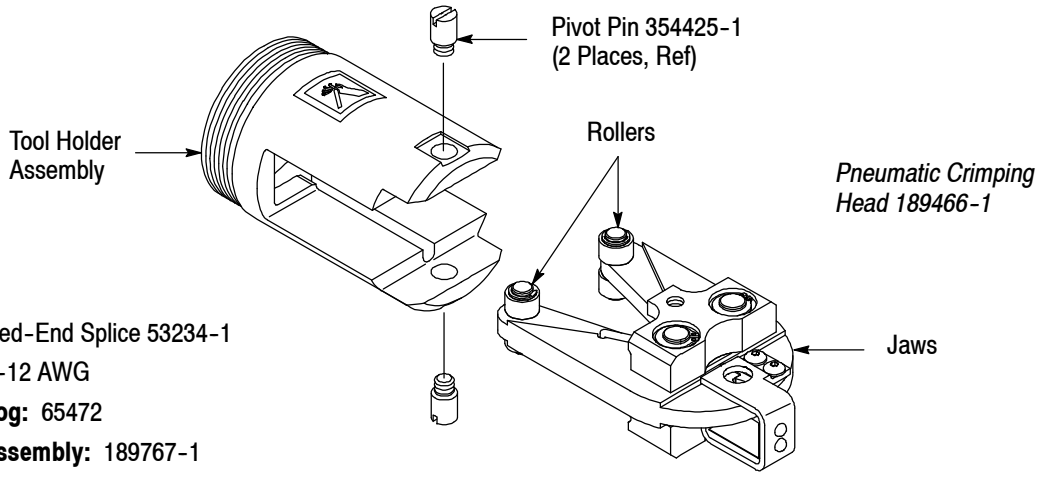
ORIGINAL INSTRUCTIONS



Product: Closed-End Splice 53234-1
Wire Size: 22-12 AWG
Product Catalog: 65472
Tool Holder Assembly: 189767-1
Tooling Catalog: 124208

Figure 1

1. INTRODUCTION

Pneumatic Crimping Head 189466-1 is designed to crimp Closed End Splice 53234-1 onto wire sizes 22 through 12 AWG (the crimping head is marked with 18-10 CES). The head must be installed onto Large Tool Holder Assembly 189767-1 or 356302-1, and used with 626 Pneumatic Tooling Assembly 189721-1 or 189722-1.

This instruction sheet provides recommended procedures for head installation and removal, crimping procedures, and maintenance and inspection. For information concerning tool setup and operation, refer to Customer Manual 409-5862. Read these instructions thoroughly before crimping any splices.

NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

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

2. DESCRIPTION (Figure 1)

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

3. HEAD INSTALLATION AND REMOVAL

NOTE

These heads are coated with a preservative to prevent rust and corrosion. Wipe this preservative from the head, particularly from the crimping surfaces.

3.1. Installation (Figure 1)

DANGER

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

DANGER

DO NOT operate pneumatic tool without the proper crimping head installed. After head is installed, make sure that the pivot pins are FULLY tightened to avoid personal injury and damage to the tool.

1. Remove pivot pins from tool holder assembly.
2. Insert crimping head into tool holder assembly.
3. After head is properly aligned, insert and tighten pivot pins provided with the tool holder assembly.

NOTE

Tyco Electronics recommends using Loctite•242 removable threadlock, or equivalent, to prevent the pivot pins from loosening.

4. Connect pneumatic 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 customer manual packaged with the tool.

3.2. Removal

DANGER

To avoid personal injury, ALWAYS disconnect tool from air supply before removing crimping head.

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

4. CRIMPING PROCEDURE

DANGER

To avoid personal injury, ALWAYS keep fingers clear of crimping jaws when operating the tool. Never place anything within the crimping jaws except splices.

1. Strip wires to dimensions shown in Figure 2. DO NOT nick wire strand or use wires with nicked or missing conductor strands.

NOTE

Refer to 408-1479 (packaged with splice) for wire combination chart.

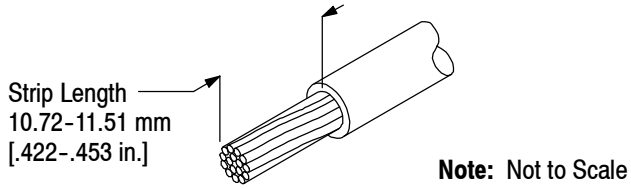


Figure 2

2. Open crimping jaws by squeezing rollers together simultaneously; then position splice between crimping jaws, as shown in Figure 3. The splice is properly positioned when the wire barrel is bottomed against the locator.

