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Hand Crimping Tool 47417

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.

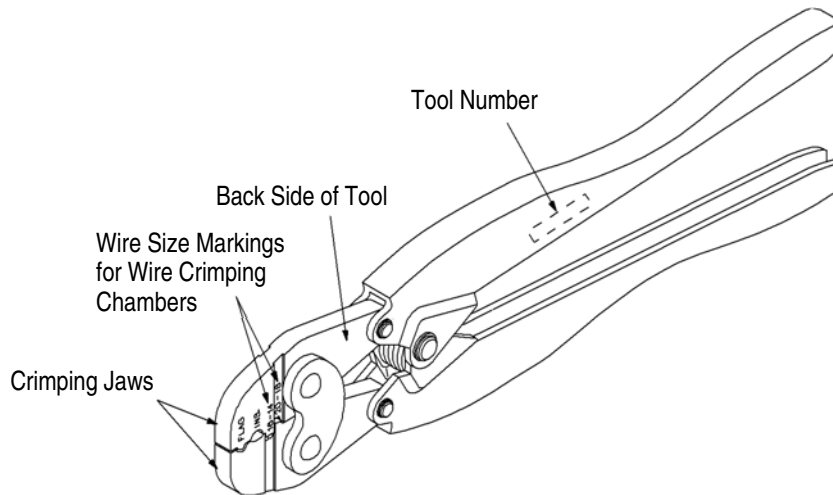


Figure 1

1. INTRODUCTION

Hand Crimping Tool 47417 is designed to crimp FASTON* 250 Series Flag onto wire sizes No. 18 through 16 AWG, and Straight Receptacles onto wire sizes No. 22 through 14 AWG. Catalog 82004 provides a guide for wire-to-receptacle selection. For wire sizes and receptacles not referenced in the catalog, contact TE Connectivity Engineering for recommendations. Read these instructions thoroughly before using the 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 provided in Section 6, REVISION SUMMARY.

2. DESCRIPTION

The hand tool features two crimping jaws. When closed, the jaws form four crimping chambers: one for flag receptacles, one for the wire insulation, and two for the specific wire size. Each crimping chamber is marked on the BACK side of the tool and the tool number is marked on the handle. See Figure 1.

3. CRIMPING PROCEDURE

Select the appropriate wire size and receptacle for the hand tool. The wire size and insulation diameter must be within the specified range for the receptacle. Strip the wire according to the dimension shown in Figure 2. Do NOT nick or cut the wire strands. Then, proceed as follows:

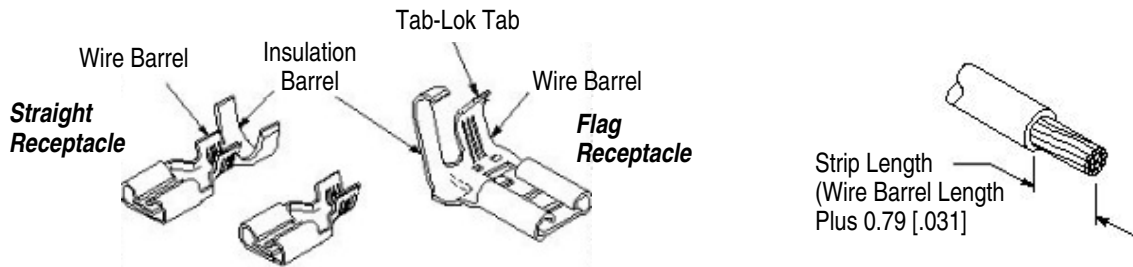
3.1. Straight Receptacle

1. Hold tool so that the FRONT side is facing you.
2. Open crimping jaws by pulling handles of tool apart.
3. Center receptacle wire barrel in the appropriate crimping chamber on crimping jaw, as shown in Figure 3A.
4. Squeeze tool handles together just enough to hold the receptacle in place.



CAUTION

Do NOT deform the wire barrel.



NOTE: Not to Scale.

Figure 2

5. Insert stripped wire into wire barrel from BACK side of tool. Make sure insulation does NOT enter wire barrel.
6. Holding wire in place, squeeze tool handles together FULLY. Open tool handles.
7. To crimp the wire insulation, center the receptacle insulation barrel in the insulation crimping chamber. The wire must extend from the BACK side of the tool, as shown in Figure 3B.
8. Holding receptacle in place, squeeze tool handles together FULLY. Open tool handles and remove crimped receptacle.

