

PROPER USE GUIDELINES

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. 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.

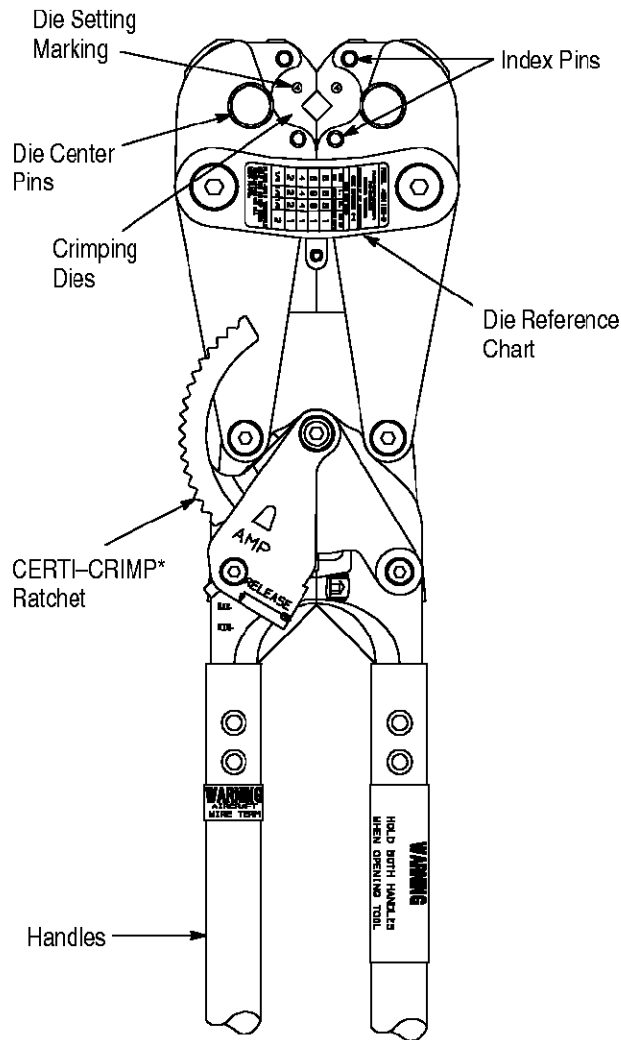


Figure 1

1. INTRODUCTION

AMP* Hand Crimping Tool 601129-2 is used to terminate PLASTI-GRIP* terminals, pre-insulated AMPOWER* terminals, and TERMINYL* terminals and splices onto stranded copper wire sizes 8 to 1/0 AWG. The wire size and insulation diameter must be within the specified range for the terminal or splice.

DANGER

To avoid personal injury, do NOT use this tool on aircraft applications or aluminum wire terminations.

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 7, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

The crimping tool features a head with two rotating crimping dies, CERTI-CRIMP ratchet, and handles. The dies are positioned using spring-loaded die center pins, then held in place by spring-loaded index pins. The wire size and die setting (which is the same as the wire size) is marked on the dies. The front side of the tool, into which the terminal or splice is inserted, has a die reference chart.

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

CAUTION

The crimping dies 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

3.1. Wire Preparation

Select the appropriate wire size and terminal or splice for the hand tool. Determine the proper wire load by referring to the CMA (circular mil area) range indicated in Figure NO TAG. The total CMA of the wires being used must be within the range for the terminal or splice. Strip the wires to the length indicated in Figure 2. Do NOT cut or nick the wire strands.

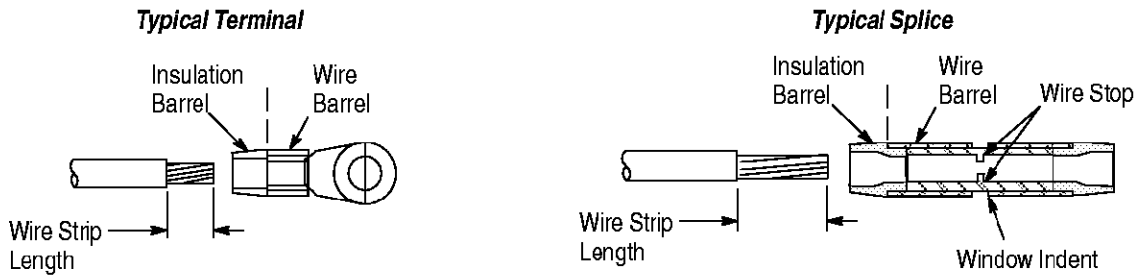
3.2. Die Position

1. Open the tool handles.
2. Refer to the die reference chart on the tool and select the left (L) and right (R) die setting for the wire size being used.

