Pneumatic Crimping Head 904395-1 (Used with 626 Pneumatic Tooling Assemblies)

Product: TERMINYL* Terminals and Splices and PLASTI-GRIP* Terminals and Splices
Wire Size: 8 AWG
Tool Holder Assembly: 189767-1 or 356302-1

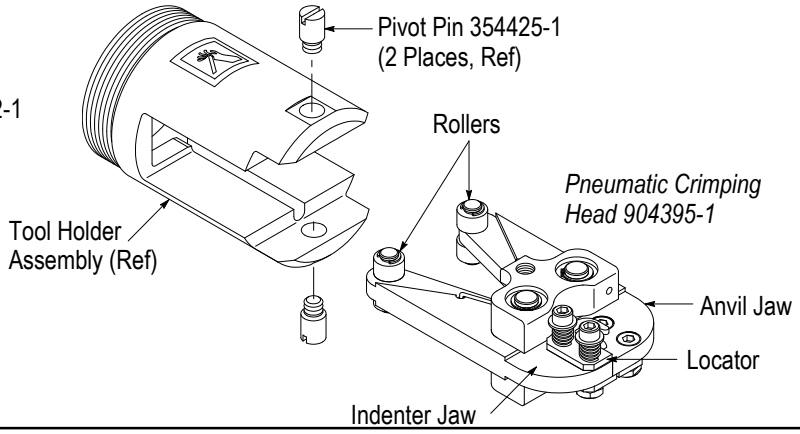


Figure 1

1. INTRODUCTION

Pneumatic Crimping Head 904395-1 is designed to crimp TERMINYL* terminals and splices and PLASTI-GRIP* terminals and splices onto stranded wire size 8 AWG. The head must be installed onto Large Tool Holder Assembly 189767-1 or Tool Holder Assembly 356302-1 and used with 626 Pneumatic Tooling Assemblies 189721-1 or 189722-1.

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

This instruction sheet provides recommended procedures for pneumatic head installation and removal, crimping procedures, and maintenance and inspection. For information concerning tool setup and operation, refer to Customer Manual 409-5862.

NOTE
Read these instructions thoroughly before using the crimping head.

Reasons for reissue of this instruction sheet are provided in Section 8, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

The pneumatic crimping head consists of integral jaws which close in an arc-like motion. After an operator locates the terminal or splice between the jaws and inserts the stripped wire, the tool is activated to crimp the product onto the wire.

3. HEAD INSTALLATION AND REMOVAL

NOTE
This crimping head is coated with a preservative to prevent rust and corrosion. Wipe any excess preservative from the head, particularly from crimping surfaces.

CAUTION
Certain precautions should be taken to avoid personal injury or damage to the pneumatic tooling assembly. Refer to the instructions packaged with the tool for operation procedures and safety precautions.

3.1. Installation

DANGER
To avoid personal injury, ALWAYS disconnect the tool from air supply before installing the crimping head.

DANGER
DO NOT operate the tool without the proper crimping head installed; make sure that the pivot pins are FULLY tightened to avoid personal injury and damage to the tool or crimping head.

1. Remove the pivot pins from the tool holder. Refer to Figure 1.
2. Insert the crimping head into the tool holder assembly as shown in Figure 1.
3. After the crimping head is properly aligned, insert and tighten the pivot pins provided with the pneumatic tooling assembly.

NOTE
Use Locktite Threadlocker Blue 242 (removable thread-locker), or equivalent, to prevent the quick pins from loosening.

4. Connect the tooling assembly to an adequate air supply (between 620 and 690 kPa [90 and 100 psi]). For specific information on air line requirements and air hose installation, refer to the instructions packaged with the tooling assembly.

3.2. Removal

DANGER
ALWAYS disconnect the pneumatic tooling assembly from the air supply before removing the crimping head.

Remove the pivot pins from the crimping head; then remove the crimping head from the tool holder assembly.

4. CRIMPING PROCEDURE

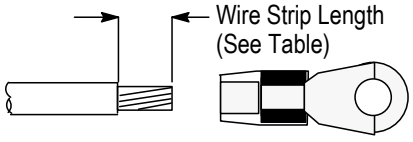
DANGER
To avoid personal injury, always keep fingers clear of jaws when operating the tool. Never place anything within the jaws except the appropriate terminals and splices.

