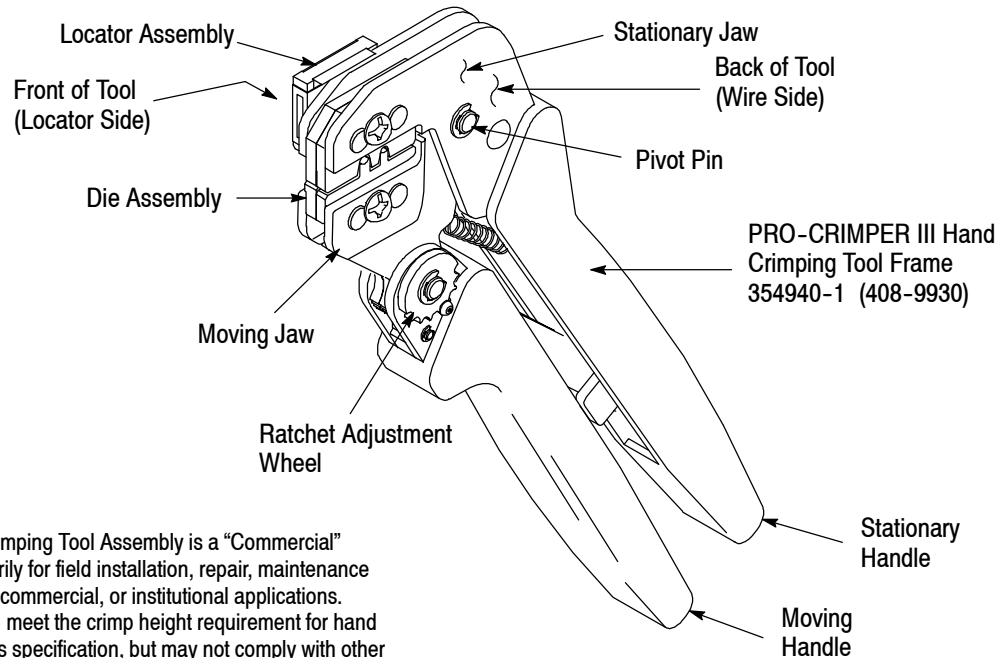


PROPER USE GUIDELINES

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	Locator Assembly†	Product Family‡	Wire		
			Size (AWG)	Insulation Diameter (Max) (mm [in.])	Strip Length (mm [in.])
91304-2	58662-1	Junior Timer Contacts	17	2.01 [.079]	4.7±0.41 [.185±.016]
		Micro Timer Contacts		1.6 [.063]	4.32±0.41 [.170±.016]

† Supplied with die assembly. Also available separately.

‡ Contact the Tooling Assistance Center or Product Information (at the number listed below) for specific contact part numbers.

Figure 1

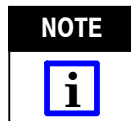
1. INTRODUCTION

PRO-CRIMPER III Hand Crimping Tool Assembly 91304-1 consists of Die Assembly 91304-2 and PRO-CRIMPER III Hand Tool Frame 354940-1. The tool is used to crimp the contacts onto the wire size listed in Figure 1.

Read these instructions thoroughly before crimping

any contacts.

Revisions will be listed in Section 10, REVISION SUMMARY.



