

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.

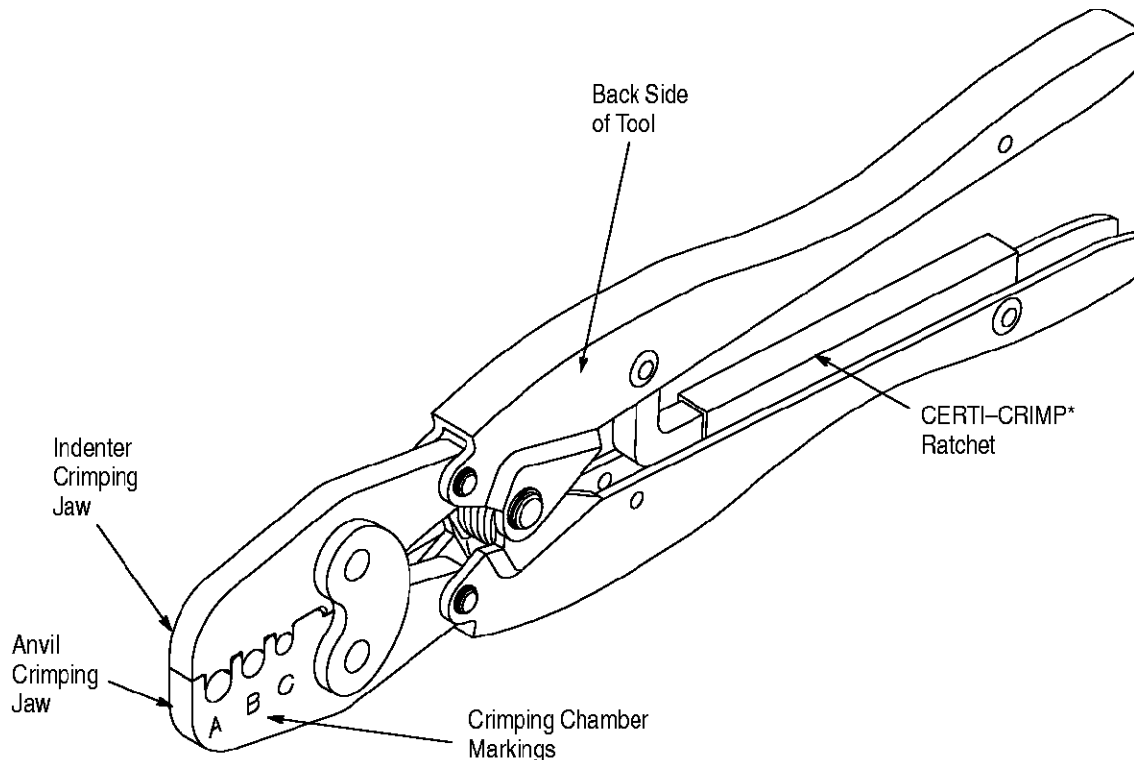


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 220066-1 is designed to crimp the ferrules used with COAXICON* contacts for ARINC connectors onto various size cable. AMP Catalog 82074 provides a guide for cable-to-connector selection. For cable sizes and connectors not referenced in the catalog, contact AMP Product Engineering. Read these instructions thoroughly before using the hand tool.

NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

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

2. DESCRIPTION (see Figure 1)

The hand tool features two crimping jaws (anvil and indenter) and a CERTI-CRIMP ratchet. When closed, the crimping jaws form three crimping chambers; each marked on the BACK side of the tool to indicate

the cable insulation diameter. The CERTI-CRIMP ratchet assures full crimping of the ferrule. 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 design feature ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.

3. CRIMPING PROCEDURE

Strip the cable and assemble the pin or socket contact over the crimped center contact according to the instructions packaged with the connector. Then, to crimp the ferrule, proceed as follows:

1. Position ferrule over cable braid and against shoulder on pin or socket contact. See Figure 2.
2. Hold tool so that the BACK side is facing you.
3. Open tool jaws by squeezing the tool handles together until the CERTI-CRIMP ratchet releases.

