

**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.

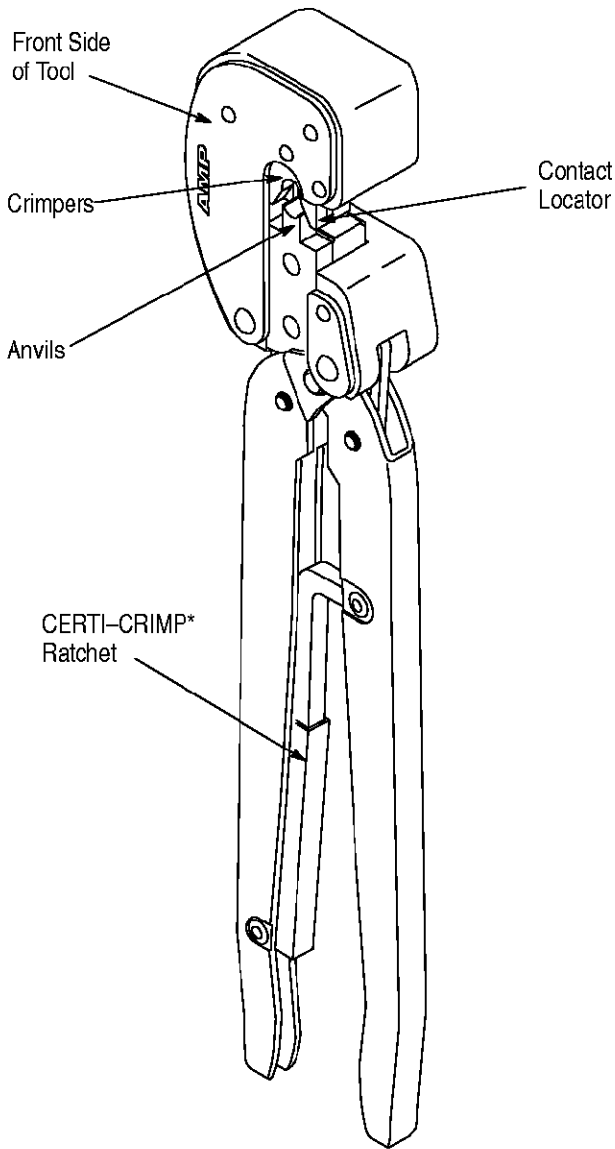


Figure 1

**1. INTRODUCTION**

Hand Crimping Tool 90382-2 (shown in Figure 1) is designed to crimp the Type XII Contacts listed in Figure 2. Read these instructions thoroughly before using the tool.

**NOTE** Dimensions are in millimeters [followed by inch equivalents in brackets]. Figures are for identification only and are not drawn to scale.

Reasons for re-issue can be found in Section 6, REVISION SUMMARY.

**2. DESCRIPTION**

The hand tool features two fixed crimping dies (crimpers) and two movable crimping dies (anvils), a contact locator, a wire stop, and a CERTI-CRIMP ratchet. See Figure 1.

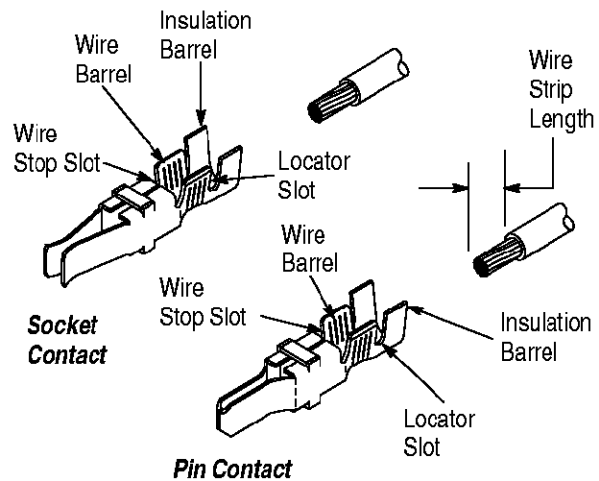
The contact locator positions the contact between the crimping dies. In use, the contact locator rests in the locator slot of the contact.

The wire stop aids in locating the wire in the contact. In use, the wire stop rests in the wire stop slot of the contact.

The CERTI-CRIMP ratchet ensures full crimping of the contact. Once engaged, the ratchet will not release until the handles have been fully closed.

**CAUTION**

The crimping dies bottom before the CERTI-CRIMP ratchet releases. This design feature ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.