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

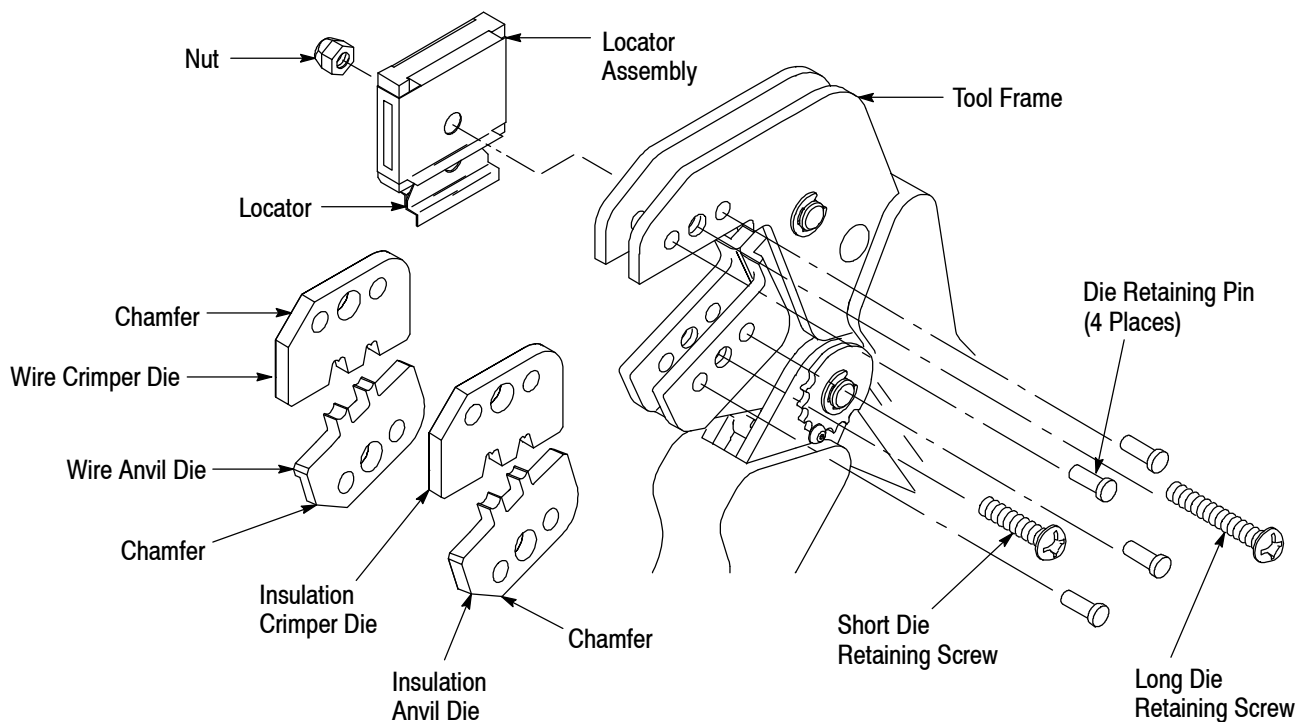


Figure 2

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 crimping.


The tool frame holds a die assembly with two crimping chambers. The die assembly features a wire anvil die, an insulation anvil die, a wire crimper die, and an insulation crimper die. Attached to the outside of the frame is a locator assembly, which contains a locator, a spring retainer, and a contact support.

Die retaining pins and die retaining screws are used to position and secure the dies in the tool frame. A nut is used on the upper die retaining screw to hold the locator assembly in place.


3. INSTALLATION AND REMOVAL OF DIE ASSEMBLY AND LOCATOR ASSEMBLY (Figure 2)

1. Open the tool handles and remove the two die retaining screws from the tool jaws.
2. Place the wire anvil die and insulation anvil die so that their chamfered edges and their marked surfaces face outward, when mounted in the moving jaw of the tool frame.
3. Insert the two die retaining pins through the jaw and into the dies.
4. Insert the short die retaining screw through the jaw and through both anvil dies. Tighten the screw just enough to hold the dies in place. Do *not* tighten the screw completely at this time.
5. Place the wire crimper die and insulation crimper die so that their chamfered edges and their marked surfaces face outward, when mounted in the stationary jaw of the tool frame.
6. Insert the two die retaining pins through the jaw and into the dies.
7. Insert the long die retaining screw through the jaw and through both crimper dies. Tighten the screw just enough to hold the dies in place. Do *not* tighten the screw completely at this time.
8. Carefully close the tool handles, making sure that the anvil and crimper dies align properly. Continue closing the tool handles until the ratchet has engaged sufficiently to hold the dies in place, then tighten both die retaining screws.
9. Place the locator assembly over the end of the long screw, and position the locator assembly against the side of the tool jaw.
10. Place the nut onto the end of the long screw, and tighten the nut just enough to hold the locator assembly in place while still allowing the locator to slide up and down.
11. To disassemble, squeeze the tool handles until the ratchet releases, open the tool handles, remove the nut, the locator assembly, two die retaining screws and four die retaining pins, and slide the dies out of the tool jaws.

