

PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. These hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.

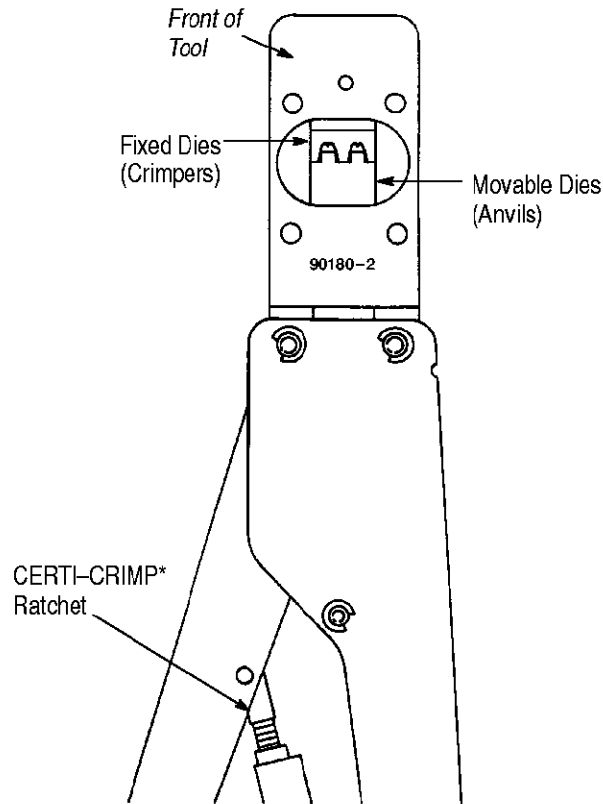


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 90180-2 is used to crimp FASTON* Series .187 Receptacle 42452-2 onto wire sizes 22 through 16 AWG with an insulation diameter of 2.28 through 3.30 mm [.090 through .130 in]. Read these instructions thoroughly before using the tool.

NOTE

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

Reasons for reissue of this instruction sheet are provided in Section 6, REVISION SUMMARY.

2. DESCRIPTION

The tool features two fixed dies (crimpers), two movable dies (anvils), locator/insulation stop, contact support, and CERTI-CRIMP ratchet. When mated, the dies form two crimping chambers.

The FRONT (receptacle side) of the tool, into which the receptacle is inserted, has the tool number marked on it. The BACK (wire side) of the tool, into which the wire is inserted, has the wire size marked above each crimping chamber.

The locator/insulation stop positions the receptacle between the dies and aids in locating the wire in the receptacle. In use, it rests in the locator slot of the receptacle. The contact support prevents the receptacle from bending during the crimping procedure. The CERTI-CRIMP ratchet assures full crimping of the receptacle. Once engaged, the ratchet will not release until the handles have been fully closed.

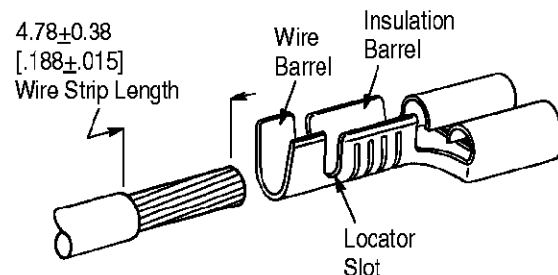
CAUTION

The dies bottom before the ratchet releases. This feature ensures maximum electrical and tensile performance of the crimp. Do NOT re-adjust the ratchet.

3. CRIMPING PROCEDURE

Strip the wire to the length indicated in Figure 2—do NOT cut or nick the wire strands.

Typical FASTON Series .187 Receptacle



Note: Not to Scale

Figure 2

Proceed as follows:

1. Hold tool so BACK side (wire side) faces you.
2. Squeeze tool handles together and allow the handles to open FULLY.
3. Insert the receptacle, insulation barrel first, into the appropriate crimping chamber from the FRONT of the tool. Position the receptacle in the crimpers so that the locator/insulation stop enters the

receptacle locator slot. Then push the receptacle in until the wire barrel butts against the locator/insulation stop. See Figure 3.

