

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.

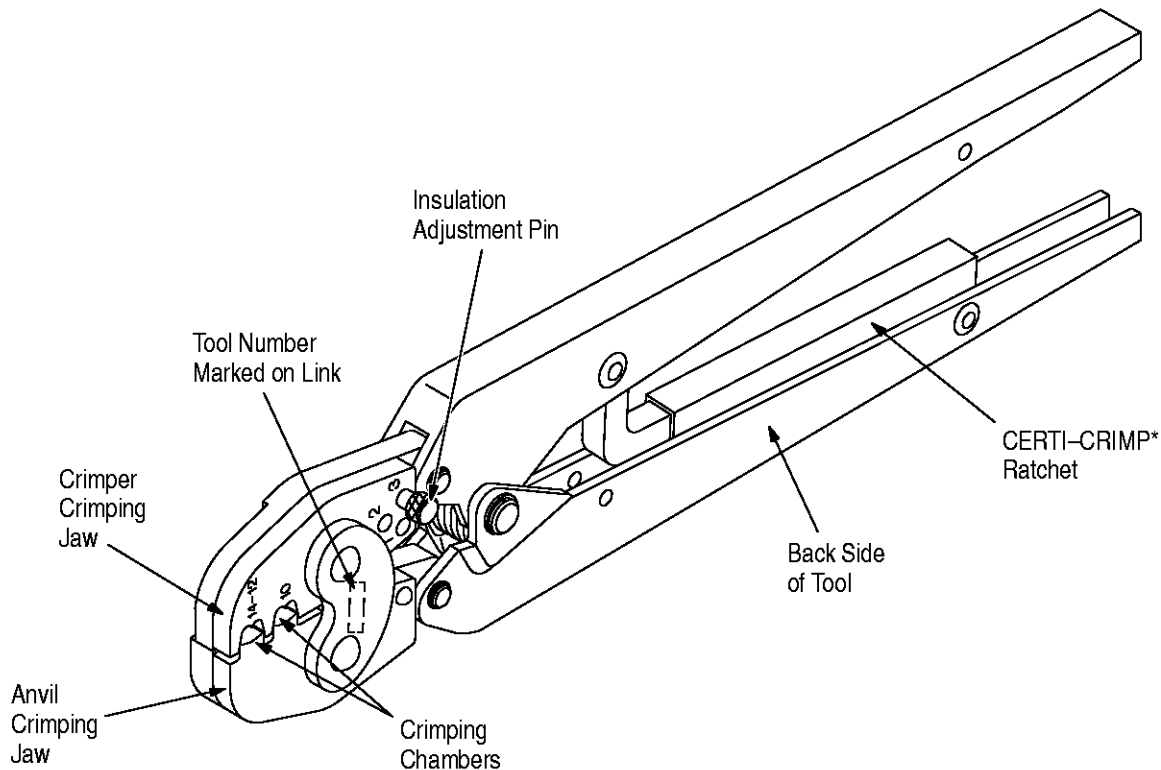


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 90120 is designed to crimp AMP FASTON* 250 Series Premier Line Straight Receptacles onto wire sizes 14–10 AWG. AMP Catalog 82004 provides a guide for wire-to-receptacle selection. For wire sizes and receptacles not referenced in the catalog, contact AMP Product Engineering for recommendations. Read these instructions thoroughly before using the hand tool.

NOTE

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

Reasons for reissue are provided in Section 7, REVISION SUMMARY.

2. DESCRIPTION

The hand tool features two crimping jaws (anvil and crimper), an insulation adjustment pin, and a CERTI-CRIMP ratchet. When closed, the jaws form

two crimping chambers, each marked on the BACK side of the tool with the wire size range. The tool number is marked on the link. See Figure 1.

The insulation adjustment pin is used to regulate the crimp height of the receptacle insulation barrel. The CERTI-CRIMP ratchet assures full crimping of the receptacle. Once engaged, the ratchet will not release until the tool handles have been FULLY closed.

