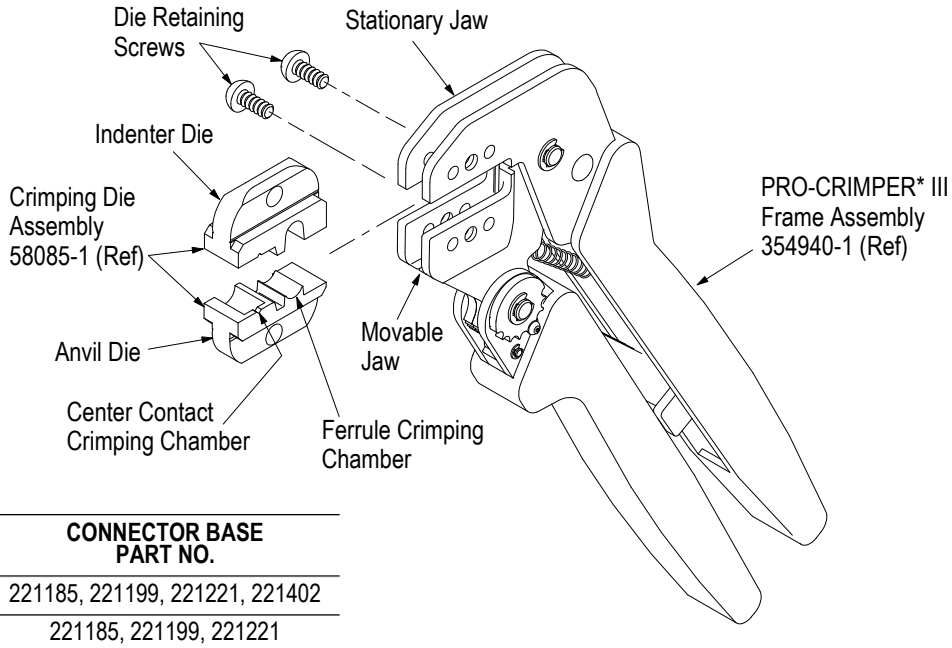
Crimping Die Assemblies 58085-1, 58086-1, and 58174-1

ORIGINAL INSTRUCTIONS

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.



DIE ASSEMBLY PART NO.	CONNECTOR BASE PART NO.
58085-1	221185, 221199, 221221, 221402
58086-1, 58174-1	221185, 221199, 221221

Figure 1

1. INTRODUCTION

This instruction sheet covers the use and maintenance of Crimping Die Assemblies 58085-1, 58086-1, and 58174-1, which are used to crimp 75-Ohm RF Series BNC Dual Crimp Connectors. The die assemblies are designed to be used in PRO-CRIMPER III Frame Assembly 354940-1.

Refer to Figure 1 for a list of connectors that are compatible with the die assemblies. For additional connector part number information, refer to the PRODUCT INFORMATION number listed at the bottom of this page. For instructions concerning the operation of the tool frame, refer to Instruction Sheet 408-9930. Read these instructions thoroughly before using the die assemblies.

NOTE
All dimensions are in millimeters [with inch equivalents in brackets]. Figures and illustrations are for identification only, and are not drawn to scale.

Reasons for reissue are provided in Section 8, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

Each die assembly consists of an indenter and an anvil, both of which contain two crimping chambers. The small crimping chamber produces a box crimp on the center contact of the connector, and the other crimping chamber crimps the connector ferrule. Each die is held in the tool frame by a single screw.

3. DIE INSTALLATION

1. Slide the die assembly into the partially-opened tool jaws. The anvil die must be installed in the movable jaw of the tool and the indenter in the stationary jaw. The center contact crimping chamber must be toward the front of the tool as shown in Figure 1.
2. Insert, but do not completely tighten, the die retaining screws.

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3. Close the tool jaws and carefully align the dies so that the anvil die enters the indenter die. Once the anvil has entered the indenter, place a copper bus bar (1.57 ±0.05 mm [.062 ±.002in.] diameter) into the center contact crimping chamber of the die assembly.
4. With bus bar in place, close the tool jaws completely. Hold the tool handles together and tighten the die retaining screws with the appropriate screwdriver.

4. CRIMPING PROCEDURE

NOTE
For detailed information on cable selection, cable strip lengths, and proper assembly of the connector, refer to the instructions provided with the connector.

