

## Crimping Die Assembly 169414

### 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.

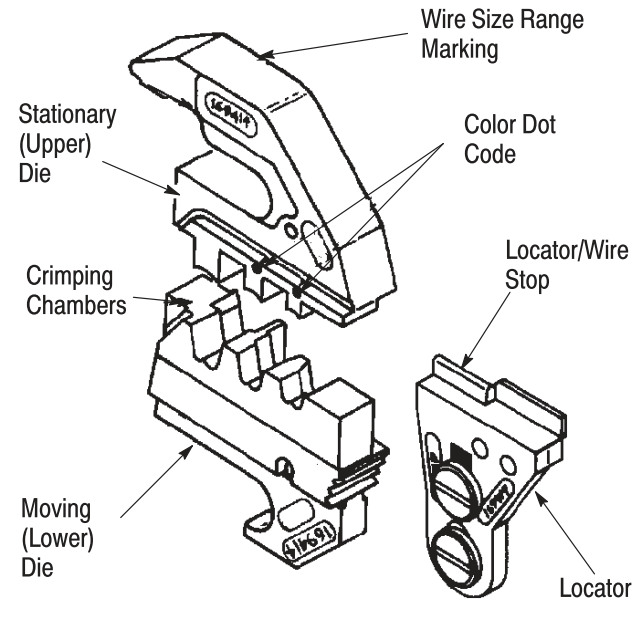


Figure 1

### 1. INTRODUCTION

Crimping Die Assembly 169414 (shown in Figure 1) is used in the CERTI-LOK<sup>®</sup> Hand Crimping Tool 169400 to crimp the Multimate Size 16 Type III+ contacts listed in Figure 2.

**NOTE** *This die assembly is intended for field repair use only.*

For specific information on die installation, crimp adjustments, and hand tool operating instructions, refer to 408-6764.

Read these instructions and referenced instructions before crimping any contacts.

**NOTE** *Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.*

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

### 2. DESCRIPTION

The die assembly consist of a stationary (upper) die, a moving (lower) die, and a locator. When mated, the dies form three crimping chambers.

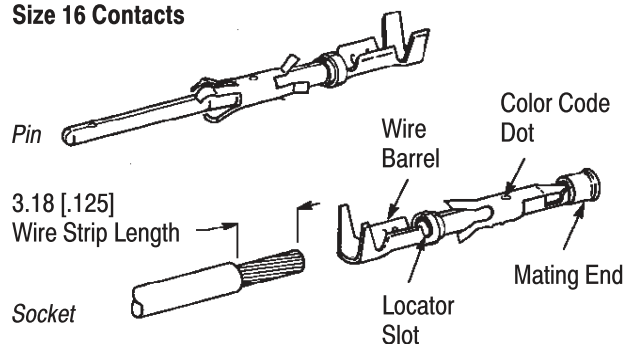
The top of the stationary die is marked with the wire size (mm) that corresponds with each crimping chamber. The locator wire stop is used to ensure correct positioning of the wire and contact during crimping. Two of the crimping chambers are marked with a color dot code that matches the color-coded contacts for a given wire size range.

### 3. CRIMPING PROCEDURE

Install the locator and dies according to the instructions packaged with the hand tool. Then proceed as follows:

1. Refer to Figure 2 and select the stranded wire of specified size and insulation diameter. Strip the wire to the length indicated in Figure 2. Do NOT cut or nick the wire strands.
2. Squeeze the tool handles together and allow the handles to open FULLY.

#### Typical Type III+ Size 16 Contacts



Stranded Wire		Contact	Die (Crimping Chamber) Marking	Color Code
Wire Size (AWG)	Insulation Diameter			
24-20	1.02-2.03 [.040-.080]	66103-[ ] (Pin) 66105-[ ] (Socket)	0.2-0.6	Yellow
18-16	2.03-2.54 [.080-.100]	66099-[ ] (Pin0) 66101-[ ] (Socket)	0.75-1.5	Blue

Figure 2

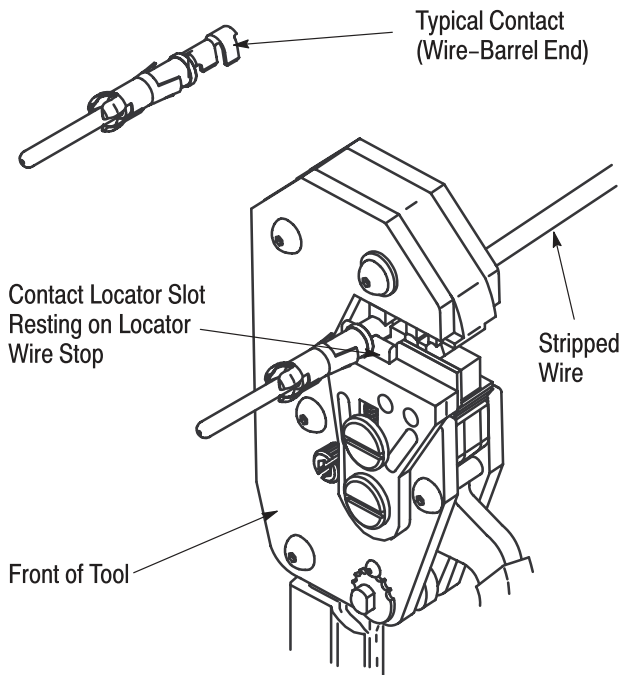


Figure 3

3. Insert the contact, — wire barrel—end first — into the appropriate crimping chamber from the FRONT of the tool. Position the contact so the locator slot is resting on the wire stop of locator. Make sure the contact is seated on the moving die. See Figure 3.

