

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.

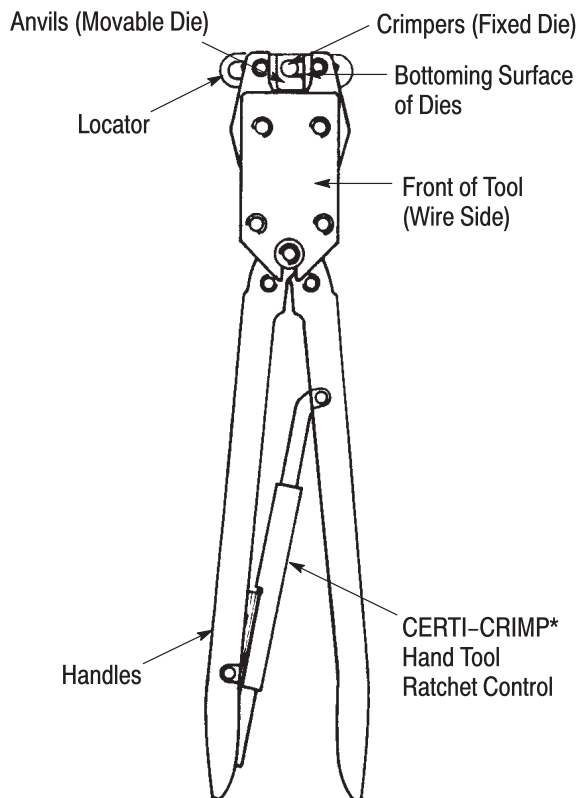


Figure 1

1. INTRODUCTION

Hand Tool Assembly 59282, shown in Figure 1, is designed to crimp CERTI-SEAL* butt strap splice assemblies listed in Figure 2 onto solid or stranded wire sizes 16 through 14 AWG with an insulation diameter range of 1.78 through 3.81 mm [.070 through .150 in.].

Read these instructions carefully and completely before using the tool.

NOTE



Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

Reasons for reissue are provided in Section 6, REVISION SUMMARY.

2. DESCRIPTION

The front of the tool, into which the wire is inserted, is marked with the wire size range and tool part number.

The tool consists of a head and handle. The head features two movable dies (wire anvil and insulation anvil) and two fixed dies (wire crimper and insulation crimper). When closed, the dies form a crimping chamber. The locator is used to properly position the splice in the crimping chamber.

The CERTI-CRIMP hand tool ratchet control ensures full crimping of the splice. Once engaged, the ratchet will not release until the handles have been FULLY closed.

CAUTION

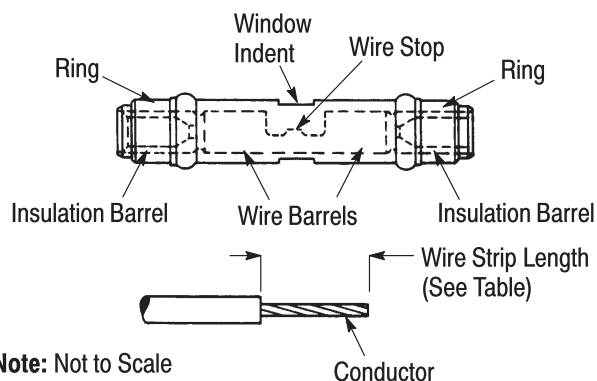


The dies bottom before the ratchet releases. This ensures maximum electrical and tensile performance of the crimp. DO NOT re-adjust the ratchet.

3. CRIMPING PROCEDURE

1. Refer to Figure 2, and choose the proper wire size and insulation diameter for the splice. Strip the wires to the dimension listed. DO NOT cut or nick the wire conductor.
2. Close the tool handles until the ratchet releases.

