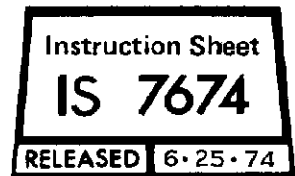




APPLICATION AND MAINTENANCE
FOR AMP★ HAND CRIMPING TOOL 90309-1



Section I of this instruction sheet covers the contacts and application procedures recommended for the AMP Hand Crimping Tool 90309-1.

Section II covers maintenance and inspection recommended by AMP to assure reliability of AMP hand crimping tools.

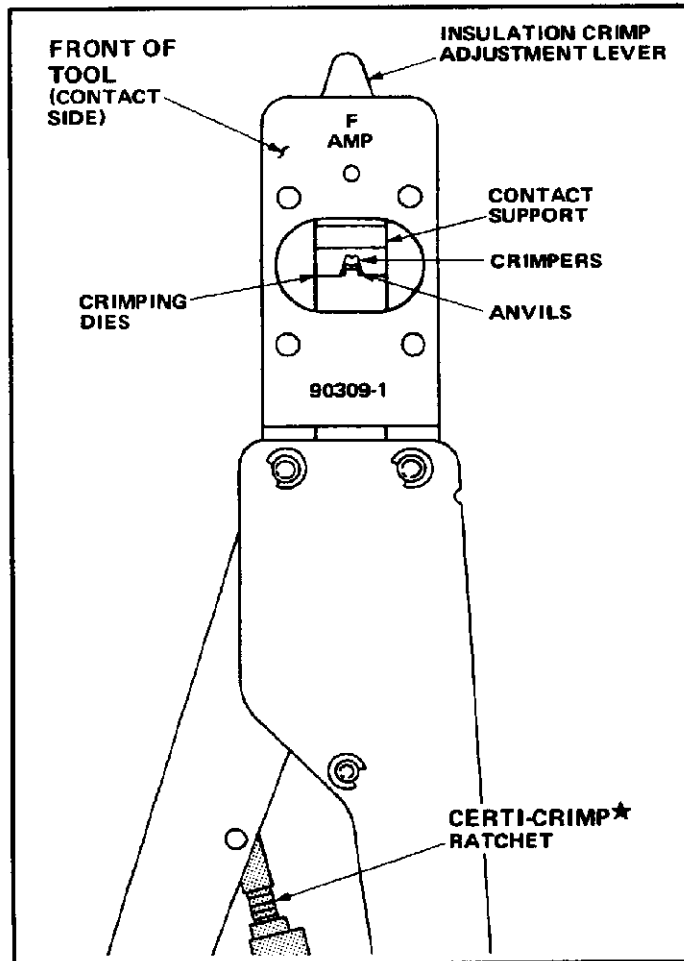


FIGURE I-1

SECTION I APPLICATION

I-1. INTRODUCTION

AMP Hand Crimping Tool 90309-1 is designed to crimp the AMP Zero Entry loose piece (LP) contact listed in Figure I-2. Read these instructions thoroughly before starting.

NOTE

All dimensions presented on this instruction sheet are in inches, unless otherwise stated.

I-2. DESCRIPTION

The FRONT OF TOOL (Contact Side), into which the contact is inserted, has the tool number marked on it. The BACK OF TOOL (Wire Side), into which the wire is inserted, has the wire size marked above the crimp section.

This tool features two fixed dies (crimpers), two movable dies (anvils), an insulation crimp adjustment lever, a locator/insulation stop, a contact support, 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.

