

### 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.

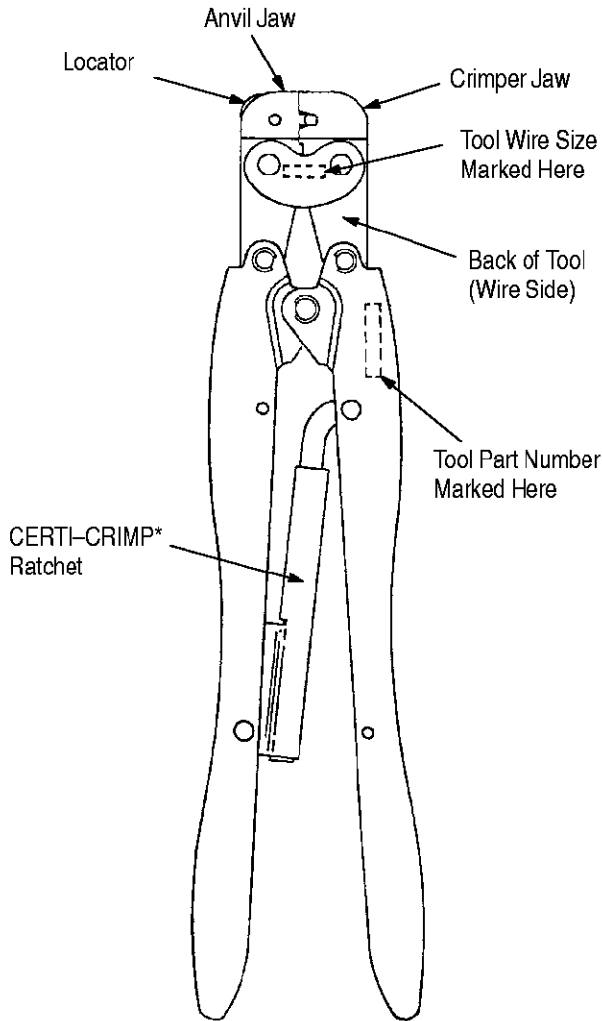


Figure 1

### 1. INTRODUCTION

AMP\* Hand Crimping Tools 90049-1 and 90050-1 (see Figure 1) are designed to crimp the Taper Pin terminals listed in Figure 2. Read these instructions thoroughly before using the tools. See AMP Catalog 82016 for detailed product information.

#### NOTE

Dimensions on this sheet are in millimeters [with inches in brackets]. Figures are not drawn to scale.

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

### 2. DESCRIPTION

Each tool features one crimping section (contained within the crimper and anvil jaws), a locator, and a CERTI-CRIMP ratchet.

The locator aids in positioning the terminal on the anvil jaw. The CERTI-CRIMP ratchet assures full crimping of the terminal. 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.

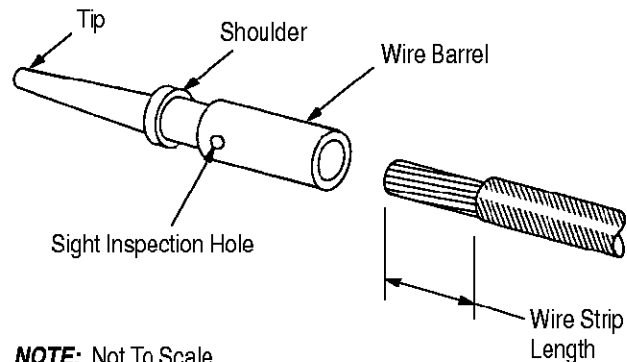
### 3. CRIMPING PROCEDURE

#### NOTE

Each hand tool is coated with a preservative to prevent rust or corrosion. Wipe this preservative from the tool, particularly from the crimping jaws, before using the tool.

Refer to the chart in Figure 2 and check the selected wire, terminal, and crimping tool for compatibility.

Wire size must be within the specified range for the terminal. Strip the wire to the length indicated – do NOT cut or nick the wire strands. The hand tool must be the one designed for crimping the wire and terminal.



NOTE: Not To Scale

WIRE		TERMINAL NUMBER	HAND TOOL NUMBER
SIZE (AWG)	STRIP LENGTH		
26	3.18 [.125]	66050	90049-1
24 - 22	3.18 [.125]	66051	
20 - 18	3.96 [.156]	66052	90050-1
16	3.96 [.156]	66053	

Figure 2

Refer to Figures 2 and 3 and proceed as follows:

1. Hold tool so BACK (wire side) faces you.
2. Make sure ratchet is released — squeeze tool handles together and allow them to open FULLY.
3. Slide terminal tip through hole in locator until terminal shoulder bottoms and wire barrel is positioned on anvil jaw.
4. Hold terminal in this position and squeeze tool handles together just enough so crimping jaws hold terminal in place. Do NOT deform wire barrel.
5. Insert a properly stripped wire into terminal wire barrel until it bottoms.
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.
8. Inspect crimped terminal; wire should be visible through sight inspection hole.

