

Section I of this instruction sheet provides application procedures for AMP hand crimping tools.

Section II provides maintenance and inspection procedures for AMP hand crimping tools.

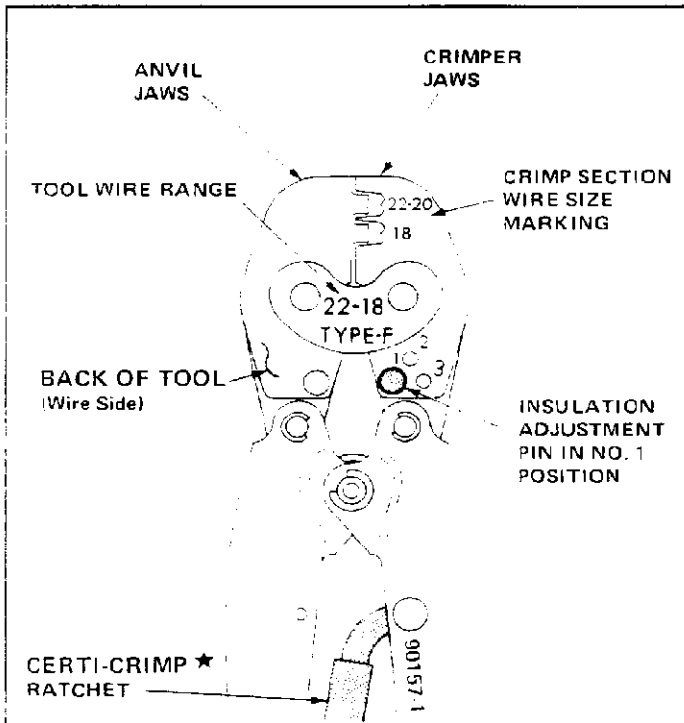


Fig. I-1

**SECTION I APPLICATION**

**I-1. INTRODUCTION**

AMP Hand Crimping Tool 90157-1 is designed for crimping the AMP FASTON ★ loose piece terminals listed in Figure I-2. Read these instructions thoroughly before crimping any terminals.

**NOTE**

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

**I-2. DESCRIPTION (see Figure I-1)**

The FRONT OF TOOL has the "AMP" marking on the link. The BACK OF TOOL (Wire Side), into which the wire is inserted, has the tool wire range marked on the link.

This tool features two crimper jaws, two anvil jaws, a terminal locator/insulation stop, an insulation adjustment pin, and a CERTI-CRIMP ratchet.

The locator/insulation stop has two functions. First, it positions the terminal between the crimping jaws, and second, it aids in locating the wire in the terminal. In use, it rests in the terminal locator slot (see Figures I-2 and I-3).

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The insulation adjustment pin is used to regulate the crimp height of the terminal insulation barrel. Refer to Paragraph I-4, INSULATION CRIMP ADJUSTMENT.

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

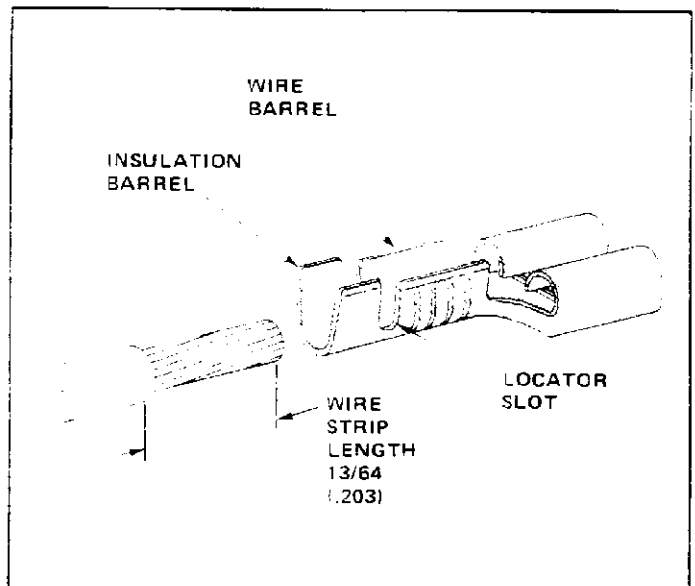
**CAUTION**

The crimping jaws bottom before the CERTI-CRIMP ratchet releases. This is a design feature that ensures maximum electrical and tensile performances of the crimp. Do NOT re-adjust the ratchet.

**I-3. CRIMPING PROCEDURE**

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

Select an applicable loose piece terminal and identify the appropriate crimp section (according to the wire size markings on the BACK of the tool).



