

**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.

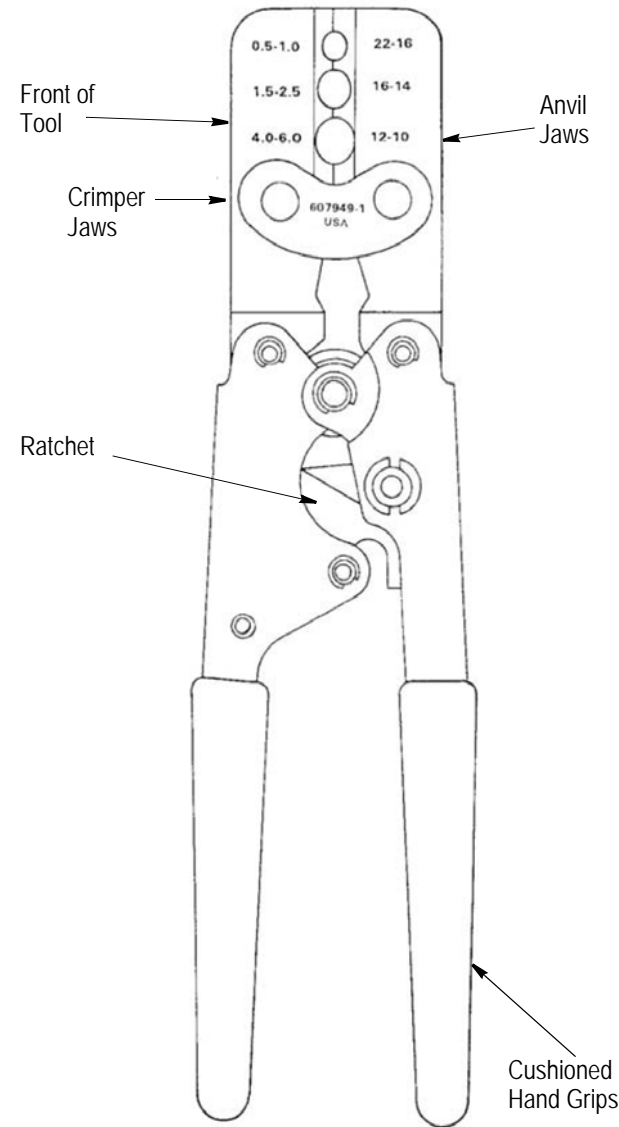


Figure 1

**1. INTRODUCTION**

Hand Crimping Tool 607949-1, a three-cavity, two-jaw crimping tool is designed to crimp the conductor portion of insulated heat-shrink splices in the following range of wire sizes:

- RED - Wire sizes 22 to 16 AWG, outer cavity.
- BLUE - Wire sizes 16 to 14 AWG, middle cavity.
- YELLOW - Wire sizes 12 to 10 AWG, inner cavity.

Read these instructions thoroughly before crimping any contacts.

**NOTE** All dimensions on this document are in metric units [with U.S. customary units in brackets]. Illustrations and figures are for reference only and are not drawn to scale

Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.

**2. DESCRIPTION**

The tool features crimper and anvil jaws, color coded wire size marking, spring actuated handles with cushioned hand grips, and a ratchet mechanism which will not release until the tool handles have been FULLY closed, thus ensuring a reliable crimp termination.

**NOTE** If the ratchet should need adjustment, refer to Paragraph 4.2.C.

**3. CRIMPING PROCEDURES (Figure 2)**

1. Close the tool handles until the ratchet releases, then allow the tool handles to open fully.
2. Select the appropriate cavity for the splice being crimped.
3. Align conductor portion of terminal in the cavity as shown in Figure 2.
4. Close the tool carefully until the jaws grip the terminal lightly and hold it in place without distortion.
5. Insert a properly stripped wire (Figure 2) into the terminal until it bottoms.
6. To crimp, hold the wire in place, squeeze the handles until the ratchet releases, allow the jaws to open FULLY, and remove crimped splice.

**4. MAINTENANCE/INSPECTION**

**4.1. Daily Maintenance**

Maintenance and inspection should be performed regularly. Tool should be wiped clean with special emphasis on the crimping cavities.

