

PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. These 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.

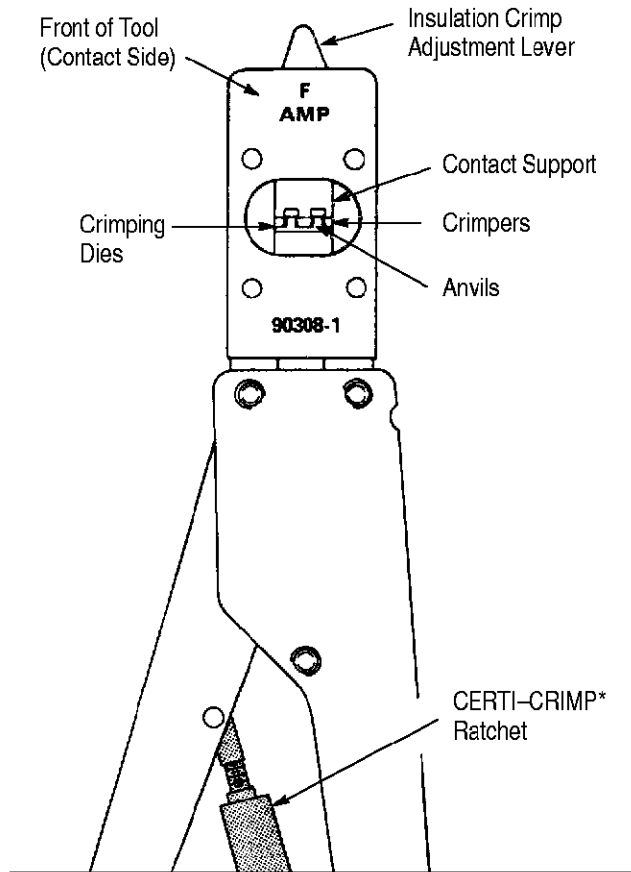


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 90308-1 is used to crimp the AMP Locking Clip loose piece (LP) contacts listed in Figure 2. Read these instructions thoroughly before using the tool.

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 7, REVISION SUMMARY.

2. DESCRIPTION

The front of the tool (contact side), into which the contact is inserted, has the tool number marked on it. The back of the tool (wire side), into which the wire is inserted, has the wire size marked above each crimp section.

The tool features two fixed dies (crimpers), two moveable dies (anvils), an insulation crimp adjustment lever, a contact support, a contact locator, a wire stop, an ejector, and a CERTI-CRIMP ratchet.

The insulation crimp adjustment lever is used to regulate the crimp height of the contact insulation barrel. The contact support prevents the contact from bending during the crimping operation.

The contact locator positions the contact between the crimping dies. In use, it rests in the locator slot. See Figure 2. The wire stop aids in locating the wire in the contact.

The ejector pulls the locator down and ejects the crimped contact when the tool handles are fully opened.

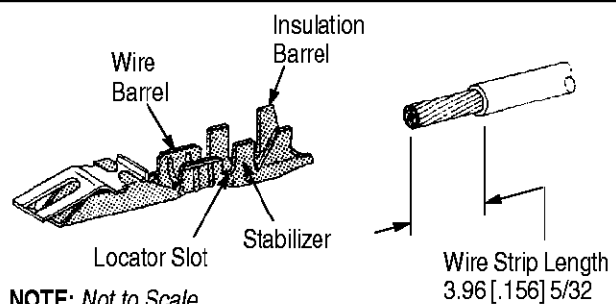
The CERTI-CRIMP ratchet ensures full crimping of the contact. Once engaged, the ratchet will not release until the handles have been FULLY closed.

CAUTION

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

3. CRIMPING PROCEDURE

Refer to the table in Figure 2 and select a wire of the specified size and insulation diameter. Strip the wire to the length indicated. Do not cut or nick the wire strands.



WIRE SIZE (AWG)	INSUL DIA	CRIMP SECT (Wire Size Marking)	CONTACT NUMBER	
			LP	STRIP
18	1.27-2.54 [.050-.100]	18	87278	87269
22 to 20		22 - 20	87278	87269

Figure 2

Select the applicable loose piece contact, and identify the appropriate crimp section (according to the wire size markings on the back of the tool).

Refer to Figure 3 and proceed as follows:

1. Hold tool so back side (wire side) faces you.
2. Ensure that the tool ratchet is released by squeezing tool handles and allowing them to open.
3. Looking straight into the back of the appropriate crimp section, insert the contact (insulation barrel first) into the front of the crimp section. Position the contact in the crimpers so that the locator enters the locator slot. Now, push the contact in until the wire barrel butts against the contact locator.
4. Hold the contact in this position and squeeze the tool handles until the insulation anvil starts entry into the insulation crimper. Do not deform the insulation barrel or wire barrel.
5. Insert a properly stripped wire through the wire slot in the locator and into the wire barrel of the contact until the insulation butts against the wire stop.
6. Hold the wire in place and squeeze the tool handles together until the ratchet releases.
7. Allow the tool handles to open fully so the ejector can push the contact out of the crimpers. Remove the crimped contact from the tool.

