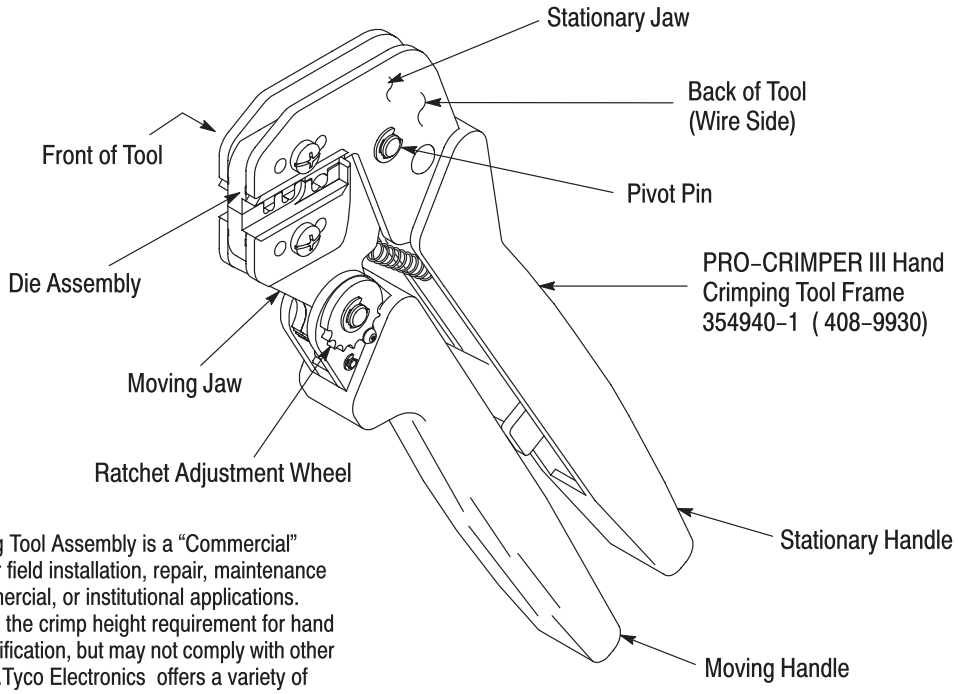
PROPER USE GUIDELINES

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.



The PRO-CRIMPER III Hand Crimping Tool Assembly is a "Commercial" grade tool and is designed primarily for field installation, repair, maintenance work, or prototyping in industrial, commercial, or institutional applications. Product crimped with this tool will meet the crimp height requirement for hand tools in the appropriate 114 series specification, but may not comply with other feature parameters of the specification.Tyco Electronics offers a variety of tools to satisfy your performance requirements. For additional information, contact the Tooling Assistance Center at 1-800-722-1111.

TE Die Assembly	Product Family‡	Wire		
		Size (AWG)	Strip Length (mm [in.])	
			Terminal	Butt Splice
58509-1	Budget Terminal and Butt Splice	22-14	4.37-5.16 [.172-.203]	6.35-7.14 [.250-.281]
		12-10	6.35-7.14 [.250-.281]	

‡ Contact the Tooling Assistance Center or the Product Information Center at the numbers listed below for specific terminal and butt splice part numbers.

Figure 1

1. INTRODUCTION

PRO-CRIMPER III Hand Crimping Tool Assembly 58508-1 consists of Die Assembly 58509-1 and PRO-CRIMPER III Hand Crimping Tool Frame 354940-1. The tool is used to crimp the terminals and butt splices onto wire sizes listed in Figure 1.

Read these instructions thoroughly before crimping any terminals or butt splices.

Reasons for reissue are provided in Section 10, REVISION SUMMARY.

NOTE

Dimensions on this sheet are in millimeters [with inch equivalents provided in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

2. DESCRIPTION (Figures 1 and 2)

The tool features a tool frame with a stationary jaw and handle, a moving jaw, a moving handle, and an adjustable ratchet that ensures full contact crimping. The tool frame holds a die assembly with three crimping sections.