NOTE

Make sure that the wire size stamped on the terminal or splice corresponds with the setting marked on the dies.

3. Depress the two die center pins and rotate the dies to the proper setting and into crimping position. The die setting markings must match.
4. When the dies are in position, release the die center pins. Make sure that the four die index pins return fully and are visible above and below the dies as shown in Figure 1.



WIRE SIZE (AWG)	WIRE CMA RANGE	WIRE INSUL DIA (Max.) (For PLASTI-GRIP Terminals)	WIRE STRIP LENGTH			
			PLASTI-GRIP TERMINAL	PRE-INSULATED AMPOWER TERMINAL	TERMINYL	
					TERMINAL	SPLICE
8	13,100-20,800	8.26 [.325]	8.33-9.13 [.328-.359]	—	7.94-9.52 [.312-.375]	15.48-17.07 [.609-.672]
6	20,800-33,100	8.64 [.340]	9.92-10.72 [.391-.422]	—	11.11-12.70 [.438-.500]	17.86-21.03 [.703-.828]
4	33,100-52,600	11.43 [.450]	11.51-12.30 [.453-.484]	10.72-12.30 [.422-.484]	11.11-12.70 [.438-.500]	19.45-21.03 [.766-.828]
2	52,600-83,700	14.22 [.560]	11.51-12.30 [.453-.484]	13.1-14.68 [.516-.578]	11.51-13.10 [.453-.516]	20.24-21.83 [.797-.859]
1/0	83,700-119,500	16.89 [.665]	18.65-20.24 [.734-.797]	21.83-23.46 [.859-.922]	18.65-20.24 [.734-.797]	28.57-30.16 [1.125-1.188]

Figure 2

3.3. Single Crimp for Terminals and Splices with Wire Sizes 8 through 2 AWG (Figure 3)

1. Center the wire barrel in the dies.
2. Close the tool handles until the wire barrel is held firmly in place. Do not deform the wire barrel.

Single Crimp

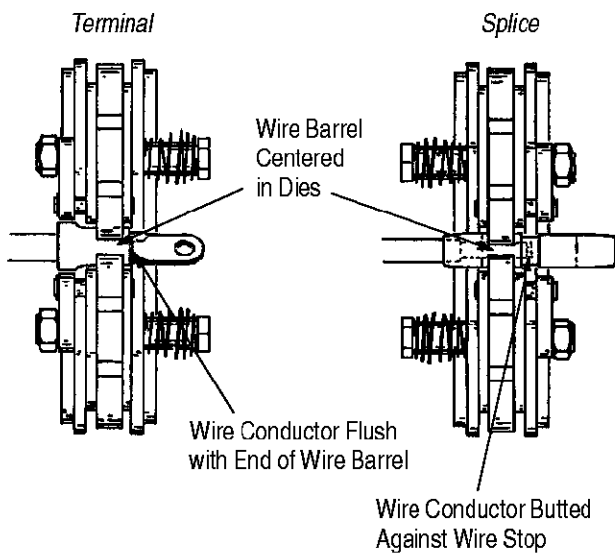


Figure 3

3. Insert stripped wire into wire barrel. For PLASTI-GRIP and TERMINYL terminals, the wire conductor must be flush with, or extend slightly beyond, the end of the wire barrel. For AMPOWER terminals, the wire conductor must bottom in the wire barrel and be visible through the view port. For TERMINYL splices, the wire conductor must butt against the wire stop.

4. Close the tool handles until the dies bottom. Open the handles, and remove the crimped terminal or splice.

5. For PLASTI-GRIP terminals, crimp the insulation barrel in the same way as the wire barrel.

NOTE For wire size 8 AWG, crimp the insulation barrel with the dies on Setting 6.

