

CRIMPING HEAD	626 PNEUMATIC TOOLING ASSEMBLY	PRODUCT	WIRE SIZE RANGE
314516-1 ■■	189721-1 or 189722-1	SOLISTRAND* Terminals and Splices	22- 10 AWG
314517-1 ■■			
314518-1 ■■			
217204-1 ■■			
189989-1			
217203-1			

■ Can also be used with 2614 Series Pneumatic Tools 314423-1, 314595-1, 314597-1, and 314597-2.

Figure 1

1. INTRODUCTION

The pneumatic crimping heads listed in Figure 1 are designed to be used with the tool holder assembly shown in Figure 1 and the pneumatic tooling assemblies also listed in Figure 1. Refer to Figure 1 for applicable product and wire sizes.

This instruction sheet provides instructions for head installation and removal, crimping procedure, and maintenance and inspection. To set up and operate the 626 pneumatic tooling assembly, refer to customer manual 409-5862.

NOTE All numerical values in this instruction sheet are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Figures are not drawn to scale.

2. DESCRIPTION

Each pneumatic crimping head has integral jaws which close in an arc-like motion. The jaws are covered by a guard. After the operator locates the terminal or splice between the jaws and inserts the stripped wire, the tool is activated to crimp the product to the wire.

3. INSTALLATION AND REMOVAL


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


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

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


1. Insert the crimping head into the tool holder assembly. See Figure 1.

2. Insert and tighten the quick pins provided with the pneumatic tooling assembly.

NOTE
 Use Loctite 242 removable threadlocker, or equivalent, to prevent the quick pins from loosening.


DANGER
 To avoid personal injury or damage to the tool, make sure the quick pins are FULLY tightened before connecting the air supply to the tool.

3. Connect the 626 pneumatic tooling assembly to an adequate air supply (between 620 and 690 kPa [90 and 100 psi]). Refer to 409-5862 for air line requirements and air hose installation for the 626 pneumatic tooling assembly.


DANGER
 Disconnect the tool from the air supply before removing the crimping head.

4. Removal is the reverse of installation.

4. CRIMPING PROCEDURE

DANGER
 To avoid personal injury, always keep fingers clear of the jaws when operating the tool.

1. Strip the wire to the dimensions given in Figure 2.

NOTE
 Do not use wires with nicked or missing conductor strands.

2. Open the jaws by squeezing the rollers together.
3. Place the terminal or splice in the jaws as shown in Figure 3. For best results, when the brazed seam on the terminal is visible, position the seam toward the W-shaped jaw.
4. Release the jaws. The jaws will close and hold the terminal or splice in place.
5. Insert the stripped wire as shown in Figure 3.
6. Activate the pneumatic tool to complete the crimp.
7. Squeeze the rollers together to open the jaws, and remove the crimped terminal or splice.
8. To crimp the other half of a splice, re-position the uncrimped half in the jaws. Repeat Steps 1 through 7 to complete the crimp. If the splice cannot be turned, rotate the crimping head to position the splice in the jaws.

