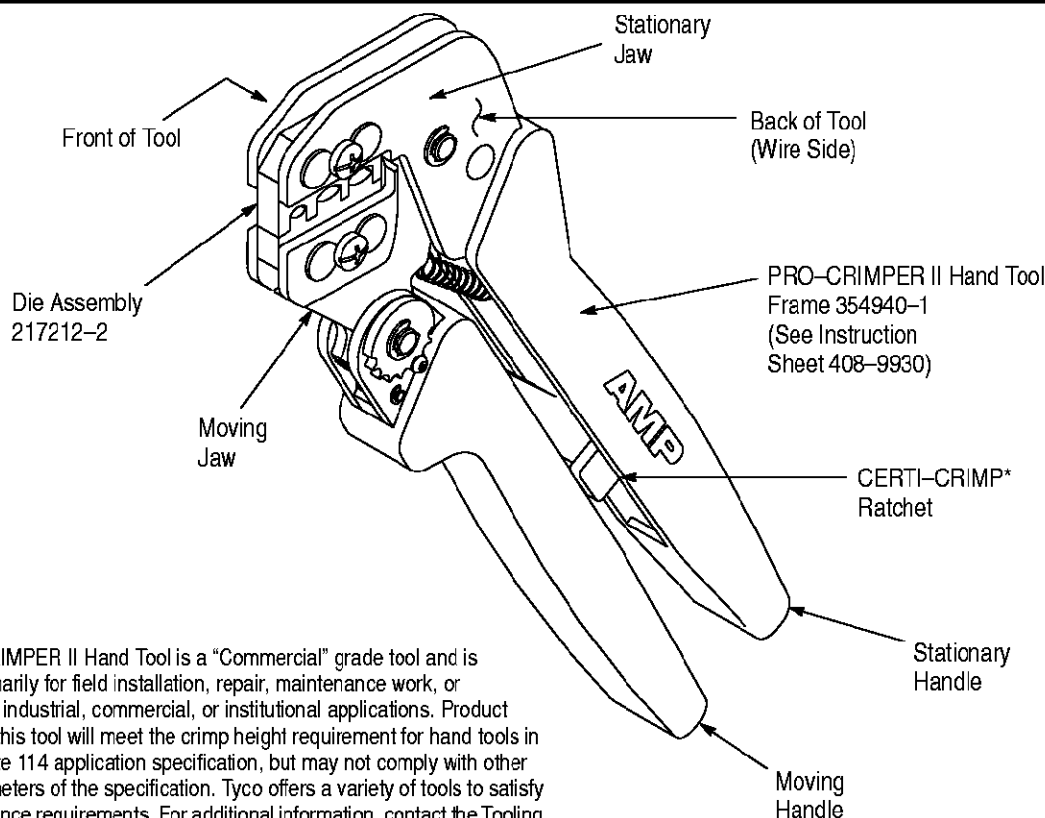


## PROPER USE GUIDELINES

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.



The PRO-CRIMPER II Hand Tool is a "Commercial" grade tool and is designed primarily for field installation, repair, maintenance work, or prototyping in industrial, commercial, or institutional applications. Product crimped with this tool will meet the crimp height requirement for hand tools in the appropriate 114 application specification, but may not comply with other feature parameters of the specification. Tyco offers a variety of tools to satisfy your performance requirements. For additional information, contact the Tooling Assistance Center at 1-800-722-1111.

| DIE ASSEMBLY<br>CRIMPING<br>CHAMBER | CLOSED-END SPLICE |            | WIRE          |                               |                                       | UL LISTED AND<br>CSA CERTIFIED<br>SOLID OR STRANDED<br>WIRE COMBINATION<br>CHART |
|-------------------------------------|-------------------|------------|---------------|-------------------------------|---------------------------------------|--|
|                                     | PART NO.          | TYPE       | SIZE<br>(AWG) | CIRCULAR<br>MIL AREA<br>RANGE | STRIP<br>LENGTH<br>(mm [in.])         |  |
| Outer                               | 35115             | ECV<br>ECN | 22-14         | 509-5,180                     | 8.76 $\pm$ 0.38<br>[.345 $\pm$ .016]  | 408-1271   |
| Center                              | 328730            | ECV<br>ECN | 22-10         | 3,248-13,100                  | 11.12 $\pm$ 0.38<br>[.438 $\pm$ .016] | 408-1003   |
| Inner                               | 35653             | ECN        | 22-10         | 3,248-13,100                  | 11.12 $\pm$ 0.38<br>[.438 $\pm$ .016] | 408-1021   |

Figure 1

## 1. INTRODUCTION

AMP\* PRO-CRIMPER II Hand Tool Assembly 217212-1 consists of Die Assembly 217212-2 and PRO-CRIMPER II Hand Tool Frame 354940-1. The die assembly consists of two crimping dies. Read these instructions thoroughly before crimping any splices.

