

**PROPER USE GUIDELINES**

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use in low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.

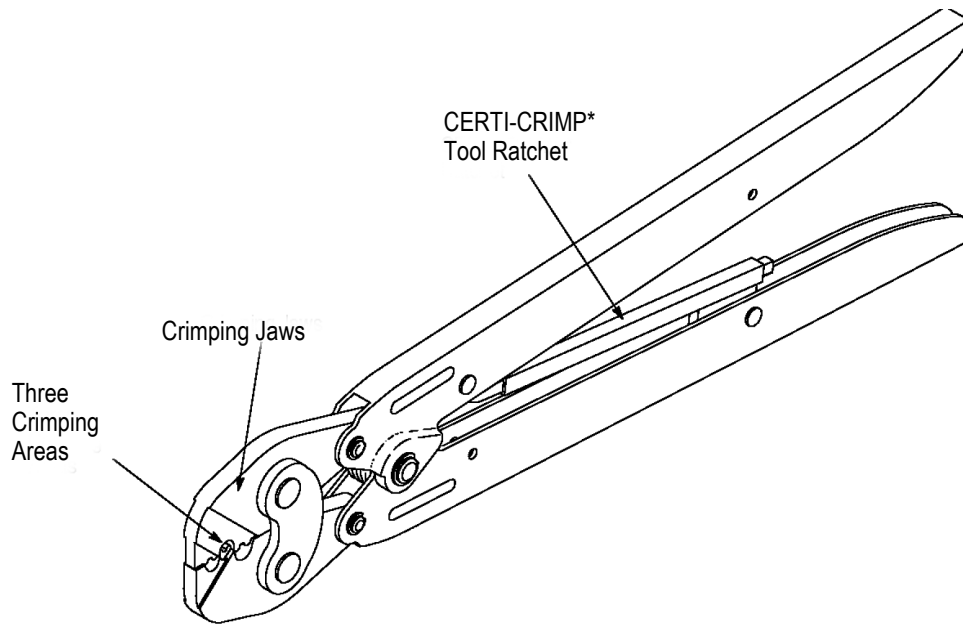


Figure 1

**1. INTRODUCTION**

This instruction sheet covers the application and maintenance of Tyco Electronics Hand Crimping Tool 69324-1, which is used to apply AMP SOLISTRAND and STRATO-THERM terminals and splices.

Read this sheet thoroughly before proceeding.



*Dimensions on this sheet are in millimeters [with 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 tool features tool handles, a CERTI-CRIMP tool ratchet, and crimping jaws with three crimping areas. The proper wire size range is stamped next to each crimping area. The tool is used to crimp the terminals and splices on stranded wire of size 22 through 10 AWG.

**3. CRIMPING PROCEDURE**

To apply the terminal or splice, proceed as follows:

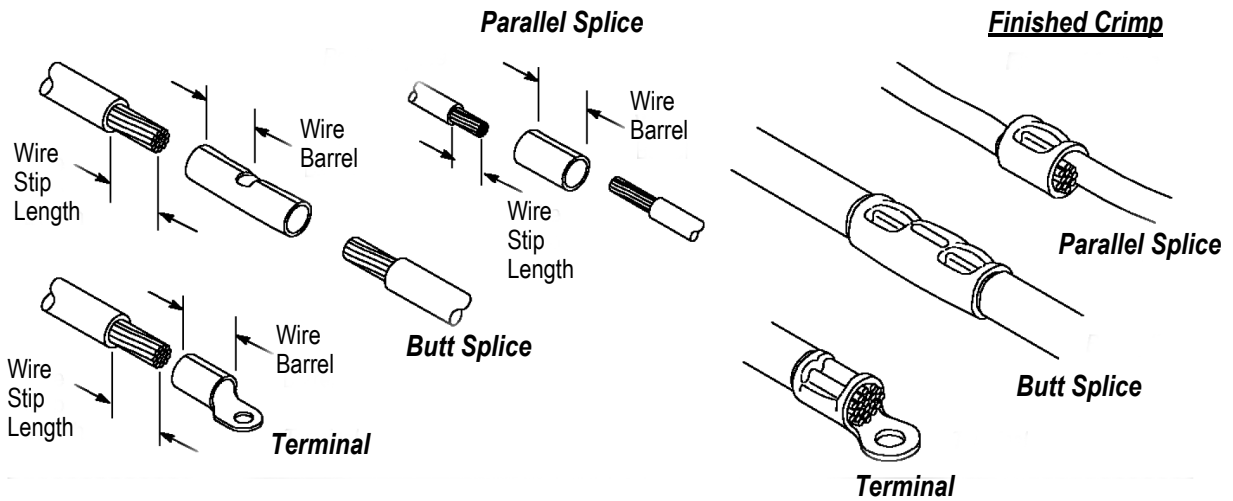
1. Refer to Figure 2 and select wire of the specified size.