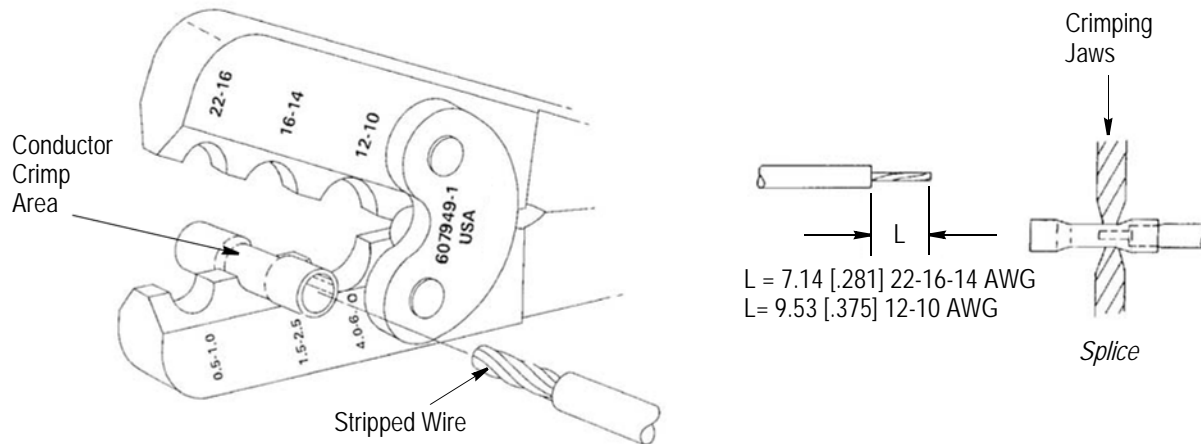


Figure 2

## 4.2. Periodic Inspection

Hand tool should be immersed (handles partially closed) in a reliable commercial degreasing compound which does not attack paint or plastic material, to remove accumulated dirt, grease, and foreign matter. The tool should be re-lubricated after cleaning. The tool may then be wiped clean with a soft, lint-free cloth. Do NOT use hard or abrasive objects that could damage the tool. Ensure that the tool conforms to the information in Figure 6.

### A. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with SAE<sup>†</sup> 20 motor oil as follows:

- Tools used in daily production - lubricate daily
- Tools used daily (occasionally) - lubricate weekly
- Tools used weekly - lubricate monthly

Wipe excess oil from tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.

### B. Visual Inspection

1. Close tool handles until ratchet releases and then allow them to open freely. If they do not open quickly and fully, the tool is defective and must be replaced. See Section 6, REPLACEMENT.
2. Inspect jaws for worn, cracked, or broken areas. If damage is evident, the tool must be replaced. See Section 6, REPLACEMENT.

### C. Gaging the Crimping Chamber

This inspection requires the use of plug gages conforming to the dimensions in Figure 3.

TE Connectivity does not manufacture or market these gages. To gage the crimping chamber, proceed as follows:

1. Remove traces of oil or dirt from crimping chamber and plug gages.
2. Close the tool handles until it is evident that the jaws have bottomed, then HOLD in this position. Do NOT force the jaws beyond initial contact.
3. Align the GO element with the crimping chamber. Push element straight into the crimping chamber without using force. The GO element must pass completely through. Refer to Figure 3.
4. Now align the NO-GO element and try to insert it straight into the same crimping chamber. The NO-GO element may start entry but must not pass completely through as shown in Figure 3.

If the crimping chamber conforms to the gage inspection, it is considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the tool must be replaced. See Section 6, REPLACEMENT.

