

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.

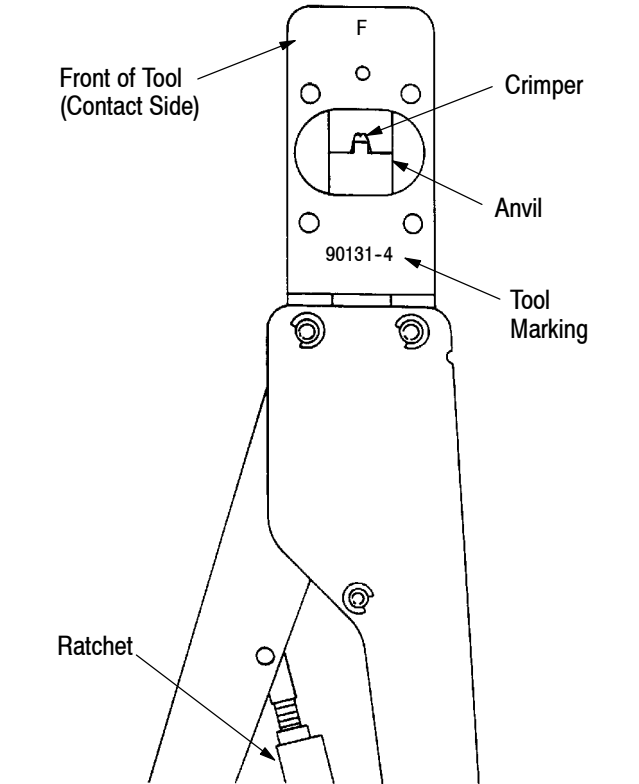



Figure 1

1. INTRODUCTION

Hand Crimping Tool 90131-4 is designed for crimping 1.47 [.058] diameter loose-piece contacts listed in Figure 2. Read these instructions thoroughly before using the hand tool.

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 are in Section 6, REVISION SUMMARY.


2. DESCRIPTION

The front of the tool (contact side), into which the contact is inserted, has the tool number marked on it. The back of the tool (wire side), into which the wire is inserted, has the crimp symbol marked above each crimp section.

The tool features a fixed die (crimper), a movable die (anvil), a locator/insulation stop, and a ratchet.

The locator/insulation stop serves two functions: first, it positions the contact between the crimper and anvil before crimping; and second, it limits the insertion distance of the stripped wire into the contact.

The ratchet ensures full crimping of the contact. Once engaged, the ratchet will not release until the tool handles have been FULLY closed.

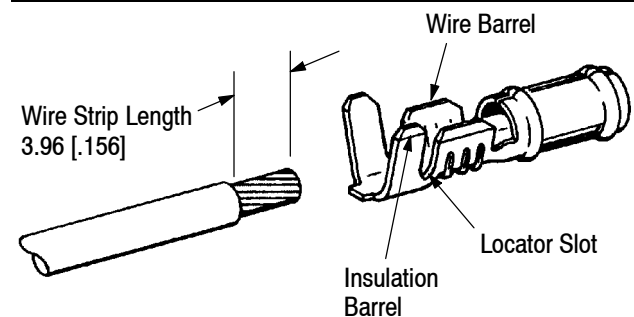
CAUTION  *The crimping dies bottom before the ratchet releases. This is a design feature that ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.*

3. CRIMPING PROCEDURE

Refer to Figure 2 and ensure that the wire of the specified size and insulation diameter is compatible with the contact to be crimped. Strip the wire to the length indicated. Do not cut or nick the wire strands.

Refer to Figure 3 and proceed as follows:

1. Hold tool so that the back side (wire side) is facing you.
2. Make certain that the ratchet is released by squeezing the tool handles and allowing them to open fully.



NOTE: Not to Scale

WIRE SIZE RANGE (AWG)	INSUL DIA RANGE	CONTACT PART NUMBER		CRIMP SECT WIRE SIZE MARKING
		LP	STRIP	
26 to 22	0.89 - 1.52 [.035-.060]	60983-[]	60804-[]	26-22