### NOTE

Dimensions on this sheet are in millimeters [with inch equivalents provided in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 9, REVISION SUMMARY.

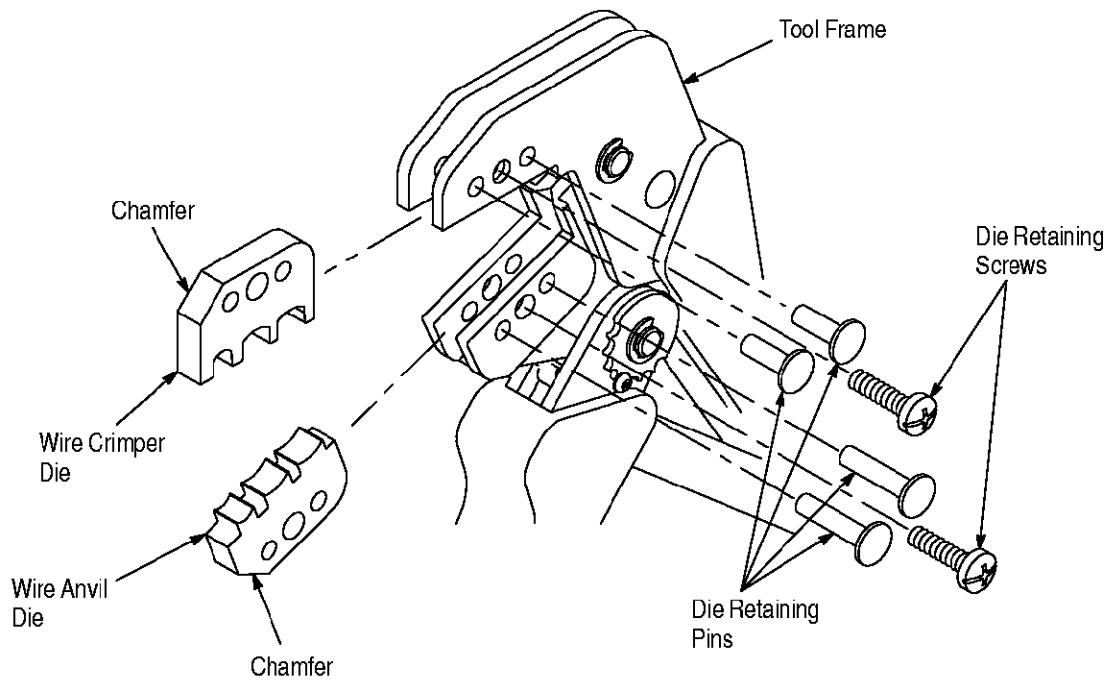


Figure 2

## 2. DESCRIPTION (Figures 1 and 2)

The tool features a tool frame with a stationary jaw and handle, a moving jaw, a moving handle, and a CERTI-CRIMP ratchet that ensures full splice crimping. The tool frame holds a die assembly with three crimping chambers.

The die assembly features a wire anvil die and a wire crimper die. Die retaining pins and die retaining screws are used to position and secure the dies in the tool frame.

## 3. INSTALLATION AND REMOVAL OF DIE ASSEMBLY (Figure 2)

1. Open the tool handles and remove the two die retaining screws from the tool jaws.
2. Place the wire anvil die so that the chamfered side faces outward when mounted in the moving jaw of the tool frame. Place the wire crimper die so that the chamfered side faces outward when mounted in the stationary jaw of the tool frame.
3. Insert two die retaining pins through each jaw and into each die.
4. Insert the die retaining screws through each jaw and into each die, and tighten the screws just enough to hold the dies in place. Do *not* tighten the screws completely at this time.
5. Carefully close the tool handles, making sure that the anvil and crimper dies align properly. Continue closing the tool handles until the ratchet

in the tool frame has engaged sufficiently to hold the dies in place, then tighten both die retaining screws.