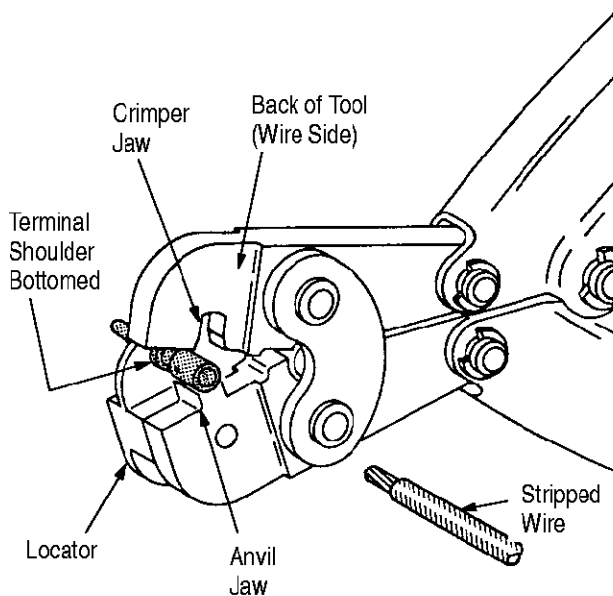


Figure 3

#### 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:

1. The care, amount of use, and handling of the hand tool.

2. 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. Due to the precision design, it is important that no parts of these tools be interchanged except those replacement parts listed in Figure 5.

#### 4.1. 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.

#### 4.2. Periodic Inspection

##### A. 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.

##### 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 5, 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 5, REPLACEMENT AND REPAIR.

**C. Gaging The Crimping Chamber**

This inspection requires the use of a plug gage conforming to the dimensions provided in Figure 4. AMP does not manufacture or market these gages. To gage the crimping chamber, proceed as follows:

1. Remove traces of oil or dirt from the crimping chambers and plug gage.
2. Close tool handles until jaws are bottomed, and hold in this position. Do not force beyond initial contact.
3. Carefully insert GO element into the crimping chamber; do not force it. The GO element must pass completely through the crimping chamber. See Figure 4.
4. In the same manner, try to insert NO-GO element into the same crimping chamber. The NO-GO element may begin entry, but may not pass through the crimping chamber. See Figure 4.

If crimping chambers conform to gage inspection, the tool is considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, refer to Section 5, REPLACEMENT AND REPAIR for customer repair service.

**NOTE** An alternative method of tool inspection is to measure the wire barrel crimp height. The dimensions and tolerances are listed in Figure 4. Refer to 408-7424 for the proper procedures regarding use of the crimp height comparator.

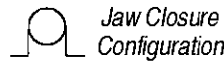
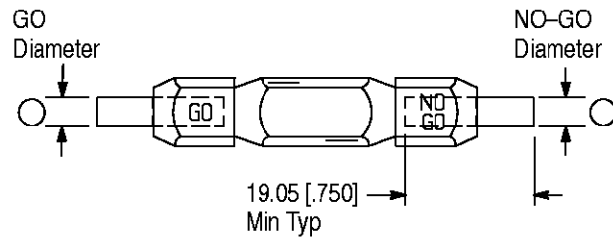
**D. CERTI-CRIMP Ratchet Inspection**

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 terminal and a wire (maximum size) for the tool you are using (see Figure 4).
2. Position the terminal and wire between the crimping jaws, according to Section 3, CRIMPING PROCEDURE (Steps 1 through 4). Holding the wire in place, squeeze the tool handles together until the CERTI-CRIMP ratchet releases. Hold the tool handles in this position, maintaining just enough pressure to keep the jaws closed.
3. 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 5, REPLACEMENT AND REPAIR).

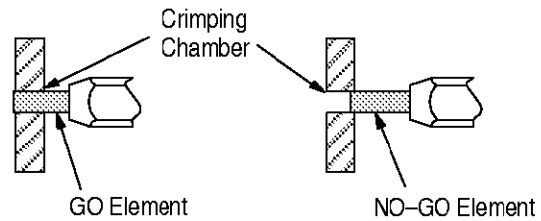
If the tool conforms to these inspection procedures, lubricate it with a THIN coat of any good SAE 20 motor oil and return it to service.