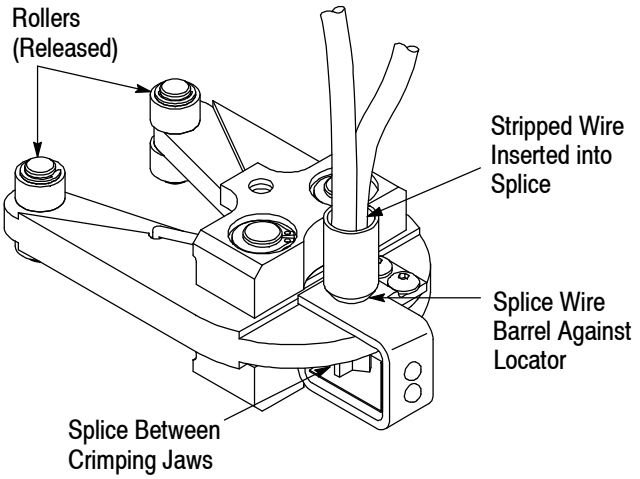


Figure 3

3. After splice is properly positioned in crimping jaws, release rollers to allow crimping jaws to spring shut, holding splice in place.

4. Insert stripped wires into splice until the ends of the conductors butt against the bottom of the splice.

5. Activate the tool to complete the crimp. Open crimping jaws by squeezing the rollers together simultaneously; then remove crimped splice.

6. Inspect crimped splice according to Section 5.

5. CRIMP INSPECTION

Inspect crimped splices by checking the features described in Figure 4. Use only splices that meet the conditions shown in the “ACCEPT” column. “REJECT” terminations can be avoided through careful use of instructions in Section 4, and by performing regular head maintenance, as described in Section 6.

Crimp Inspection

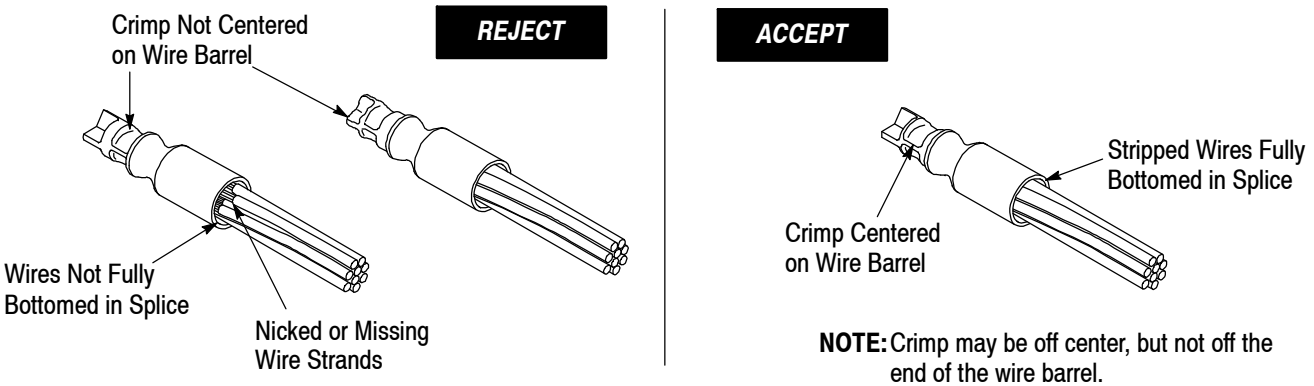


Figure 4

6. MAINTENANCE AND INSPECTION

To avoid personal injury, ALWAYS disconnect air supply from pneumatic tool before performing maintenance or inspection.

It is recommended that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. The pneumatic crimping head should be inspected once a month. Frequency of inspection should be adjusted to suit your requirements through experience. Frequency of inspection depends on:

1. The care, amount of use, and handling of the crimping head.
2. The type and size of the product crimped.
3. The degree of operator skill.
4. The presence of abnormal amounts of dust and dirt.
5. Your own established standards.

Each head is thoroughly inspected before packaging. Since there is the possibility of head damage during shipment, new heads should be inspected immediately upon arrival at your facility.