6. To disassemble, close the tool handles until the ratchet releases, remove the two die retaining screws and the four die retaining pins, and slide the dies out of the tool jaws.

## 4. CRIMPING PROCEDURE

### NOTE

*Initially, the crimping chambers and tool ratchet should be inspected as specified in Section 5, CRIMP ADJUSTMENT, to verify reliability before using the tool to crimp desired splices and wire sizes.*

Refer to Figure 1 and select wire of the specified size. Strip the wire to the length indicated in Figure 1, taking care not to nick or cut wire strands. Select an applicable splice and identify the appropriate crimping chamber according to Figure 1. Refer to Figure 3 and proceed as follows:

1. Squeeze tool handles together and allow them to open fully.
2. Insert stripped wire into splice wire barrel until the end of the conductor bottoms against the splice.
3. Holding the wire, insert the splice—wire barrel first—into the appropriate crimping chamber. Make sure the wire barrel is centered in the crimping chamber.

**CAUTION**

*Make sure that both sides of the wire barrel are started evenly into the crimping chamber. Do NOT attempt to crimp an improperly positioned splice.*

4. Holding the splice in place, squeeze tool handles together until ratchet releases. Allow tool handles to open and remove crimped splice.

5. Check the splice to ensure that the crimp is centered on wire barrel and the stripped wires are fully bottomed in the splice. Refer to Figure 3 for a properly crimped splice.

## 5. CRIMP ADJUSTMENT

### 5.1. Gaging the Crimping Chamber

This inspection requires the use of a plug gage conforming to the dimensions shown in Figure 4. Tyco does not manufacture or market these gages. To gage the crimping chamber, proceed as follows:

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 dies have bottomed; HOLD the tool in this position. Do NOT force the dies beyond initial contact.
3. Align the GO element with the crimping chamber. Push the element (without forcing it) straight into the chamber. The GO element must pass completely through the crimping chamber.
4. Align and try to insert the NO-GO element with the same crimping chamber. The NO-GO element may start entry but must not pass completely through the crimping chamber.

If the crimping chamber conforms to the gage inspection, the die assembly is considered dimensionally correct and should be lubricated with a THIN coat of any good grade SAE 20 motor oil. If not, the dies or tool frame must be repaired before returning it to service. See Section 8, REPLACEMENT AND REPAIR.

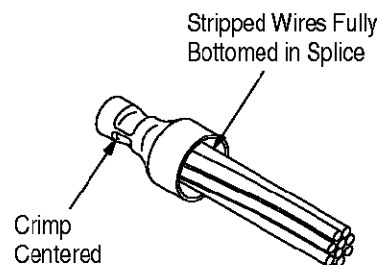
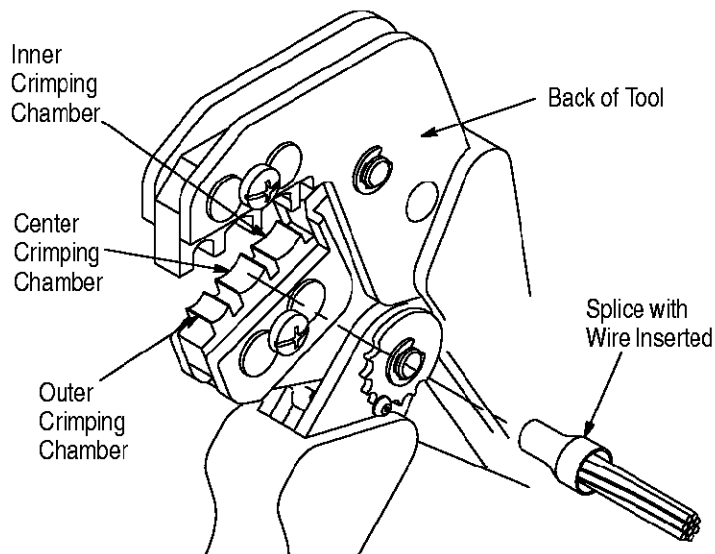
For additional information concerning the use of a plug gage, refer to instruction sheet 408-7424.

