

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.

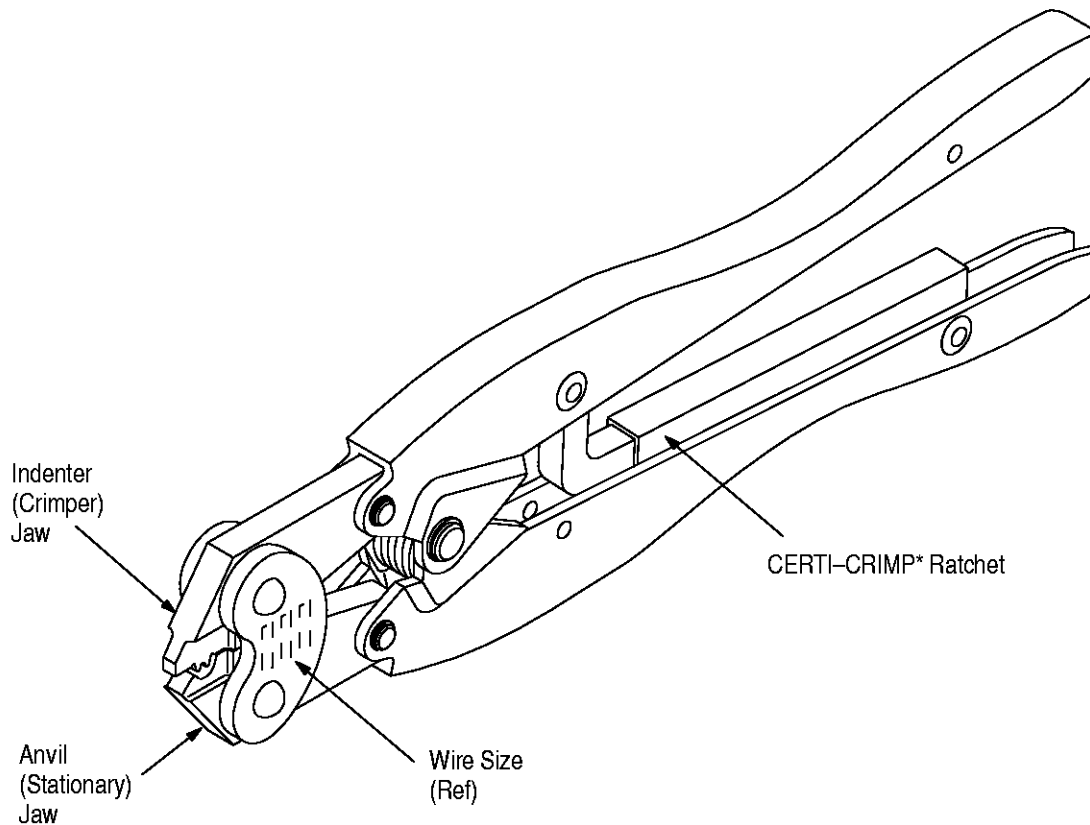


Figure 1

1. INTRODUCTION

This instruction sheet covers the use of AMP* Hand Crimping Tools 49769, 49965, and 49975. The hand tools are designed to crimp AMP SOLISTRAND* and TERMI-FOIL* terminals, shown in Figure 2. Read these instructions carefully before using the tools.

NOTE Measurements are in metric units [with U.S. customary units in brackets].

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

2. DESCRIPTION (Figure 1)

The hand tools are designed with an indenter (crimper) jaw and an anvil (stationary) jaw, and a CERTI-CRIMP ratchet. 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.