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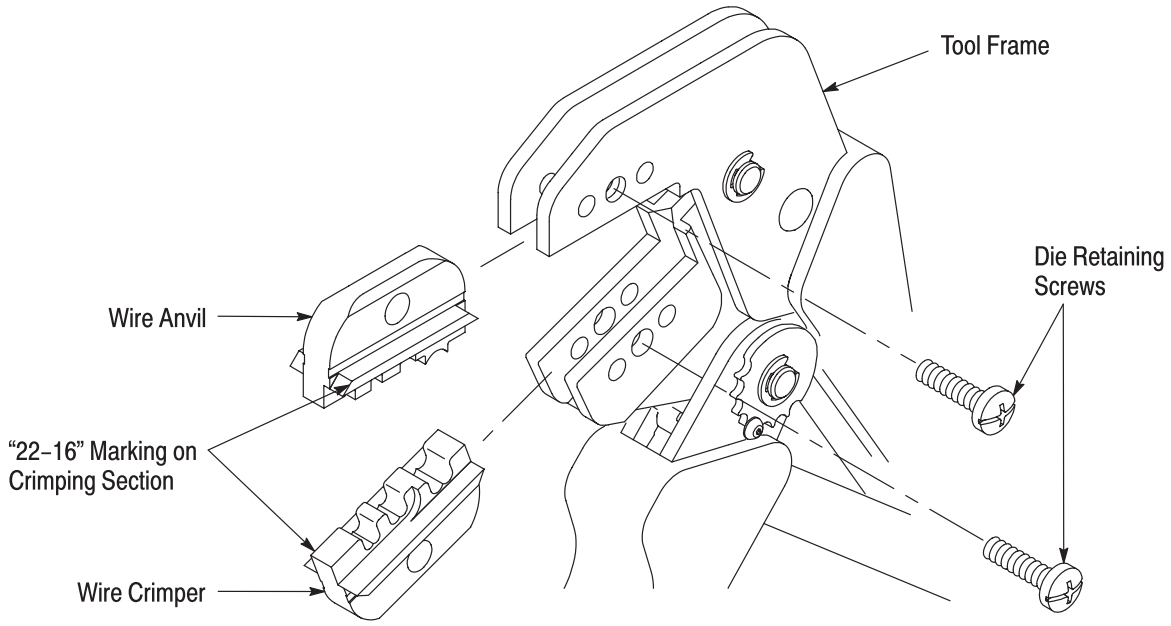


Figure 2

The die assembly features a wire anvil and a wire crimper. Die retaining screws are used to secure the dies in the tool frame.

3. INSTALLATION AND REMOVAL OF DIE SET (Figure 2)

1. Open the tool handles and remove the two die retaining screws from the tool jaws.

2. Place the wire anvil so that the crimping section marked "22–16" faces outward when mounted in the stationary jaw of the tool frame.

3. Insert the die retaining screw through the jaw and through the anvil, and tighten the screw just enough to hold the anvil in place. Do *not* tighten the screw completely at this time.

4. Place the wire crimper so that the crimping section marked "22–16" faces outward when mounted in the moving jaw of the tool frame.

5. Insert the die retaining screw through the jaw and through the crimper, and tighten the screw just enough to hold the crimper in place. Do *not* tighten the screw completely at this time.

6. Carefully close the tool handles, making sure that the anvil and crimper align properly. Continue closing the tool handles until the ratchet in the tool frame has engaged sufficiently to hold the anvil and crimper in place, then tighten both die retaining screws.

7. To disassemble, close the tool handles until the ratchet releases, remove the two die retaining screws and slide the anvil and crimper out of the tool jaws.

4. CRIMPING PROCEDURE

NOTE

This tool is provided with a crimp adjustment feature. Initially, the crimp height should be verified as specified in Figure 6. Refer to Section 6, CRIMP HEIGHT INSPECTION, and Section 7, RATCHET ADJUSTMENT, to verify crimp height before using the tool to crimp desired terminals or butt splices.