5. CRIMP INSPECTION

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

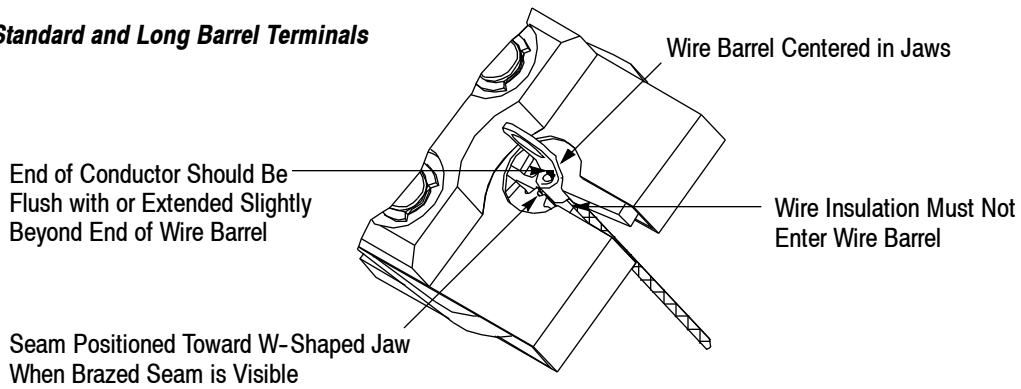
CRIMPING HEAD	WIRE SIZE RANGE (AWG)	WIRE STRIP LENGTH RANGE				
		TERMINAL			SPLICE	
		Standard	Long Barrel	Flag	Butt	Parallel
314516-1 189989-1	22-16	4.37-5.16 [.172-.203]	6.35-7.14 [.250-.281]	—	6.35-7.14 [.250-.281]	7.95-8.74 [.313-.344]
314517-1 189989-1	16-14	—	—	—	7.95-8.74 [.313-.344]	—
314518-1	14-12	4.37-5.16 [.172-.203]	—	—	7.95-8.74 [.313-.344]	—
189989-1**	16-14 Heavy Duty 12-10	6.35-7.14 [.250-.281]	—	8.74-10.31 [.344-.406]	6.35-7.14 [.250-.281]	7.95-8.74 [.313-.344]
217204-1	16-14	—	—	8.74-10.31 [.344-.406]	—	—
217203-1	16-14 Heavy Duty 12-10	—	—	8.74-10.31 [.344-.406]	—	—

** Do Not Use for Spade Tongue Terminals

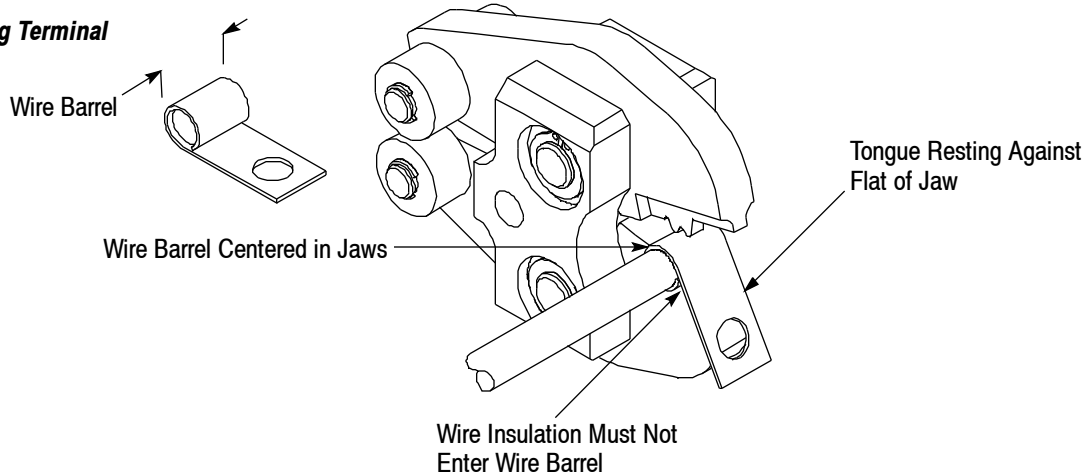
Figure 2

Loctite is a trademark.

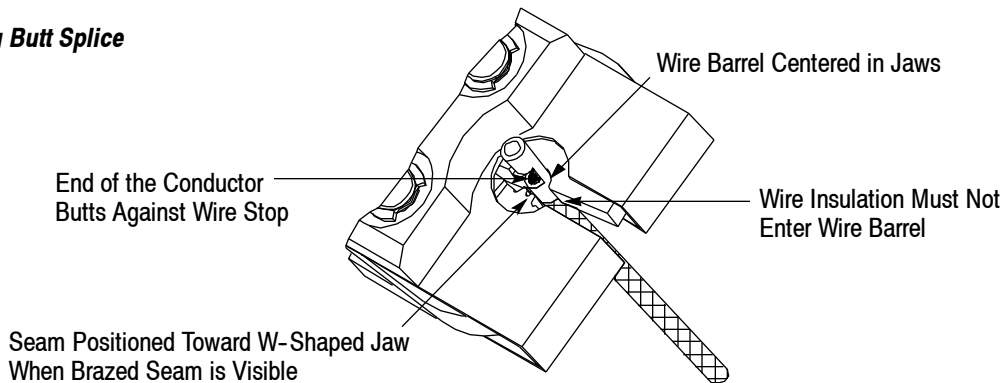
Crimping Standard and Long Barrel Terminals