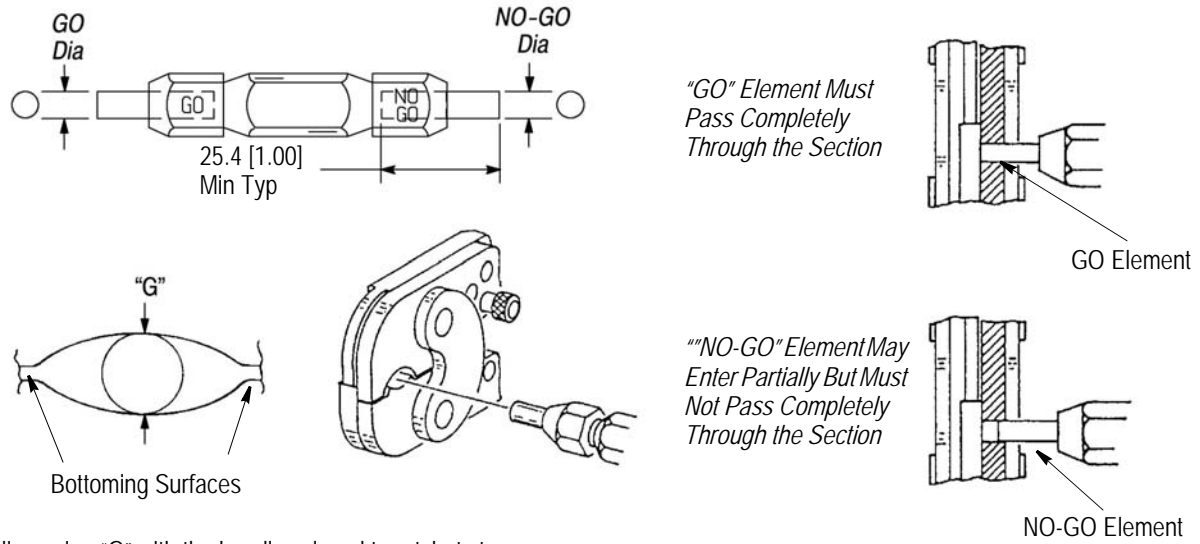
### D. Ratchet Inspection

Obtain a .025 mm [.001 in.] shim that is suitable for checking the clearance between the bottoming surfaces of the crimping jaws. (See Figure 3).

Proceed as follows:

1. Select a contact and wire (maximum size) for the tool (see Figure 3).

<sup>†</sup> SAE is a trademark.



Gage dimension "G" with the handles closed to ratchet stop.

NEST DIMENSION "G"		
WIRE SIZE (AWG)	GO DIAMETER	NO-GO-DIAMETER
22 - 16	2.29 [.090]	2.39 [.094]
16 - 14	2.65 [.1045]	2.78 [.1095]
12 - 10	3.68 [.145]	3.84 [.151]

Figure 3

2. Position the contact and wire between the crimping jaws, according to Section 3, CRIMPING PROCEDURE (Steps 1 through 6). Holding the wire in place, squeeze the tool handles together until the ratchet releases. Hold the tool handles in this position, maintaining just enough pressure to keep the jaws closed.

3. Check the clearance between the bottoming surfaces of the crimping jaws. If the clearance is

0.25 mm [.001 in.], or less, the ratchet is satisfactory. If clearance exceeds .025 mm [.001 in.] the ratchet is out of adjustment and must be adjusted (see Section 5, TOOL ADJUSTMENT).

#### E. Tool Force Values

1. Apply force as shown until ratchet releases. The force at a point 44.45 mm [1.75 in.] from handle ends should be 35 to 45 pounds. See Figure 4.