Make sure the connector being used is compatible with the die assembly; then proceed as follows:

4.1. Center Contact (Figure 2)

1. Slide the ferrule onto the cable, then strip the cable to the proper dimensions.
2. Slide center contact onto center conductor of cable; then insert contact assembly into the center contact crimping chamber of the anvil die. See Figure 2.

NOTE
Make sure that the flange on the end of the center contact butts against the edge of the die. See Figure 2.

3. Crimp the center contact by holding the cable and contact in place and closing the tool handles until the ratchet releases.
4. Allow the handles to open fully, and remove the crimped center contact assembly from the crimping dies.

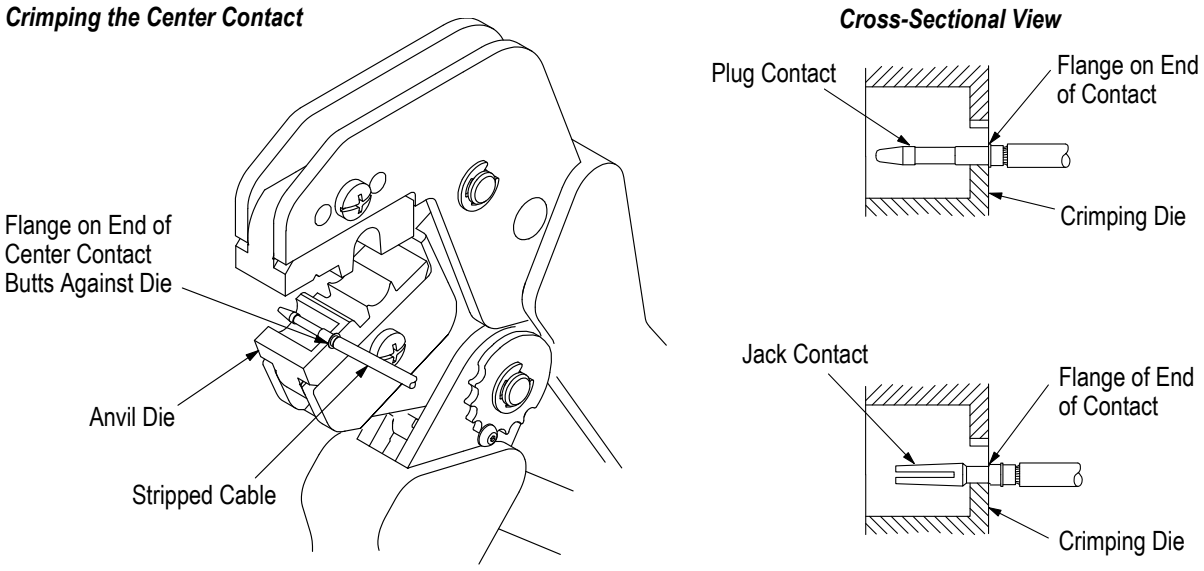


Figure 2

4.2. Ferrule (Figure 3)

1. Insert the crimped center contact into the connector body until the cable dielectric butts against the dielectric inside the connector body. The flared cable braid must fit around the support sleeve of the connector body.
2. Slide the ferrule forward over the braid until the ferrule butts against the shoulder on the connector body.
3. Place the ferrule in the ferrule crimping chamber of the anvil die so that the shoulder on the connector body butts against the edge of the die. See Figure 3.

Crimping the Ferrule

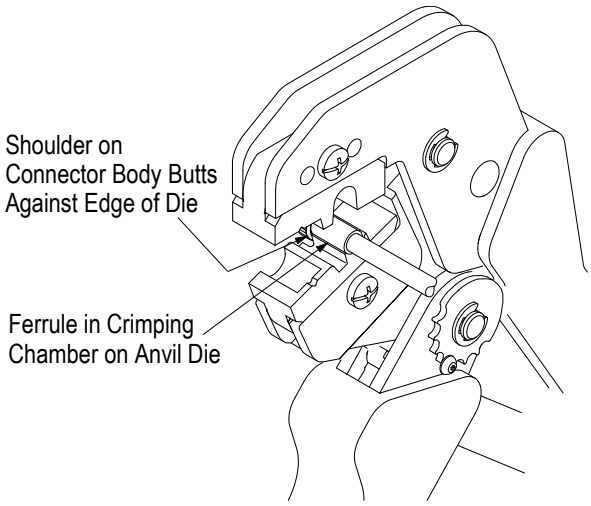


Figure 3

4. Holding the assembly in place, close the tool handles until the ratchet releases.
5. Allow the handles to open fully, and remove the crimped assembly from the crimping dies.