6. For TERMINYL splices, repeat the crimping procedure for the uncrimped wire barrel.

3.4. Dual Crimp for Terminals and Parallel Splices with Wire Size 1/0 AWG (Figure 4)

First Crimp

1. Position the end of the terminal or splice wire barrel against the edge of the dies.
2. Close the tool handles until the wire barrel is held firmly in place. Do not deform the wire barrel.

Dual Crimp for Terminals and Parallel Splices

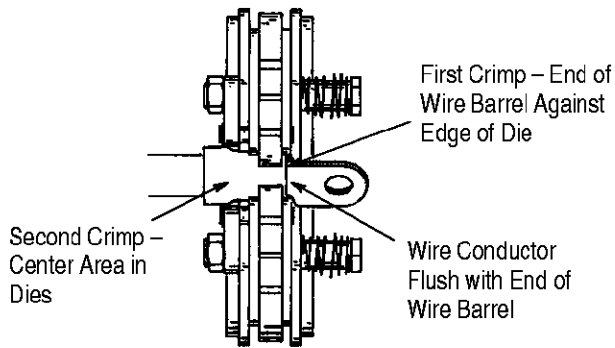


Figure 4

3. Insert stripped wire into wire barrel. For PLASTI-GRIP and TERMINYL terminals, the wire conductor must be flush with, or extend slightly beyond, the end of the wire barrel. For AMPOWER terminals, the wire conductor must bottom in the wire barrel and be visible through the view port. For TERMINYL splices, the wire conductor must butt against the wire stop.

4. Close the tool handles until the dies bottom.

NOTE Make sure that the crimp does not go off the end of the wire barrel.

5. For PLASTI-GRIP terminals, crimp the insulation barrel in the same way as the wire barrel.

Second Crimp

6. Move the wire barrel until the second area to be crimped is centered in the dies.

7. Close the tool handles until the dies bottom.

NOTE Make sure that the second crimp does NOT overlap the first crimp.

8. Open the handles and remove the crimped terminal or splice.

3.5. Dual Crimp for TERMINYL Butt Splices with Wire Size 1/0 AWG (Figure 5)

First and Second Crimps

1. Position the end of the splice wire barrel against the edge of the dies.

2. Close the tool handles until the wire barrel is held firmly in place. Do not deform the wire barrel.

3. Insert stripped wire into the wire barrel until the wire bottoms against the splice wire stop.

4. Close the tool handles until the dies bottom.

NOTE Make sure that the crimp does not go off the end of the wire barrel.

5. Move the wire barrel until the second area to be crimped is centered in the dies.

6. Close the tool handles until the dies bottom.

NOTE Make sure that the second crimp DOES NOT overlap the first crimp.