2. Strip the wire according to the dimensions given for the terminal or splice being used. *Be sure to avoid nicking or damaging any wire strands.* If any strands are damaged, cut and strip the wire again.
3. Select an applicable terminal and identify the appropriate crimp section, according to wire size, on the tool.
4. Make certain that the ratchet is released by squeezing the tool handles and allowing them to open FULLY.



*The crimping jaws bottom before the CERTI-CRIMP tool ratchet releases. This is a design feature that ensures maximum electrical and tensile performance of the crimp. DO NOT re-adjust the ratchet.*

5. Place the terminal or splice in the crimping jaws as shown in Figure 3. For best results, when a brazed seam on the terminal or splice is visible, position the seam toward the indenter.
6. Close the tool handles until the terminal or splice is held firmly in place. Do NOT deform the terminal



Tool Number	Wire Size	Wire Strip Length					
		Terminal		Butt Splice		Parallel Splice	
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
69324-1	22 -16	4.37 [.172]	5.16 [.203]	6.35 [.250]	7.14 [.281]	7.95 [.313]	8.74 [.344]
	16 -14						
	12 -10						

Figure 2

7. Insert the stripped wire into the terminal or splice wire barrel. The wire insulation must not enter the wire barrel

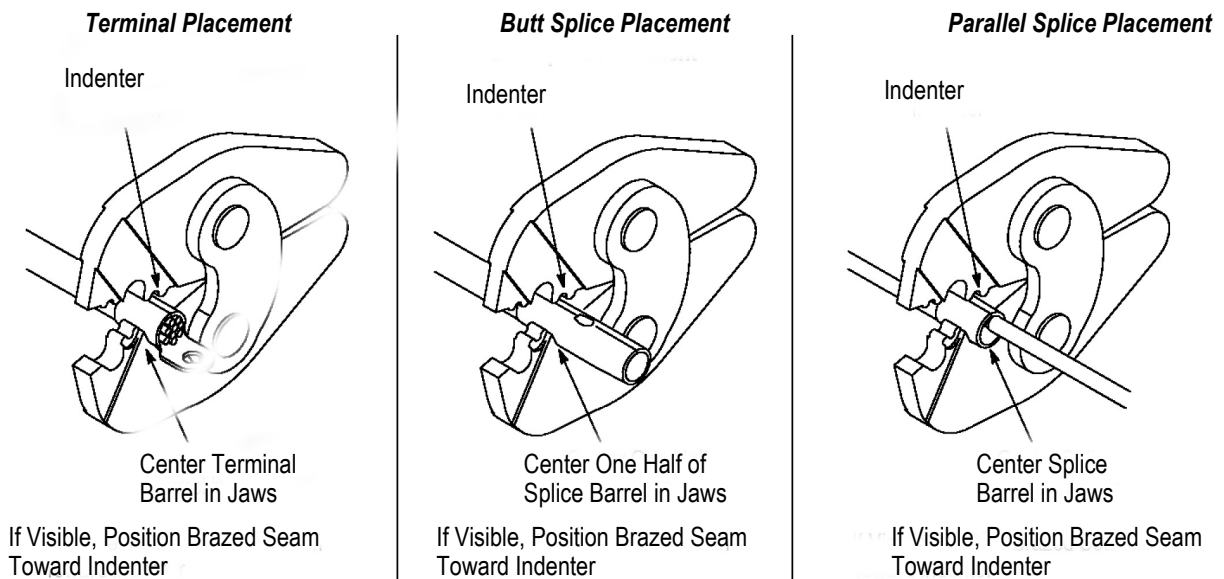


Figure 3

8. To complete the crimp, close the handles until the ratchet releases. Allow the tool handles to open fully and remove the crimped terminal or splice.