6.1. Daily Maintenance

It is recommended that each operator be responsible for the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean, soft brush, or a lint-free cloth. Do NOT use objects that could damage the head.
2. Make sure that all pins, rings, and other components are in place and secure.

To avoid personal injury and damage to the tool, make sure pivot pins are fully tightened.

3. Make certain all surfaces are protected with a thin coat of any good SAE 20 motor oil. Do NOT oil excessively.
4. When the head assembly 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 heads or be supplied to supervisory personnel responsible for the crimping heads. Though recommendations call for at least one inspection a month, the frequency should be based on amount of use, working conditions, operator training and skill, and your established company policies. These inspections should include a visual inspection (Paragraph 6.3) and a crimping chamber inspection (Paragraph 6.5).

6.3. Visual Inspection

1. Remove all lubrication and accumulated film by immersing the crimping head in a suitable commercial degreaser that will not affect paint or plastic.
2. Make certain all components are in place. If replacements are necessary, refer to Section 7, REPLACEMENT AND REPAIR.
3. Check all bearing surfaces for wear. Make sure the rollers turn freely with minimal resistance. Replace worn parts.
4. Inspect crimp area for flattened, chipped, or broken areas. See Figure 5. Replace worn or damaged parts.

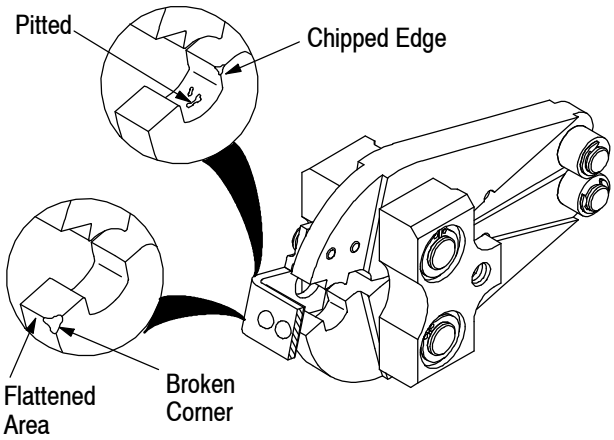


Figure 5

6.4. Lubrication

Lubricate all pins, pivot points, and bearing surfaces with a high quality grease. Tyco Electronics recommends the use of Molykote‡ paste, which is a commercially available lubricant. Lubricate according to the following schedule:

Head used in daily production—lubricate daily
Head used daily (occasional)—lubricate weekly
Head used weekly—lubricate monthly

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

‡ Trademark of Dow Corning Corporation

6.5. Gaging the Crimping Chamber

This inspection requires the use of plug gages conforming to the dimensions shown in Figure 6. Tyco Electronics does not manufacture or market these gages.

DANGER

Disconnect air supply and remove crimping head from tool before inspecting crimping chamber.

1. Remove oil and dirt from the bottom of the jaw surfaces and plug gage element surfaces.

2. Close crimping jaws until they are bottomed, but not under pressure.

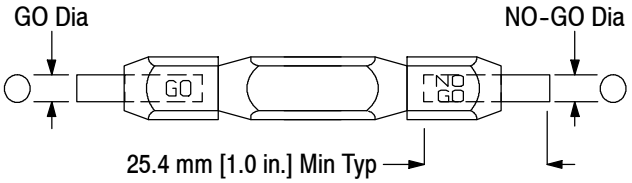
3. Align GO element with crimping chamber. Push element straight into crimping chamber without using force. The GO element must pass completely through the chamber as shown in Figure 7.

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 as shown in Figure 7.

If the crimping chamber passes the gage inspection, the head is considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If the crimping chamber does not conform to the plug gage conditions, refer to Section 7, REPLACEMENT AND REPAIR.

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

Suggested Plug Gage Design



GAGE ELEMENT DIAMETER	
GO	**NO-GO**
2.92 mm [.115 in.]	3.07 mm [.121 in.]

Figure 6

7. REPLACEMENT AND REPAIR

Customer-replaceable parts are listed in Figure 8. A complete inventory should be stocked and controlled to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced to ensure quality and reliability. Order replacement 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 (038-035)
TYCO ELECTRONICS
PO BOX 3608
HARRISBURG PA 17105-3608

For customer repair service, please contact a Tyco Electronics representative at 1-800-526-5136.

8. REVISION SUMMARY

- Added “Original Instructions.”