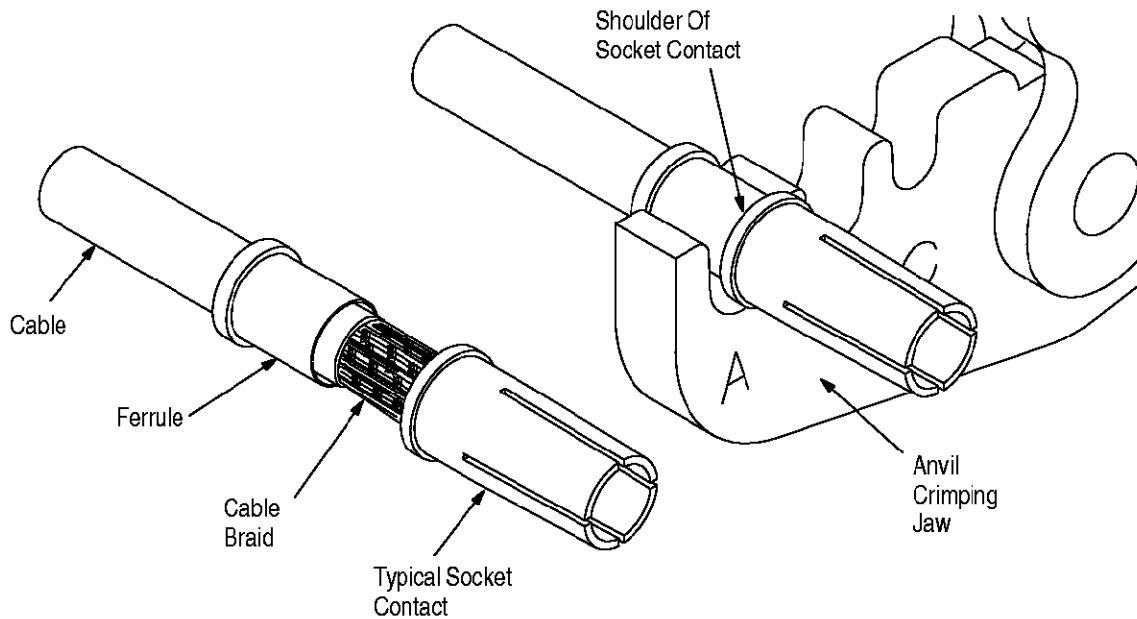


Figure 2

4. Determine the appropriate crimping chamber (A, B, or C) by referring to the customer drawing packaged with the contact. Center the ferrule in the crimping chamber on the anvil crimping jaw, with cable extending from the FRONT side of tool. Make sure shoulder of contact is against crimping jaw. See Figure 2.

5. Holding ferrule in place, squeeze tool handles together until the CERTI-CRIMP ratchet releases.

6. Allow tool handles to open FULLY and remove crimped ferrule.

4. 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.

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. Open tool handles. If they do not open quickly and fully, the handles are defective and must be replaced.
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 3. 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 chamber and plug gage.
2. Close the tool handles until the jaws have bottomed; then hold in this position. DO NOT force the jaws beyond initial contact.
3. Carefully insert GO element into the corresponding crimping chamber; do not force it. The GO element must pass completely through the crimping chamber. See Figure 3.

4. In the same manner, try to insert the NO-GO element into the same crimping chamber. The NO-GO element may start entry, but must not pass completely through the crimping chamber.

If the crimping chamber conforms to the gage inspection, it is considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, return the tool to AMP for further evaluation and repair. See Section 5.

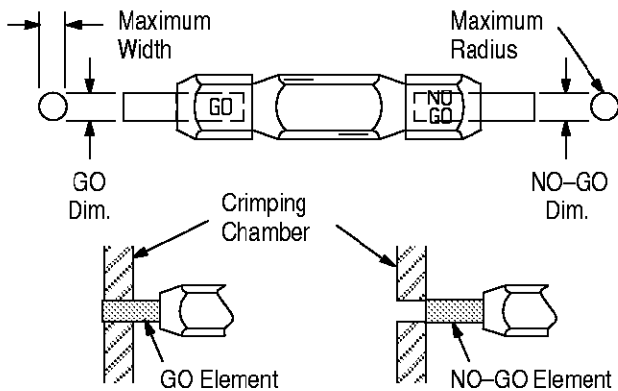
For additional information concerning the use of a plug gage, refer to instruction sheet 408-7424.