WIRE			CONTACT		
SIZE (AWG)	INSUL DIA	STRIP LENGTH	TYPE	LOOSE PIECE	STRIP
16 to 12	3.68-4.19 [.145-.165]	6.35 [.25]	Pin	66261	66255
				66262	66256
			Socket	66746	66252

Figure 2

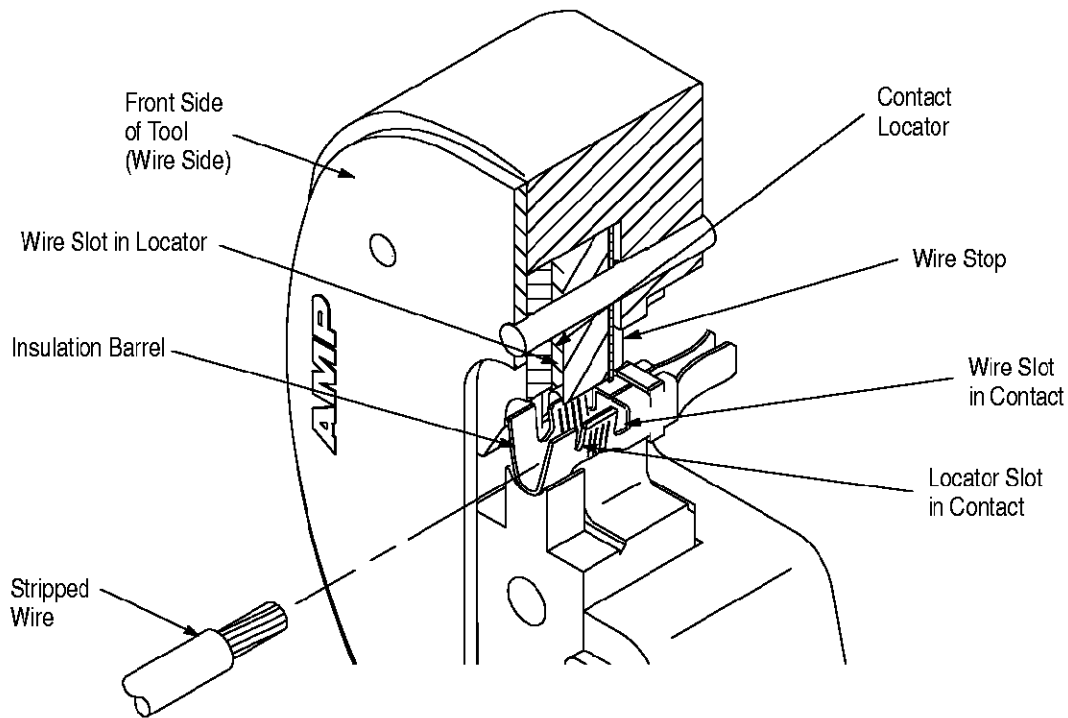


Figure 3

### 3. CRIMPING PROCEDURE

Refer to Figure 2 and select the appropriate contact and wire size for the hand tool. The wire size and insulation diameter must be within the specified range for the contact. Strip the wire to the length shown in Figure 2. Do NOT nick or cut the wire strands.

1. Open crimping dies by squeezing the tool handles together until the CERTI-CRIMP ratchet releases.
2. Insert the contact insulation barrel into the crimping chamber on the anvil crimping die from the BACK side of tool. Position contact so that the contact locator enters the locator slot in the contact. See Figure 3.
3. Holding contact in position, squeeze tool handles together just enough to hold the contact in the crimping dies. Do NOT deform the insulation barrel or wire barrel.
4. Insert stripped wire through wire slot in contact locator and into wire barrel of contact until the wire butts against the wire stop.
5. Holding wire in place, squeeze tool handles together until ratchet releases.
6. Allow tool handles to open FULLY and remove crimped contact from tool.

### 4. MAINTENANCE AND INSPECTION

A periodic maintenance and inspection program is recommended to ensure dependable and uniform terminations. Though recommendations call for at least one inspection a month, frequency of inspection depends on:

- The care, amount of use, and handling of the hand tool,
- The presence of abnormal amounts of dust and dirt,
- The degree of operator skill, and
- Your own established standards.

Although the hand tool is inspected before being shipped, it should be inspected immediately upon arrival at your facility to ensure that it has not been damaged during shipment.

#### 4.1. Daily Maintenance

1. 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 dies. Store the tool in a clean, dry area.

**4.2. Periodic Inspection**

**A. Lubrication**

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

Wipe excess oil from tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.

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

**C. Crimp Height Inspection**

This inspection requires the use of a modified micrometer with a modified anvil and spindle, as shown in Figure 4. Crimp Height Comparator RS-1019-5LP can be purchased from:

Shearer Industrial Supply Co.      or      VALCO  
717-767-7575                                  610-691-3205

Proceed as follows:

1. Select a contact and wire for the crimping chamber.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contact accordingly.
3. Using the crimp height comparator, measure the wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that height, the tool is considered dimensionally correct. If not, the tool

must be returned for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

For additional information concerning the use of the crimp height comparator, refer to instruction sheet 408-7424.