Crimping the Receptacle

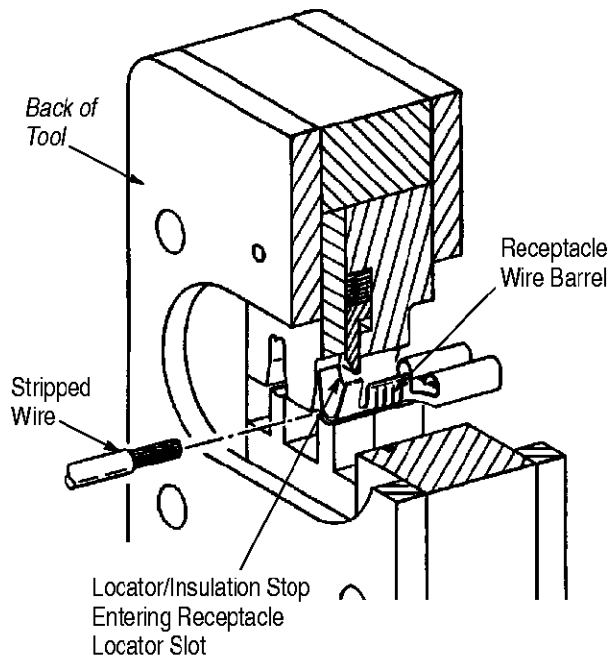


Figure 3

4. Hold receptacle in position, and squeeze tool handles together until the anvil starts entry into the crimper. Do NOT deform receptacle insulation barrel or wire barrel.

5. Insert a properly stripped wire through the wire slot in the locator and into the receptacle wire barrel until the wire insulation butts against locator/insulation stop.

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

7. Allow tool handles to open FULLY, and remove crimped receptacle from tool.

4. MAINTENANCE AND INSPECTION

4.1. Daily Maintenance

It is recommended each operator of the tool be made aware of—and responsible for—the following 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. Refer to Section 5, REPLACEMENT AND REPAIR, if replacements are needed.

3. Make certain all pins, pivot points, and bearing surfaces are 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 the handles closed to prevent objects from being lodged in the dies, and store the tool in a clean, dry area.

4.2. 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:

A. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the tool in a suitable commercial degreaser that will not affect paint or plastic material.

2. Make sure the proper retaining pins are in place and secured with the proper retaining rings. Refer to Section 5 if replacements are needed.

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. Refer to Section 5.

4. Inspect the head assembly, with special emphasis on checking for worn, cracked, or broken dies. If damage to any part of the head is evident, refer to Section 5 for information on obtaining evaluation and repair.

B. Crimp Height Inspection

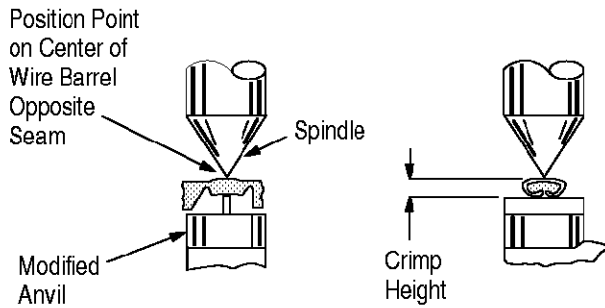
This inspection requires the use of a micrometer with a modified anvil as shown in Figure 4. It is recommended using the modified micrometer (Crimp Height Comparator RS-1019-5LP) which can be purchased from:

Shearer Industrial Supply Co. 20 North Penn Street York, PA 17401-1014	or	VALCO 1410 Stonewood Drive Bethlehem, PA 18017-3527
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Proceed as follows:

1. Select a receptacle and *maximum* size wire for the crimping chamber.

2. Refer to Section 3, CRIMPING PROCEDURE, and crimp the receptacle accordingly.



WIRE SIZE (AWG) (Max)	CRIMP HEIGHT DIMENSION
18	1.27±0.05 [.050±.002]
16	1.52±0.08 [.060±.003]

Figure 4

3. Using a crimp height comparator, measure wire barrel crimp height as shown in Figure 4. If the crimp height conforms to that shown, the tool is considered dimensionally correct. If not, refer to Section 5 for information on obtaining evaluation and repair.