Refer to the table in Figure 1 and select wire of the specified size. Strip the wire to the length indicated in Figure 1, taking care not to nick or cut wire strands. Select an applicable terminal or butt splice and identify the appropriate crimping section according to the wire size markings on the dies. Proceed as follows:

1. Squeeze tool handles together until the ratchet releases and then allow the tool jaws to open fully.

2. Hold the tool so that the back (wire side) is facing you. See Figure 3.

3. Holding the wire barrel, insert the terminal or butt splice into the appropriate crimping section so that the wire barrel seam faces the wire crimper and the edge of the wire barrel is even with the edge of the wire crimper.

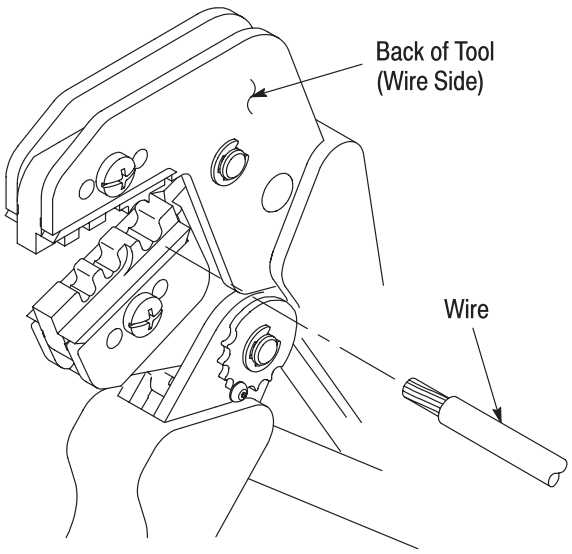


Figure 3

4. Hold the terminal or butt splice in position and squeeze the tool handles together until ratchet engages sufficiently to hold the terminal or butt splice in position. Do NOT deform the wire barrel.

5. Insert stripped wire into the wire barrel of the terminal or butt splice as follows:

   a. For terminals, make sure that the end of the wire is even with the edge of the wire barrel and wire crimper, as shown in Figure 4, Detail A.

   b. For butt splices, make sure that the end of the wire butts against the internal wire stop of the splice, as shown in Figure 4, Detail B.

6. Holding the wire in place, squeeze tool handles together until ratchet releases. Allow tool handles to open and remove crimped terminal or butt splice.

NOTE

The crimped terminal or butt splice may stick in the crimping area; however, it can be easily removed by pushing upward on the mating end of the terminal or butt splice.

7. Inspect the crimped terminal or butt splice as described in Section 5. Check the terminal or butt splice crimp height as described in Section 6. If necessary, adjust the crimp height as described in Section 7, RATCHET ADJUSTMENT.

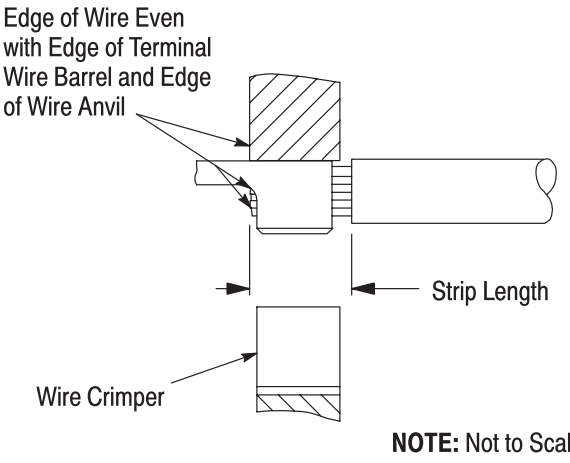
5. CRIMP INSPECTION

Inspect crimped terminals and butt splices by comparing to the ones shown in Figure 5. Use only the terminals and butt splices that meet the conditions shown in the “ACCEPT” column. “REJECT” terminals and butt splices can be avoided by carefully following the above procedures and by performing regular tool maintenance, as provided in Section 8, MAINTENANCE AND INSPECTION.

6. CRIMP HEIGHT INSPECTION

Crimp height inspection is performed through the use of a micrometer with a modified anvil, commonly referred to as a crimp–height comparator. Tyco Electronics does not manufacture or market crimp–height comparators. Detailed information on obtaining and using crimp–height comparators can be found in instruction sheet 408–7424.