9. To crimp the other half of a butt splice, reposition the uncrimped side in the tool and repeat Steps 6 through 8.

#### 4. MAINTENANCE AND INSPECTION PROCEDURE

Tyco Electronics recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations.

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, Tyco Electronics 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. 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

1. 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

\* SAE is a trademark of SAE International

Wipe excess oil from tool, particularly from crimping jaws. Visual Inspection

###### 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 jaws. If damage is evident, return the tool to Tyco Electronics for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

###### C. Gaging the Crimping Chamber

This inspection requires the use of three plug gages - one for each crimping chamber in the tool. The gages should conform to the dimensions listed in Figure 4.

Tyco Electronics does not manufacture or market these gages. Refer to 408-7424 for information about the plug gages.

To gage a crimping chamber, refer to Figure 5 and proceed as follows:

1. Close the tool handles until the jaws bottom, then hold the tool in this position. Do NOT force the dies beyond initial contact.
2. Align the GO element of the proper gage with the corresponding crimping chamber, as shown in Figure 5. Push the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber.
3. Now align the crimp gage 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.
4. Use the two other plug gages to inspect the remaining crimping chambers, as described in Steps 1 through 3 above.

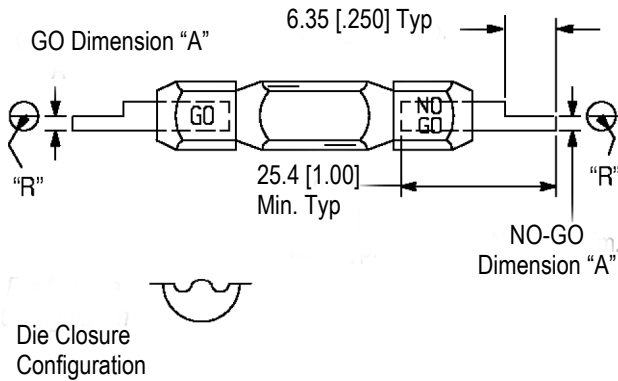
If the crimping chambers conform to the correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the tool must be returned to Tyco Electronics for further evaluation and repair.

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

###### D. Ratchet Inspection

The CERTI-CRIMP tool ratchet feature on this hand tool should be checked to ensure that the ratchet does not release prematurely, allowing the jaws 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 jaws..

Suggested Plug Gage Design



Proceed as follows:

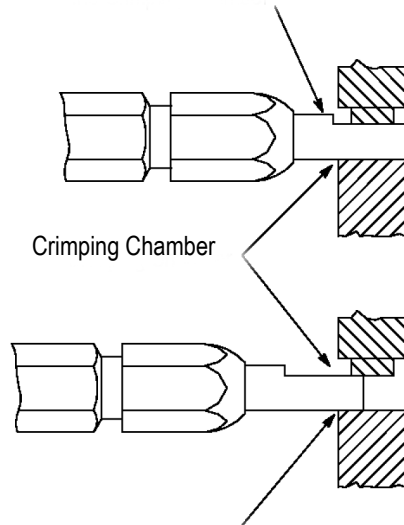
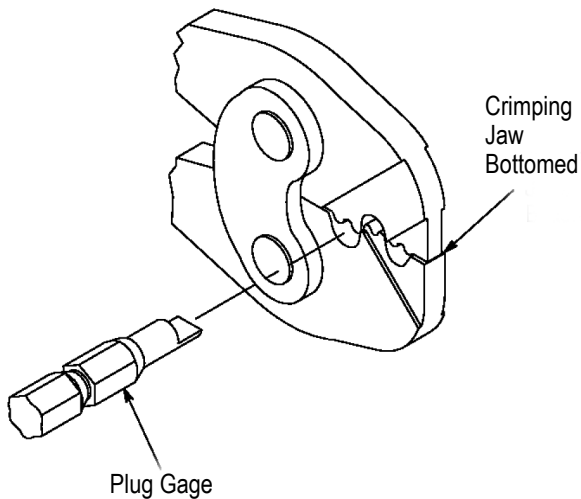
1. Select an appropriate terminal or splice.
2. Select a stripped wire that represents maximum wire load for the terminal or splice being used. For example, a terminal or splice listed for 22 to 16 AWG stranded wire has a maximum stranded wire load of 16 AWG.
3. Start to crimp the terminal or splice as described in Section 3, CRIMPING PROCEDURE, Steps 4 through 7. Close the tool handles until the ratchet releases, but DO NOT release the handles.

