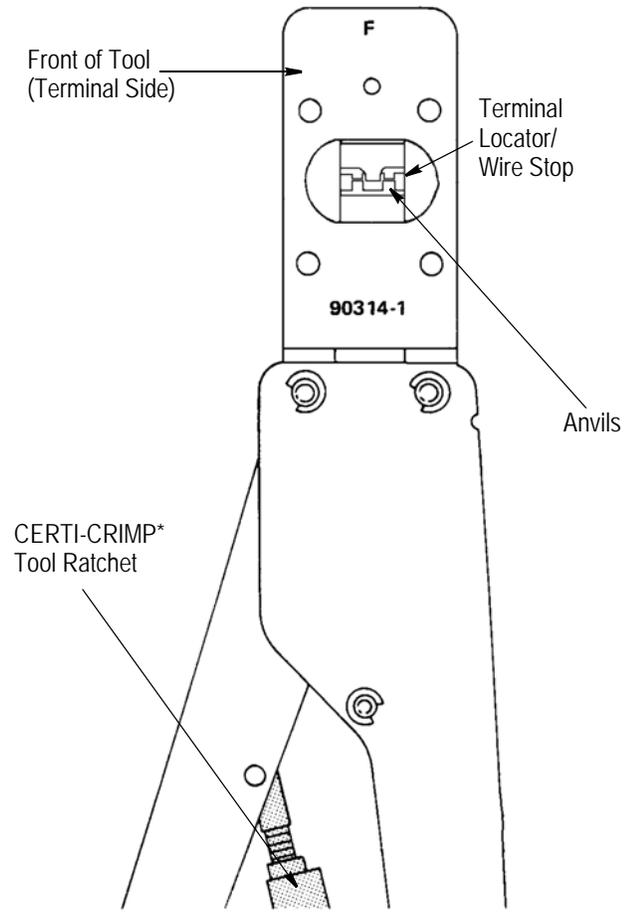


Figure 1

**1. INTRODUCTION**

Hand Crimping Tool 90314-1 is designed to crimp the loose piece (LP) .058 Diameter Pin Receptacle terminal listed in Figure 2. Read these instructions thoroughly before crimping any terminals.

**NOTE** *Measurements are in millimeters [followed by inch equivalents in brackets]. Figures and illustrations are for identification only and are not drawn to scale.*

Reasons for reissue of this instruction sheet are provided in Section 6, REVISION SUMMARY.

**2. DESCRIPTION**

This tool features one fixed die (crimper), one movable die (anvil), a terminal locator/wire stop, and a CERTI-CRIMP toolratchet. See Figure 1.

The terminal locator/wire stop has two functions. First, it positions the terminal in the crimping die, and second, it aids in locating the wire in the terminal. In use, it rests in the locator slot of the terminal (see Figure 2).

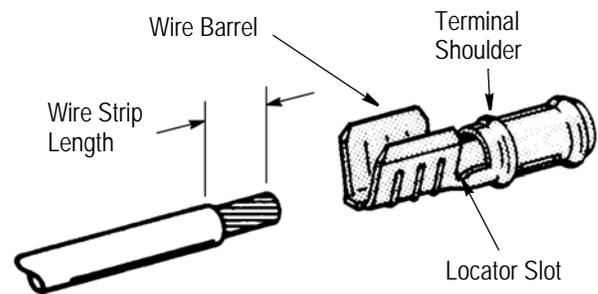


Figure 2

WIRE SIZE (AWG)	CRIMP SECT (Wire Size Marking)	WIRE STRIP LENGTH	TERMINAL NO.	
			LP	STRIP
(2) 24, (1) 22, or (1) 20	22-20 (2) 24	One Wire - 3.18 [.125] Two Wires - (1) 3.18 [.125] and (1) 4.75 [.187]	640024	640023
(2) 22, (2) 20, or (1) 18	(1) 18 (2) 20 (2) 22			

The CERTI-CRIMP tool ratchet ensures full crimping of the terminal. Once engaged, the ratchet will not release until the tool handles have been fully closed.



*The crimping dies bottom before the CERTI-CRIMP ratchet releases. This is a design feature that ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.*

**3. CRIMPING PROCEDURE**

Refer to Figure 2 and select wire, or wires, of the specified size. If using two wires, note that each wire has a different strip length. Strip the wire(s) to the length indicated -- do NOT cut or nick the wire strands.

Notice that each crimp section has the applicable wire size stamped above it. Use this marking and the wire size that you are using to determine the proper crimp section.

Select the applicable loose-piece terminal and proceed as follows:

1. Hold the tool so that the back (wire side) is facing you.
2. Make sure that the ratchet is released. Squeeze the tool handles together and allow them to open fully.
3. Looking straight into the back of the tool, insert the terminal (wire barrel first) into the front of the appropriate crimp section. See Figure 3.
4. Position the terminal in the crimper so that the locator enters the locator slot in the terminal. Now, push the terminal forward until the terminal shoulder butts against the locator.
5. Hold the terminal in this position and squeeze the tool handles together until the wire anvil starts entry into the wire crimper. Do NOT deform the wire barrel.