5. CRIMP HEIGHT ADJUSTMENT (Figure 4)

The tool frame assembly ratchet mechanism features an adjustment wheel with numbered settings. If the crimp height is not acceptable, adjust the ratchet as follows:

1. Remove the lockscrew from the ratchet adjustment wheel.
2. With a screwdriver, adjust the ratchet wheel from the opposite side 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. Replace the lockscrew.
5. Make a sample crimp and measure the crimp height. If the crimp height is acceptable, secure the lockscrew. If the dimension is unacceptable, remove lockscrew and continue to adjust the ratchet, and again measure a sample crimp.

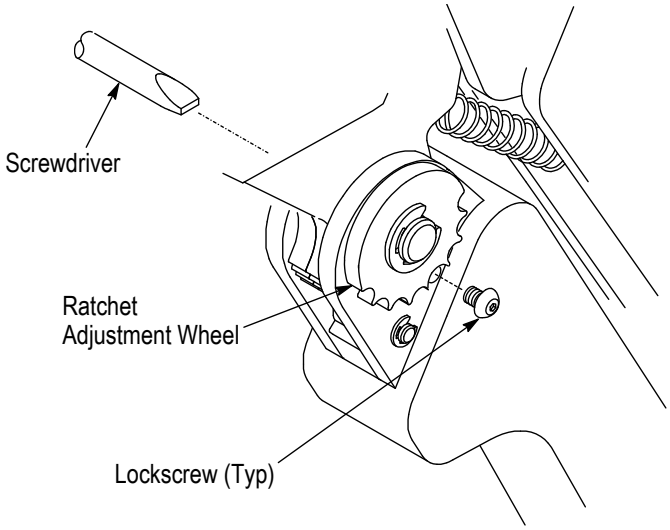


Figure 4

6. MAINTENANCE AND INSPECTION

6.1. 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 dies.
2. Make sure the proper die retaining screws are in place and secured.
3. When the dies are not in use, mate and store them in a clean, dry area.
4. Store the tool with the tool handles closed to prevent objects from becoming lodged within the jaws.

6.2. Periodic Inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies and/or be supplied to supervisory personnel responsible for the dies. 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 dies in a suitable commercial degreaser that will not affect paint or plastic material.
2. Make certain all die retaining screws, retaining rings, and die components are in place. If replacements are necessary, refer to Section 7, REPLACEMENT.
3. Check all bearing surfaces for wear. Remove and replace worn components.

B. Center Contact 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. TE does not market crimp height comparators. Refer to Instruction Sheet 408-7424 for detailed information on obtaining and using a crimp height comparator.

Proceed as follows to check the crimp height of the center contact:

1. Select a center contact for the connector being used.
2. Refer to Section 4, CRIMPING PROCEDURE, and crimp the center contact accordingly.
3. Using a crimp height comparator, measure the crimp height as shown in Figure 5. If the crimp height conforms to that shown, the die assembly is considered dimensionally correct. If not, the dies must be replaced before returning them to service (refer to Section 7, REPLACEMENT).

C. Gaging the Ferrule Crimping Chamber

This inspection requires the use of a plug gage conforming to the diameters in Figure 5. TE does not manufacture or market these gages.

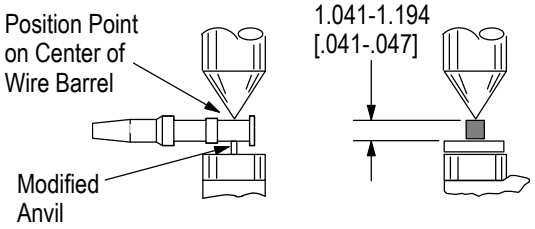
To gage the ferrule crimping chamber, proceed as follows:

1. Close the jaws until the dies have bottomed, then HOLD the tool handles in this position. Do NOT force the dies beyond initial contact.
2. Align the GO element with the proper crimping chamber. Push the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber.
3. Align the NO-GO element and try to insert it straight into the same crimping chamber. The NO-GO element may start entry, but must not pass completely through.