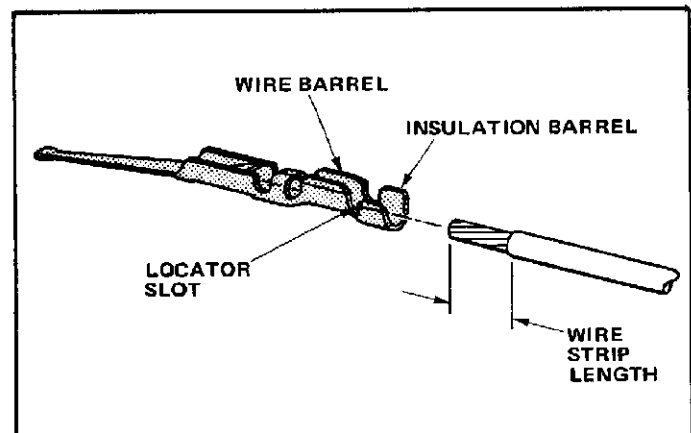
The locator/insulation stop has two functions. First, it positions the contact between the crimping dies, and second, it aids in locating the wire in the contact. In use, it rests in the locator slot. See Figures I-2 and I-3.

The contact support prevents the contact from bending during the crimping procedure.

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.



| WIRE SIZE (AWG) | INSUL DIA | CRIMP SECT WIRE SIZE MARKING | CONTACT NO. | | WIRE STRIP LENGTH |
|-----------------|--------------|------------------------------|-------------|---------|-------------------|
| | | | LP | STRIP | |
| 28 to 24 | .045 to .065 | 24-28 | 66555-3 | 66555-1 | 5/32 (.156) |

FIGURE I-2

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I-3. CRIMPING PROCEDURE

Refer to the chart in Figure I-2, and then select wire of the specified size and insulation diameter. Strip the wire to the length indicated — do NOT cut or nick the wire strands.

Proceed as follows:

1. Hold the tool so the BACK (Wire Side) is facing you. See Figure I-3.
2. Make sure the ratchet is released by squeezing the tool handles and allowing them to open FULLY.
3. Looking straight into the BACK of the 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 (see Figure I-3).
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 locator/insulation stop. See Figure I-4.

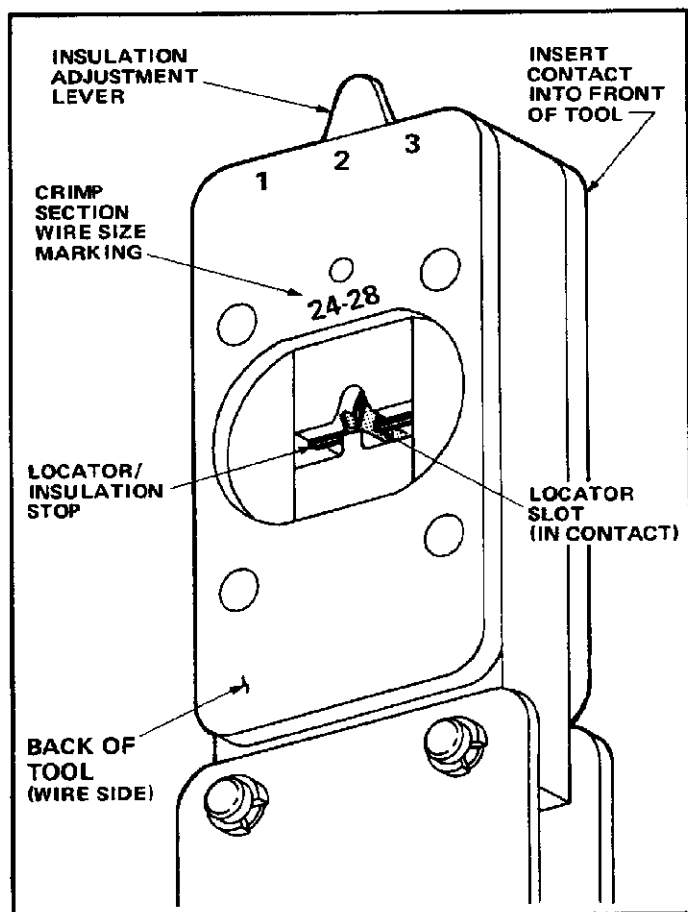


FIGURE I-3

6. Hold the wire in place and squeeze the tool handles until the ratchet releases.

7. Allow the tool handles to open FULLY so that the ejector can push the contact out of the crimpers. Remove the crimped contact from the tool.