4.1. Crimping Terminals

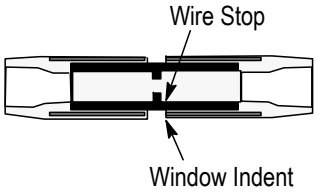
Strip the wire to dimensions shown in Figure 2. DO NOT nick wire or use wires with nicked or missing conductor strands. Then proceed as follows:

1. Open the jaws by squeezing the rollers together simultaneously; then position the terminal between the jaws as shown in Figure 3. The edge of the wire barrel must rest against the locator.
2. After the terminal is properly positioned in the jaws, release the rollers to allow the jaws to spring shut, holding the wire barrel in position.
3. Insert the stripped wire into the wire barrel; then activate the tool to complete the crimp. Open the jaws by squeezing the rollers together simultaneously; then remove the crimped terminal.
4. Inspect the crimp according to Section 5.

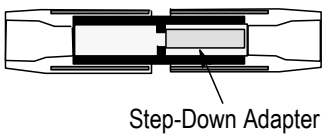
Typical Terminal



Typical Splice Without Step-Down Adapter



Typical Splice With Step-Down Adapter



WIRE SIZE (AWG)	WIRE STRIP LENGTH			WIRE SIZE (AWG) STEP	CRIMPING HEAD AND SPLCE COLOR CODE	STEP-DOWN ADAPTER COLOR CODE
	TERMINYL TERMINAL	TERMINYL SPLICE	PLASTI-GRIP TERMINAL AND SPLICE			
8	7.95-9.53 [.313-.375]	15.47-17.07 [.609-.672]	8.33-9.12 [.328-.359]	8 to 16-14	Red	Blue
				8 to 12-10		Yellow

Figure 2

Loctite and Threadlocker Blue 242 are trademarks.

4.2. Crimping Splices

Strip the wire to dimensions shown in Figure 2. DO NOT nick wire or use wires with nicked or missing conductor strands. Then proceed as follows:

NOTE
When crimping splices with step-down adapters, select the proper splice and adapter for the wire size (see Figure 2). Note that the end of the splice containing the adapter has a different color code. Use this crimping head for the larger wire size range to crimp both ends of the splice.

Crimping Terminal

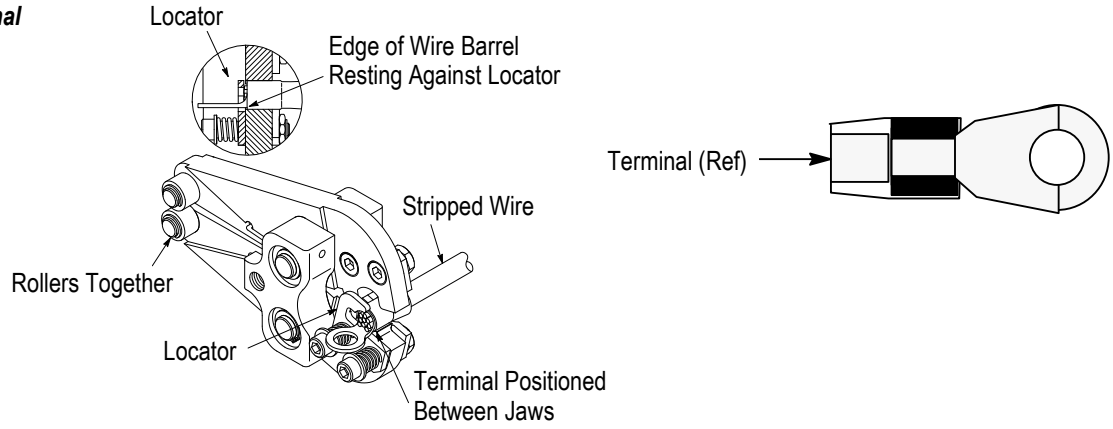


Figure 3

1. Open the jaws by squeezing the rollers together simultaneously; then position the splice between the jaws so that the window indent of the splice slides under the locator of the head. See Figure 4, Detail A.
2. Insert the stripped wire into the wire barrel until the end of the conductor is positioned against the splice wire stop. See Figure 4, Detail A.
3. Activate the tool to complete the first crimp. Remove the splice from the jaws.
4. To crimp the other half of the splice, position the un-crimped half in the jaws, and follow the same procedure used to crimp the first half of splice. See Figure 4, Detail B.

NOTE
Rotate the crimping head if the splice cannot be re-positioned in the jaws.