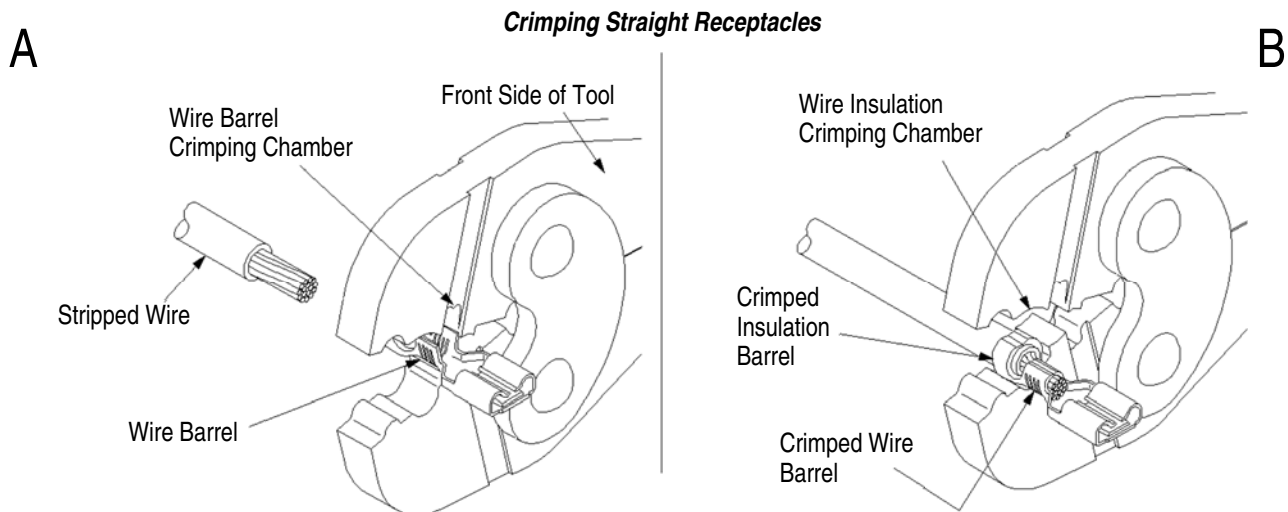


Figure 3

3.2. Flag Receptacle

1. Hold tool so that the FRONT side is facing you.
2. Open tool handles and center receptacle wire barrel in the "FLAG" crimping chamber. The receptacle should be angled at approximately 45° and the Tab-Lok tab must rest on the crimping jaw. See Figure 4A.
3. Holding receptacle in place, squeeze tool handles until the Tab-Lok tab is inserted through the slot in the bottom of the wire barrel. Do NOT deform wire barrel.
4. Insert stripped wire into wire barrel from the BACK side of the tool. Be sure the insulation does NOT enter the wire barrel.
5. Holding wire in place, squeeze tool handles together FULLY. Open tool handles.
6. To crimp the wire insulation, center the receptacle insulation barrel in the insulation crimping chamber, as shown in Figure 4B.
7. Holding wire in position, squeeze tool handles FULLY. Open tool handles and remove crimped receptacle.

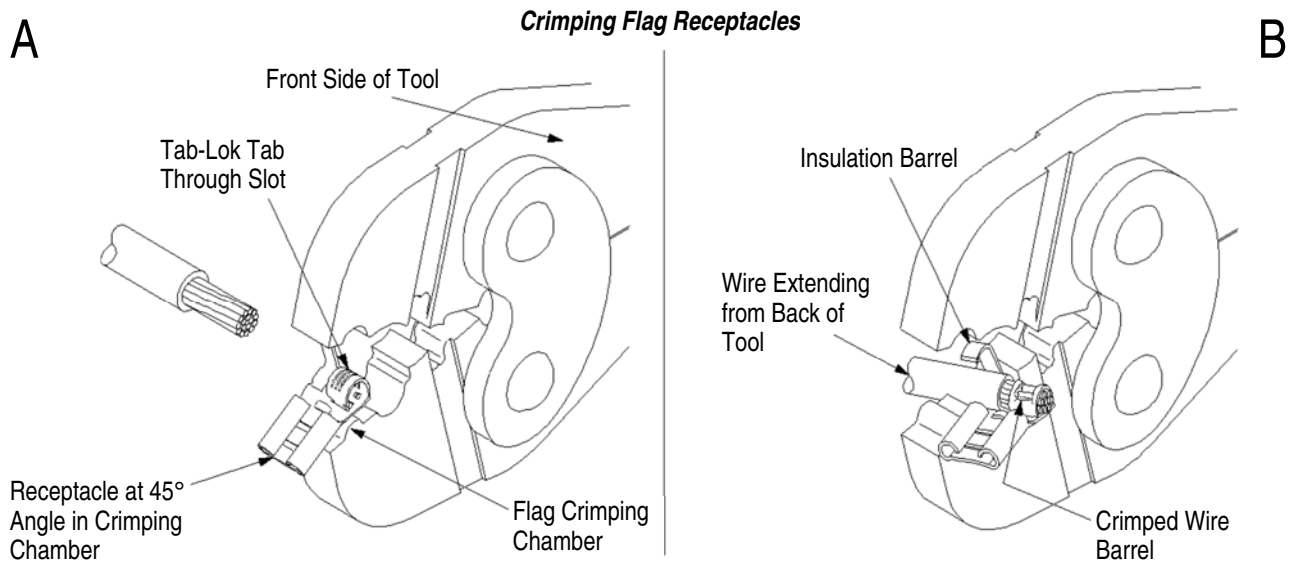


Figure 4

3.3. Damaged Contacts



CAUTION

Damaged contacts must be replaced with new ones. The damaged contact must be cut from the wire, the wire re-stripped, and a new contact applied.

