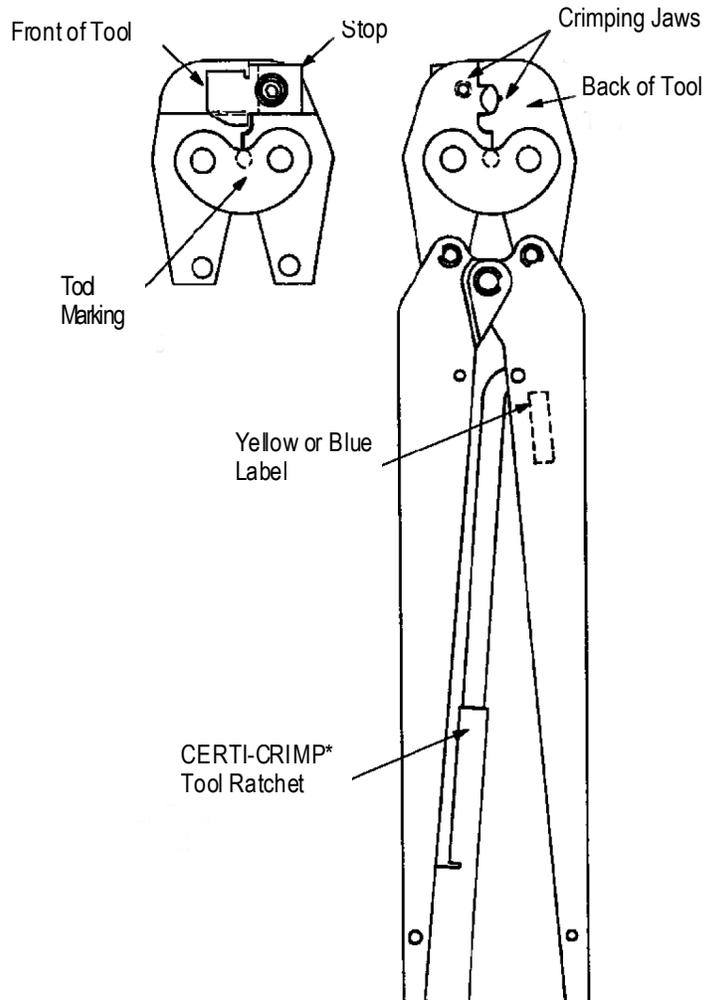


**Hand Crimping Tools 45324 and 43529**
**PROPER USE GUIDELINES**

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.



Wire			Splice Part Number Vinyl VS	Tool	
Size (AWG)	Strip Length ‡	Combination Table ††		Part Number (Color Code)	Marking
22-10	11.11 - 12.70 [.438 - .500]	408-1397	34308	45324 (Yellow)	18 - 10 VS
			34865		
22-16	8.73 - 10.32 [.344 - .406]	408-1396	34349	45329 (Blue)	18 - 16 VS
			34864		
			34306		

‡ In cases where twisting conductors for minimum loading is required, ensure that strip length is maintained after twisting.

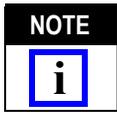
†† Referenced instruction sheets for wire combinations.

Figure 1

## 1. INTRODUCTION

Tyco Electronics Hand Crimping Tools 45324 and 45329 are used to crimp the Closed-End Splices listed in Figure 1. The tools are designed to crimp the splices on wire sizes ranging from 22 through 10 AWG.

Read these instructions thoroughly before using the tools.



*All dimensions on this document are in metric units (with U.S. customary units 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 tools have color-coded labels which match the insulator color of the splice. Tool 45324 has yellow labels and tool 45329 has blue labels.

Each tool features two crimping jaws, a stop, and a CERTI-CRIMP tool ratchet. The crimping jaws hold and crimp the splice to the wire. The stop correctly positions the splice between the crimping jaws before the crimp is performed. The ratchet ensures full crimping of the splice. Once engaged, the ratchet will not release until the tool handles have been fully closed.

## 3. CRIMPING PROCEDURE

Select the proper tool and splice combination from the table in Figure 1. Then, proceed as follows:

1. Strip the wire(s) to the dimensions listed in Figure 1.
2. Make sure that the ratchet is released. Squeeze the tool handles together and allow them to open fully.
3. Insert stripped wire into the splice barrel. Make sure the insulator color of the splice matches the label color on the tool.
4. Locate the splice - with the wires inserted - between the crimping JAWS, as shown in Figure 2. Vinyl (VS) splices should rest against the tool stop as shown in.
5. Holding the splice in position, complete the crimp by squeezing the tool handles together until the ratchet releases. When the ratchet releases, the handles will spring open and the crimped splice can be removed.