5. Inspect the crimp according to Section 5.

4.3. Crimping PLASTI-GRIP Butt Splices

DANGER
To avoid personal injury, always keep fingers clear of the jaws when operating the tool. Never place anything within the jaws except the appropriate terminals and splices.

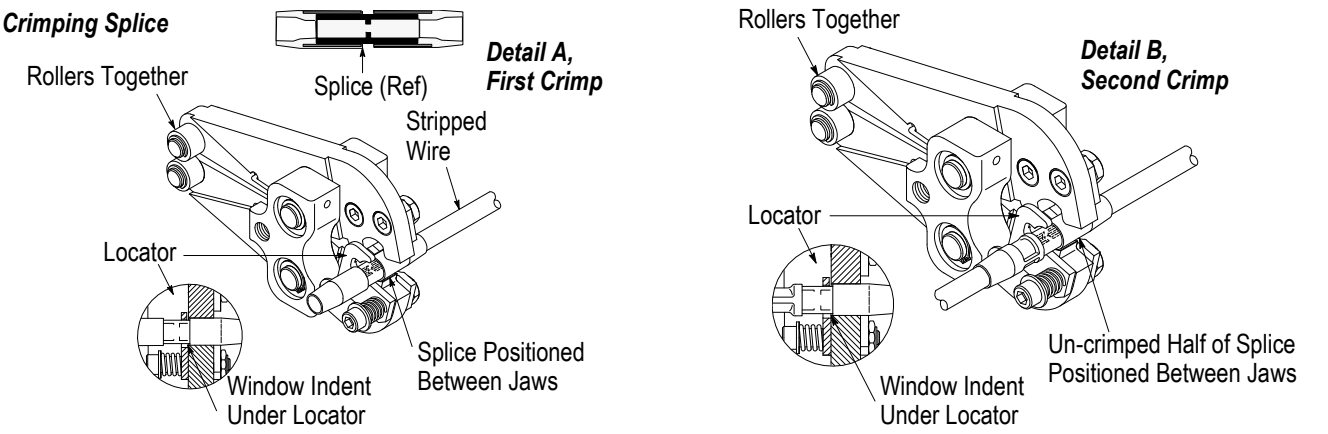


Figure 4

Strip the wire to dimensions shown in Figure 2. DO NOT nick wire or use wires with nicked or missing conductor strands. Then proceed as follows:

1. Remove the locator from the indenter jaw.
2. Insert the stripped wire into the wire barrel of the end of the butt splice to be crimped until the wire bottoms against the wire stop within the splice.
3. Open jaws by squeezing rollers together simultaneously; then place the butt splice on the indenter jaw with the wire barrel to be crimped centered over the crimping chamber (see Figure 5).

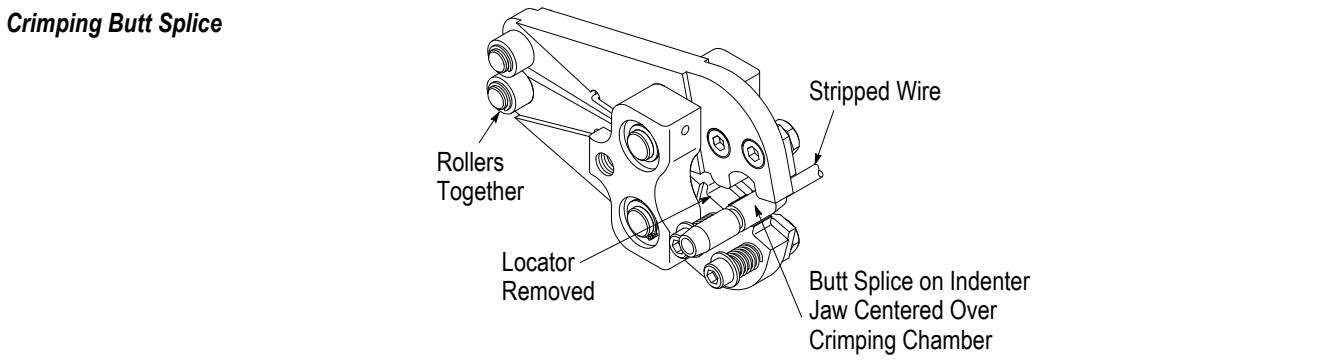


Figure 5

4. Holding wire in place, activate tool to complete wire barrel crimp.
5. To crimp the other half of butt splice, position un-crimped end of splice in the indenter jaw, and follow the same procedure used to crimp the first half of splice.