4. INSULATION CRIMP ADJUSTMENT

The insulation barrel crimp height is regulated by the insulation crimp adjustment lever. To determine the proper setting, test crimp a contact using the setting which approximates the wire insulation size: 1—small, 2—medium, or 3—large. If the crimped insulation barrel is too tight or too loose, change the setting accordingly. The crimp should hold the wire insulation firmly without cutting into it.

5. MAINTENANCE AND INSPECTION

The tool is inspected before shipment. It is recommended that the tool be inspected immediately upon arrival at your facility to ensure that the tool was not damaged during shipment.

5.1. 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 secured with the proper retaining rings. If foreign matter cannot be removed easily, or if the proper replacement parts are not available, refer to Section 6, REPLACEMENT AND REPAIR, for information on obtaining further evaluation and repair.

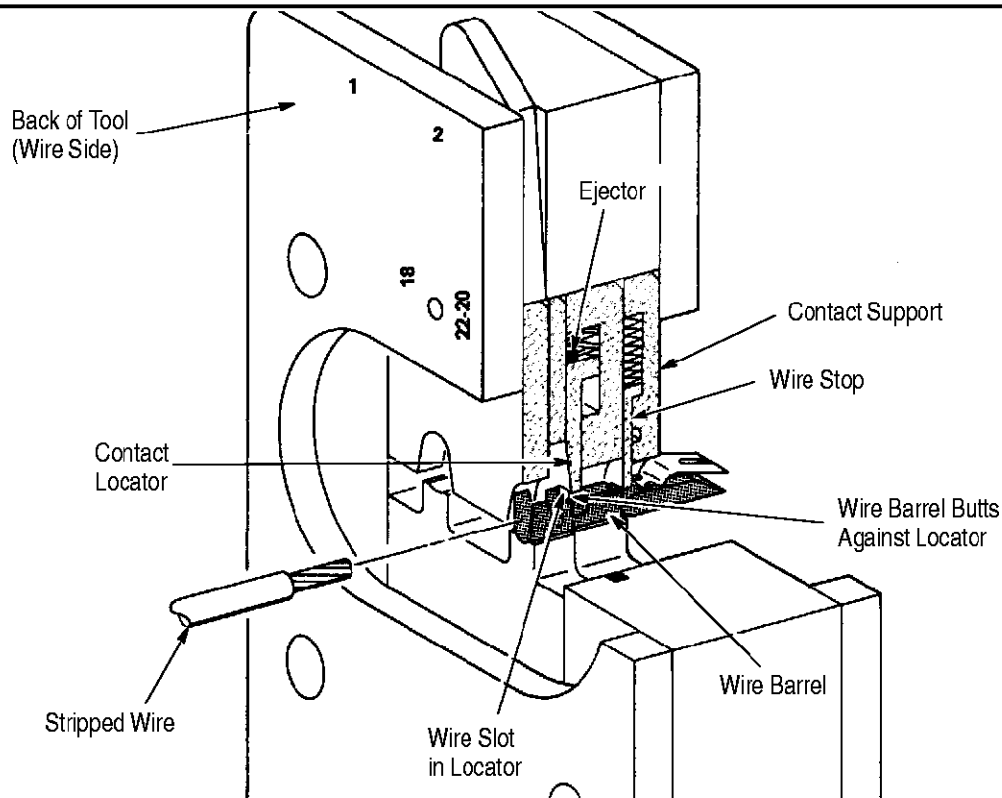


Figure 3

Make certain all pivot points and bearing surfaces are protected with a THIN coat of any good SAE 20 motor oil. Do NOT oil excessively. When 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.

5.2. 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 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) in a suitable commercial degreaser that will not affect paint or plastic material.

2. Make certain all retaining pins are in place and secured with retaining rings. If replacements are necessary, refer to parts listed in Section 6, REPLACEMENT AND REPAIR.

CAUTION

Do NOT remove the retaining pins as permanent damage to the tool may result.

3. Close the tool handles until the ratchet releases, then allow the tool handles to open freely. If handles do not open quickly and fully, the spring is defective and must be replaced (refer to Section 6, REPLACEMENT AND REPAIR).

4. Inspect the head assembly, with special emphasis on checking for worn, cracked, or broken dies. If damage to any part of the head assembly is evident, refer to Section 6 for information on obtaining customer repair service.

