

PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. AMP hand tools are intended for occasional use and low volume applications. AMP offers a wide selection of powered application equipment for extended-use, production operations.

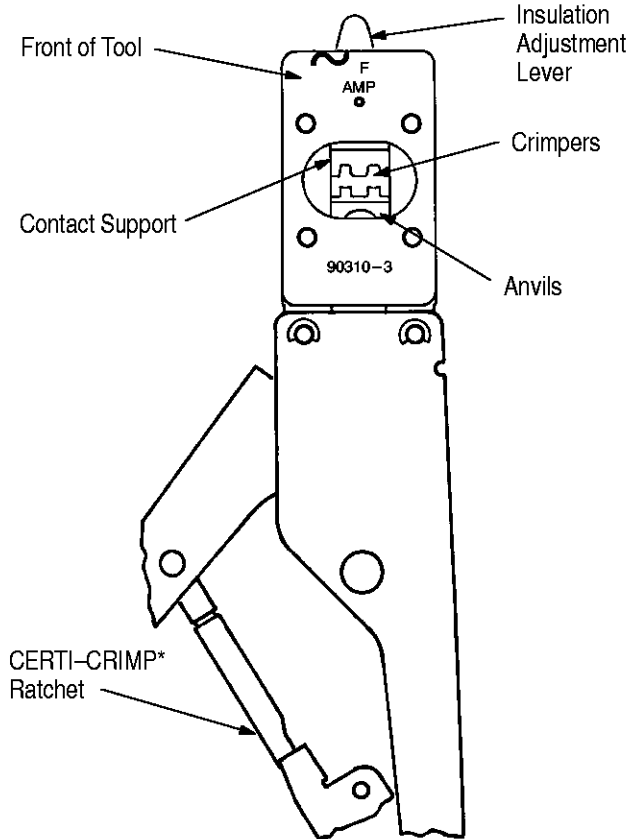


Figure 1

1. INTRODUCTION

This instruction sheet covers the use of AMP* Hand Crimping Tool 90310-3 which is designed to crimp AMP Type III(+) loose piece contacts shown in Figure 2.

Reasons for reissue are provided in Section 6, REVISION SUMMARY.

NOTE

Dimensions of this sheet are in millimeters [with inches in brackets].

2. DESCRIPTION (Figure 1)

This tool features two fixed dies (crimpers), two movable dies (anvils), an insulation crimp height adjustment lever, a contact support, a locator/insulation stop, an ejector, and a CERTI-CRIMP ratchet.

The insulation adjustment lever is used to control the crimp height of the contact insulation barrel. It can be set at any of three positions: (1) small, (2) medium, or (3) large.

The contact support prevents the contact from bending during the crimping procedure. The locator/insulation stop aids in locating the wire in the contact and positions the contact between the crimping dies. In use, it rests in the contact locator slot.

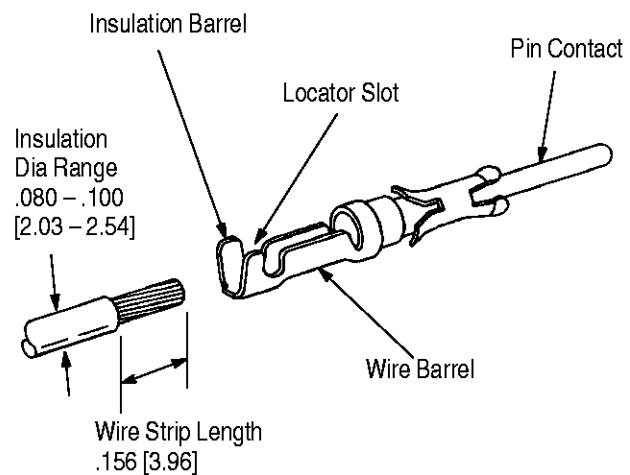
The CERTI-CRIMP ratchet assures full crimping of the contact. Once engaged, the ratchet will not release until the handles have been FULLY closed.

CAUTION

The crimping dies bottom before the CERTI-CRIMP ratchet releases. This is a design feature that assures 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 wire of the specified size and insulation diameter. Strip the wires to the length indicated — do NOT cut or nick the wire strands.



| WIRE SIZE (AWG) | TOOL CRIMP SECTION | LP CONTACT NUMBER (TYPE) |
|-----------------|--------------------|--------------------------|
| 18 to 16 | 18-16 | 66360 (Socket) |
| 14 | 14 | 66361 (Pin) |