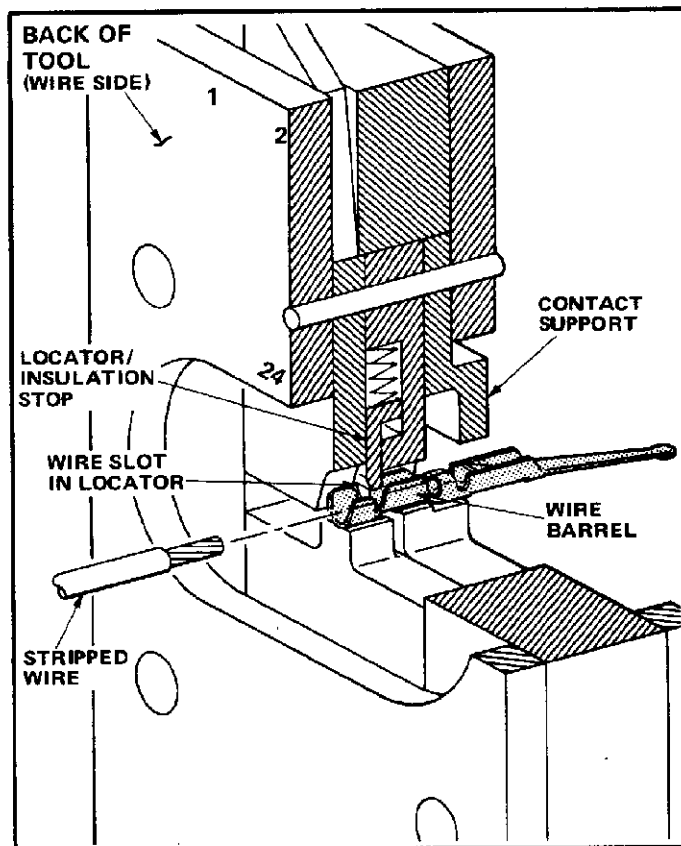


FIGURE I-4

I-4. INSULATION CRIMP ADJUSTMENT

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

I-5. 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, return the tool to your supervisor.

Make certain all pivot points and bearing surfaces are protected with a THIN coat of any good SAE No. 20 motor oil. Do NOT oil excessively. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged between the crimping dies, and store the tool in a clean, dry area.

Section I of this instruction sheet covers the contacts and application procedures recommended for the AMP Hand Crimping Tool 90309-1.

Section II covers maintenance and inspection recommended by AMP to assure reliability of AMP hand crimping tools.