4. MAINTENANCE AND INSPECTION PROCEDURE

TE recommends 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, TE recommends 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 jaws. 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

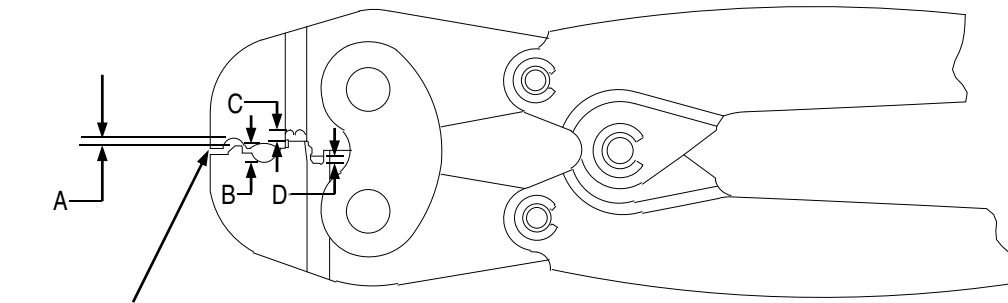
Inspect head assembly for worn, cracked, or broken jaws. If damage is evident, return the tool to TE for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

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 does not manufacture or market crimp-height comparators. Detailed information on obtaining and using crimp-height comparators can be found in Instruction Sheet [408-7424](#).

Proceed as follows:

1. Select a receptacle and maximum size wire for each crimping chamber.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the receptacles accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 5. If the crimp height conforms to that height, the tool is considered dimensionally correct. If not, the tool must be returned to TE for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.



Insert 0.51 ± 0.03 [$.020 \pm .001$] Shim When Measuring A & B Nests

NEST	WIRE SIZE (AWG) (MAX)	CRIMPING CHAMBER	GAGE HEIGHT DIMENSION
A	16	Flag	0.889 ± 0.076 [$.035 \pm .003$]
B	---	Ins.	3.15 ± 0.102 [$.124 \pm .004$]
C	14	16-14	1.42 ± 0.076 [$.056 \pm .003$]
D	18	20-18	1.22 ± 0.076 [$.048 \pm .003$]

Figure 5

5. REPLACEMENT AND REPAIR

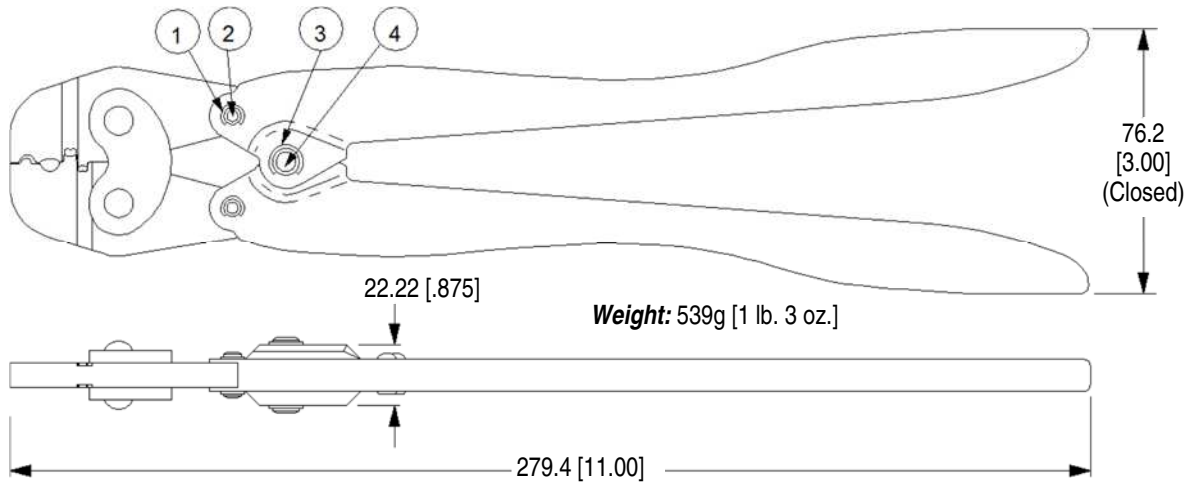
Replacement parts are listed in Figure 6. Parts other than those listed in Figure 6 should be replaced by TE to ensure quality and reliability of the tool. Order replacement parts through your TE Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

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

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

6. REVISION SUMMARY

- Updated document to corporate requirements
- Added new information to table in Figure 5



REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER ASSY
1	21045-3	RING, External Crescent Retaining, .188 D Shaft	4
2	1-23619-6	PIN, Retaining, .187 D x .521 L	2
3	21045-6	RING, External Crescent Retaining, .250 D Shaft	2
4	2-23620-9	PIN, Retaining, .250 d x .838 L	1

Figure 6