Figure 2

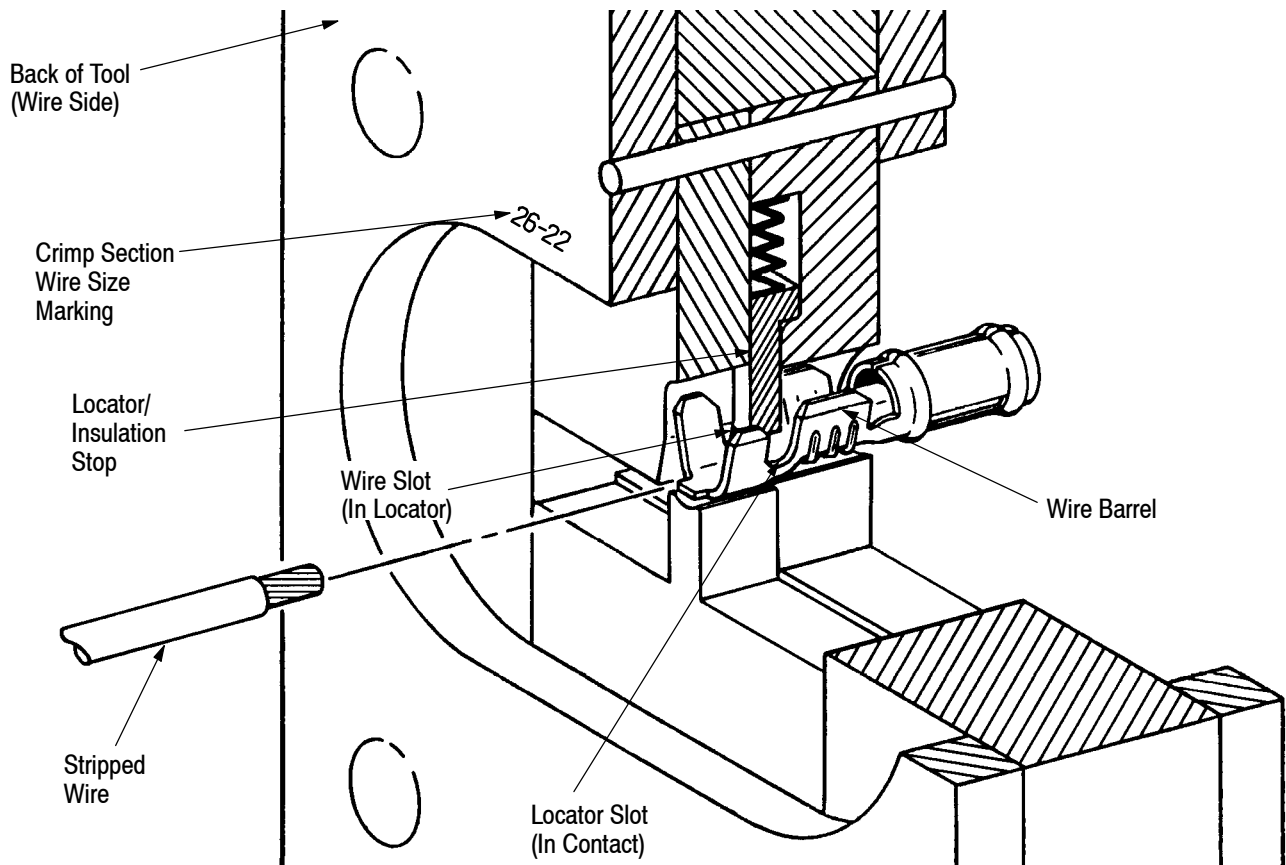


Figure 3

3. Looking straight into the back of the appropriate crimp section, insert contact, (insulation barrel first) into the front of the crimp section. Position the contact between crimpers so the locator/insulation stop enters locator slot in contact. The wire barrel should butt against the locator/insulation stop.

4. Holding the contact in this position, squeeze tool handles together until insulation barrel anvil starts entry into the insulation crimper.



Squeezing the handles together too much will deform the insulation barrel or wire barrel.

5. Insert a properly stripped wire into the wire barrel of the contact until insulation butts against the locator/insulation stop.

6. Holding the wire in place, crimp the contact to the wire by squeezing tool handles together until ratchet releases.

7. Allow tool handles to open fully and remove the crimped contact from the tool.

4. MAINTENANCE AND INSPECTION PROCEDURE

It is recommended that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. Though recommendations call for at least one inspection a month, frequency of inspection depends on:

1. The care, amount of use, and handling of the hand tool.
2. The presence of abnormal amounts of dust and dirt.
3. The degree of operator skill.
4. Your own established standards.

The hand tool is inspected before being shipped; however, it is recommended that the tool be inspected immediately upon arrival to ensure that the tool has not been damaged during shipment.

4.1. Daily Maintenance

1. Hand tool should be immersed (handles partially closed) in a reliable commercial degreasing compound to remove accumulated dirt, grease, and foreign matter. When degreasing compound is not available, tool may be wiped clean with a 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 SAE 20 motor oil. Do not oil excessively.
4. When the tool is not in use, keep handles closed to prevent objects from becoming lodged in the crimping dies. Store the tool in a clean, dry area.