NOTE
Be sure to re-install the locator after crimping PLASTI-GRIP butt splices.

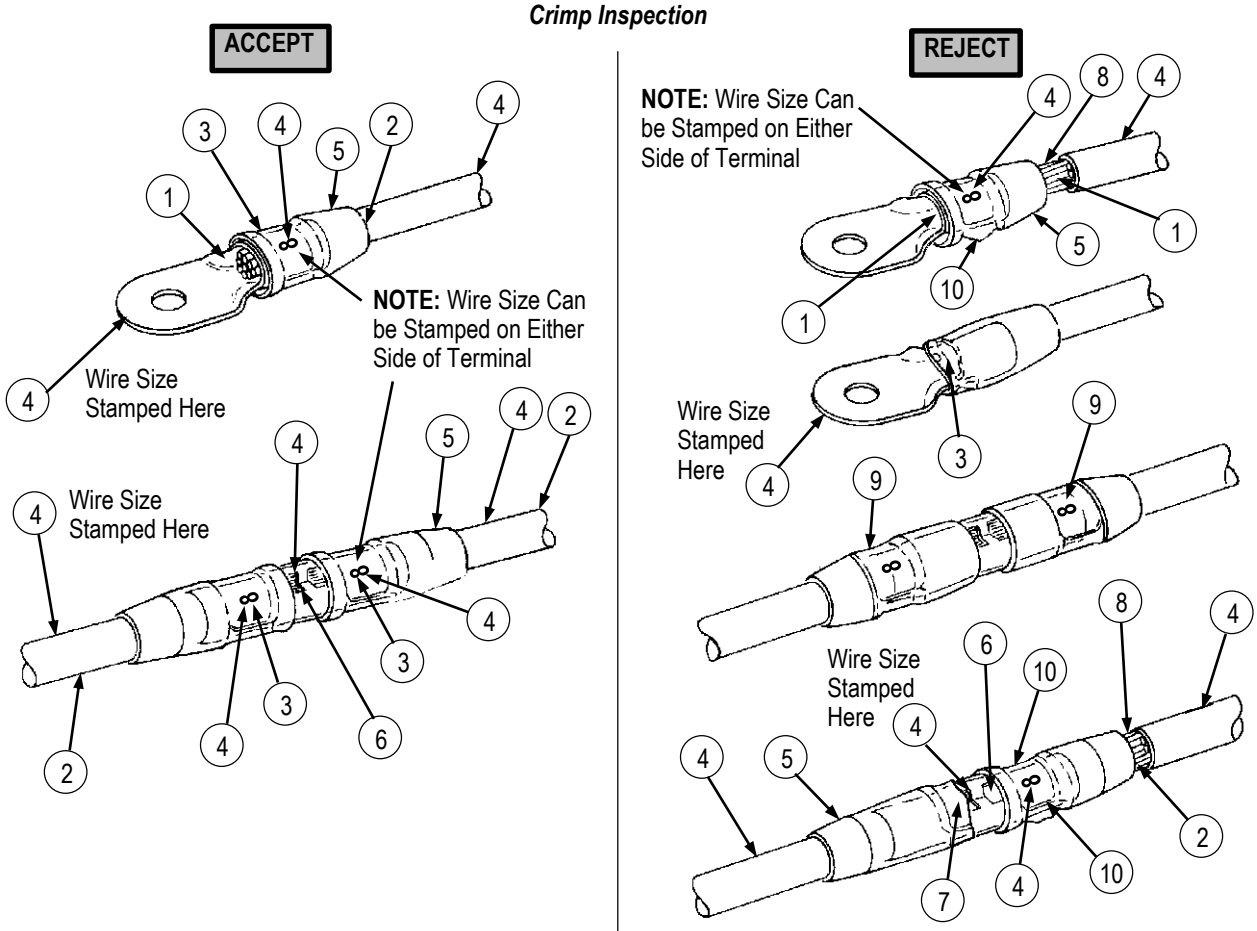
6. Inspect the crimp according to Section 5.

5. CRIMP INSPECTION

Inspect crimped terminals and splices by checking the features described in Figure 6. Use only the terminals and splices that meet the conditions in the “ACCEPT” column.

“REJECT” terminations can be avoided through careful adherence to the instructions in Section 4, and by performing regular crimping head maintenance as described in Section 6.