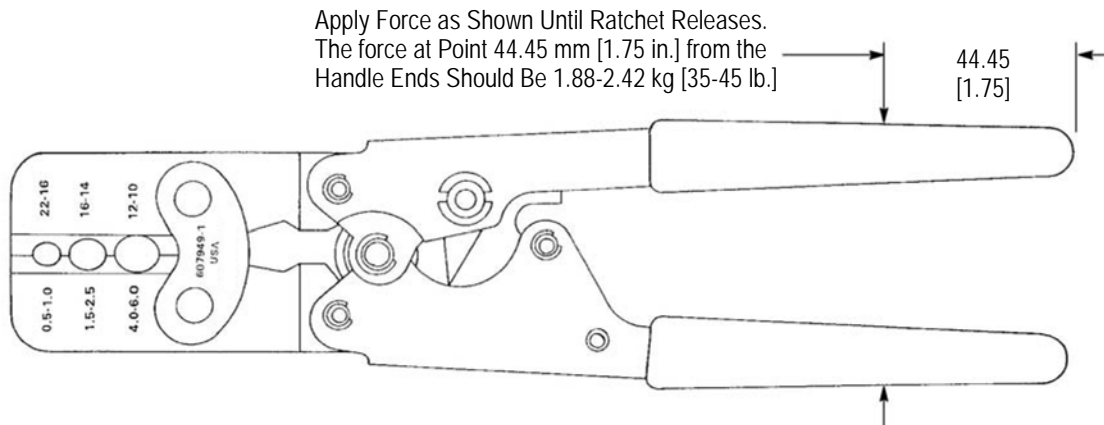


Figure 4

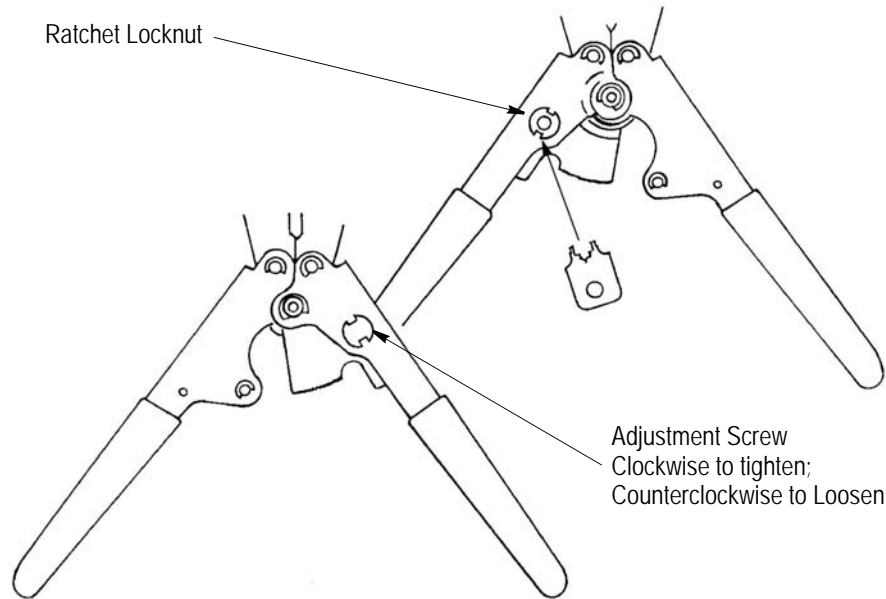


Figure 5

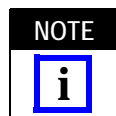
2. To adjust the tool to obtain the proper force values, open the handles and loosen the locknut with Spanner Wrench 127298-1 (available from TE). See Section 5, TOOL ADJUSTMENT.

3. On the opposite side of the tool, turn the eccentric stud **CLOCKWISE** to increase the handle load; or **COUNTERCLOCKWISE** to decrease the handle load. Tighten locknut, measure force and continue to adjust if necessary.

**5. TOOL ADJUSTMENT** (Figure 5)

If the ratchet must be adjusted, use the spanner wrench, and proceed as follows:

1. Loosen the ratchet locknut on the back of the tool (side with wire size markings).
2. Check bottoming of tool jaws according to Paragraph 4.2.C. Turn screw on front of tool **CLOCKWISE** to tighten ratchet (must reduce crimp height) or **COUNTERCLOCKWISE** to loosen ratchet (may increase crimp height).
3. When tool jaws bottom properly, retighten the nut.



*It may be necessary to hold the ratchet screw while securing the ratchet locknut.*

**6. REPLACEMENT**

This tool is not repairable and a spare should be stocked to prevent lost time when replacement of tools is necessary. Order replacement tools through your 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

**7. REVISION SUMMARY**

- Updated document to corporate requirements
- Removed "AMPLIVERSAL" in all instances in document

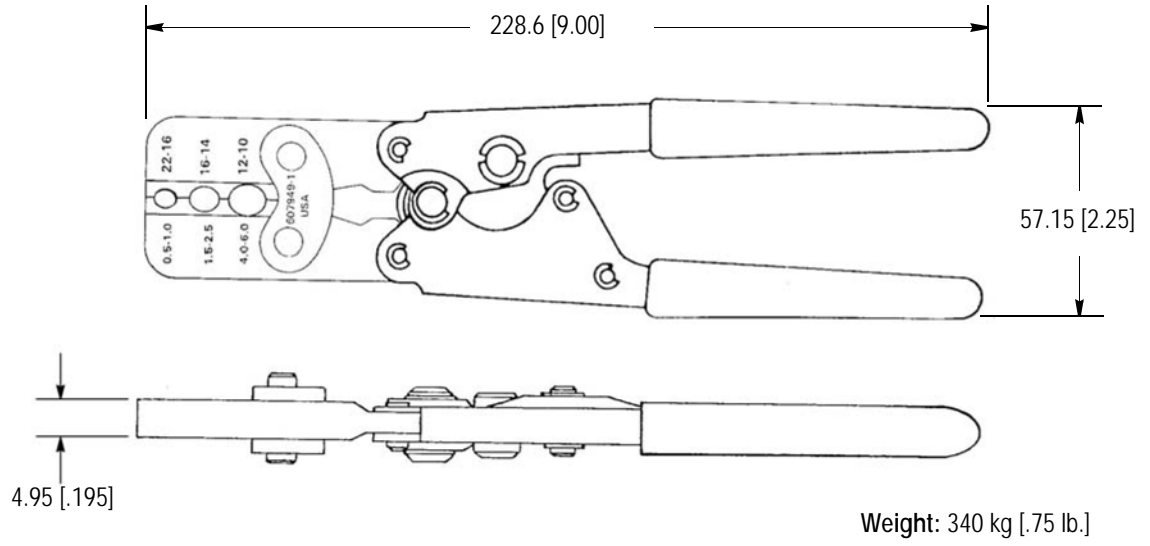


Figure 6