Crimp Area	Gage Element Dimensions		
	Dimension "A" ‡		Radius "R"
	GO	NO-GO	
22 -16	1.600 [.0630]	1.753 [.0690]	1.702 [.0670]
16 -14	1.880 [.0740]	2.032 [.0800]	2.045 [.0805]
.12-10	2.642 [.1040]	2.794 [.1100]	2.769 [.1090]

‡ Plug gage dimensions apply when tool is bottomed, but not under pressure.

Figure 4

GO Element Must Pass Completely Through the Crimping Chamber



NO-GO Element May Enter Partially, But Must NOT Pass Completely Through the Length of the Crimping Chamber

Figure 5

4. Check the clearance between the bottoming surfaces of the crimping jaws. 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.

**5. REPLACEMENT AND REPAIR**

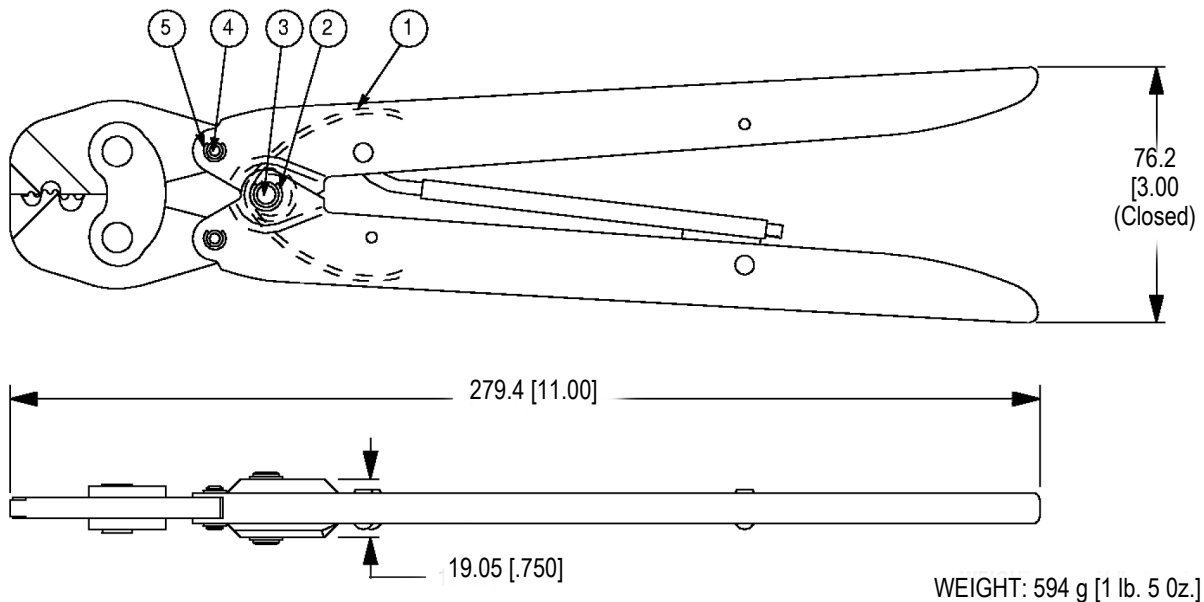
Replacement parts are listed in Figure 6. Parts other than those listed in Figure 6 should be replaced by Tyco Electronics to ensure quality and reliability of the tool. Order replacement parts through your Tyco Electronics representative, or call 1-800-526-5142, or send a facsimile of your purchase 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 Tyco Electronics representative at 1-800-526-5136.

**6. REVISION SUMMARY**

Since the previous release of these instructions, the TE logo was applied.



**Customer-Replaceable Parts**

Item	Part Number	Description	Qty Per Assembly
1	39364	SPRING	1
2	21045-6	RING, Retaining	2
3	2-23620-9	PI N, Retaining	1
4	1-23619-6	PI N, Retaining	2
5	21045-3	RING, Retaining	4

Figure 6