Crimp Inspection



1. Conductor is flush with or extends slightly beyond edge of wire barrel.
2. Wire fully inserted.
3. Crimp centered on wire barrel.
4. Wire size is the same as wire size stamped on terminal tongue, splice body, and embossed on crimped terminal insulation.
5. Correct color code, wire size, and head combination was used.
6. Wire conductors are butted against wire stop or at least flush with or extended slightly beyond edges of wire barrels.

1. Conductor is not flush with or extending beyond end of wire barrel.
2. Wire not inserted fully or wrong strip length.
3. Crimp not centered on wire barrel. Terminal wire barrel was not butted against locator.
4. Wire size is not the same as wire size stamped on terminal tongue, splice body, or embossed on insulation.
5. Wrong color code, wire size, and head combination was used.
6. End of conductor not visible.
7. Crimp not centered on wire barrel. Edge of window indent was not butted against locator.
8. Nicked or missing wire strands.
9. Splice was reversed in jaws (locator was not oriented with window indent of splice.
10. Excessive “flash” or extruded insulation (jaws are either damaged or wrong head was used).

Figure 6

6. MAINTENANCE AND INSPECTION

DANGER
To avoid personal injury, disconnect air supply from the pneumatic tooling assembly before performing maintenance, inspection, or repair procedures.

A maintenance and inspection program should be performed periodically to ensure dependable and uniform terminations.

6.1. Daily Maintenance

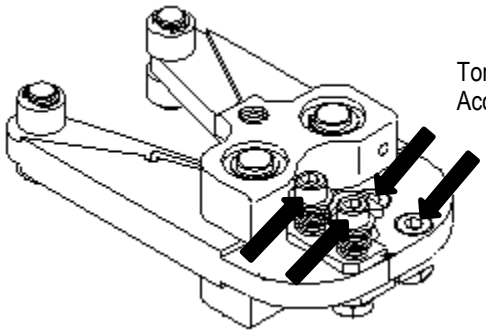
Each operator must be responsible for the following steps of daily maintenance:

1. Remove dust, moisture, and outer contaminants with a clean, soft brush or a lint-free cloth. DO NOT use objects that could damage the crimping head.
2. Make sure that all pins, rings and other components are in place and secure.
3. Make certain all surfaces are protected with a thin coat of any good SAE 20 motor oil. DO NOT oil excessively. Wipe excess grease from the crimping head, particularly the jaw closure areas.
4. When the crimping head is not in use, store it in a clean dry area.

6.2. Periodic Inspection

Regular inspections should be performed by quality-control personnel. A record of scheduled inspections should remain with the crimping head or be supplied to personnel responsible for the crimping head. Though recommendations call for at least one inspection per month, the frequency should be based on amount of use, working conditions, operator training and skill, and the established company policies. These inspections should include a visual inspection (see paragraph 6.3) and a crimping chamber inspection (see paragraph 6.5).

CAUTION
Regular inspections should include checking torque setting of (4) screws in accordance with Figure 7.



Crimping Die PN	Wire Size (AWG)	Screw Torque Setting Specification (inch-pounds)
47820	8	28

Figure 7

SAE is a trademark.

6.3. Visual Inspection

1. Make certain all components are in place. Inspect for missing pins and retaining rings. If replacements are necessary, refer to Section 7, REPLACEMENT AND REPAIR.
2. Check all bearing surfaces for wear. Replace worn parts.
3. Inspect the crimping area for flattened, chipped, or broken areas (see Figure 8). Replace worn or damaged parts.

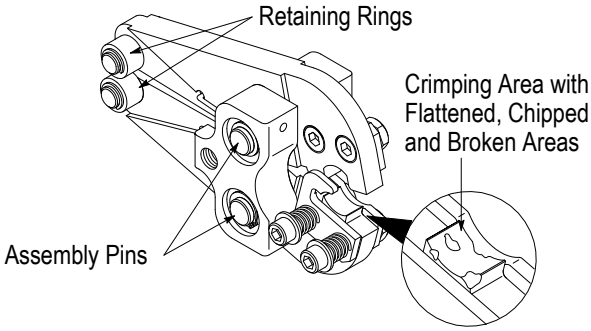


Figure 8

6.4. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with a high quality grease. Use Dow Corning Molykote paste (a commercially available lubricant) according to the following schedule:

- Head used in daily production: lubricate daily
- Head used daily (occasional): lubricate weekly
- Head used weekly: lubricate monthly

CAUTION
Wipe excess grease from the crimping head, particularly the jaw closure areas. Grease transferred from the jaw closure area onto certain terminations may affect the electrical characteristics of an application.