**NOTE** *When using two wires, stack one wire (with the longest strip length) on top of the other.*

6. Insert properly-stripped wire(s) into the wire barrel of the terminal until the wire butts against the wire stop.

7. While holding the wire(s) in place, squeeze the tool handles together until the ratchet releases.

8. Allow the tool handles to open fully and remove the crimped terminal.

#### 4. MAINTENANCE/INSPECTION

##### 4.1. Daily Maintenance

Remove all foreign particles with a clean, soft brush or a clean, soft, lint-free cloth. Make sure the proper retaining pins are in place and are secured with the proper retaining rings. If foreign matter cannot be removed easily, or if the proper replacement parts are not available, return the tool to your supervisor.

Make sure all pivot points and bearing surfaces are protected with a thin coat of any good SAE 20 motor oil. Do NOT oil excessively. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged between the dies, and store the tool in a clean, dry area.

##### 4.2. Periodic Inspection

Regular inspection should be performed by quality control personnel. A record of scheduled inspections should remain with the tool and/or be supplied to the supervisory personnel responsible for the tool. Though recommendations call for at least one inspection a month, the inspection frequency should be based on the amount of use, ambient working conditions, operator training and skill, and established company standards. These inspections should be performed in the following sequence:

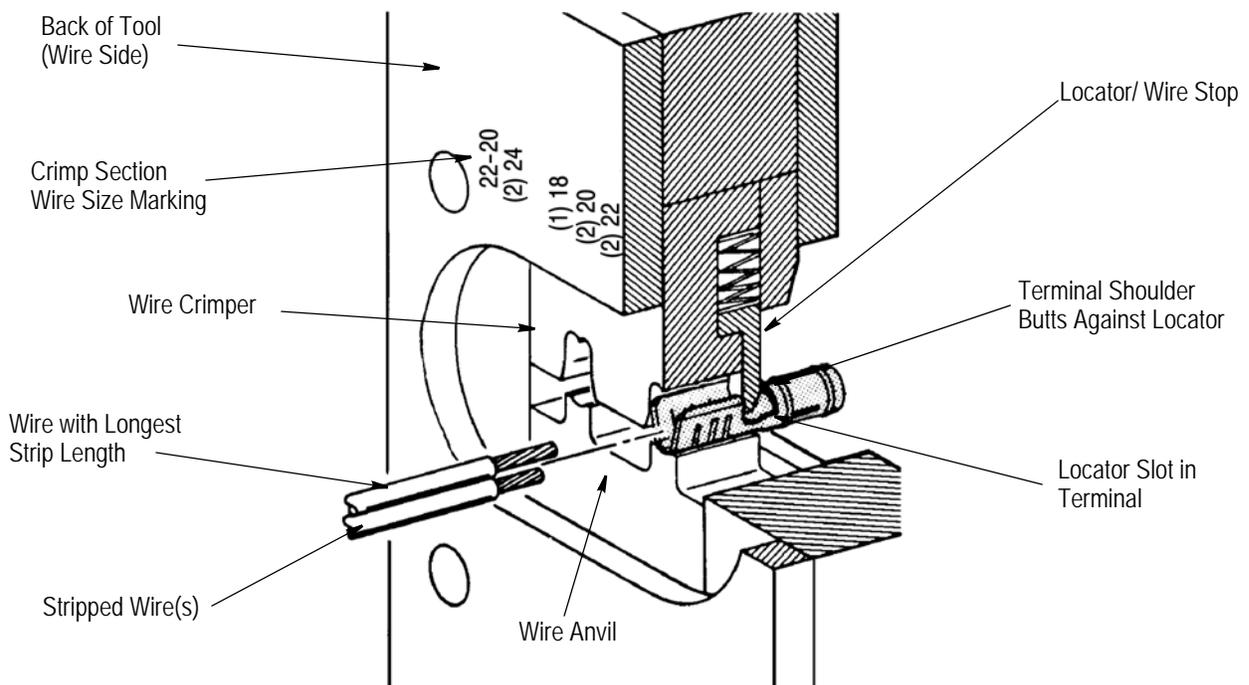


Figure 3

### A. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the tool (handles partially closed) into a suitable degreaser that will not affect paint or plastic material.
2. Make certain all retaining pins are in place and are secured with the proper retaining rings. If replacements are necessary, refer to Figure 5.
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, then the spring is defective and must be replaced (see Section 5, REPLACEMENT AND REPAIR).
4. Inspect the tool, with special emphasis on checking for worn, cracked, or broken crimping dies. If damage to any part of the head is evident, return the tool for evaluation and repair (see Section 5, REPLACEMENT AND REPAIR).