Third and Fourth Crimps

7. Move the end of the uncrimped wire barrel until it is against the edge of the dies.

Dual Crimp for TERMINYL Butt Splices

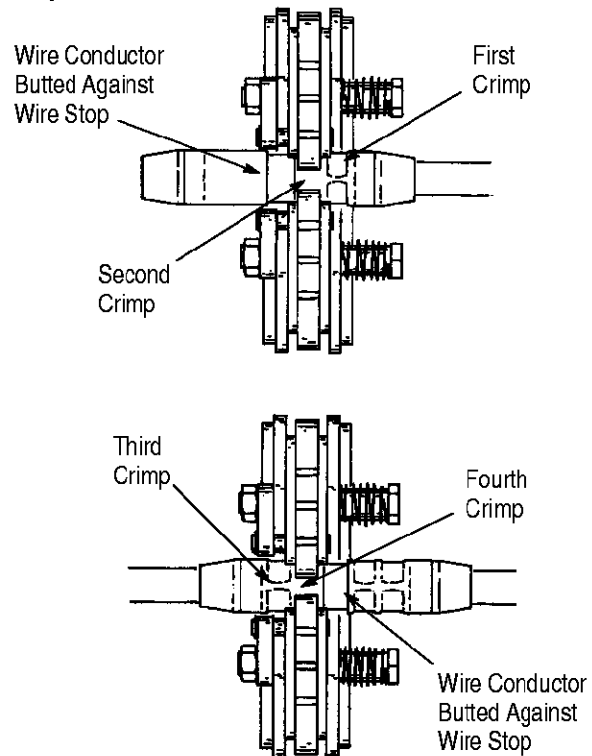


Figure 5

8. Close the tool handles until the wire barrel is held firmly in place. Do not deform the wire barrel.

9. Insert stripped wire into the uncrimped wire barrel until the wire bottoms against the splice wire stop.

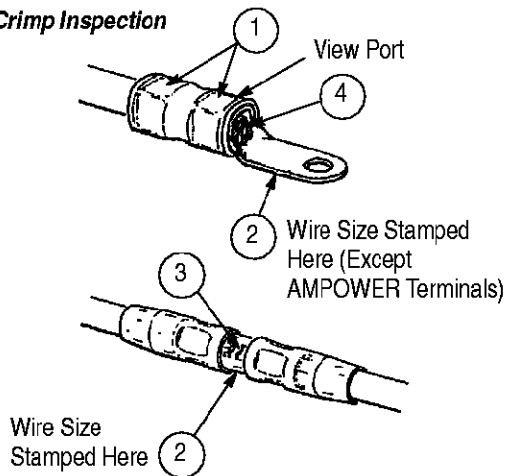
10. Close the tool handles until the dies bottom.

NOTE Make sure that the crimp does not go off the end of the wire barrel.

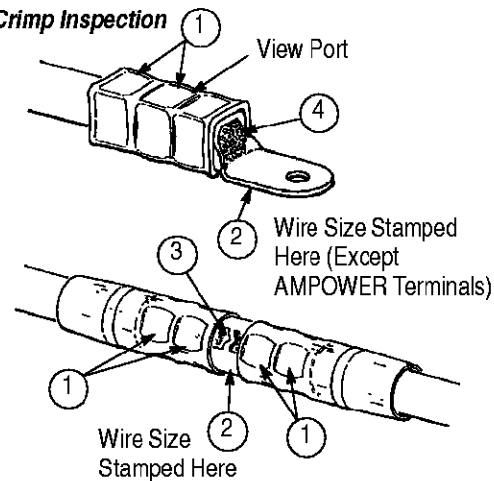
11. Move the splice until the fourth area to be crimped is centered in the dies.

12. Close the tool handles until the dies bottom.

NOTE Make sure that the fourth crimp DOES NOT overlap the third crimp.

Single Crimp Inspection

- 1 Crimp centered on wire barrel and (if applicable) insulation barrel. Crimp may be off center but not off end of wire barrel or insulation barrel.
- 2 Wire size is the same as the wire size stamped on terminal tongue or splice body.
- 3 For TERMINYL splices, end of wire conductor is butted against splice wire stop.
- 4 For PLASTI-GRIP and TERMINYL terminals, conductor is flush with, or extends slightly beyond, end of wire barrel. For AMPOWER terminals, wire conductor is bottomed in wire barrel and visible through view port.

Double Crimp Inspection

- 1 Crimps are evenly spaced apart, but not overlapped or off end of wire barrel or insulation barrel.
- 2 Wire size is the same as wire size stamped on terminal tongue or splice body.
- 3 Wire is visible through butt splice inspection hole.
- 4 For PLASTI-GRIP and TERMINYL terminals, conductor is flush with, or extends slightly beyond, end of wire barrel. For AMPOWER terminals, wire conductor is bottomed in wire barrel and visible through view port.

Figure 6

4. CRIMP INSPECTION

Inspect the crimped terminal or splice by checking the features described in Figure 6. Use only terminals and splices that meet the conditions described.

5. MAINTENANCE/INSPECTION**5.1. 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 are 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 sure all pivot points and bearing surfaces are protected with a thin coat of any good SAE 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 dies, and store the tool in a clean, dry area.

NOTE

Always store the tool with the dies on Setting 4.

5.2. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the tool or be supplied to

supervisory personnel responsible for the tool.

Though recommendations call for at least one inspection per month, the inspection frequency should be based on the amount of use, 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 (handles partially closed) in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make certain that all parts are securely in place. If replacements are necessary, refer to the parts list in Figure 9.
3. Inspect crimping areas for pitted or chipped surfaces.

B. Handle Inspection

The handles should be checked to ensure that the dies bottom properly. To check the handles, proceed as follows:

1. Open the tool handles fully.
2. Rotate the dies to Setting 4.

3. Close the tool handles until the dies are bottomed, *but not under pressure*. Do not apply additional force to the handles beyond initial die contact.