Crimping Flag Terminal



Crimping Butt Splice



Crimping Parallel Splice

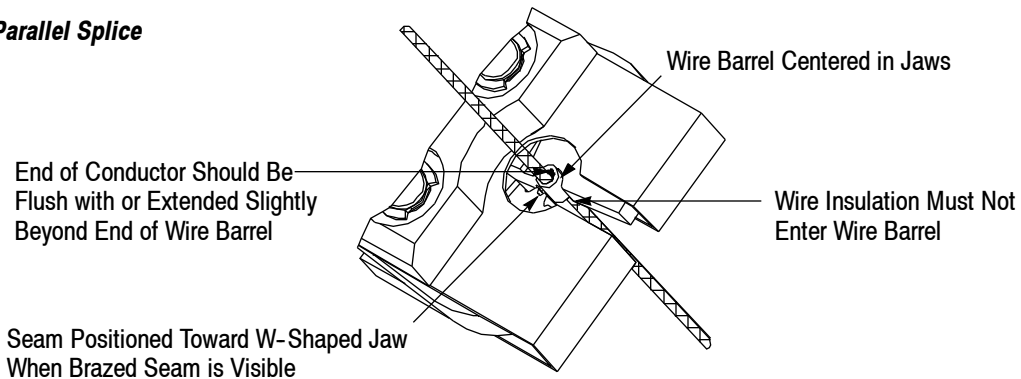
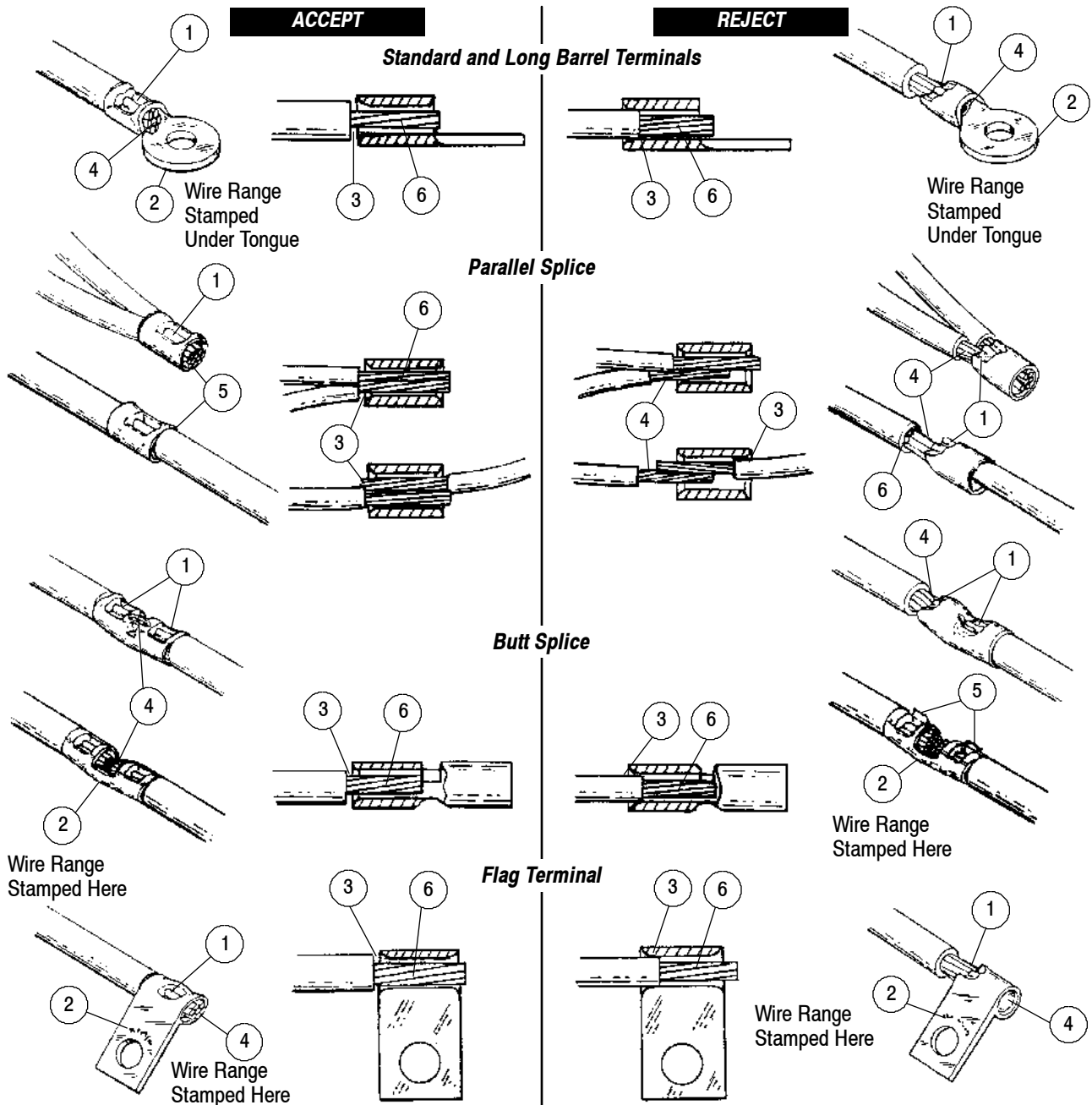