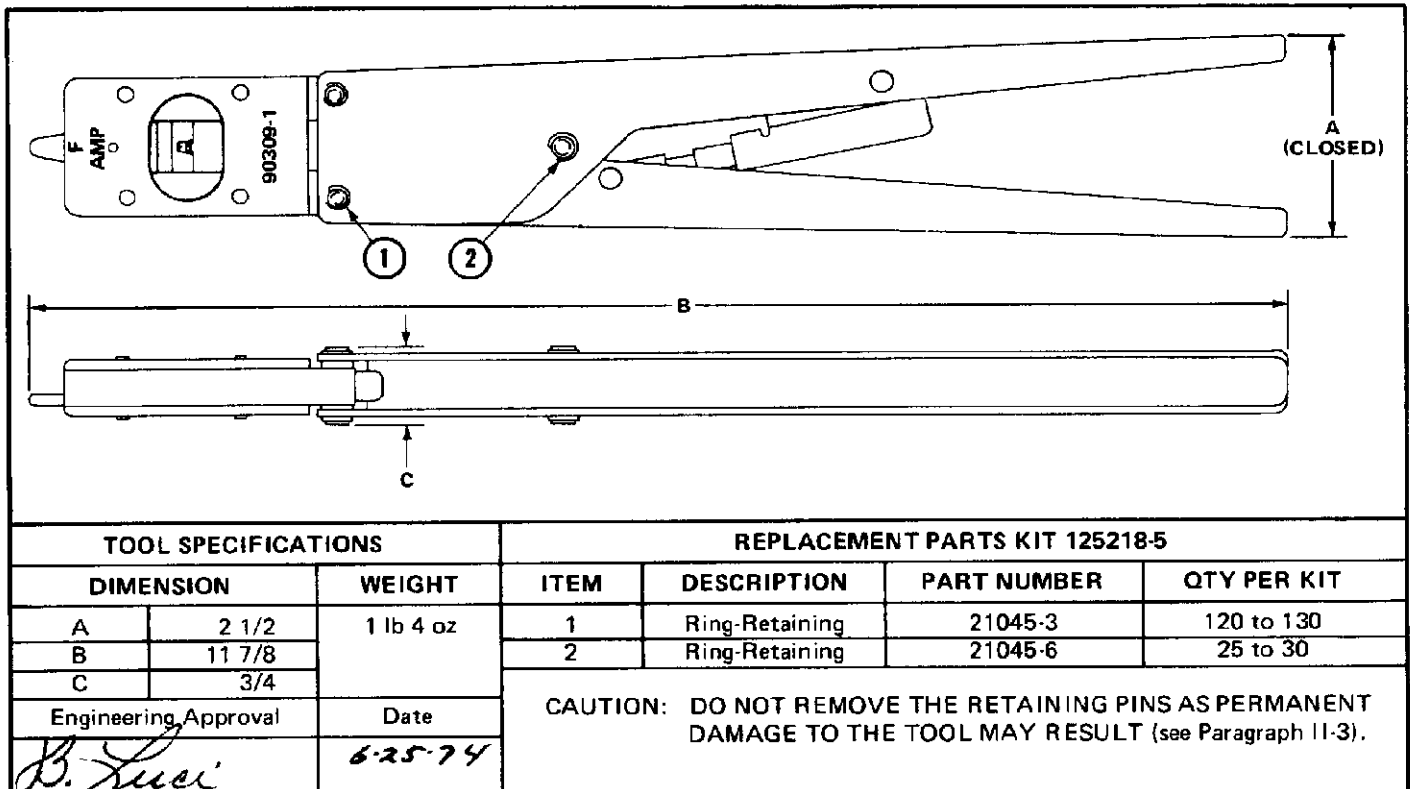


FIGURE II-1

SECTION II MAINTENANCE/INSPECTION

II-1. TOOL CERTIFICATION

These instructions have been approved by AMP Design, Production, and Quality Control Engineers to provide you with documented maintenance and inspection procedures in accordance with AMP Corporate Policy Number 3-3. We have, through our test laboratories and inspection of production assembly, established the procedures described herein to assure quality and reliability of AMP hand crimping tools.

The parts listed in Figure II-1 are customer replaceable parts. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is deemed necessary. When ordering, order the replacement parts kit listed in Figure II-1.

II-2. INSPECTION PROCEDURES

A. DAILY MAINTENANCE

The importance of daily maintenance cannot be over-emphasized, as it is the most effective method of ensuring tool reliability and continuous production. We recommend that each operator of the tool be made aware of — and responsible for — the following four steps of 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 sure the proper retaining pins are in place, and secured with the proper retaining rings.
3. Make certain all pins, pivot points, and bearing surfaces are protected with a THIN coat of oil. If necessary, oil with any good SAE No. 20 motor oil. Do NOT oil excessively.
4. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged in the crimping dies, and store the tool in a clean, dry area.

