CERTI-CRIMP* Hand Crimping Tools 69477-4, 220009-1, 220009-5, 220187-1, and 220187-2

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.

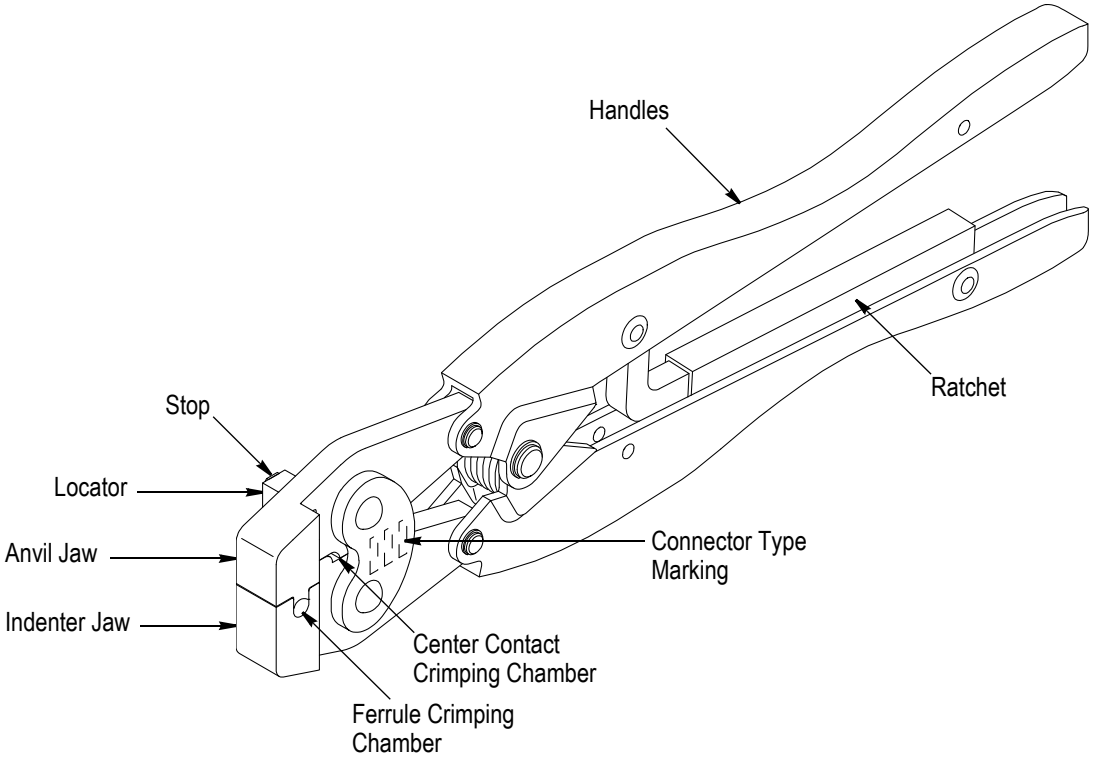


Figure 1

1. INTRODUCTION

CERTI-CRIMP Hand Crimping Tools 69477-4, 220009-1, 220009-5, 220187-1, and 220187-2 are designed to crimp 50-Ohm BNC Connectors 225395-[ ], 227079-[ ], and 331350-[ ] onto a variety of cable sizes and types. Read these instructions thoroughly before using the tool.

NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

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

2. DESCRIPTION

Each hand tool features an indenter jaw and an anvil jaw, a locator with a stop, and a ratchet. When closed, the jaws form two crimping chambers. The locator aids in positioning the center contact in the crimping chamber and the stop limits the insertion depth of the center contact. The connector type is marked on the BACK side of the tool. See Figure 1.

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

CAUTION

The jaws bottom before the ratchet releases. This design feature ensures maximum electrical and tensile performance of the crimp. DO NOT re-adjust the ratchet.