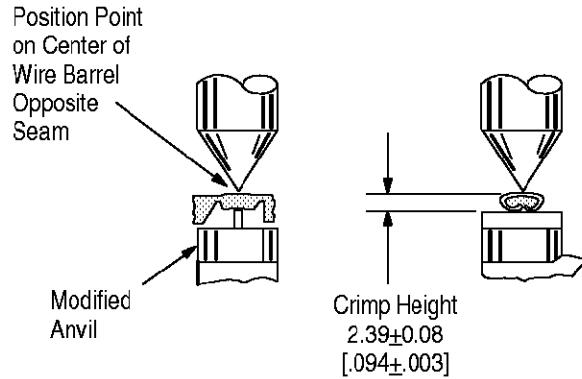
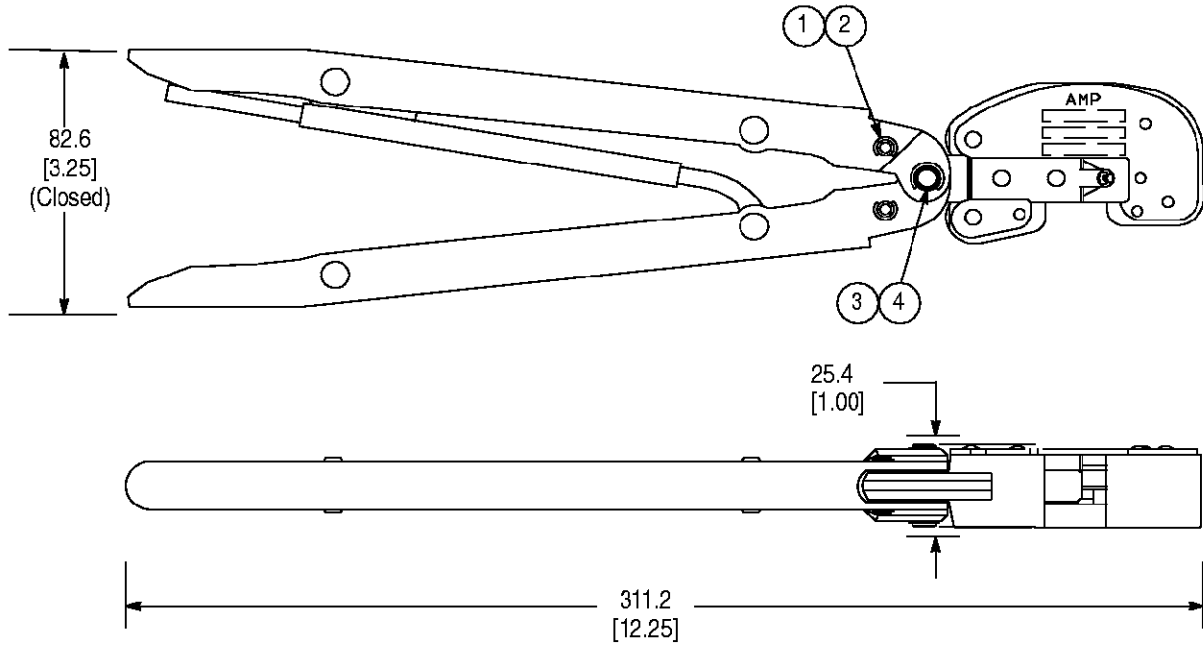


Figure 4

**D. CERTI-CRIMP Ratchet Inspection**

The CERTI-CRIMP ratchet feature on these hand tools should be checked to ensure that the ratchet does not release prematurely, allowing the crimping 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 contact and wire for the tool.
2. Position the contact and wire between the crimping dies, as described in Section 3, CRIMPING PROCEDURE.
3. Holding wire in place, squeeze the handles until the CERTI-CRIMP ratchet releases. Hold the handles in this position, maintaining just enough tension to keep the dies closed.
4. 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 5, REPLACEMENT AND REPAIR.



Weight: 936 g [2 lb, 1 oz]

**CUSTOMER REPLACEMENT PARTS**

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	RING, Retaining	4
2	300388	PIN, Retaining	2
3	21045-6	RING, Retaining	2
4	300389	PIN, Retaining	1

Figure 5

**5. REPLACEMENT AND REPAIR**

The parts listed in Figure 5 are customer-replaceable. A complete inventory can 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 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 717-986-7605, or write to:

CUSTOMER SERVICE (38-35)  
TYCO ELECTRONICS CORPORATION  
P.O. 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.

**CAUTION**

*Contacts are not repairable once a termination has been made. Any defective contact should be removed and replaced with a new one.*

**6. REVISION SUMMARY**

The following changes were made since the previous release of this sheet:

Per EC 0990-0416-02

- Updated document to corporate requirements
- Changed crimp height in Figure 4