4. Measure the distance between the tool handles as shown in Figure 7. The measurement must be between 35.05 and 41.15 [1.38 and 1.62]. If it does not fall within this range, the handles must be tightened or loosened as necessary.

Handle Inspection

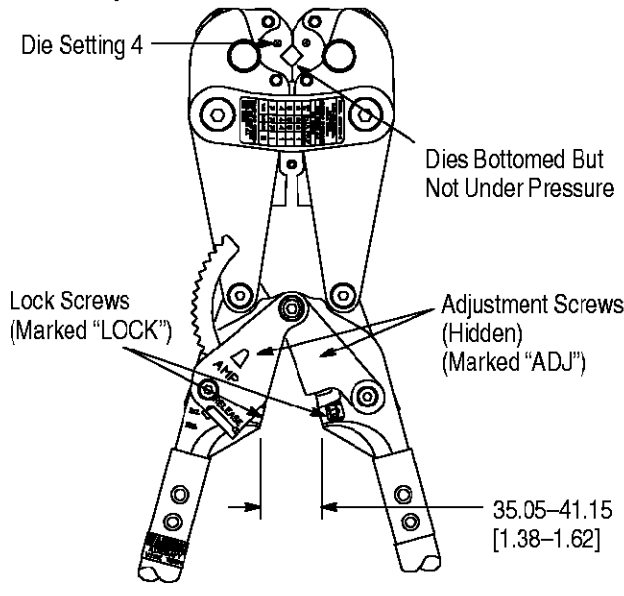


Figure 7

The handle adjustment feature is provided to compensate for normal wear of the dies. To adjust the handles, proceed as follows:

1. To loosen the handles, turn both adjustment (ADJ) screws *counterclockwise* approximately one-half to three-quarters turn. Slightly loosen both lock (LOCK) screws by turning them *counterclockwise*. Flex the tool by opening and closing the tool handles. Tighten both lock screws. Close the tool handles until the dies are bottomed, but not under pressure. Check the measurement between the tool handles and repeat the adjustment procedure if necessary.

2. To tighten the handles, turn both lock (LOCK) screws *counterclockwise* approximately one-half to three-quarters turn. Turn both adjustment (ADJ) screws *clockwise* approximately one-half to three-quarters turn. Flex the tool by opening and closing the tool handles. Tighten both lock (LOCK) screws. Close the tool handles until the dies are bottomed but not under pressure. Check the measurement between the tool handles and repeat the adjustment procedure if necessary.

C. Die Closure Inspection

Die closure inspections should be performed periodically to determine if the tool is maintaining proper crimp height dimensions. To check the die closure, proceed as follows:

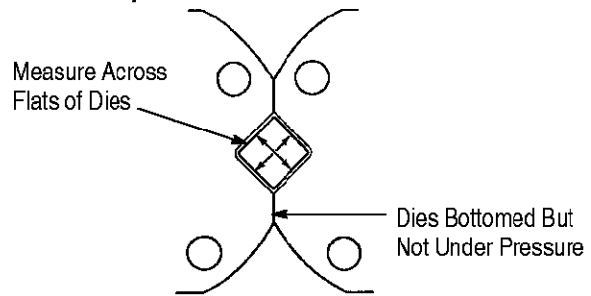
1. Perform the handle inspection as described in Paragraph 5.2, B. Adjust the handles if necessary.

2. Close the tool handles until the dies are bottomed, *but not under pressure*. Do not apply additional force to the handles beyond initial die contact.

3. Using inside calipers, measure across the flats of the dies (see Figure 8). If the measurement falls within the range specified, the die closure for that wire size is considered dimensionally correct.

4. If the die closure measurement is not within the range specified in Figure 8 (with the tool handles properly adjusted), the tool must be returned for reconditioning. Refer to Section 6.

Die Closure Inspection



Note: Tool handles must be properly adjusted.