### 5.2. CERTI-CRIMP Ratchet

The CERTI-CRIMP ratchet should be checked to make sure that the ratchet does not release prematurely allowing the dies 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 dies.

Proceed as follows:

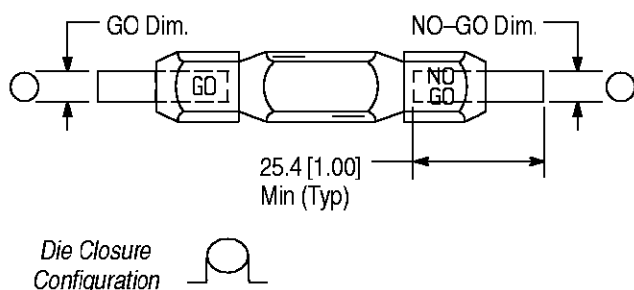
1. Select a splice and the maximum number of wires permitted as indicated in the splice wire combination chart (refer to Figure 1).
2. Position the splice and wire between the crimping dies, according to Section 4, CRIMPING PROCEDURE. Holding the splice in place, squeeze the tool handles together until the CERTI-CRIMP ratchet releases. Hold the tool handles in this position, maintaining just enough pressure to keep the dies closed.
3. Check the clearance between the bottoming surfaces of the crimping dies. 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 8, REPLACEMENT AND REPAIR.



**Note:** Crimp May Be Off Center But Not Off End of Wire Barrel

Figure 3

**Suggested Plug Gage Design**



If the die assembly and tool conform to these inspection procedures, lubricate it with a THIN coat of any good SAE 20 motor oil and return it to service.

**6. INSPECTION**

The crimping dies should be inspected on a regular basis to ensure that they have not become worn or damaged. Inspect the crimping chambers for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the dies must be replaced. See Section 8, REPLACEMENT AND REPAIR.

**7. MAINTENANCE**

Ensure that the tool and dies are clean by wiping them with a clean, soft cloth. Remove any debris with a clean, soft brush. Do not use objects that could damage the tool. When not in use, keep handles closed to prevent objects from becoming lodged in the crimping dies, and store in a clean, dry area.

**8. REPLACEMENT AND REPAIR**

Customer-replaceable parts are shown in Figure 1. Available separately, PRO-CRIMPER II Repair Kit 679221-1 includes a variety of pins, rings, screws, and springs. If the dies are damaged or worn excessively, they must be replaced. Order the repair kit and replaceable parts through your Tyco representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (38-35)  
TYCO ELECTRONICS CORPORATION  
P.O. BOX 3608  
HARRISBURG, PA 17105-3608

**9. REVISION SUMMARY**

Per EC 0990-0719-00

- Updated document to corporate requirements
- Changed wire sizes in Figure 1
- Changed circular mil area range for the center crimping chamber from 9,200 to 13,100 in Figure 1
- Changed customer repair address in Section 8, REPLACEMENT AND REPAIR

| CRIMPING CHAMBER | GAGE ELEMENT DIMENSIONS      |                              |
|------------------|------------------------------|------------------------------|
|                  | GO                           | NO-GO                        |
| Outer            | 2.438-2.443<br>[.0960-.0962] | 2.540-2.545<br>[.1000-.1002] |
| Center           | 2.946-2.951<br>[.1160-.1162] | 3.048-3.053<br>[.1200-.1202] |
| Inner            | 3.200-3.205<br>[.1260-.1262] | 3.302-3.307<br>[.1300-.1302] |

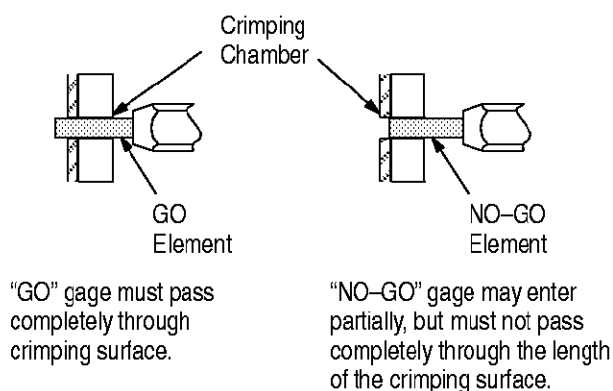


Figure 4