CAUTION

The crimping jaws 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

Select the appropriate wire size and receptacle for the hand tool. The wire size and insulation diameter must be within the specified range for the receptacle. Strip the wire to the length indicated in Figure 2. Do NOT nick or cut the wire strands. Then, proceed as follows:

1. Hold tool so that the BACK side is facing you.

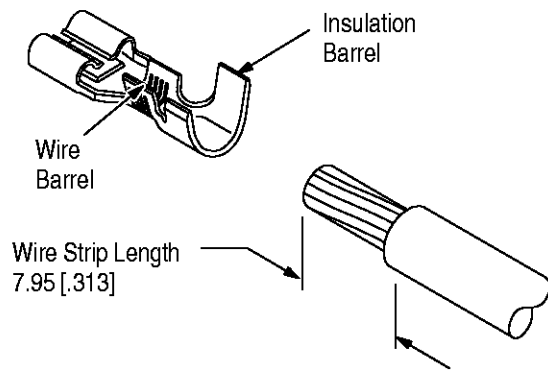


Figure 2

2. Open the crimping jaws by squeezing the tool handles together until the CERTI-CRIMP ratchet releases.

3. Insert the receptacle insulation barrel from the FRONT side of the tool into the appropriate crimping chamber on the anvil crimping jaw. Make sure that it is flush with the edge of the jaw. See Figure 3.

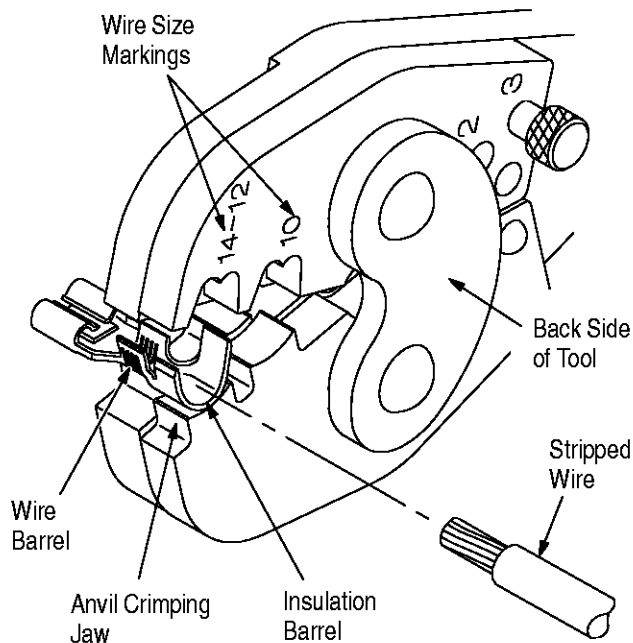


Figure 3

4. Holding receptacle in place, squeeze tool handles together just enough to hold the receptacle in the crimping chamber.

NOTE Squeezing the handles together too much will deform the wire barrel.

5. Insert stripped wire into receptacle wire barrel. The wire should extend slightly beyond the end of the wire barrel and the wire insulation should butt against the receptacle insulation barrel.

6. Holding wire in place, squeeze tool handles together until CERTI-CRIMP ratchet releases.

7. Allow tool handles to open FULLY and remove crimped receptacle from tool.

4. INSULATION CRIMP ADJUSTMENT

The hand tool has three insulation adjustment positions to adjust the wire insulation grip: 1—Tight, 2—Medium, and 3—Loose. To determine the proper insulation crimp setting, proceed as follows:

1. Insert adjustment pin into Position 3, as shown in Figure 1.

2. Position receptacle into crimping jaws as described in Section 3, CRIMPING PROCEDURE.

3. Insert an UNSTRIPPED wire into just the insulation barrel. Crimp receptacle and remove from crimping jaws.

4. Check the insulation support by bending the wire back and forth once. The insulation barrel should retain grip on the wire insulation. If the wire pulls out, move the insulation adjustment pin to the next tighter position and perform another test crimp. If the wire does not pull out, the pin is properly adjusted and the tool is ready for crimping. Do not use a tighter crimp than necessary.

NOTE Adjust pin, as necessary, until the desired insulation grip is obtained. Crimp should hold wire insulation firmly without cutting into it.

5. MAINTENANCE AND INSPECTION PROCEDURE

AMP recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. Though recommendations call for at least one inspection a month, frequency of inspection depends on:

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

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

5.1. 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 jaws. Store the tool in a clean, dry area.

5.2. 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 6, REPLACEMENT AND REPAIR.
2. Inspect head assembly for worn, cracked, or broken jaws. If damage is evident, return the tool to AMP for evaluation and repair. See Section 6, 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. AMP recommends the 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