WIRE		TERMINAL		CRIMP SECT WIRE SIZE MARKING
SIZE (AWG)	INSUL DIA	LOOSE	STRIP	
22 to 20	.085 to .125	42300	42198	22,20
		42280	42299	
		60557	42710	
18 ↓	.085 to .125	42300	42198	18
		42280	42299	
		60557	42710	

Fig. I-2

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Refer to Figure I-3 and proceed as follows:

1. Hold tool so BACK (Wire Side) is facing you.
2. Make sure ratchet is released — squeeze tool handles together and allow them to open FULLY.
3. Looking straight into BACK of appropriate crimp section, insert terminal (insulation barrel first) into FRONT of crimp section. Position terminal in crimpers so locator enters locator slot in terminal.
4. Hold terminal in this position and squeeze tool handles together until jaws close just enough to retain terminal. Do NOT deform wire barrel or insulation barrel.
5. Insert a properly stripped wire through wire slot in locator and into wire barrel of terminal until insulation butts against locator/insulation stop.
6. Holding wire in place, squeeze tool handles together until ratchet releases.
7. Allow tool handles to open FULLY and remove crimped terminal from tool.

#### I-4. INSULATION CRIMP ADJUSTMENT

The insulation barrel crimp height is controlled by the insulation adjustment pin. To determine the proper setting, place adjustment pin in number 3 position and test crimp a terminal using an UNSTRIPPED wire. Check the insulation crimp by bending the wire back and forth once. If the wire pulls out, set the adjustment pin in the next smaller position. The crimp should hold the insulation firmly without cutting into it.

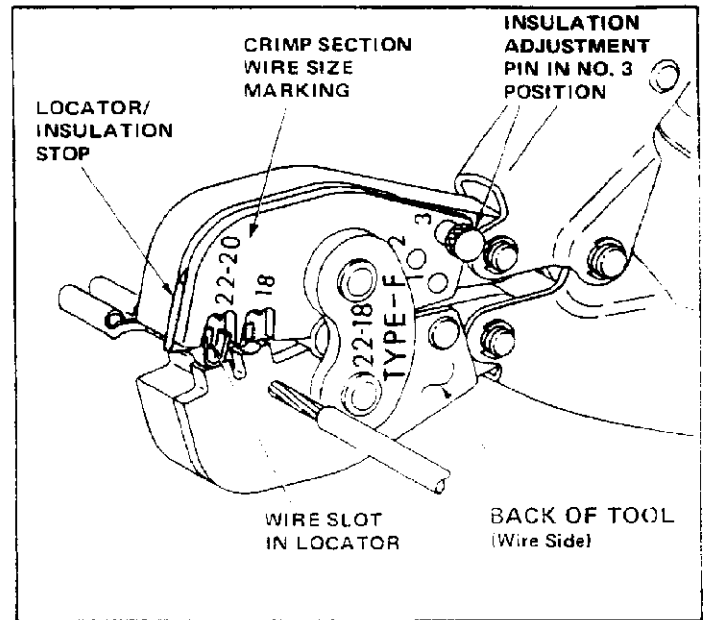


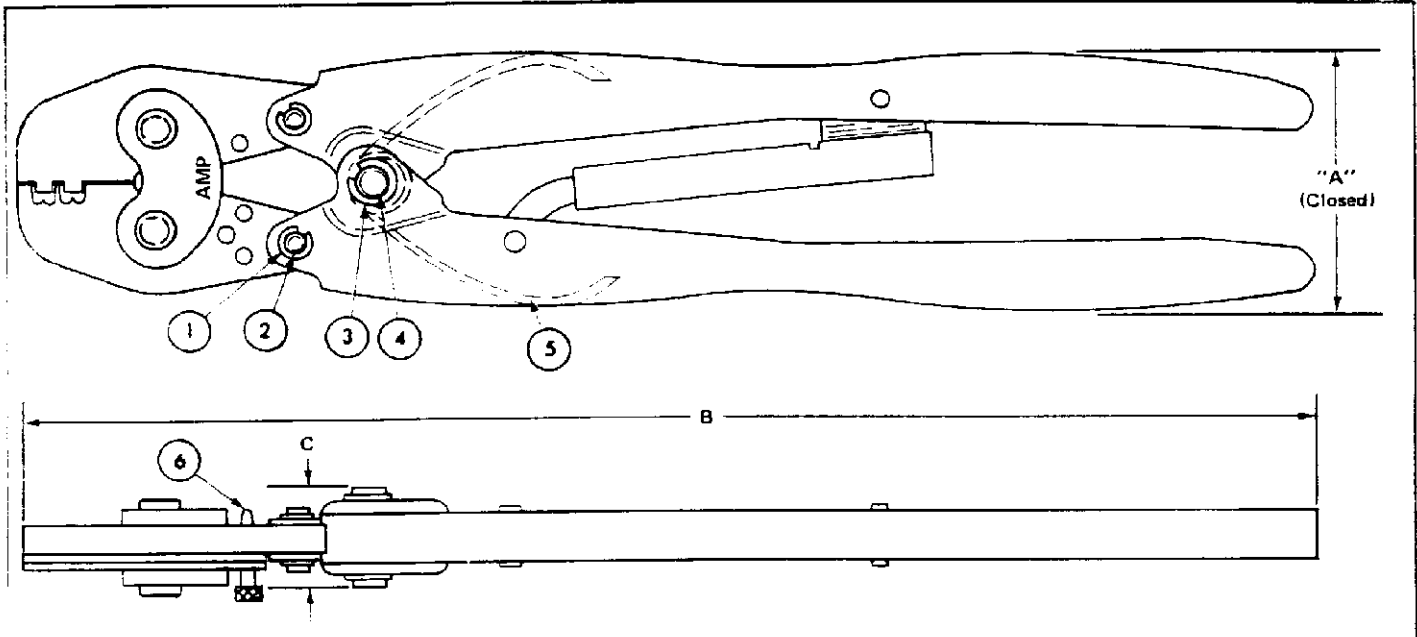
Fig. I-3

#### 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 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 jaws, and store the tool in a clean, dry area.