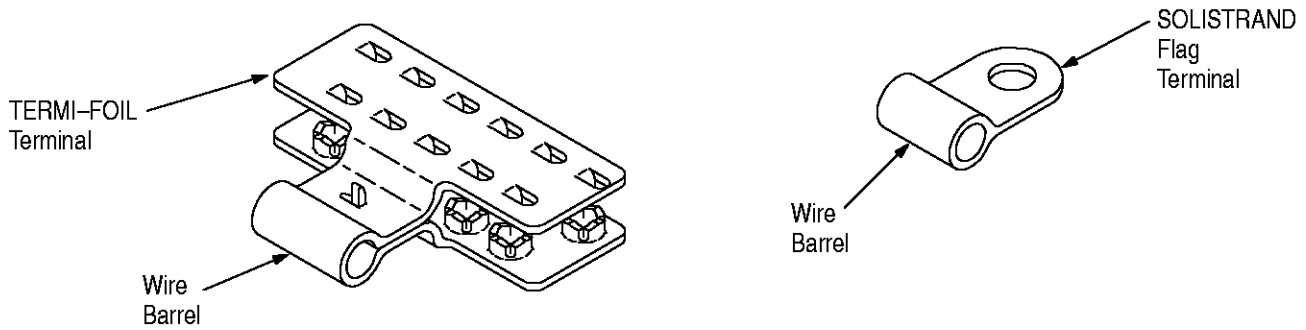
CAUTION The crimping jaws bottom before the CERTI-CRIMP ratchet releases. This is a design feature that ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.

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.

1. Refer to Figure 2 and select the appropriate wire size and terminal for the hand tool. Strip the wire using the appropriate strip-length dimension in Figure 2. Do NOT nick or cut the wire strands.

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



TERMINALS	WIRE			TOOL
	SIZE (AWG)	STRIP LENGTH mm [IN.]		
		MIN	MAX	
SOLISTRAND	16-14	8.73 [.343]	10.31 [.406]	49975
	14-12	3.96 [.156]	5.56 [.218]	49769
	12-10	8.73 [.343]	10.31 [.406]	49965
TERMI-FOIL (Part Number 53264-2)	18-14 Solid	8.72 [.343]	10.31 [.406]	49975
	18-12 Stranded			

Figure 2

3. Position terminal in the crimping jaws so that the wire barrel is centered within the crimping jaws. See Figure 3. Hold the terminal tongue against the flat side of the tool head and squeeze the tool handles together just enough to hold the terminal in the crimping jaws.

CAUTION *Squeezing the handles together too much will engage the crimping dies which will deform the terminal.*

4. Insert stripped wire into the terminal wire barrel until the end of the wire is flush with, or extends slightly beyond, the end of the wire barrel. See Figure 3.

5. Complete the crimp by closing the tool handles until the CERTI-CRIMP ratchet releases. Allow the tool handles to open FULLY.

6. Remove the terminal from the crimping jaws and inspect the crimp against the following criteria:

- a. Crimp should be centered over the wire barrel.
- b. End of wire is flush with or extends slightly beyond the end of the wire barrel.
- c. There are no nicked or missing strands.

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 should be adjusted to suit your requirements through experience.

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.

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.