**NOTE** The "U" of the wire barrel should be facing down.



4. Hold the contact in position and close the dies *just enough* to hold the contact in place. Do NOT deform the wire barrel
5. Insert a properly stripped wire into the contact wire barrel.
6. Holding the wire in place, close the tool handles until the ratchet releases. Allow the handles to FULLY open.
7. Remove the crimped contact from the dies and inspect the crimp according to application specification 114-10004.

**4. MAINTENANCE AND INSPECTION**

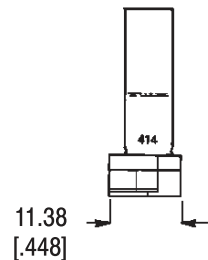
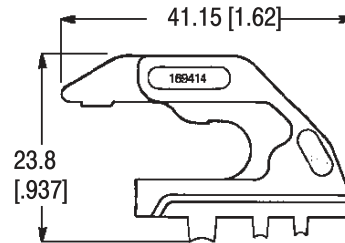
The die assembly is inspected before shipment. It is recommended that the dies be inspected immediately upon arrival at your facility (according to Figure 4) to ensure that the dies were not damaged during shipment.

**4.1. Daily Maintenance**

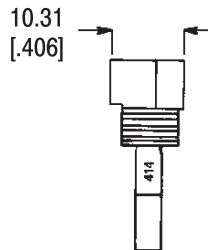
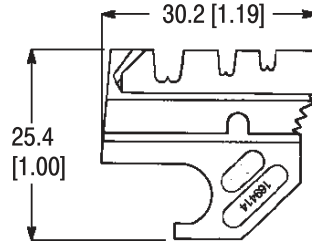
It is recommended that each operator of the dies be responsible for the following steps of daily maintenance:

1. Remove all foreign particles with a clean, soft brush or a clean, soft, lint-free cloth. If foreign matter cannot be removed easily, or if the proper replacement parts are needed, refer to Section 5, REPLACEMENT.
2. Make certain all bearing surfaces are protected with a THIN coat of good grade SAE 20 motor oil. Do NOT oil excessively.
3. When the dies are not in use, store them in a clean, dry place.

*Stationary Die*



*Moving Die*



**Weight:** 57 g [2 oz]

Figure 4

**4.2. Periodic Inspection**

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

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.

Perform the inspection in the following sequence:

**A. Visual Inspection**

1. Remove all lubrication and accumulated film by immersing the dies in a suitable commercial degreaser that will not affect pain or plastic material.
2. Make certain all die components are in place. If replacements are necessary, refer to Section 5, REPLACEMENT.
3. Check all bearing surfaces for wear, and inspect the crimp area for flattened, chipped, worn, cracked or broken areas. If damage to any part is evident, refer to Section 5, REPLACEMENT.

**B. Crimp Height Inspection**

This inspection requires the use of a micrometer with a modified anvil as shown in Figure 5.

**NOTE** *Tyco Electronics does not manufacture or market these gages. Tyco Electronics recommends the use of modified micrometer (Crimp Height Comparator RS-1019-5LP).*

Proceed as follows:

1. Select a contact and a maximum sized wire for the crimping chamber.
2. Crimp the contact to the wire (see Section 3, CRIMPING PROCEDURE.)
3. Using a Crimp Height Comparator, measure the wire barrel crimp as shown in Figure 5. If the crimp height conforms to that shown, the die assembly is considered dimensionally correct. If not, refer to Section 5 for information about replacements.

For additional information concerning the crimp height comparator, refer to 408-7424.

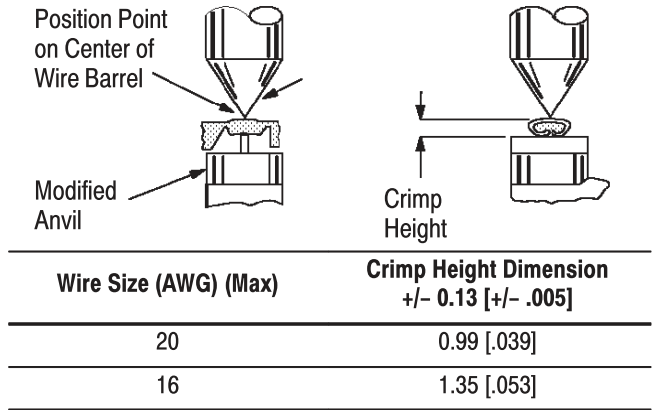


Figure 5

**5. REPLACEMENT**

Order replacements through you 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 (38-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

**6. REVISION SUMMARY**

Since the previous release of this instruction sheet, the following changes have been made:

- The contact position in Figure 3 was corrected;
- TE logo was applied; and
- The format was updated.