Figure 3



- ① Crimp centered on wire barrel. Crimp may be off center BUT NOT OFF END OF WIRE BARREL.
- ② Wire size matches wire size range stamped on terminal or splice and tool.
- ③ Wire insulation does not enter wire barrel.
- ④ Conductor is visible through inspection hole of butt splice. Conductor is flush with or extends slightly beyond end of terminal wire barrel.
- ⑤ On parallel splices, conductor ends must be flush with or extend slightly beyond end of barrel.
- ⑥ No nicked or missing conductor strands.

- ① Crimp off end of wire barrel.
- ② Wire size does not match wire range stamped on terminal or splice and tool.
- ③ Wire insulation entered wire barrel.
- ④ Conductor not inserted far enough in terminal or splice. End of conductor must be visible through inspection hole of butt splice and be flush with or extend beyond end of wire barrel.
- ⑤ Excessive "flash" on wire barrel indicates wrong wire and splice or terminal, or tooling combination was used or damaged jaws.
- ⑥ Nicked or missing conductor strands.

Figure 4

6. MAINTENANCE AND INSPECTION



To avoid personal injury, ALWAYS DISCONNECT TOOL from air supply before performing maintenance, inspection, or repairs.

A maintenance and inspection program should be performed periodically to ensure dependable and uniform terminations. The 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 crimping head is thoroughly inspected before packaging. Since there is the possibility of damage during shipment, the crimping head should be inspected immediately upon arrival at your facility.

6.1. Daily Maintenance

Each operator should 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 use objects that could damage the crimping head.
2. Make sure that all pins, rings, and other components are in place and secure.



To avoid personal injury and damage to the crimping head or tool, make sure the quick pins are FULLY tightened before connecting the air supply to the tool.

3. Make certain all surfaces are protected with a thin coat of any good grade SAE 20 motor oil. **DO NOT** oil excessively.
4. When the crimping head is not in use, store it in a clean, dry area.

6.2. Periodic Inspection

Regular inspection 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.

SAE is a trademark of SAE International Corporation.

Dow Corning and Molykote are registered trademarks of Dow Corning Corporation.