Gaging the Crimping Chamber

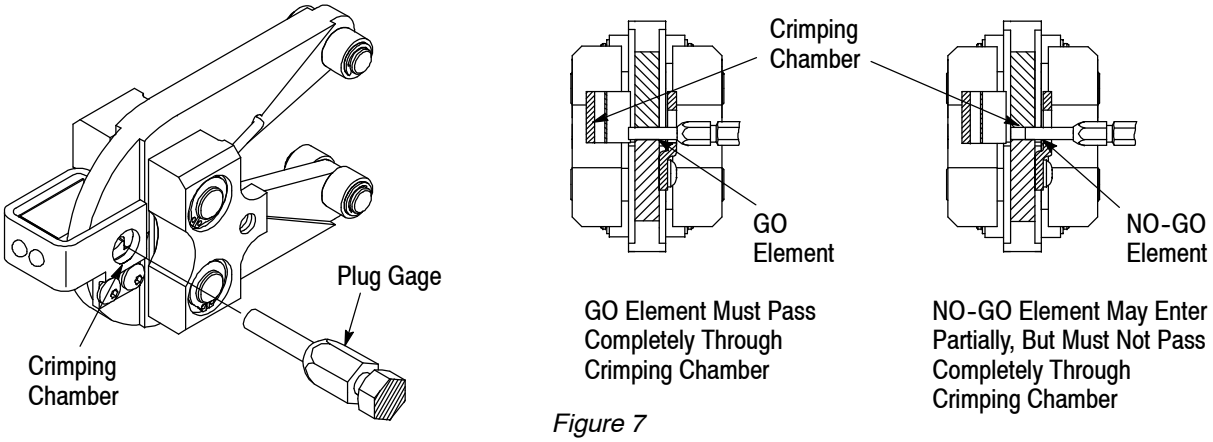
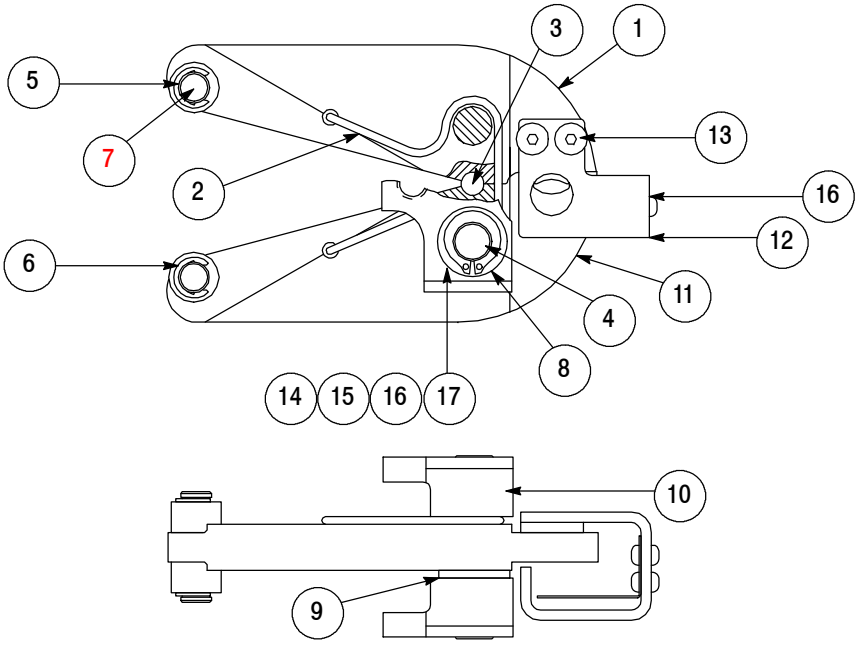


Figure 7



REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION	QTY PER HEAD
1	189699-1	INDENTER	1
2	679942-1▪	SPRING	1
3	23241-2	BALL, Steel	1
4	6-23629-0	PIN	2
5	1-21048-0	RING, Retaining	4
6	314479-2▪	ROLLER	4
7	3-23620-3▪	PIN	2
8	21045-6▪	RING, Retaining	4
9	314655-3	SHIM	1
10	768521-5	LINK	2
11	189698-1	ANVIL	1
12	303855	LOCATOR	1
13	2-21016-1	SCREW	2
14	301185-6	SHIM	As Required
15	301185-7	SHIM	As Required
16	301185-8	SHIM	As Required
17	301185-9	SHIM	As Required

▪ Recommended customer spares

Figure 8