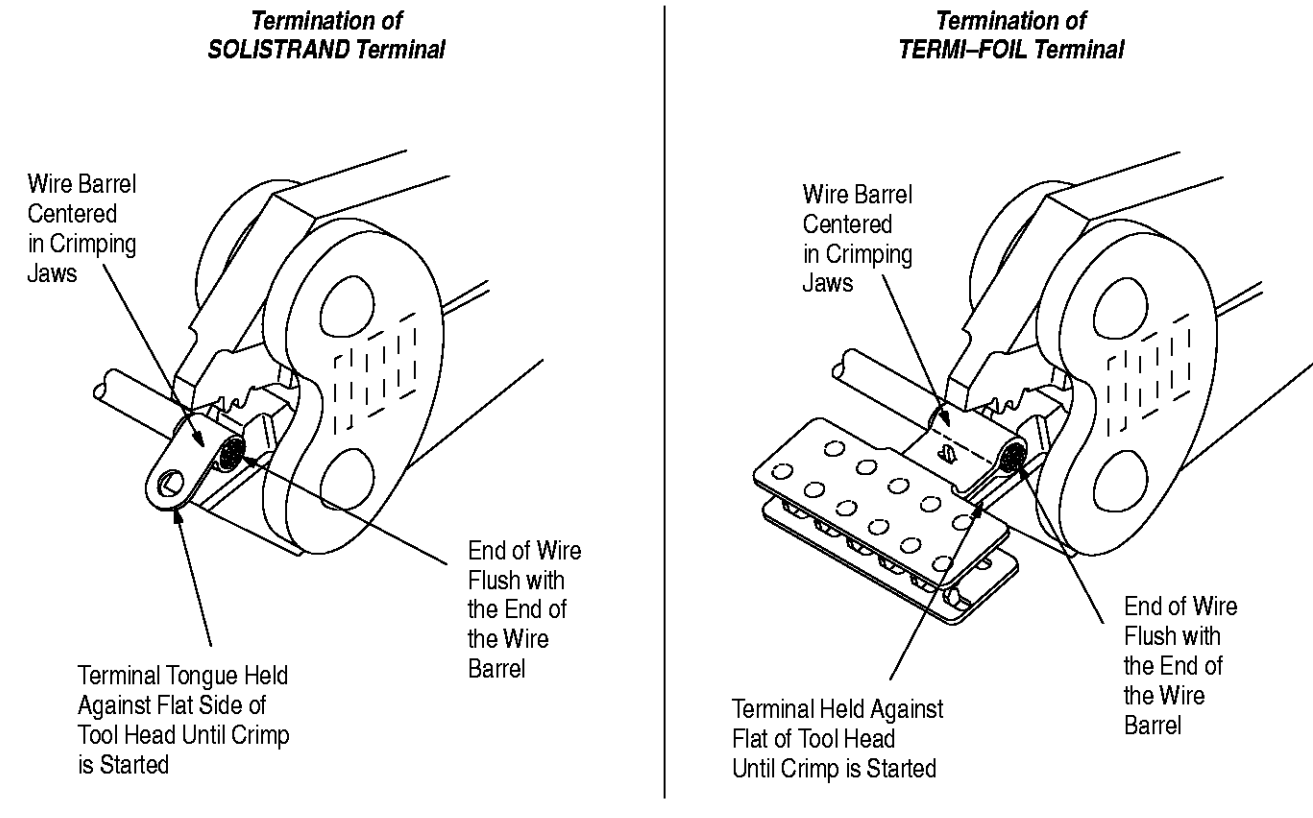


Figure 3

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. Visual Inspection

1. Make certain all retaining pins are in place and secured with retaining rings. If replacements are necessary, refer to Figure 5.

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. 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 chambers, proceed as follows:

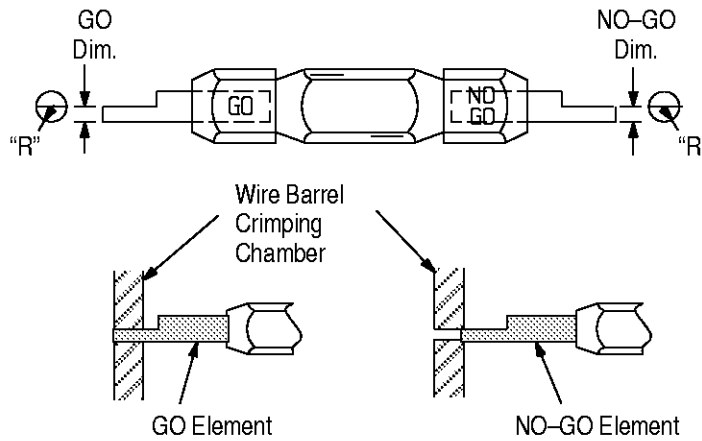
1. Remove traces of oil or dirt from the crimping chambers and plug gage.

2. Close the tool handles until it is evident that the jaws have bottomed; then hold in this position. Do NOT force the jaws beyond initial contact.

3. Align the GO element with the wire barrel crimping chamber. Push element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber, as shown in Figure 4.

4. Align the NO-GO element and try to insert it straight into the same crimping chamber. The NO-GO element may start entry, but must not pass completely through the crimping chamber. See Figure 4.

Suggested Plug Gage Design



TOOL NUMBER	GAGE ELEMENT DIMENSIONS mm [IN.]		RADIUS "R"
	GO	NO-GO	
49769	1.752 – 1.760 [.0690 – .0693]	1.902 – 1.905 [.0749 – .0750]	1.98 [.078]
49965	1.930 – 1.938 [.0760 – .0763]	2.080 – 2.082 [.0819 – .0820]	2.77 [.109]
49975	1.371 – 1.379 [.0540 – .0543]	1.521 – 1.524 [.0599 – .0600]	1.57 [.062]

Figure 4

If the crimping chamber conforms to the gage inspection, the crimping chambers are considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the tool must be returned to AMP for further evaluation and repair. Refer to Section 5, REPLACEMENT AND REPAIR.