Detail A



NOTE: Not to Scale

Detail B

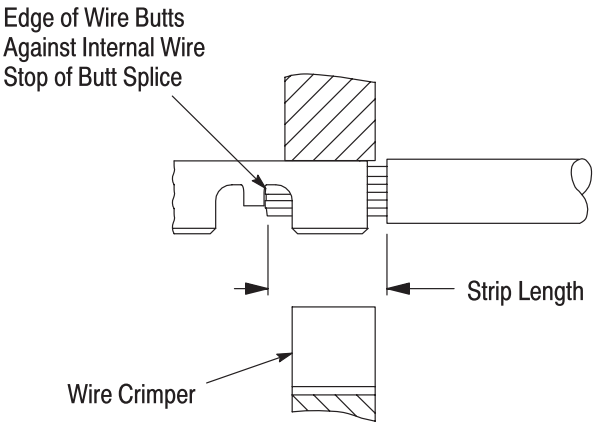
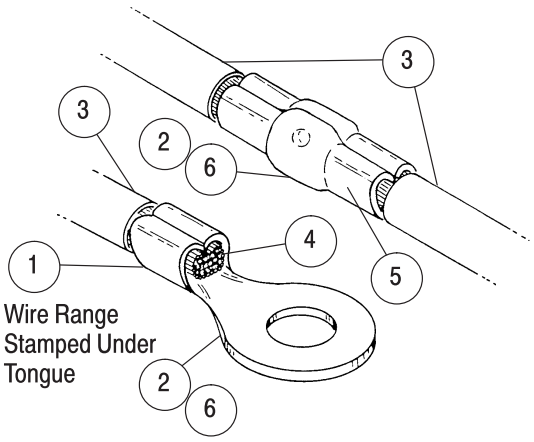
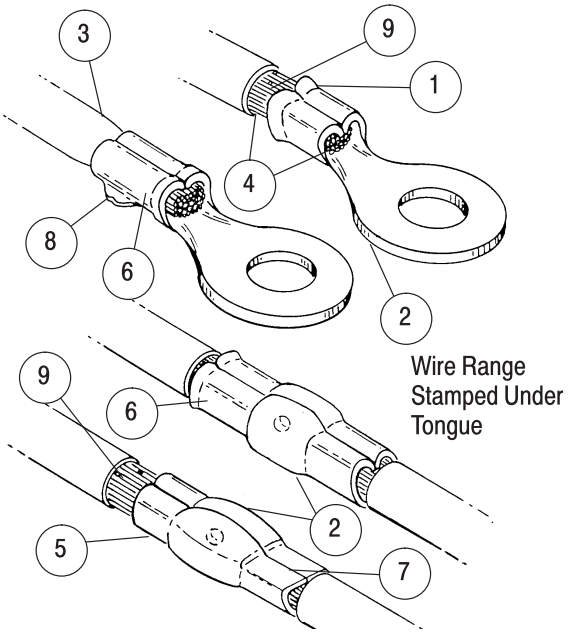


Figure 4

ACCEPT



REJECT



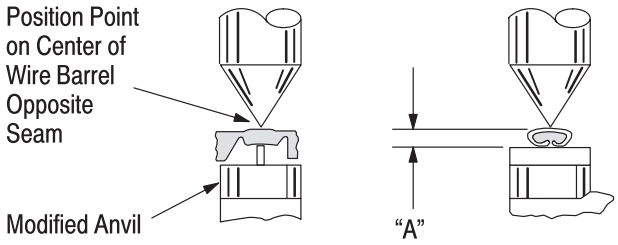
1. Full length of terminal wire barrel is crimped.
2. Wire size is within range stamped on terminal or tongue or butt splice.
3. Wire fully inserted and jacket does not enter wire barrel.
4. Wire is flush with or extends slightly beyond end of terminal wire barrel.
5. Splices crimped by full width of dies.
6. Wire range stamped on die matches wire range stamped on terminal or butt splice.