6.5. Gaging the Crimping Chamber

DANGER
To avoid personal injury, disconnect the air supply from the pneumatic tooling assembly and remove the crimping head from the tool.

This inspection requires the use of a plug gage conforming to the dimensions shown in Figure 9.

Suggested Plug Gage Design

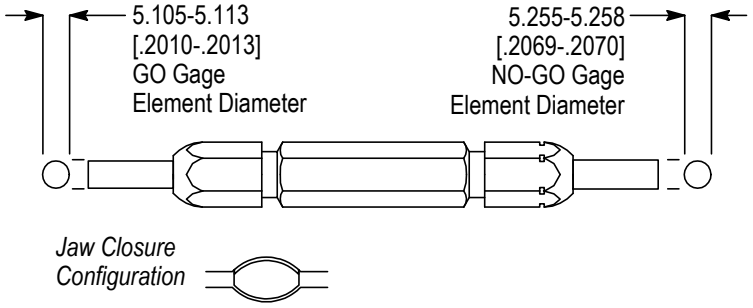


Figure 9

Dow Corning and Molykote are trademarks.

Proceed as follows:

1. Remove oil and dirt from the jaw bottoming surfaces, jaw closure surfaces, and plug gage element.
2. Close the jaws until they are bottomed, but not under pressure.
3. Align the GO element with the crimping chamber. Push the element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber (see Figure 10).
4. Align the NO-GO element and try to insert it into the crimping chamber. The element may start entry, but it must not pass completely through the crimping chamber (see Figure 10).

If the crimping chamber passes the plug gage inspection, the crimping head is considered dimensionally correct. If the crimping chamber does not pass this inspection, refer to Section 7, REPLACEMENT AND REPAIR.

For additional information about the use of a plug gage, see Instruction Sheet 408-7424.