3. CRIMPING PROCEDURE

3.1. Crimp the Center Contact

1. For cable with an air core dielectric, assemble a spacer over the center conductor and bottom it against the dielectric. This must be assembled before installing the center contact. If tubing is provided with the connector, slide it over the dielectric prior to assembly. Refer to Figure 2.

2. Slide the ferrule onto the cable, then strip the cable according to the dimensions provided on the instruction sheet supplied with the connector. DO NOT nick or cut the cable braid.

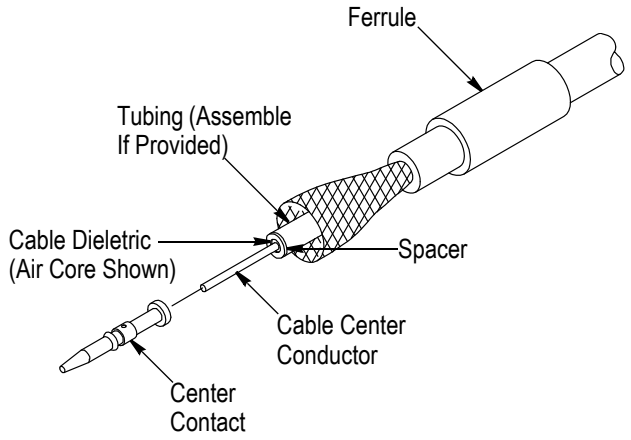


Figure 2

3. Insert the cable center conductor into the center contact. See Figure 2. The contact must be positioned against the cable dielectric or spacer, if used.

4. Hold the tool so that the BACK faces you.

5. Insert the center contact into tool locator until it butts against the stop. See Figure 3.

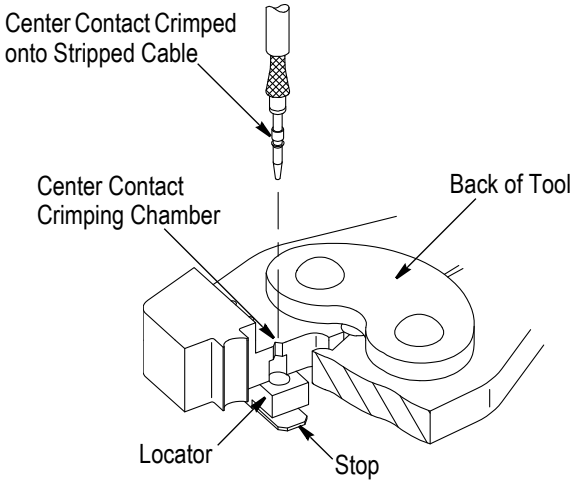


Figure 3

6. Close the tool handles just enough to hold the contact in place without deforming the wire barrel. Make sure that the cable center conductor has not shifted position.

7. Squeeze the tool handles until the ratchet releases. Allow the tool handles to open FULLY.

8. Remove the crimped center contact from the tool.

3.2. Crimp the Ferrule

1. Flare the cable braid to fit over the connector support sleeve.

2. Insert the crimped center contact into the connector until it snaps into place. The cable braid must be positioned over the connector support sleeve. Pull back gently on the cable to ensure that the contact is held in place by the internal locking feature. See Figure 4, Detail A.

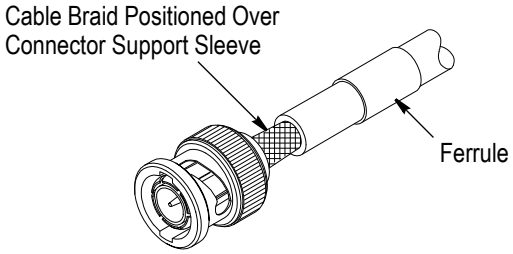
3. Slide the ferrule over the cable braid until it is positioned against the shoulder of the connector.

4. Holding the ferrule in place, position the ferrule in the ferrule crimping chamber and on the indenter jaw so that the shoulder of the connector butts against the jaw as shown in Figure 4, Detail B.