4. CONTACT SUPPORT ADJUSTMENT (Figure 3)

NOTE
 The contact support is preset prior to shipment, but minor adjustment may be necessary.


1. Make a sample crimp and determine if the contact is straight, bending upward, or bending downward.
2. If adjustment is required, loosen the screw that holds the contact support onto the locator assembly.

NOTE
 The ratchet has detents that create audible clicks as the tool handles are closed.

3. Place a contact with wire into the proper crimping chamber and close the tool handles until the ratchet reaches the sixth click, or until the contact support touches the contact.
4. Slightly loosen the nut that holds the locator assembly onto the tool frame.
5. Move the contact support as required to eliminate bending of the contact.
6. Tighten the nut and close the handles until the ratchet releases.

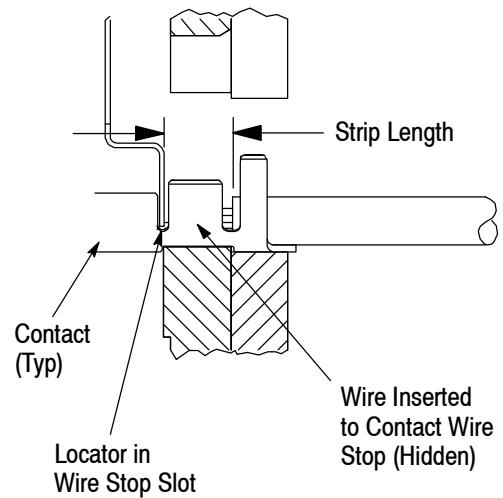
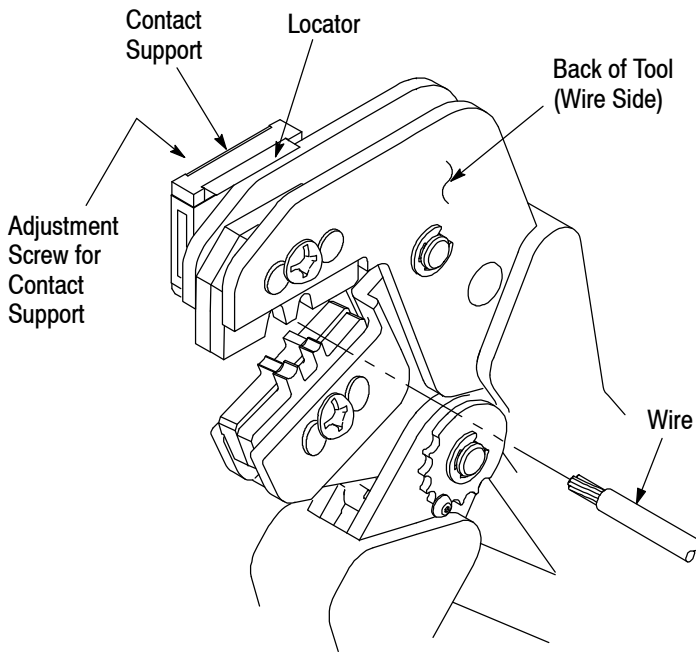
7. Remove and inspect the contact.
8. Make another sample crimp. If the contact is straight, tighten the contact support screw. If the contact is still being bent during crimping, repeat the adjustment procedure.