CERTI-SEAL Butt Strap Splice Assembly



WIRE			SPLICE
SIZE RANGE (AWG)	INSULATION DIAMETER RANGE	STRIP LENGTH	
16-14	1.78-2.92 [.070-.115]	7.87-8.38 [.310-.330]	324989
	1.91-3.81 [.075-.150]	7.24-7.75 [.285-.305]	324549

Figure 2

3. Insert the splice into the crimping chamber until it butts against the locator with one end resting on the anvils as shown in Figure 3.
4. Close the tool handles just until the splice is held in place. DO NOT deform the splice.
5. Insert one of the stripped wires into the end of the splice protruding from the front of the tool until it bottoms against the wire stop.
6. Hold the wire in place, and close the tool handles until ratchet releases.
7. Rotate the splice, and position it so that the uncrimped end rests on the anvils. Repeat Steps 4 through 6.

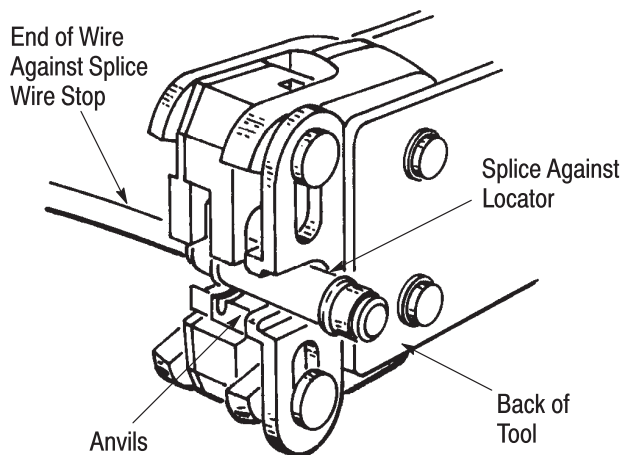


Figure 3

8. Visually inspect the crimped splice according to Figure 4.

NOTE

A split ring indicates that the wrong wire size was used or that a die is damaged.

CAUTION

The splices are not repairable. Discard and replace any defective or damaged splice. DO NOT re-use a terminated splice by removing the wire.

4. MAINTENANCE AND INSPECTION

4.1. Daily Maintenance

1. Clean foreign particles from tool using a soft, clean, lint-free cloth or brush.
2. Make sure all pins and retaining rings are secured in their proper places. Lubricate all pins, pivot points, and bearing surfaces with a thin coat of any good SAE 20 motor oil. DO NOT oil excessively.

3. Store tool in a clean, dry area with handles closed.

Each Wire End (Viewed Through Window Indent) Against Wire Stop or Flush With, or Extends Slightly Beyond, Each Splice Wire Barrel

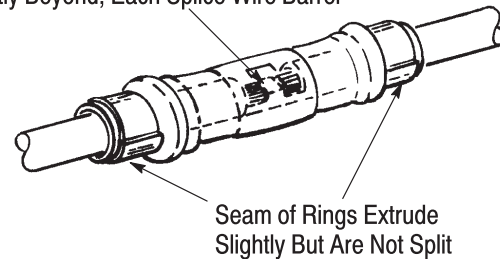


Figure 4

4.2. Periodic Inspection

Regularly scheduled inspections should be conducted and recorded by quality control personnel. It is recommended that the inspection procedures be performed once a month; more often if your work environment, company standards, or amount of tool use indicates the need.

A. Visual Inspection

Remove all lubrication and accumulated film by immersing the tool in a commercial degreaser that will not damage paint or plastic. Then:

1. Check for missing or defective pins or retaining rings. Replace parts as necessary.
2. Close handles until ratchet releases. With handles fully open, carefully inspect the ratchet assembly, tool head, and die surfaces.

Worn, cracked, pitted, or chipped die surfaces, or other obvious wear or damage to the ratchet or tool head requires removal of the tool from service. Refer to Section 5, REPLACEMENT AND REPAIR.