B. Crimp Height Inspection

This inspection requires the use of a micrometer with a modified anvil as shown in Figure 4. It is

recommended using the modified micrometer (Crimp Height Comparator RS-1019-5LP) which can be purchased from:

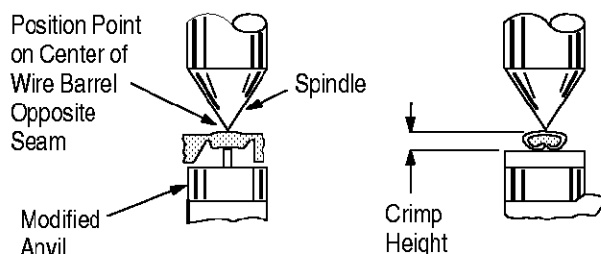
Shearer Industrial Supply Co.
20 North Penn Street
York, PA 17401-1014

or

VALCO
1410 Stonewood Drive
Bethlehem, PA 18017-3527

Proceed as follows:

1. Refer to the table in Figure 4, and select a contact and a wire (maximum size) for each crimp section listed in the table.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contact accordingly.
3. Using a crimp height comparator, measure each wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that shown, the tool is considered dimensionally correct. If not, refer to Section 6 for information on obtaining evaluation and repair.



CONTACT NUMBER (LP)	WIRE SIZE AWG (Max)	CRIMP SECT (Wire Size Marking)	CRIMP HEIGHT DIMENSION (± 0.051 [$\pm .002$])
87278	18	18	1.22 [.048]
	20	20 - 22	1.02 [.040]

Figure 4

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

C. CERTI-CRIMP Ratchet Inspection

Obtain a 0.0254 [.001] shim that is suitable for checking the clearance between the bottoming surfaces of the dies. Proceed as follows:

1. Select a contact and wire (maximum size) for the tool. See Figure 4.
2. Position the contact and wire between the dies, according to Section 3, CRIMPING PROCEDURE. Holding the wire in place, squeeze the tool handles together until the 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 dies. If the clearance is 0.0254 [.001] or less, the ratchet is satisfactory. If clearance exceeds 0.0254 [.001] the ratchet is out of adjustment and must be repaired (see Section 6, REPLACEMENT AND REPAIR).

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

6. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 5. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by Tyco to ensure quality and reliability. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

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

For customer repair service, please contact a representative at 1-800-526-5136.

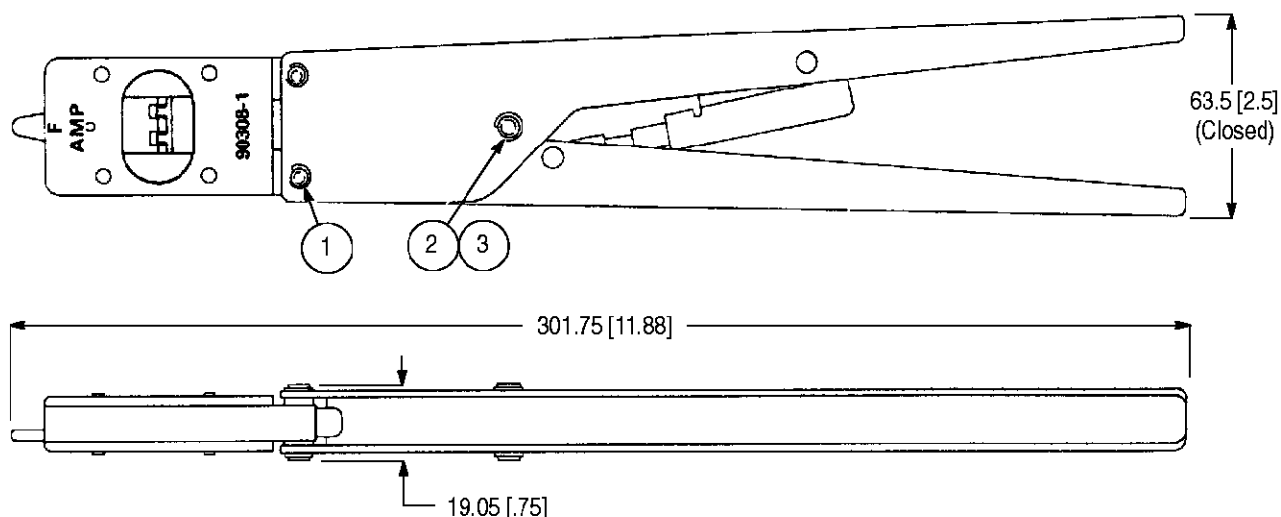
7. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

Per EC 0990-0148-00

- Updated document to corporate requirements
- Changed title of document
- Changed tool repair service information in Section 6, REPLACEMENT AND REPAIR

CAUTION: Do NOT remove retaining pins as permanent damage to the tool may result.



Weight: 509 g [1 lb. 4 oz.]

REPLACEMENT PARTS			
ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	RING, Retaining	4
2	21045-6	RING, Retaining (Pin and Retaining Ring approx. 1/4 in. diameter)	2
3	21045-9	RING, Retaining (Pin and Retaining Ring approx. 3/8 in. diameter)	2

Figure 5