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. Proceed as follows:

1. Select a contact and **maximum** cable size for the tool.
2. Position the contact and cable between the crimping jaws, as described in Section 3, CRIMPING PROCEDURE.
3. Holding cable 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 5, REPLACEMENT AND REPAIR.

Suggested Plug Gage Design



5. REPLACEMENT AND REPAIR

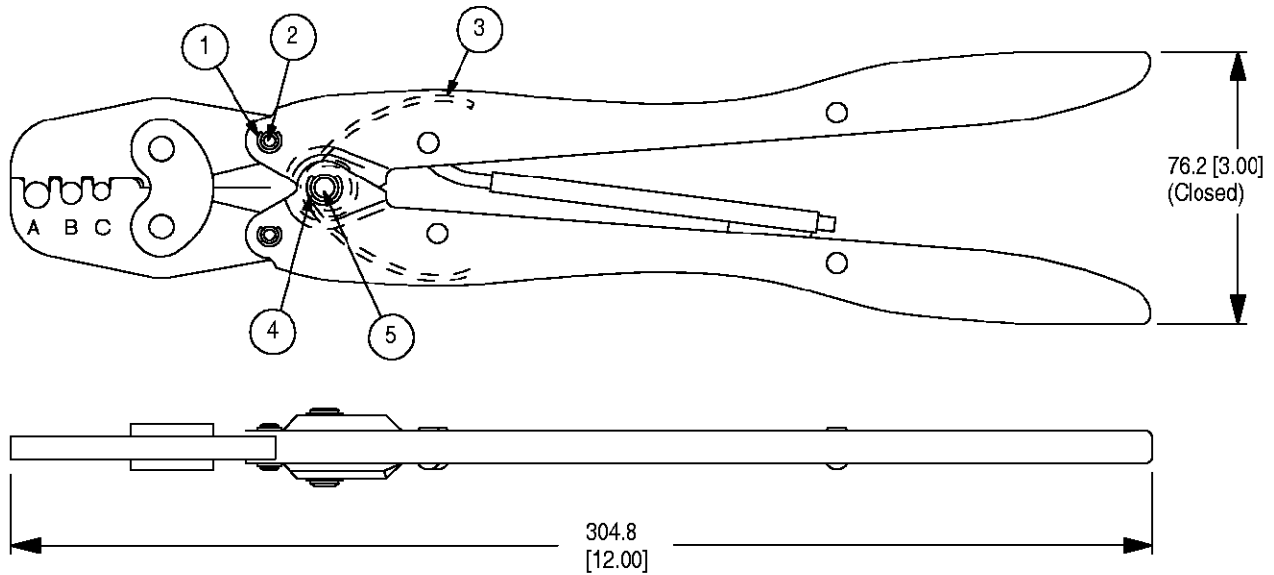
The parts listed in Figure 4 are customer-replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacement parts through your AMP representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

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

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

CRIMPING CHAMBER MARKING	GAGE ELEMENT DIMENSIONS			
	GO	NO-GO	WIDTH (Max)	RADIUS (Max)
A	6.426-6.433 [.2530-.2533]	6.601-6.604 [.2599-.2600]	6.25 [.246]	3.12 [.123]
B	5.486-5.494 [.2160-.2163]	5.661-6.604 [.2229-.2230]	5.33 [.210]	2.67 [.105]
C	4.241-4.249 [.1670-.1673]	4.391-4.394 [.1729-.1730]	4.11 [.162]	2.06 [.081]

Figure 3



REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	RING, External Crescent Retaining, .188 Dia Shaft	4
2	1-23619-6	PIN, Retaining, .187 Dia x .521 L	2
3	39364	SPRING, Hold Down	1
4	2-23620-9	PIN, Retaining, .250 Dia x .838 L	1
5	21045-6	RING, External Crescent Retaining, .250 Dia Shaft	2

Figure 4

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