5. CRIMPING PROCEDURE

NOTE
 Before using the tool, the crimping chambers and tool ratchet should be inspected as specified in Section 6, CRIMP HEIGHT INSPECTION, and adjusted as described in Section 7, RATCHET ADJUSTMENT

Refer to Figure 1 and select wire of the specified size and insulation diameter. Strip the wire to the length indicated, taking care not to nick or cut wire strands. Select an applicable contact and identify the appropriate crimping chamber according to the wire size markings on the dies. Refer to Figure 3 and proceed as follows:

1. Hold tool so that the back (wire side) is facing you. Squeeze tool handles together until the ratchet releases then allow them to open fully.
2. Holding the contact by the mating end, insert the contact—insulation barrel first—through the front of the tool and into the appropriate crimping chamber.



Note: Not to scale

Figure 3

3. Position the contact so that the mating end is on the locator side of the tool, and so that the open “U” of the insulation barrel faces the stationary jaw. Place the contact up into the crimping chamber so that the locator drops into the wire stop slot in the contact. Refer to Figure 3. Butt the end of the contact against the locator.



CAUTION Make sure that both sides of the insulation barrel are started evenly into the crimping chamber. Do NOT attempt to crimp an incorrectly positioned contact.

4. Hold the contact in place and squeeze the tool handles together until ratchet engages sufficiently to hold the contact in position. Do NOT deform the insulation barrel or wire barrel.

5. Insert stripped wire into contact insulation barrel until it is butted against the wire stop as shown in Figure 3.

6. Holding wire in place, squeeze tool handles together until ratchet releases. Allow tool handles to open then remove crimped contact.



NOTE The crimped contact may stick in the crimping chamber. It can be easily removed by pushing downward on the top of the locator. Refer to Figure 3.

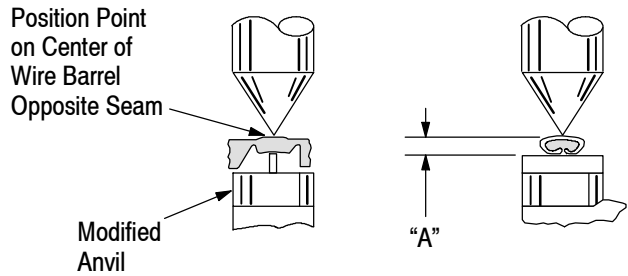
7. Inspect the crimped contact to ensure that the crimp is centered on the wire barrel and that the wire is fully inserted. Check the crimp height as described in Section 6. If necessary, adjust the crimp height as described in Section 7.

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.

Proceed as follows:

1. Refer to Figure 4 and select a wire for each crimping chamber listed.
2. Refer to Section 5, CRIMPING PROCEDURE, and crimp the contacts accordingly.



Wire Size (AWG)	Crimping Chamber (Marking)	Crimp Height (Dim. A)
17	JUNIOR	1.27±0.051 [.050±.002]
	MICRO	1.20±0.051 [.047±.002]

Figure 4

3. Using a crimp height comparator, measure the 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, the tool must be adjusted. Refer to Section 7, RATCHET ADJUSTMENT.

7. RATCHET ADJUSTMENT (Figure 5)

1. Remove the lockscrew from the ratchet adjustment wheel.
2. With a screwdriver, adjust the ratchet wheel from the front of the tool.

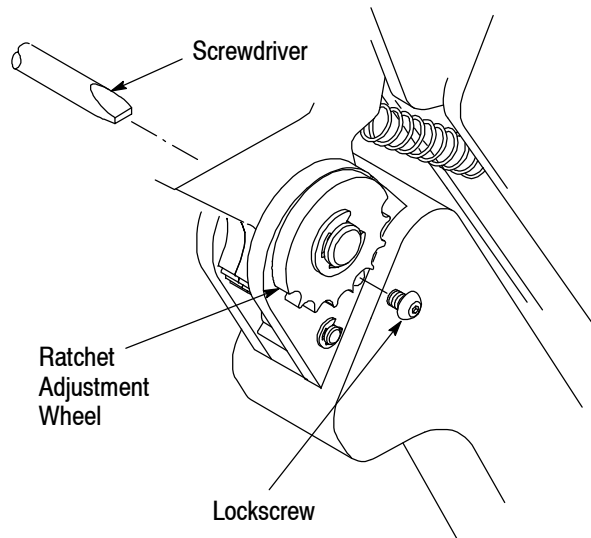


Figure 5

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.