## 4. MAINTENANCE INSPECTION

### 4.1. Daily Maintenance

Remove all foreign particles with a clean, soft brush or a clean, soft, lint-free cloth. Make sure the proper retaining pins are in place and are secured with the

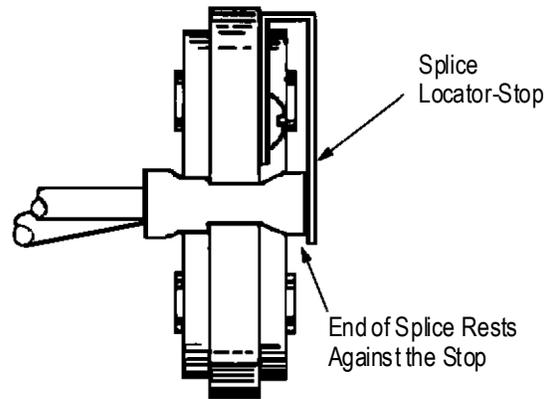


Figure 2

proper retaining rings. If foreign matter cannot be removed easily, or if the proper replacement parts are not available, return the tool to your supervisor.

Make sure all pivot points and bearing surfaces are protected with a thin coat of any good SAE\* 20 motor oil. Do NOT oil excessively. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged between the dies, and store the tool in a clean, dry area.

### 4.2. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool and/or be supplied to the supervisory personnel responsible for the tool.

Though recommendations call for at least one inspection a month, the inspection frequency should be based on the amount of use, ambient working conditions, operator training and skill, and established company standards. These inspections should be performed in the following sequence:

#### A. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the tool (handles partially closed) into a suitable degreaser that will not affect paint or plastic material.
2. Make certain all retaining pins are in place and are secured with the proper retaining rings. If replacements are necessary, refer to Figure 4.
3. Close the tool handles until the ratchet releases, and then allow the handles to open freely. If they do not open quickly and fully, then the spring is defective and must be replaced (see Section 5, REPLACEMENT AND REPAIR).
4. Inspect the head assembly, with special emphasis on checking for worn, cracked, or broken crimping dies. If damage to any part of the head is evident, return the tool for evaluation and repair (see Section 5, REPLACEMENT AND REPAIR).

\* SAE (Society of Automotive Engineering) is a trademark of SAE International.

### B. Gaging the Crimping Chamber

This inspection requires the use of a plug gage conforming to the diameters in Figure 3. To gage the crimping chamber, proceed as follows:

1. Select the proper gage for the hand tool being inspected. See Figure 3.
2. Remove traces of oil or dirt from the crimping chamber and the plug gage.
3. Close the tool handles until the jaws have bottomed and hold in this position. Do not force the jaws beyond initial contact.
4. Carefully insert the GO element into the crimping chamber; do not force it. The GO element must pass completely through the crimping chamber. See Figure 3.
5. In the same manner, try to insert the NO-GO element into the same crimping chamber. The NO-GO element may begin entry, but may not pass through the crimping chamber. See Figure 3.

If the crimping chamber conforms 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, refer to Section 5, REPLACEMENT AND REPAIR.

For additional information concerning the use of the and ordering of plug gages, refer to instruction sheet 408-7424.

### C. CERTI-CRIMP Tool Ratchet Inspection

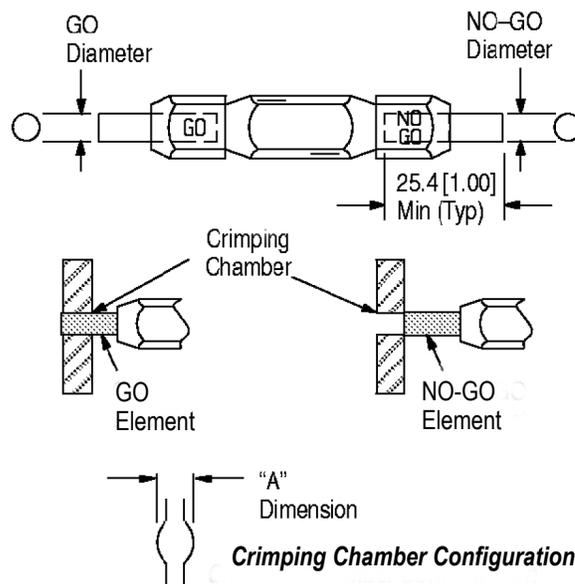
The ratchet feature on the hand tools should be checked to ensure that the ratchet does not release prematurely, allowing the jaws to open before they have fully bottomed.