If the crimping chamber conforms to the gage inspection, the dies are considered dimensionally correct, and should be lubricated with a THIN coat of any good SAE 20 motor oil. If not, the dies must be replaced (refer to Section 7, REPLACEMENT).

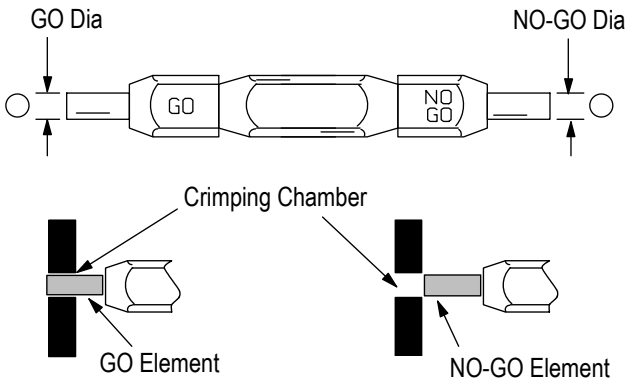
For additional information regarding the use of a plug gage, refer to Instruction Sheet 408-7424.

Measuring Center Contact Crimp



DIE ASSEMBLY PART NO.	GAGE ELEMENT DIAMETER	
	GO	NO-GO
58085-1	5.9690-5.9766 [.2350-.2353]	6.2205-6.2230 [.2449-.2450]
58086-1	6.6040-6.802 [.2600-.2603]	6.8555-6.8580 [.2699-.2700]
58174-1	4.1910-4.1986 [.1650-.1653]	4.4425-4.4450 [.1749-.1750]

Suggested Plug Gage for Ferrule Crimping Chamber



"GO" gage must pass completely through the die closure.

"NO-GO" gage may enter partially, but must not pass completely through the die closure

Figure 5

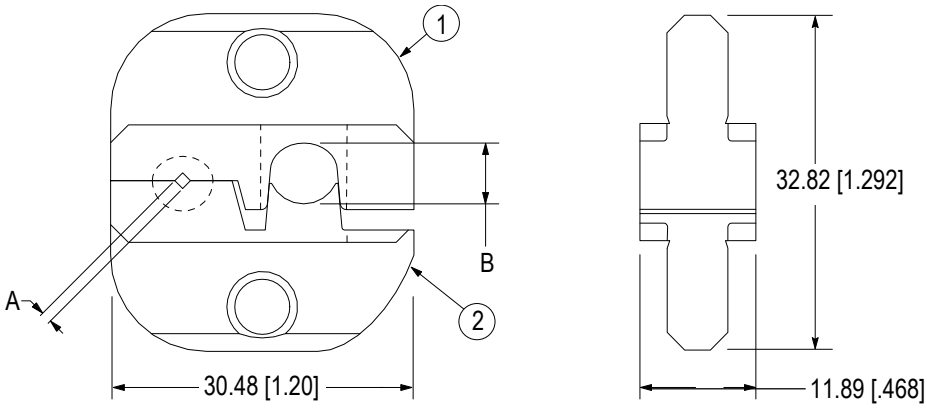
7. REPLACEMENT

Parts listed in Figure 6 are customer-replaceable. A complete inventory can be stocked and controlled to prevent lost time when replacement of parts is necessary. Order replacements through your local TE 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 (038-035)
TYCO ELECTRONICS CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

8. REVISION SUMMARY

- Updated document to corporate requirements
- New logo



WEIGHT: 85 g [3 oz]

DIE ASSEMBLY PART NO.	DIE OPENING DIMENSIONS		CUSTOMER-REPLACEABLE PARTS		
	CENTER CONTACT "A" ±0.05 [±.002]	FERRULE "B" ±0.10 [±.004]	INDENTER (Item 1)	ANVIL (Item 2)	QTY PER ASSEMBLY
58085-1	1.12 [.044]	6.10 [.240]	313134-1	313135-1	1
58086-1	1.12 [.044]	6.73 [.265]	313134-2	313135-2	1
58174-1	1.12 [.044]	4.32 [.170]	313134-3	313135-3	1

Figure 6