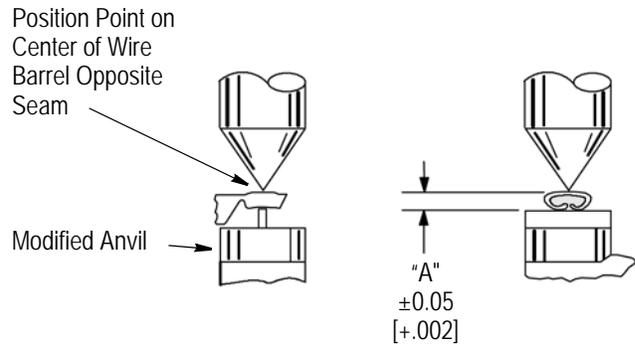
### B. Crimp Height Inspection

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 408-7424 for detailed information on obtaining and using a crimp height comparator.

Proceed as follows:

1. Refer to the table in Figure 4 and select a terminal and a wire (maximum size) for each crimp section.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the terminals accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that shown in the table, the tool is considered dimensionally correct. If not, return the tool for evaluation and repair (refer to Section 5, REPLACEMENT AND REPAIR).

For additional information concerning the use of the crimp height comparator, refer to Instruction Sheet 408-7424.



TERMINAL NUMBER (LP)	WIRE SIZE AWG (Max.)	CRIMP SECT (Wire Size Marking)	CRIMP HEIGHT DIM. "A"
640024	20	22-20 (2)(1)-18	0.94 [.037]
	18	(1) 18 (2) 20 (2) 22	1.24 [.049]

Figure 4

### C. Ratchet Inspection

Obtain a 0.025 [.001] shim that is suitable for checking the clearance between the bottoming surfaces of the crimping dies. Proceed as follows:

1. Select a terminal and *maximum* size wire for the hand tool.
2. Position the terminal and wire between the crimping dies, as described in Section 3, CRIMPING PROCEDURE.
3. Holding the wire in place, squeeze the tool handles together until the ratchet releases. Hold the handles in this position, maintaining just enough tension to keep the dies closed.
4. Check the clearance between the bottoming surfaces of the crimping dies. If the clearance is 0.025 [.001] or less, the ratchet is satisfactory. If the clearance exceeds 0.025 [.001], the ratchet is out of adjustment and must be repaired.

If the tool conforms to these inspection procedures, lubricate it with a thin coat of any good SAE† 20 motor oil and return it to service.

† SAE is the Society of Automotive Engineers.

**5. REPLACEMENT AND REPAIR**

The parts listed in Figure 5 are customer-replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacement parts through your TE representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

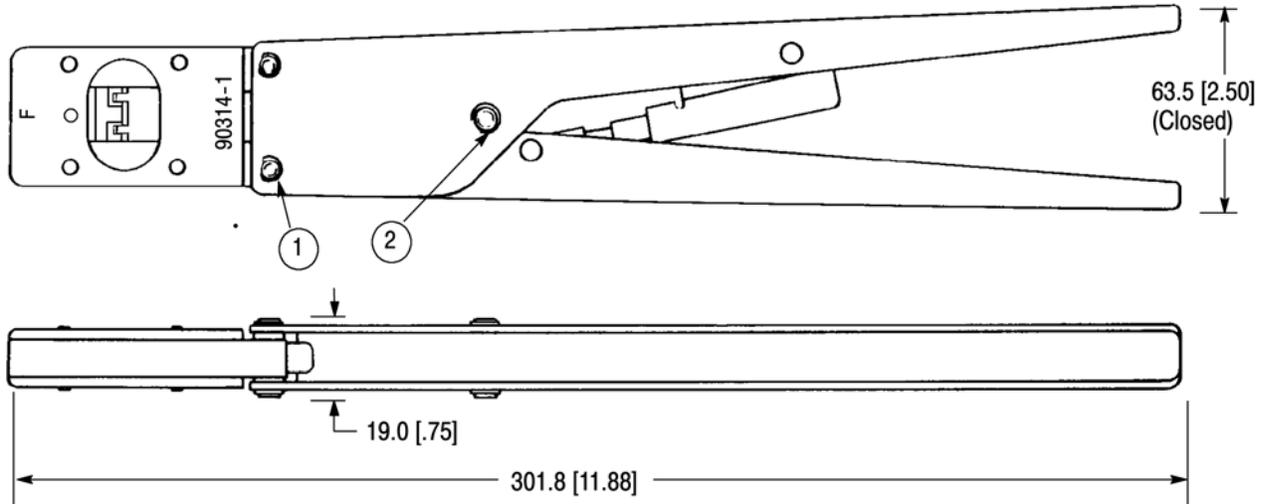
CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

For customer repair service, call 1-800-526-5136.

**6. REVISION SUMMARY**

Revisions to this instruction sheet include:

- Changed company name and logo



**WEIGHT:** 567 g [1 lb. 4 oz.]



*Do not remove the retaining pins or permanent damage to the tool may result.*

REPLACEMENT PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QTY PER TOOL
1	21045-3	Ring, Retaining	4
2	21045-6	Ring, Retaining	2

Figure 5