WIRE SIZE (AWG)	DIE CLOSURE DIMENSION
8	6.43-6.68 [.253-.263]
6	7.75-8.00 [.305-.315]
4	9.37-9.63 [.369-.379]
2	11.38-11.633 [.448-.458]
1/0	13.92-14.32 [.548-.564]

Figure 8

6. REPLACEMENT AND REPAIR

The parts listed in Figure 9 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 representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

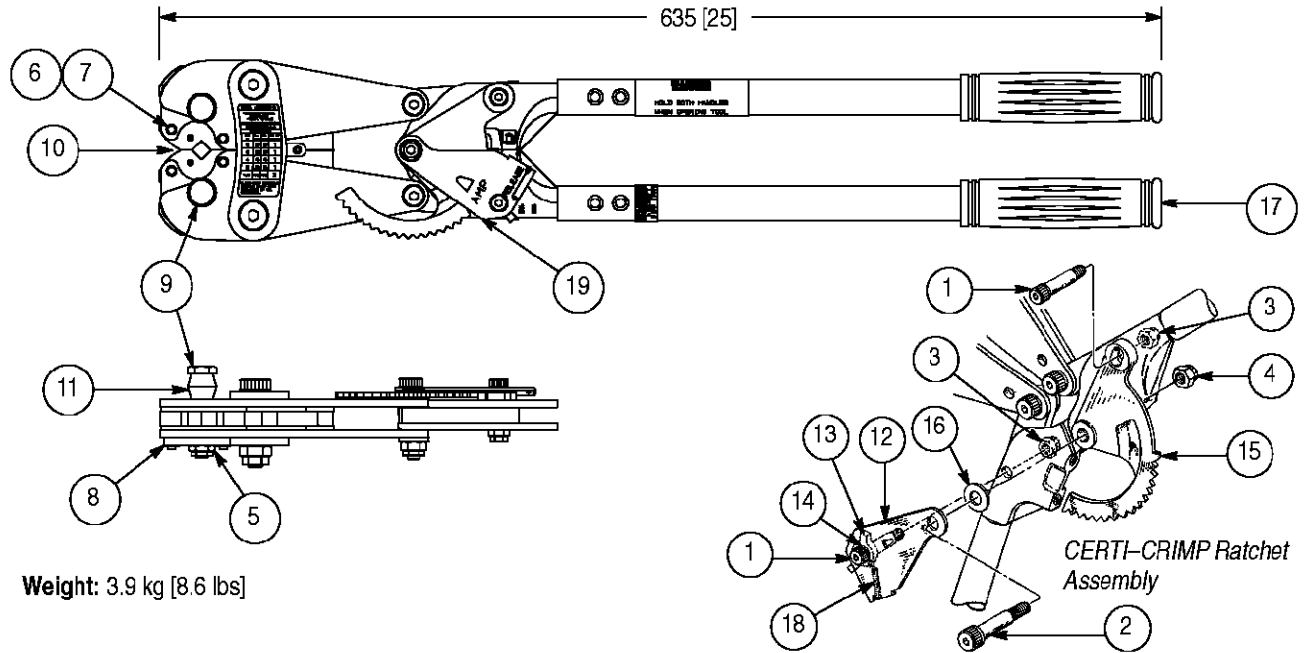
CUSTOMER SERVICE (38-35)
 TYCO ELECTRONICS CORPORATION
 P.O. BOX 3608
 HARRISBURG, PA 17105-3608

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

7. REVISION SUMMARY

Per EC 0990-0770-99:

- Changed tool repair service information in Section 6, REPLACEMENT AND REPAIR
- Updated document format



Weight: 3.9 kg [8.6 lbs]

REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QUANTITY PER TOOL
1	1-21004-2	Screw, Socket Head Shoulder	2
2	2-21004-1	Screw, Socket Head Shoulder	1
3	21021-5	Nut, Hex	2
4	21021-6	Nut, Hex	1
5	21022-5	Nut, Hex	2
6	1-21046-3	Ring, Retaining	4
7	600869	Pin, Die Index	4
8	601121-1	Plate, Indexing	2
9	601123-1	Pin, Die Center	2
10	601125-1	Die	2
11	601126-1	Spring, Index	2
12	604222-1	Guard	1
13	604223-1	Pawl	1
14	604224-1	Bushing	1
15	604228-1	Rack	1
16	604229-1	Washer, Anti-Friction	1
17	604274-1	Grip, Handle	2
18	986816-2	Spring, Extension	1
19	604220-1	Ratchet Assembly, CERTI-CRIMP	1

Figure 9