**Suggested Plug Gage Design**



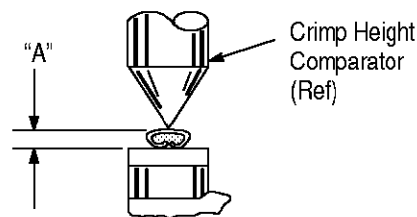
TOOL NUMBER	GAGE ELEMENT DIAMETER	
	GO	NO-GO
90049-1	0.813 [.0320]	0.965 [.0380]
90050-1	0.991 [.0390]	1.143 [.0450]

**Inspection of Crimping Chamber**



GO element must pass completely through the crimping chamber.

NO-GO element may enter partially, but must not pass completely through the crimping chamber.



TERMINAL NUMBER	WIRE SIZE AWG (Max.)	TOOL NUMBER	CRIMP HEIGHT DIM. "A"
66050	26	90049-1	0.914 ± 0.064
66051	22		[.0360 ± .0025]
66052	18	90050-1	1.100 ± 0.069
66053	16		[.0433 ± .0027]

Figure 4

**5. REPLACEMENT AND REPAIR**

Customer-replaceable 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

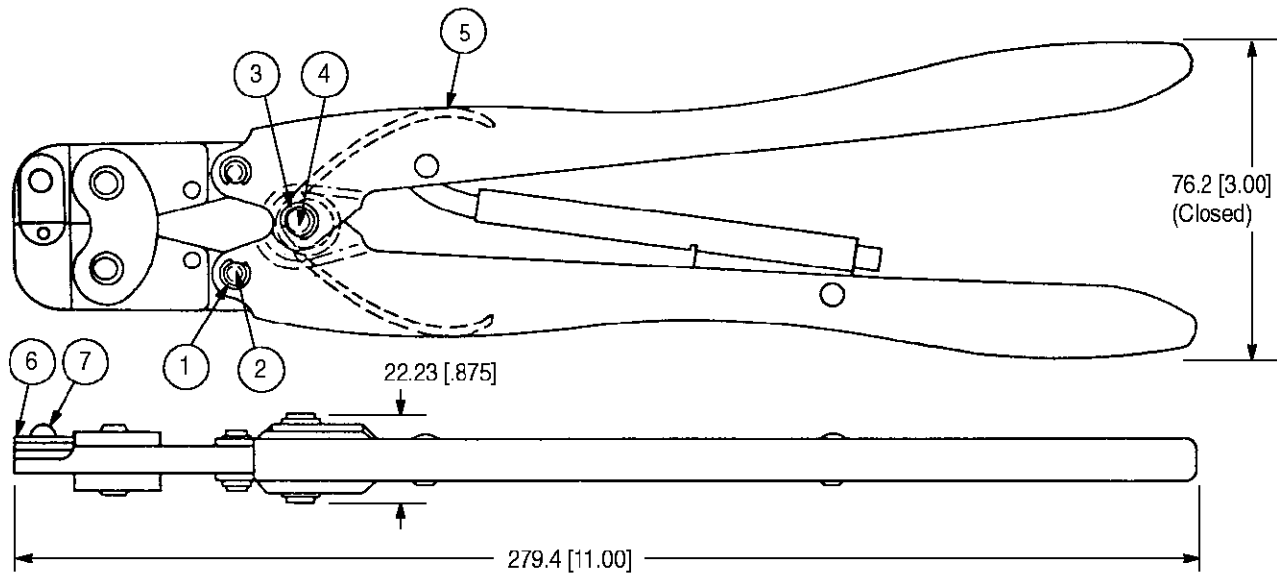
Tools may also be returned to AMP for evaluation and repair. For tool repair service, contact an AMP representative at 1-800-526-5136.

**6. REVISION SUMMARY**

Revisions to this document include:

Per EC 0990-0760-99:

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



**REPLACEMENT PARTS**

ITEM	DESCRIPTION	PART NUMBERS		QTY PER TOOL
		90049-1	90050-1	
1	Ring, Retaining	21045-3	21045-3	4
2	Pin, Retaining, .187 Dia x .521 L	1-23619-6	1-23619-6	2
3	Ring, Retaining	21045-6	21045-6	2
4	Pin, Retaining, .250 Dia x .838 L	2-23620-9	2-23620-9	1
5	Spring, Handle	39364	39364	1
6	Locator	125461-1	125461-2	1
7	Screw	3-21016-7	3-21016-7	1

Figure 5