B. Gaging the Crimping Chamber

This inspection requires the use of plug gages conforming to the dimensions provided in Figure 5. Gage each crimping chamber section separately as follows:

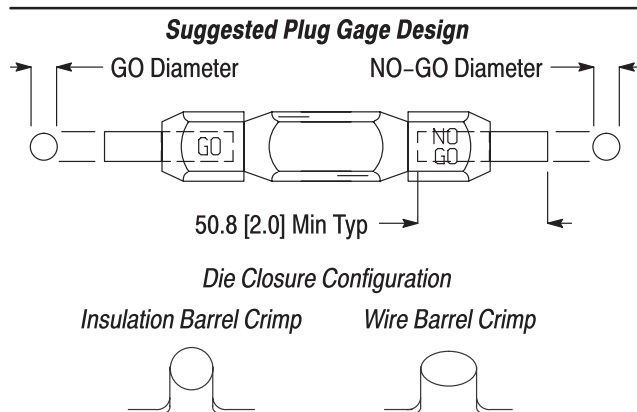
1. Remove traces of oil or dirt from the crimping chamber and plug gage.
2. If gaging the insulation barrel section of the crimping chamber, insert a 0.13 mm [.005 in.] shim between the bottoming surfaces of the dies.
3. Close the tool handles until the dies are bottomed and hold them in this position. Do not force the dies beyond initial contact.
4. Align the plug gage GO element with the crimping chamber section. Push the element

straight into the chamber, but do not force it. The GO element must pass completely through the chamber.

5. Align the NO-GO element and try to insert it straight into the same crimping chamber section. The NO-GO element may begin entry as shown in Figure 4, but must not pass through the chamber.

If the crimping chamber conforms to the gage inspection, the tool may be considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If the crimping chamber does NOT conform to the gage inspection, the tool must be returned for further evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

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



GAGE ELEMENT DIAMETER			
Insulation Barrel Section of Crimping Chamber		Wire Barrel Section of Crimping Chamber	
GO	NO-GO	GO	NO-GO
4.064-4.072 [.1600-.1603]	4.265-4.267 [.1679-.1680]	3.353-3.360 [.1320-.1323]	3.503-3.505 [.1379-.1380]

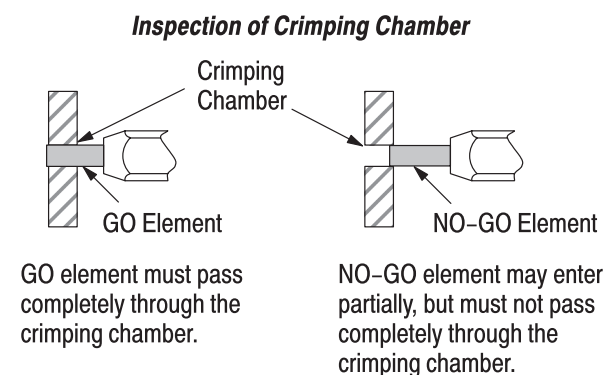


Figure 5

4.3. CERTI-CRIMP Hand Tool Ratchet Control Inspection

Check the ratchet to ensure that the ratchet does not release prematurely, allowing the dies to open before they have fully bottomed. Proceed as follows:

1. Remove traces of oil or dirt from the bottoming surfaces of the dies.
2. Obtain a 0.025 mm [.001 in.] shim that is suitable for checking the clearance between the bottoming surfaces of the dies.
3. Select a splice and *maximum* size wire for the splice.
4. Position the splice in the crimping chamber according to Section 3, CRIMPING PROCEDURE. 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 dies closed.
5. Check the clearance between the bottoming surfaces of the dies. 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