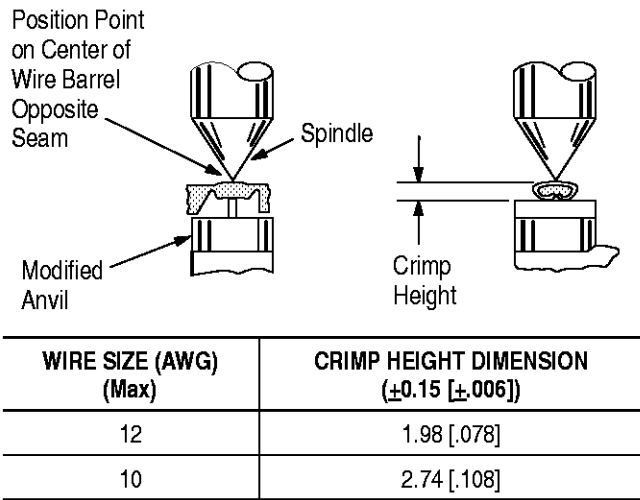


Figure 4

Proceed as follows:

1. Select a receptacle and *maximum* size wire for each crimping chamber.
2. Refer to Section 3, CRIMPING PROCEDURE, and crimp receptacle accordingly.
3. Using a 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 to AMP for evaluation and repair. See Section 6, REPLACEMENT AND REPAIR.

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

D. 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 jaws 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 jaws and proceed as follows:

1. Select a receptacle and *maximum* size wire for the hand tool.
2. Position the receptacle and wire between the crimping jaws, as described in Section 3, CRIMPING PROCEDURE.
3. Holding the 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 jaws closed.
4. Check the clearance between the bottoming surfaces of the crimping jaws. 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 6, REPLACEMENT AND REPAIR.

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. 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. Order replacement parts through your AMP representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

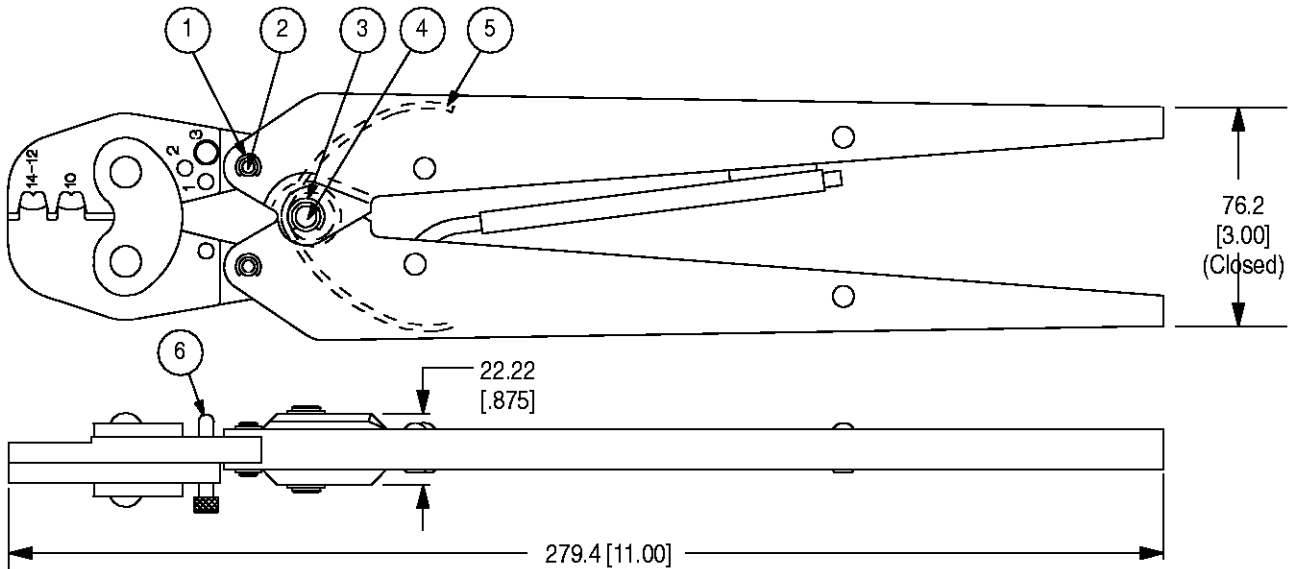
CUSTOMER SERVICE (38-35)
AMP INCORPORATED
P.O. BOX 3608
HARRISBURG, PA 17105-3608

7. 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 6, REPLACEMENT AND REPAIR
- Updated document format



Weight: 539 g [1 lb 3 oz]

REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	RING, External Crescent Retaining, .188 D Shaft	4
2	8-59558-2	PIN, Retaining, .187 D x .521 L	2
3	21045-6	RING, External Crescent Retaining, .250 D Shaft	2
4	2-23620-9	PIN, Retaining, .250 D x .838 L	1
5	39364	SPRING, Handle	1
6	39207	ADJUSTMENT PIN	1

Figure 5