For additional information regarding the use of a plug gage, refer to instruction sheet 408-7424.

4.5. CERTI-CRIMP Ratchet Inspection

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

1. Check the part number of the tool being used. Refer to Figure 2 and select a terminal and maximum size wire for the tool.
2. Position the terminal and wire between the crimping jaws, as described in Section 3, CRIMPING PROCEDURE.
3. 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 jaws closed.

4. Check the clearance between the bottoming surfaces of the crimping jaws. 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

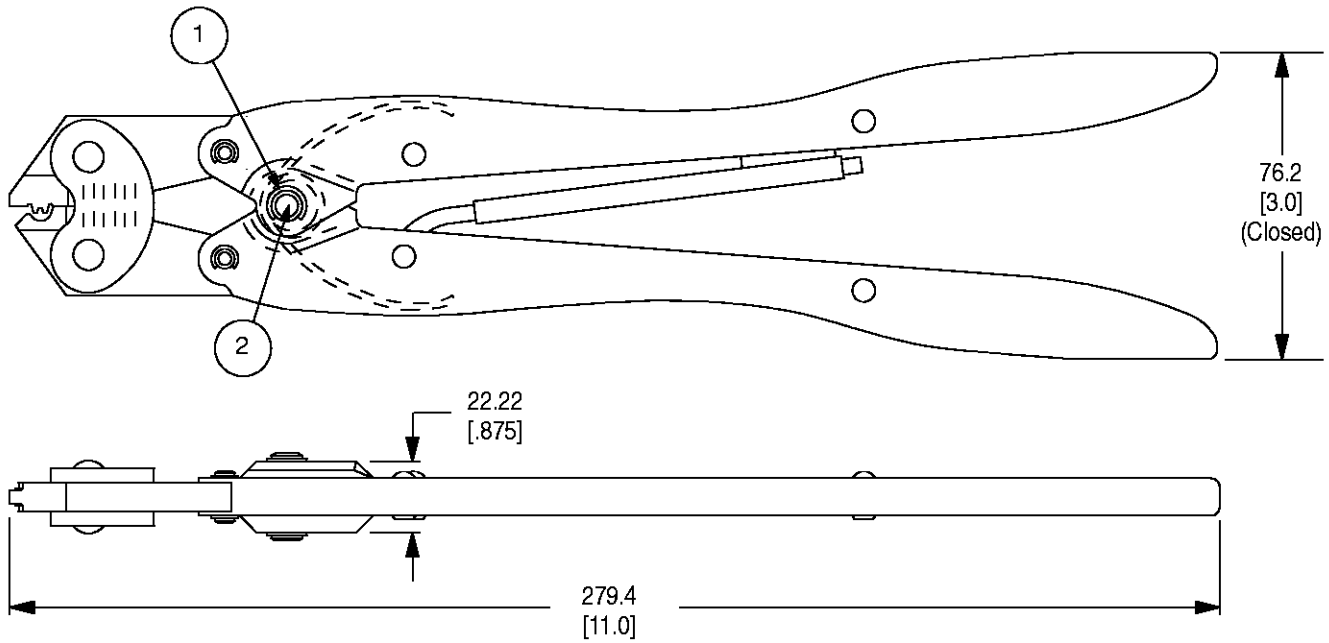
For tool repair service, please contact an AMP representative at 1-800-526-5136.

6. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

Per EC 0990-0795-99

- Updated document to corporate requirements
- Changed tool repair service information in Section 5, REPLACEMENT AND REPAIR



REPLACEMENT PARTS FOR HAND TOOLS 49769, 49965, AND 49975

ITEM	PART NUMBER	DESCRIPTION	QTY PER ASSY
1	21045-3	RING, Retaining	4
2	1-23619-6	PIN, Retaining (.187 D x .521 L)	2

Figure 5