5. Holding the ferrule in place, close the tool handles until the ratchet releases. Allow the tool handles to open FULLY.

6. Remove the crimped assembly from the tool.

Detail A



Detail B

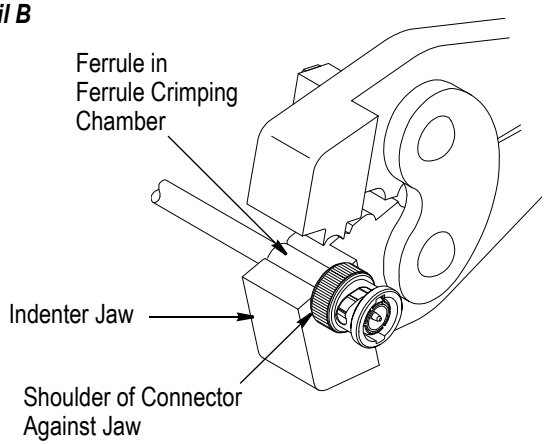


Figure 4

4. MAINTENANCE AND INSPECTION

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. The 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:

Tools used in daily production—lubricate daily
Tools used daily (occasional)—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 the tool handles until the 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 the head assembly for worn, cracked, or broken jaws. If damage is evident, return the tool to for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

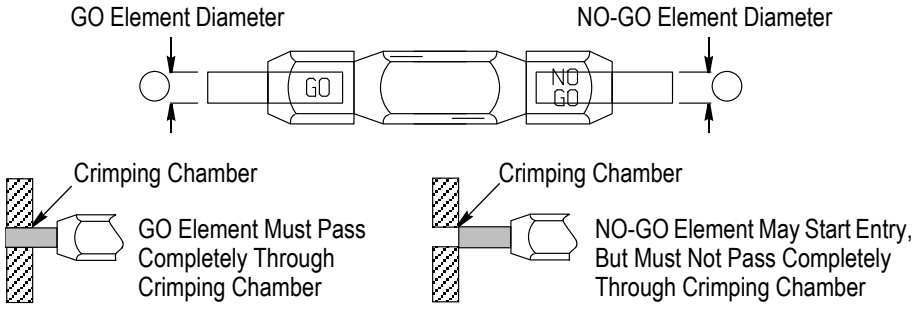
C. Gaging the Crimping Chamber

This inspection requires the use of a plug gage conforming to the diameters given in Figure 5. TE Connectivity does not manufacture or market plug gages. Refer to Figure 5, and proceed as follows for each crimping chamber:

1. Remove traces of oil or dirt from the crimping chamber and plug gage.

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 the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber.



TOOL	GAGE ELEMENT DIAMETER (mm [in.])			
	CENTER CONTACT CRIMPING CHAMBER		FERRULE CRIMPING CHAMBER	
	GO	NO-GO	GO	NO-GO
69477-4	1.066-1.071 [.0420-.0422]	1.155-1.160 [.0455-.0457]	4.241-4.246 [.1670-.1672]	4.394-4.399 [.1730-.1732]
220009-1	1.257-1.262 [.0495-.0497]	1.333-1.338 [.0525-.0527]	4.241-4.246 [.1670-.1672]	4.394-4.399 [.1730-.1732]
220009-5	1.066-1.071 [.0420-.0422]	1.155-1.160 [.0455-.0457]	4.241-4.246 [.1670-.1672]	4.394-4.399 [.1730-.1732]
220187-1	1.244-1.249 [.0490-.0492]	1.333-1.338 [.0525-.0527]	5.181-5.186 [.2040-.2042]	5.334-5.339 [.2100-.2102]
220187-2	1.066-1.071 [.0420-.0422]	1.155-1.160 [.0455-.0457]	6.019-6.024 [.2370-.2372]	6.172-6.177 [.2430-.2432]

Figure 5

4. Align the NO-GO element with the same crimping chamber and try to insert it straight into the crimping chamber. The NO-GO element may start entry, but must not pass completely through the crimping chamber.