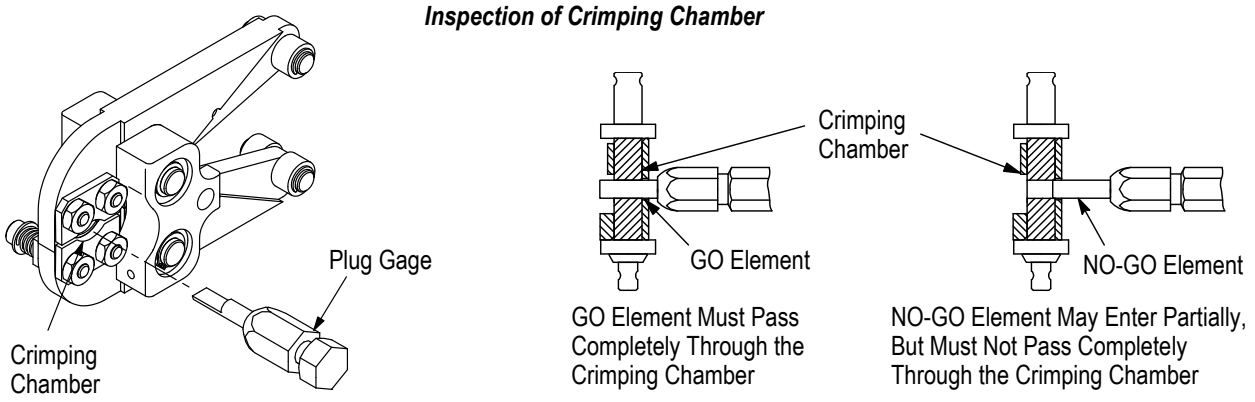


Figure 10

7. REPLACEMENT AND REPAIR

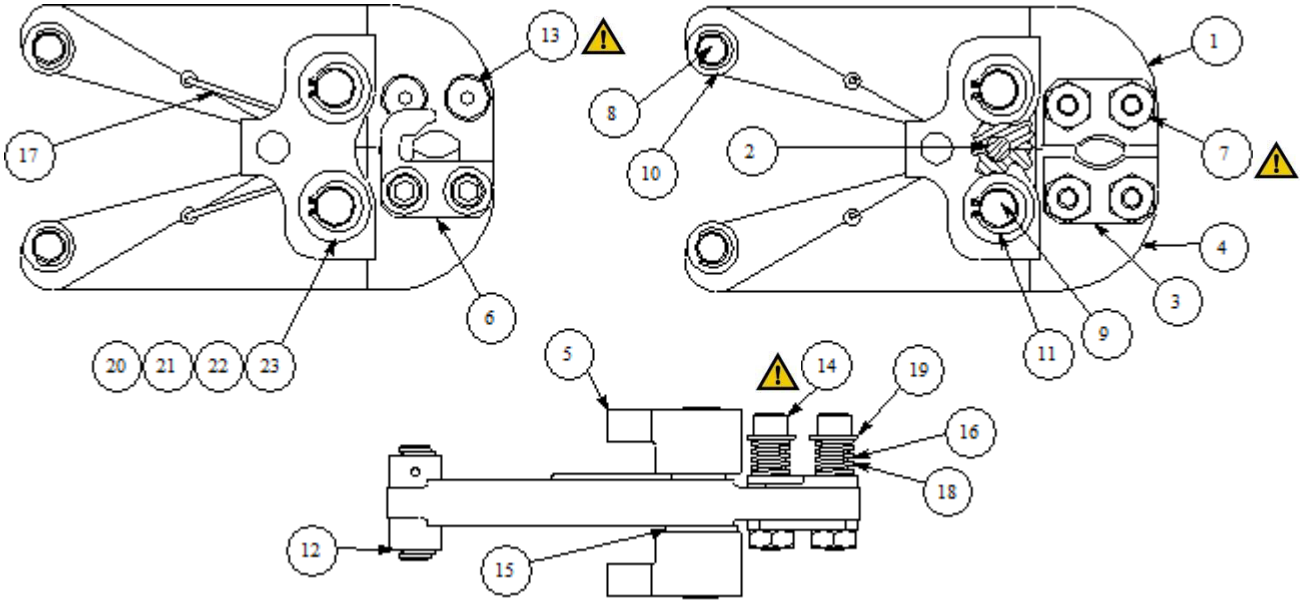
Replacement parts and recommended spare parts are listed in Figure 11. The recommended spare parts should be stocked for immediate replacement. Order replacement parts through your TE Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 1-717-986-7605, or write to:

CUSTOMER SERVICE (038-035)
TE CONNECTIVITY CORPORATION
PO BOX 3608
HARRISBURG PA 17105-3608

For customer repair service, call 1-800-526-5136.

8. REVISION SUMMARY

- Add screw torque and Loctite applications to process, resulting in a new Figure 7, renumbering of subsequent Figures, and CAUTIONS in SECTIONS 6 and 7.



ITEM	PART NUMBER	DESCRIPTION	QTY PER CRIMPING HEAD
1	904394-1	ANVIL, 8 AWG TERMINYL Terminals and Splices	1
2	23241-2	BALL, Steel	1
3	1-45991-2	FLARE PLATE	2
4	904393-1	INDENTER, 8 AWG TERMINYL Terminals and Splices	1
5	768521-2	LINK	2
6	45952-9	LOCATOR	1
7	21018-6	NUT, Hex, Reg 8-32	4 ⚠
8●	3-23620-3	PIN, Retaining, Grooved, ¼ x .894 in.	2
9	6-23629-0	PIN, Straight, Grooved	2
10	21045-6	RING, Retaining, External, 1/4 Crescent	4
11	1-21048-0	RING, Retaining	4
12●	314479-2	ROLLER	4
13	2-21003-4	SCREW, Flat Socket Head Cap, 8-32 x.500 in.	2 ⚠
14	3-21000-0	SCREW, Socket Head Cap, 8-32 x.875 in.	2 ⚠
15	314655-3	SHIM	1
16	306363	SLEEVE	2
17●	679942-1	SPRING	1
18●	2-22281-0	SPRING, Compression	2
19	21055-6	WASHER, Flat, Reg 8	2
20	301185-6	SHIM	*As Required*
21	301185-7	SHIM	*As Required*
22	301185-8	SHIM	*As Required*
23	301185-9	SHIM	*As Required*

●Recommended Spare Part

CAUTION

Apply Loctite Threadlocker Blue 242 or Loctite Threadlocker Blue 243 to threads of items 7, 13, and 14. Torque screws to the specification in Figure 7.

Figure 11

Threadlocker Blue 243 is a trademark.