For additional information concerning the use of the crimp height comparator, refer to 408-7424.

C. CERTI-CRIMP Ratchet Inspection

Obtain a 0.0254 [.001] shim that is suitable for checking the clearance between the bottoming surfaces of the dies. Proceed as follows:

1. Select a receptacle and *maximum* wire size for the tool.
2. Position the receptacle and wire between the dies, according to Section 3, CRIMPING PROCEDURE. Holding the wire in place, squeeze the tool handles together until the ratchet releases. Hold the tool handles in this position, maintaining just enough pressure to keep the dies closed.

3. Check the clearance between the bottoming surfaces of the dies. If the clearance is 0.0254 [.001] or less, the ratchet is satisfactory. If clearance exceeds 0.0254 [.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.

5. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 5. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by Tyco to ensure quality and reliability. Order replacement parts through your representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)
 TYCO ELECTRONICS CORPORATION
 PO BOX 3608
 HARRISBURG PA 17105-3608

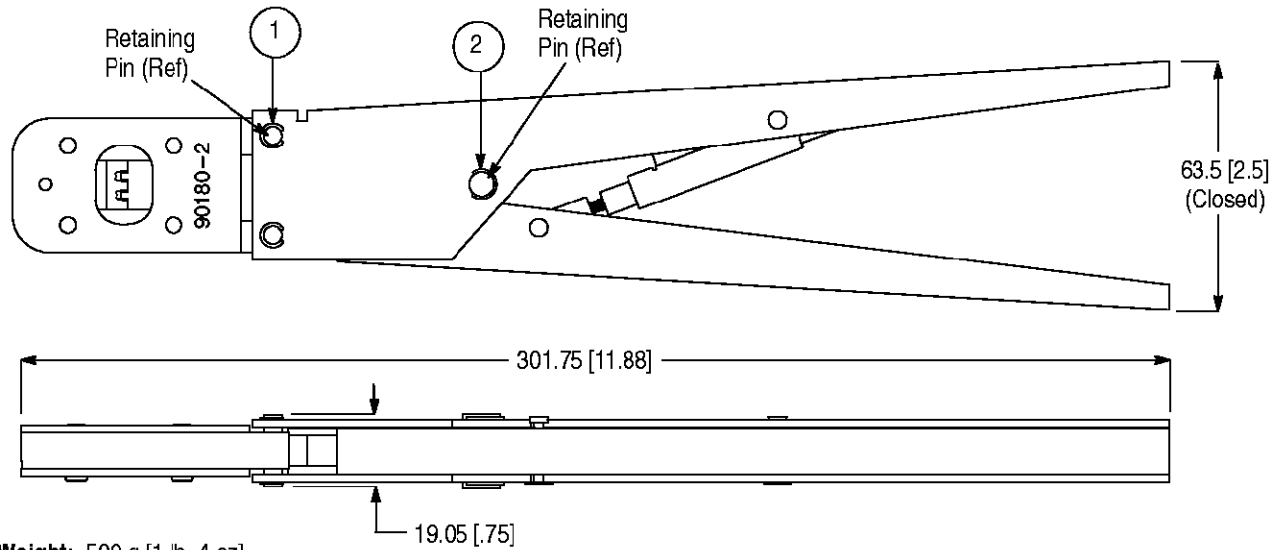
For customer repair service, please contact a representative at 1-800-526-5136.

6. REVISION SUMMARY

Revisions to this instruction sheet per EC 0990-0698-99 include:

- Updated document to corporate requirements
- Removed obsolete Receptacle 42466-2
- Changed 'contact' and 'terminal' to 'receptacle'
- Changed York Machinery to Shearer Industrial in Paragraph 4.2, B
- Replaced customer repair address with phone number

CAUTION: Do NOT remove retaining pins as permanent damage to the tool may result.



Weight: 509 g [1 lb, 4 oz]

REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL
1	21045-3	RING, Retaining	4
2	21045-9	RING, Retaining	2

Figure 5