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

Proceed as follows:

1. Select the maximum number of wires permitted from the wire combination chart for the splice being used.
2. Position the splice and wire(s) between the crimping jaws, as described in Section 3. CRIMPING PROCEDURE.
3. Holding splice in place, squeeze the tool handles together until the ratchet releases. Hold the handles in this position, maintaining just enough tension to keep the jaws closed.

### Suggested Plug Gage Design



Tool No.	Chamber Dim. "A"		Gage Element Diameter	
	GO	NO-GO	GO	NO-GO
45324	4.29 [.169]	4.44 [.175]	4.293 - 4.300 [.160 - .1693]	4.442-4.445 [1749-1750]
45329	3.02 [.119]	3.18 [.125]	3.023-3.030 [.1190-1193]	3.172-3.175 [.1249-.1250]

Figure 3

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 the clearance exceeds 0.025 [.001], the ratchet is out of adjustment and must be repaired.

### 5. REPLACEMENT AND REPAIR

The parts listed in Figure 4 are customer replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to

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

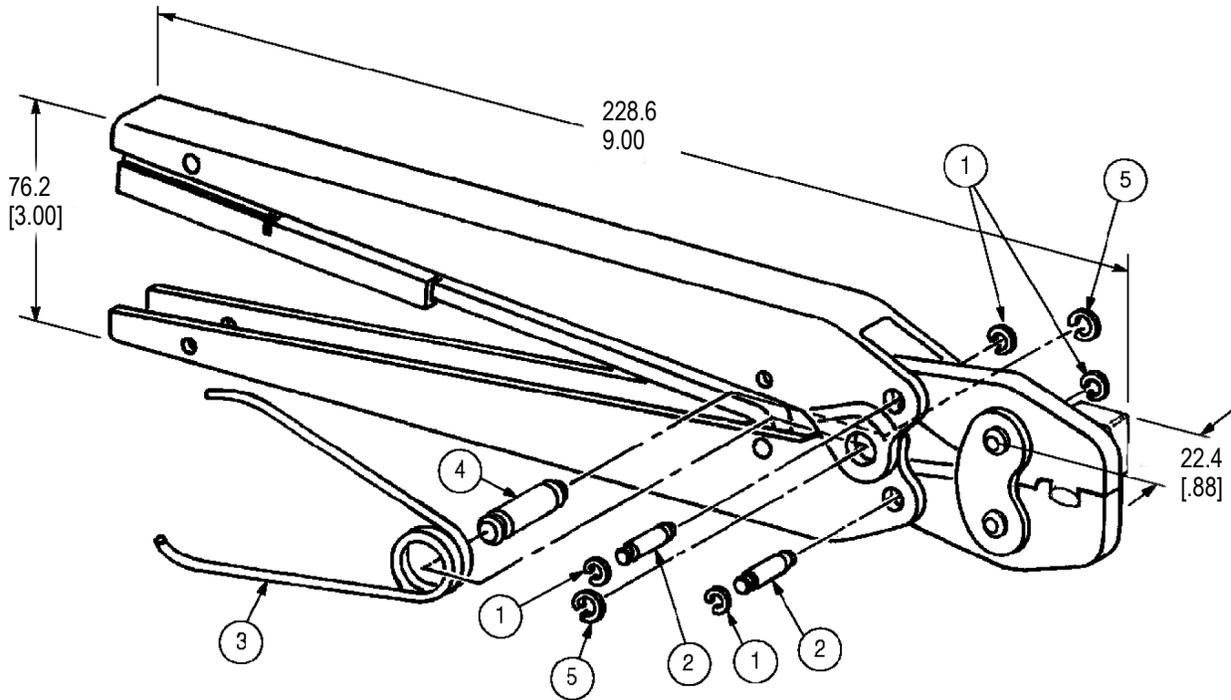
Tools may also be returned for evaluation and repair. For tool repair service, contact a Tyco Electronics representative at 1-800-526-5136.

**6. REVISION SUMMARY**

Since the previous release of this instruction sheet:

- The new TE logo was applied;

- The format was updated to current corporate requirements;
- And trademarks were corrected.



**Replacement Parts**

Item Number	Part Number	Description	Qty Per Tool
1	21045-3	Ring, Relaining	4
2	8-59558-2	Pin, Relaining	2
3	39364	Spring	1
4	300449	Pin, Retaining	1
5	21045-6	Ring, Relaining	2

Figure 4