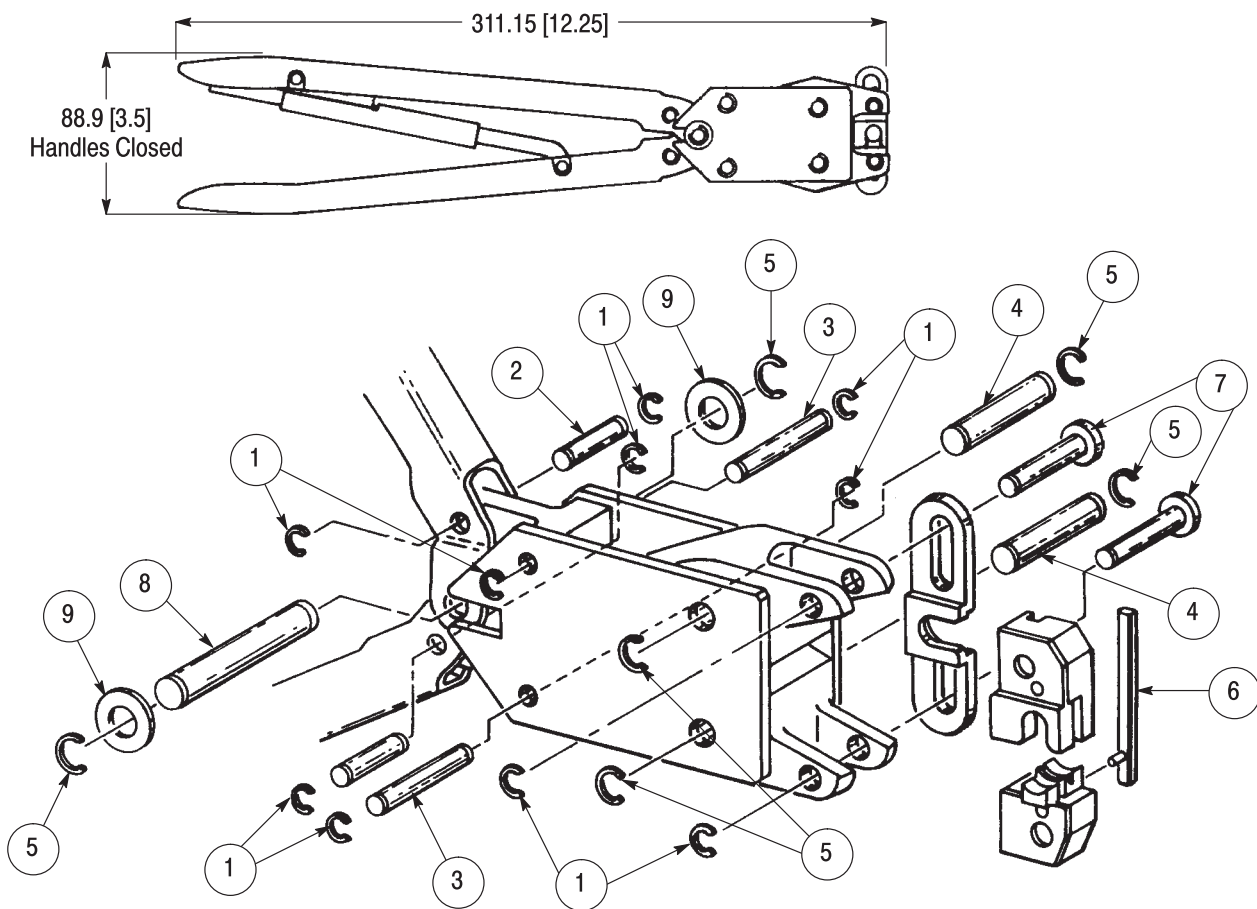
Customer-replaceable parts are listed in Figure 6. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by Tyco Electronics to ensure quality and reliability. Order replacement parts through your Tyco Electronics Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

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

For customer repair service, contact a Tyco Electronics Representative at 1-800-526-5136.

6. REVISION SUMMARY

- Updated document to corporate requirements
- Changed dimensions in table in Figure 5



REPLACEMENT PARTS			
ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	Retaining Ring	10
2	300388	Retaining Pin	2
3	303863	Retaining Pin	2
4	303861	Retaining Pin	2
5	21045-6	Retaining Ring	6
6	306100	Key Insert Assembly	1
7	1-304197-4	Retaining Pin	2
8	303864	Retaining Pin	1
9	302722	Washer	2

Figure 6