4.2. Periodic Inspection

A. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with SAE 20 motor oil as follows:

- Tool used in daily production – lubricate daily
- Tool used daily (occasional) – lubricate weekly
- Tool 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

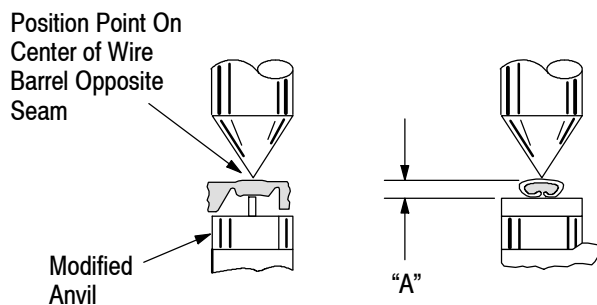
1. Close tool handles until ratchet releases and then allow them to open freely. If they do not open quickly and fully, the spring is defective and must be replaced. See Section 5, REPLACEMENT AND REPAIR.
2. Inspect head assembly for worn, cracked, or broken dies. If damage is evident, return the tool for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

C. 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 Connectivity 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 the table in Figure 2 and select a contact and a wire (maximum size) for each crimp section listed in the table.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contact(s) accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 4. If the



CONTACT NUMBER (LP)	CRIMP SECT WIRE SIZE MARKING	WIRE SIZE (AWG) (Max)	CRIMP HEIGHT DIMENSION "A"
60983-[]	26-22	22	0.66 ± 0.05 [.026 ± .002]

Figure 4

crimp height conforms to that height, the tool is considered dimensionally correct. If not, the tool must be returned for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

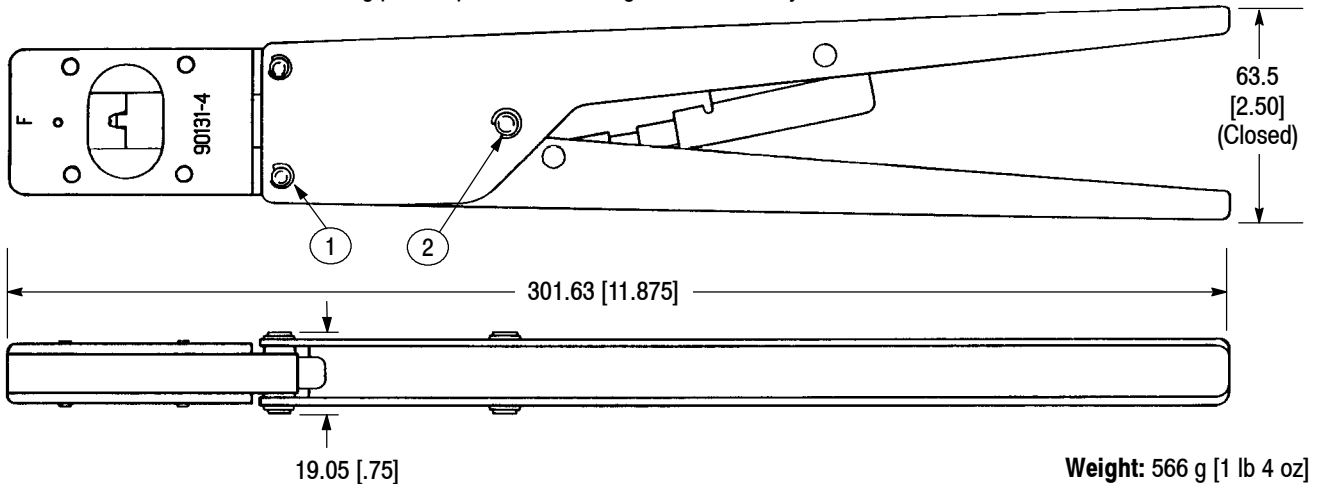
For additional information concerning the use of the crimp height comparator, refer to instruction sheet 408-7424.

D. Ratchet Inspection

The ratchet feature on the hand tools should be checked to ensure that the ratchet does not release prematurely, allowing the dies to open before they have fully bottomed. 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 contact, wire (maximum size), and the designated crimp section for the contact you are using. See Figure 2.
2. Position the contact and wire between the crimping dies, as described in Section 3, CRIMPING PROCEDURE.
3. Hold the wire in place and squeeze the handles 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 clearance exceeds 0.025 [.001], the ratchet is out of adjustment and must be repaired. See Section 5, REPLACEMENT AND REPAIR.

CAUTION: Do NOT remove retaining pins as permanent damage to the tool may result.



REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER ASSY
1	21045-3	RING, Retaining	4
2	21045-9	RING, Retaining	2

Figure 5

5. REPLACEMENT AND REPAIR

Replacement parts are listed in Figure 5. Parts other than those listed in Figure 5 should be replaced by TE to ensure quality and reliability of the tool. Order replacement parts 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
 P.O. BOX 3608
 HARRISBURG, PA 17105-3608

For tool repair service, please contact a representative at 1-800-526-5136.

6. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

- Updated document to corporate requirements
- Revised ratchet references
- Updated crimp height comparator information