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TOOL SPECIFICATION		REPLACEMENT PARTS KIT 125218-4			
DIMENSION (Max)	WEIGHT	ITEM	PART NUMBER	DESCRIPTION	QTY PER KIT
A	3	1	21045-3	RING, Retainer	120 to 130
B	11 3/16	2	300432	PIN, Retainer .187 Dia x .521 L	15
C	7/8	3	21045-6	RING, Retainer	25 to 30
Engineering Approval	Date	4	300499	PIN, Retainer .250 Dia x .838 L	10
<i>S. S. S. S.</i>	1/2/78	5	39364	SPRING, Handle	10
		6	39207	PIN, Adjustment*	--

\*NOT INCLUDED IN KIT — MUST BE ORDERED SEPARATELY.

Fig. 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 documented maintenance and inspection procedures in accordance with AMP Corporate Policy Number 3-3. Through AMP test laboratories and the inspection of production assembly, the procedures described herein have been established to ensure quality and reliability of AMP hand crimping tools.

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

**II-2. INSPECTION PROCEDURES**

**A. Daily Maintenance**

It is recommended 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 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 jaws and store the tool in a clean, dry area.

**B. 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:

**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 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 Figure II-1.
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 Figure II-1).
4. Inspect the head assembly, with special emphasis on checking for worn, cracked, or broken jaws. If damage to any part of the head assembly is evident, return the tool to AMP for evaluation and repair (see Paragraph II-3, REPAIR).

**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 modified micrometer (Crimp Height Comparator RS-1019-5L) which can be purchased from:

York Machinery & Supply Co.                      VALCO  
 20 North Penn St.                                      or                      1410 Stonewood Dr.  
 York, PA 17401    Bethlehem, PA 18017

Proceed as follows:

1. Refer to the chart in Figure II-2, and select a terminal (LP) and a wire (maximum size) for each crimp section.
2. Refer to Paragraph I-3, CRIMPING PROCEDURE, and crimp the terminals accordingly.
3. Using a crimp height comparator, measure each 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**

Obtain a .001-in. shim that is suitable for checking the clearance between the bottoming surfaces of the crimping jaws.

Proceed as follows:

1. Select a terminal (LP) and a wire (maximum size) for the tool (see Figure II-2).

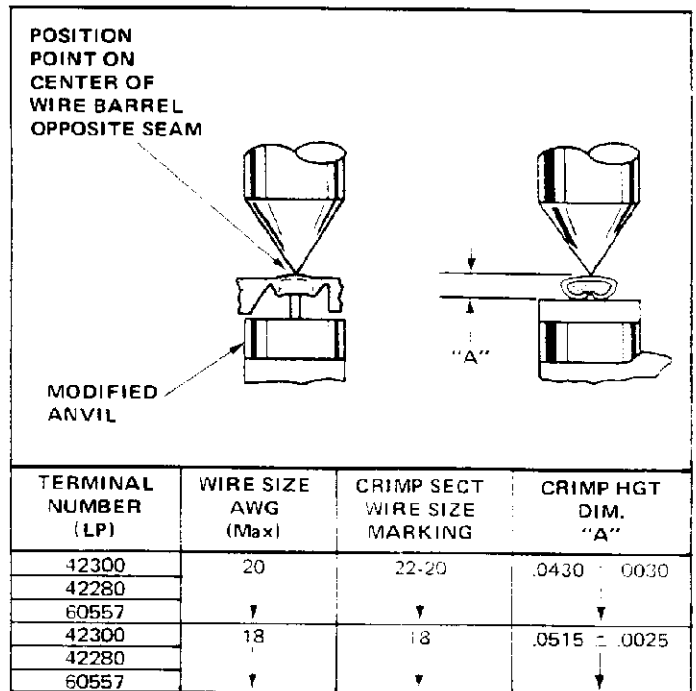


Fig. II-2

2. Position the terminal and wire between the crimping jaws, according to Paragraph I-3, CRIMPING PROCEDURE (Steps 1 through 5). Holding the wire in place, squeeze the tool handles until the CERTI-CRIMP ratchet releases. HOLD the tool handles in this position, maintaining just enough tension to keep the jaws closed.
3. Check the clearance between the bottoming surfaces of the crimping jaws. 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, REPAIR).

If the tool conforms to these inspection procedures, lubricate it with a THIN coat of 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 ensure 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.