B. PERIODIC INSPECTION

Regular inspections should be performed and recorded by your quality control personnel, with a record of scheduled inspections remaining with the tool or supplied to supervisory personnel responsible for the tool. Though we recommend 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 your company's established standards. These inspections should be performed in the following sequence:

B-1. VISUAL INSPECTION

1. Remove all lubrication and accumulated film by immersing the tool (handles partially closed) in a suitable commercial degreaser that will not effect paint or plastic material.
2. Make certain all retaining pins are in place, and secured with retaining rings. Refer to parts listed in Figure II-1, if replacements are necessary.
3. Close the tool handles until the ratchet releases, then allow handles to open freely. If they do not open quickly and fully, the spring is defective and must be replaced (see Paragraph II-3).
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, return the tool to AMP for evaluation and repair (see Paragraph II-3).

B-2. CRIMP HEIGHT INSPECTION

This inspection incorporates the use of a micrometer with a modified anvil as shown in Figure II-2. We recommend the Crimp Height Comparator RS-1019-5L which can be purchased from:

VALCO
P.O. Box 1413
634 Stefkou Boulevard
Bethlehem, Pennsylvania 18017

Proceed as follows:

1. Determine the maximum wire size, and select the applicable contact for the tool (see Figure II-2).
2. Refer to the Crimping Procedure in Section 1, and crimp the contact accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure II-2. 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 (see Paragraph II-3). For additional information concerning the use of the crimp height comparator, refer to AMP Instruction Sheet IS 7424.

B-3. CERTI-CRIMP RATCHET INSPECTION

First, obtain a .001-in. shim that is suitable for checking the clearance between the bottoming surfaces of the crimping dies.

Proceed as follows:

1. Determine the maximum wire size, and an applicable contact for the tool. See Figure II-2.

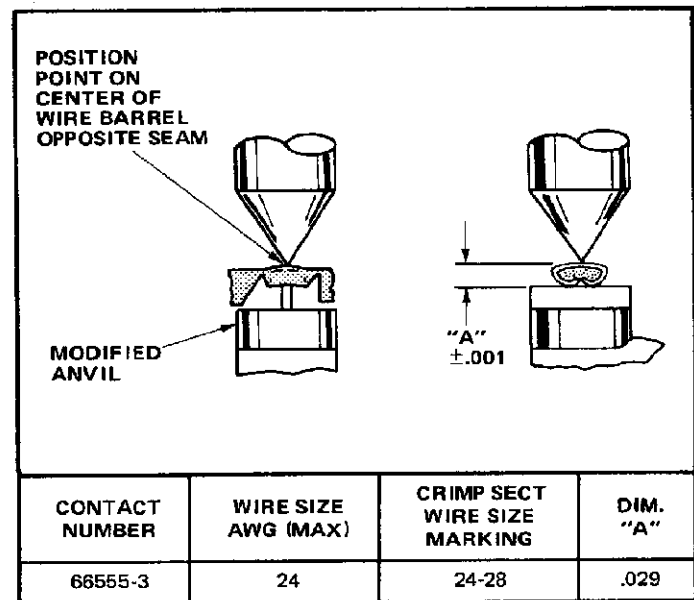


FIGURE II-2

2. Position the contact and wire between the crimping dies, according to the Crimping Procedure described in Section 1 (Steps 1 through 5) . . . then holding the wire in place, squeeze the tool handles until you are certain the CERTI-CRIMP ratchet has released. *Now STOP and HOLD the tool handles in this position.* Maintain just enough tension on the tool handles to keep the dies closed.

3. Check the clearance between the bottoming surfaces of the crimping dies. If the clearance is .001 in. or less, the ratchet is satisfactory. If clearance exceeds .001 in., the ratchet is out of adjustment and must be repaired (see Paragraph II-3).

If the tool conforms to these inspection procedures, lubricate it with a THIN coat of any good SAE No. 20 motor oil and return it to service.

II-3. REPAIR

Parts other than those specified in Figure II-1 must be replaced by AMP to insure certification of the tool. When repair is necessary, return the tool with a written description of the problem to:

AMP Incorporated
Customer Repair
1523 North 4th Street
Harrisburg, Pennsylvania 17105

or a wholly owned subsidiary of AMP Incorporated.