If the crimping chambers conform to the gage inspection, the tool 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 repaired before returning it to service. See Section 5, REPLACEMENT AND REPAIR.

For additional information concerning the use of a plug gage, refer to Instruction Sheet 408-7424.

D. Ratchet Inspection

1. Obtain a 0.025-mm [.001-in.] shim that is suitable for checking the clearance between the bottoming surfaces of the jaws.

NOTE

The bottoming surfaces are located on either side of the center contact crimping chamber. Refer to Detail in Figure 6. These tools are not designed to bottom at the tip of the jaws.

2. Select a connector and **maximum** size cable for the tool.

3. Position the contact and cable between the jaws, according to Section 3, CRIMPING PROCEDURE. Holding the cable 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.

4. Check the clearance between the bottoming surfaces of the jaws. If the clearance is 0.025 mm [.001 in.] or less, the ratchet is satisfactory. If clearance exceeds 0.025 mm [.001 in.], the ratchet is out of adjustment and must be repaired. See Section 5, REPLACEMENT AND REPAIR.

5. REPLACEMENT AND REPAIR

Replaceable parts are listed in Figure 6. Parts other than those listed 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:

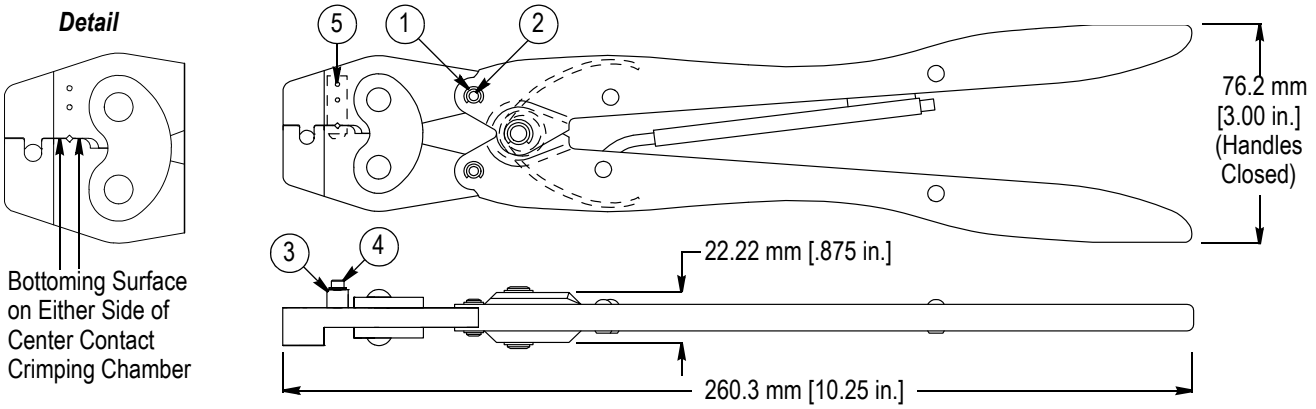
CUSTOMER SERVICE (038-035)
TYCO ELECTRONICS CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

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

6. REVISION SUMMARY

Revisions to this instruction sheet include:

- Updated instruction sheet to corporate requirements
- Added name of tool to title of instruction sheet and removed name from ratchet
- Corrected shape of plug element in Figure 5



ITEM	PART NUMBER FOR TOOL				DESCRIPTION	QTY PER TOOL
	69477-4	220009-1	220009-5	220187-1 220187-2		
1	21045-3	21045-3	21045-3	21045-3	RING, Retaining	4
2	1-23619-6	1-23619-6	1-23619-6	1-23619-6	PIN, Retaining	2
3	310415-1	4-304052-8	843471-1	843471-1	LOCATOR	1
4	308665-1	—	843472-1	843472-1	STOP	1
5	1-21000-1	1-21000-0	8-21000-5	1-21000-1	SCREW	2

Figure 6