Figure 2

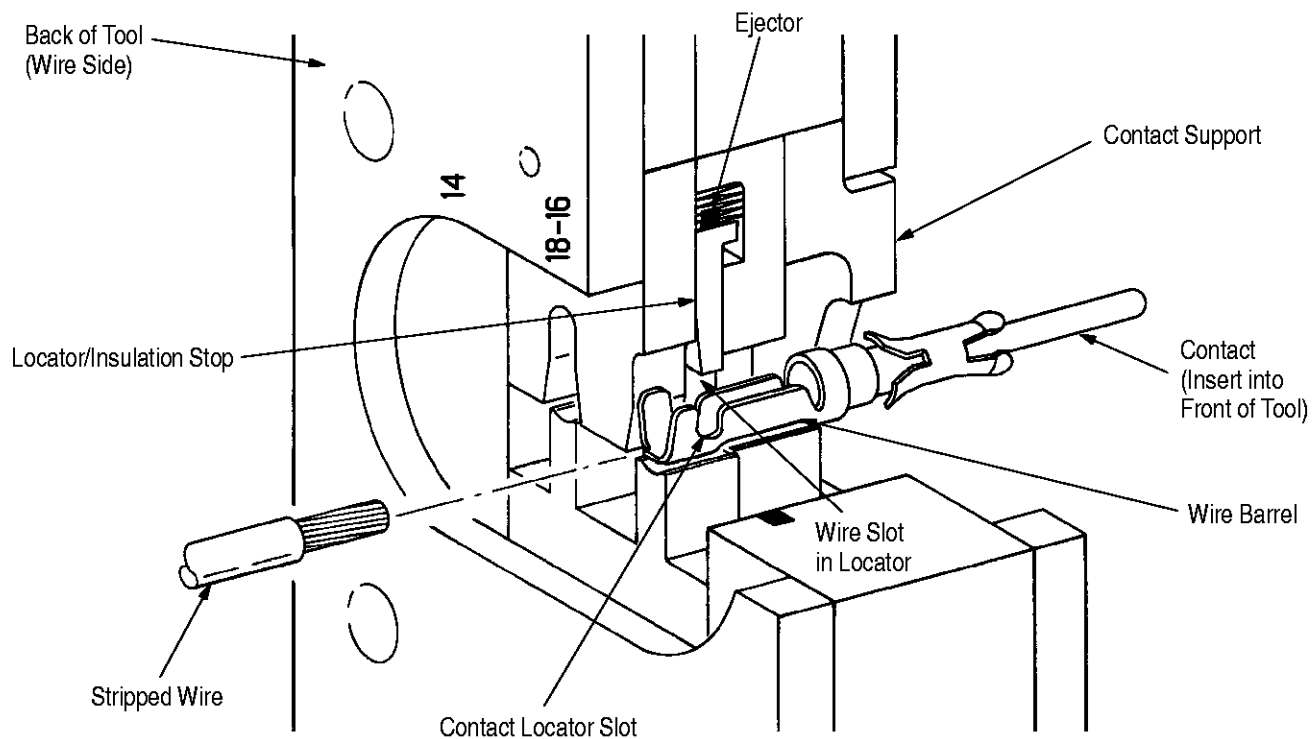


Figure 3

Select an 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 the tool so the BACK of it is facing you.
2. Make certain that the ratchet is released by squeezing the tool handles and allowing them to open FULLY.
3. Looking straight into the crimping dies from the BACK of the tool, insert a contact (insulation barrel first) into the FRONT of the tool.
4. Position the contact in the crimpers so that the locator enters the locator slot.
5. 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.
6. Insert a properly stripped wire through the locator wire slot and into the wire barrel of the contact until the wire insulation butts against the insulation stop.
7. Hold the wire in place and squeeze the tool handles until the ratchet releases.
8. Allow the tool handles to open FULLY so the ejector can push the contact out of the crimpers. Remove the crimped contact.

4. MAINTENANCE AND INSPECTION PROCEDURE

AMP recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. 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.

The hand tool is inspected before being shipped; however, AMP recommends that the tool be inspected immediately upon its arrival at your facility to ensure that the tool has not been damaged during shipment.

4.1. Daily Maintenance

1. Remove dust, moisture, and other contaminants with a clean brush, or a soft, lint-free cloth. Do NOT use 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 jaws. Store the tool in a clean, dry area.

4.2. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with SAE 20 motor oil as follows:

- Tools used in daily production – lubricate daily
- Tools used daily (occasional) – lubricate weekly
- Tools 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.

4.3. Periodic Inspection

1. Hand tool should be immersed (handles partially closed) in a reliable commercial degreasing compound to remove accumulated dirt, grease and foreign matter.
2. 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.
3. Inspect head assembly for worn, cracked, or broken jaws. If damage is evident, return the tool to AMP for evaluation and repair. See Section 5, REPLACEMENT AND REPAIR.

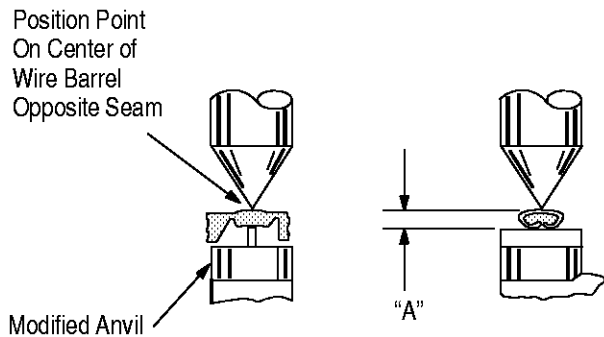
4.4. Crimp Height Inspection

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

Shearer Industrial Supply Co. VALCO
 20 North Penn Street or 1410 Stonewood Drive
 York, PA 17401-1014 Bethlehem, PA 18017-3527