1. Full length of terminal wire barrel was not crimped (wire barrel was not even with edge of die).
2. Wire size is not within wire range stamped on terminal tongue or butt splice.
3. Wire jacket entered wire barrel of terminal or butt splice.
4. End of conductor is not flush with or extending beyond end of terminal wire barrel (wire not fully inserted).
5. Full length of butt splice was not crimped (wire barrel was not even with edge of die).
6. Narrow and extruded wire barrel indicates die closure too small for terminal or butt splice and wire being used. Compare wire ranges stamped on die and on terminal or butt splice.
7. Seam did not face wire crimper.
8. Excessive flash indicates damaged dies.
9. Nicked or missing conductor strands.

Figure 5

Proceed as follows:

1. Refer to Figure 6 and select a wire (maximum size) for each crimping section listed.
2. Refer to Section 4, CRIMPING PROCEDURE, and crimp the terminal(s) or butt splice(s) accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height as shown in Figure 6. If the crimp height conforms to that shown in the table, the tool is considered dimensionally correct. If not, the tool must be adjusted. Refer to Section 7, RATCHET (Crimp Height) ADJUSTMENT.



WIRE SIZE (AWG) (Max)	CRIMPING SECTION (Wire Size Marking)	CRIMP HEIGHT DIMENSION A
16	22–16	1.85±0.05 [.073±.002]
14	16–14	2.11±0.05 [.083±.002]
10	12–10	3.71+0.05/–0.08 [.146+.002/–.003]

Figure 6

7. RATCHET (Crimp Height) ADJUSTMENT (Figure 7)

1. Remove the lockscrew from the ratchet adjustment wheel.

2. With a screwdriver, adjust the ratchet wheel from the front of the tool.

3. Observe the ratchet adjustment wheel. If a tighter crimp is required, rotate the adjustment wheel *counterclockwise* to a higher–numbered setting. If a looser crimp is required, rotate the adjustment wheel *clockwise* to a lower–numbered setting.

4. Re–assemble the lockscrew.

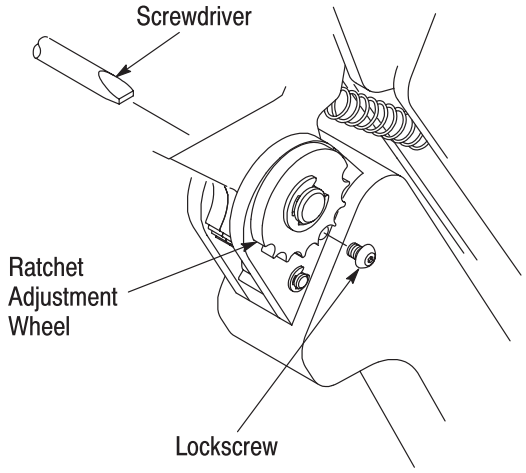


Figure 7

5. Make a sample crimp and measure the crimp height. If the dimension is acceptable, replace and secure the lockscrew. If the dimension is unacceptable, continue to adjust the ratchet, and again measure a sample crimp.

8. MAINTENANCE AND INSPECTION

8.1. Maintenance

Ensure that the tool and dies are clean by wiping them with a clean, soft cloth. Remove any debris with a clean, soft brush. Do not use objects that could damage the tool. When not in use, keep handles closed to prevent objects from becoming lodged in the crimping dies, and store in a clean, dry area.

8.2. Visual Inspection

The crimping dies should be inspected on a regular basis to ensure that they have not become worn or damaged. Inspect the crimping sections for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the tool must be replaced. See Section 9, REPLACEMENT.

9. REPLACEMENT

Customer–replaceable parts are shown in Figure 1.

Available separately, PRO–CRIMPER III Hand Crimping Tool Repair Kit 679221–1 includes a replacement nut and a variety of pins, rings, screws, and springs.

If the dies are damaged or worn excessively, they must be replaced.

Order the repair kit and replaceable parts through your Tyco Electronics 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)
TYCO ELECTRONICS
PO BOX 3608
HARRISBURG, PA 17105–3608

10. REVISION SUMMARY

Revisions to this instruction sheet include:

- PRO–CRIMPER II Hand Tool became the PRO–CRIMPER III Hand Tool
- TE logo was applied
- Format was updated to the current corporate requirements