5. Make a sample crimp and measure the crimp height. If the dimension is acceptable, the adjustment setting is correct. 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 die assembly should be inspected on a regular basis to ensure that they have not become worn or damaged. Inspect the crimping chambers for flattened, chipped, worn, or broken areas. If damage or abnormal wear is evident, the tool or dies 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

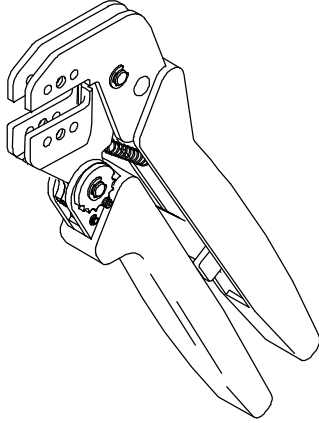
10. REVISION SUMMARY

Revisions to this instruction sheet include:

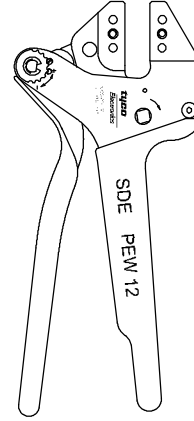
- Changed PRO-CRIMPER II Hand Tool to PRO-CRIMPER III Hand Tool;
- Applied the TE logo;
- Updated format to the current corporate requirements; and
- Revised the crimp-height comparator information.

Dies 91304-2 May Also Be Used with the Following Tools.

**PRO-CRIMPER III Hand Tool 354940-1
(Instruction Sheet 408-9930)**



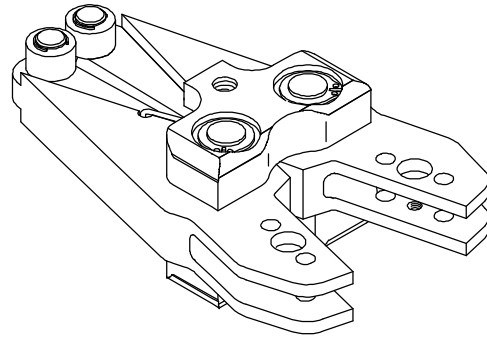
**SDE PEW-12 Hand Tool 9-1478240-0
(Instruction Sheet 408-8851)**



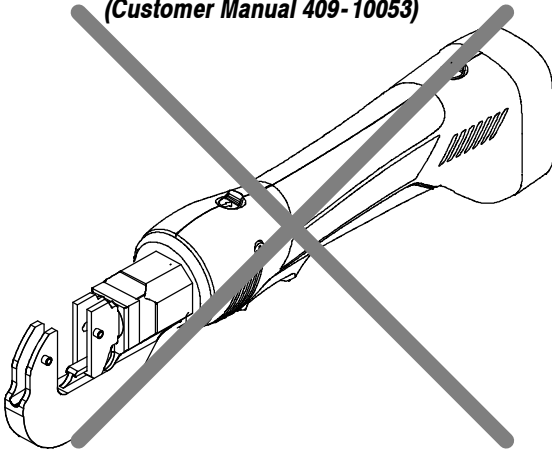
**SDE Bench Terminator 1490076-2
(Customer Manual 409-10052)**



**626 Adapter 679304-1
(Instruction Sheet 408-4070)**



**Battery Tool (Shouldered Die) 1725837-1, -2
(Customer Manual 409-10053)**



**Battery Tool (Pin Die) 1213890-1, -2
(Customer Manual 409-10065)**