Proceed as follows:

1. Refer to the chart in Figure 4 and select a contact and a wire (maximum size) for each crimp section listed in the chart.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the contact(s) accordingly.
3. Using a crimp height comparator, measure wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that shown in the chart, the tool is considered dimensionally correct. If not, return the tool to AMP for evaluation and repair (refer to Section 5, REPLACEMENT AND REPAIR).



| CONTACT | WIRE SIZE (Max) | CRIMP SECT (Wire Size Marking) | CRIMP HGT DIM. "A" |
|----------------|-----------------|--------------------------------|------------------------------|
| 66360 66361 | 18 to 16 | 18 to 16 | 1.30 ± .051 [.051 ± .002] |
| | 14 | 14 | 1.73 ± .051 [.068 ± .002] |

Figure 4

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

4.5. CERTI-CRIMP Ratchet Inspection

The CERTI-CRIMP ratchet feature on AMP 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-mm [.001-in.] shim that is suitable for checking the clearance between the bottoming surfaces of the crimping dies. Proceed as follows:

1. Select the maximum size wire and strip it according to dimensions listed in Figure 2.
2. Select contact and crimp section corresponding to the selected wire size (refer to Figure 2).
3. Position the contact and wire between the crimping dies, as described in Section 3, CRIMPING PROCEDURE.
4. Hold the wire in place and squeeze the handles until the CERTI-CRIMP ratchet releases. Hold the handles in this position, maintaining just enough tension to keep the dies closed.
5. Check the clearance between the bottoming surfaces of the crimping dies. If the clearance is 0.025 mm [.001 in.] or less, the ratchet is satisfactory. If clearance exceeds 0.025 mm [.001 in.], the ratchet is out of adjustment and must be repaired. See Section 5, REPLACEMENT AND REPAIR.

5. REPLACEMENT AND REPAIR

Replacement parts are listed in Figure 5. Parts other than those listed in Figure 5 should be replaced by AMP to ensure quality and reliability of the tool. Order replacement parts through your AMP representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

CUSTOMER SERVICE (38-35)
 AMP INCORPORATED
 P.O. BOX 3608
 HARRISBURG, PA 17105-3608

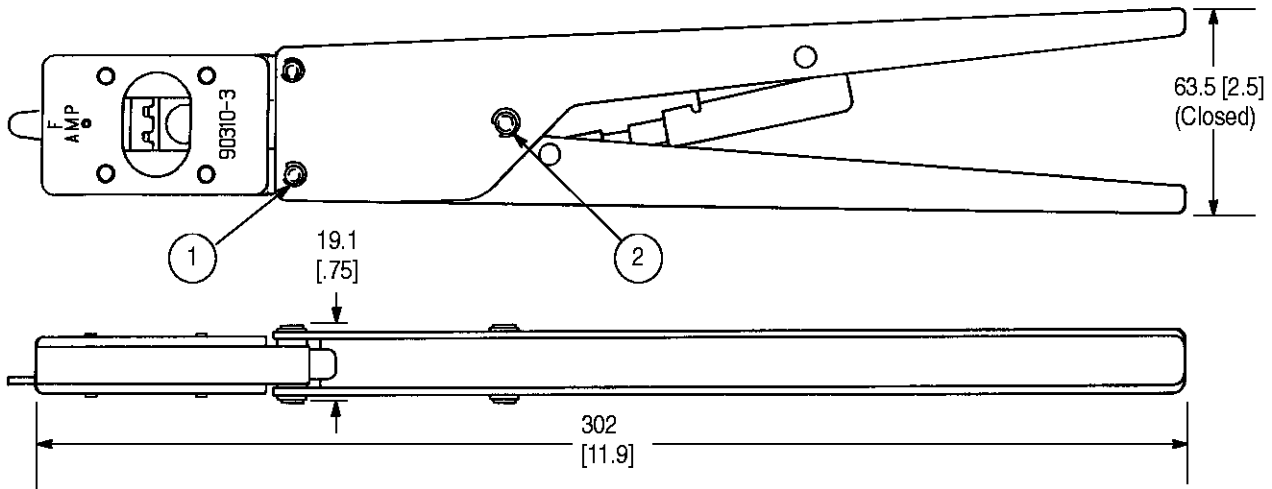
Tools may also be returned to AMP for evaluation and repair. For tool repair service, contact an AMP representative at: 1-800-526-5136.

6. REVISION SUMMARY

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

Per EC 0990-0725-99

- Changed tool repair service information in Section 5, REPLACEMENT AND REPAIR
- Updated document format



Weight: Approx. 622.6 g [1 lb. 6 oz.]

REPLACEABLE PARTS

| ITEM | PART NUMBER | DESCRIPTION | QTY PER TOOL |
|------|-------------|-----------------|--------------|
| 1 | 21045-3 | RING, Retaining | 4 |
| 2 | 21045-9 | RING, Retaining | 2 |

Figure 5