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.
3. Check all bearing surfaces for wear. Make sure the rollers turn freely with minimal resistance. Replace worn parts.
4. Inspect the crimp area for flattened, chipped, or broken areas. See Figure 5. Replace worn or damaged parts.
5. Lubricate the crimping head as described in Paragraph 6.4, Lubrication.

6.4. Lubrication

Lubricate all pins, pivot pins, and bearing surfaces with a high quality grease, such as Dow Corning Molykote lubricant 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 the crimping head, particularly from jaw closure areas. Grease transferred from the jaw closure area onto certain terminations may affect the electrical characteristics of an application.

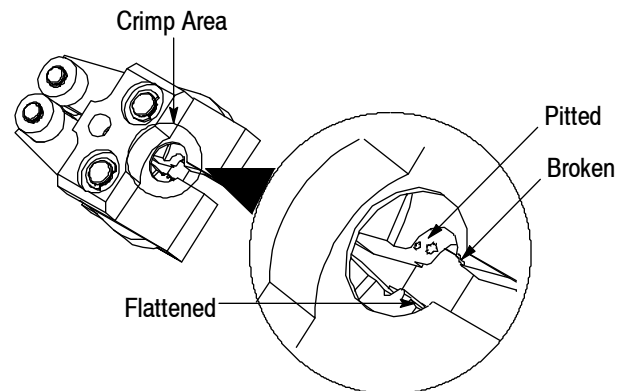


Figure 5

6.5. Gaging the Crimping Chamber

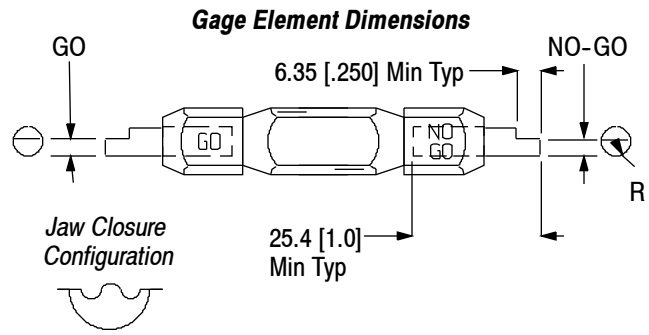
This inspection requires the use of a plug gage conforming to the dimensions shown in Figure 6.



To avoid personal injury, DISCONNECT the air supply from the pneumatic tool and remove the crimping head from the tool.

1. Remove oil and dirt from the bottom of the jaw surfaces and plug gage element surfaces.
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 as shown in Figure 6.
4. Align the NO-GO element with the crimping chamber and try to insert it into the crimping chamber. The element may start entry, but it must not pass completely through the crimping chamber.

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



CRIMPING HEAD	GAGE ELEMENT DIMENSION		"R" (Radius)
	GO	NO-GO	
314516-1 189989-1	1.168-1.176 [.0460-.0463]	1.318-1.321 [.0519-.0520]	1.57 [.062]
314517-1 189989-1	1.372-1.379 [.0540-.0543]	1.521-1.524 [.0599-.0600]	1.57 [.062]
314518-1	1.753-1.760 [.0690-.0693]	1.902-1.905 [.0749-.0750]	2.36 [.093]
189989-1	1.930-1.938 [.0760-.0763]	2.080-2.082 [.0819-.0820]	1.57 [.062]
217204-1	1.372-1.379 [.0540-.0543]	1.521-1.524 [.0599-.0600]	1.57 [.062]
217203-1	1.930-1.938 [.0760-.0763]	2.080-2.082 [.0819-.0820]	2.36 [.093]

7. REPLACEMENT AND REPAIR

Replacement parts and recommended spare parts are listed in Figure 7. The recommended spare parts should be stocked for immediate replacement. Order replacement parts through your 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 (38-35)
 TYCO ELECTRONICS
 PO BOX 3608
 HARRISBURG, PA 17105-3608

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

8. REVISION SUMMARY

Revisions to this instruction sheet include:

- Changed company name and logo
- Changed NO-GO dimension for Head 189989-1 in Figure 6

Inspection of Crimping Chamber

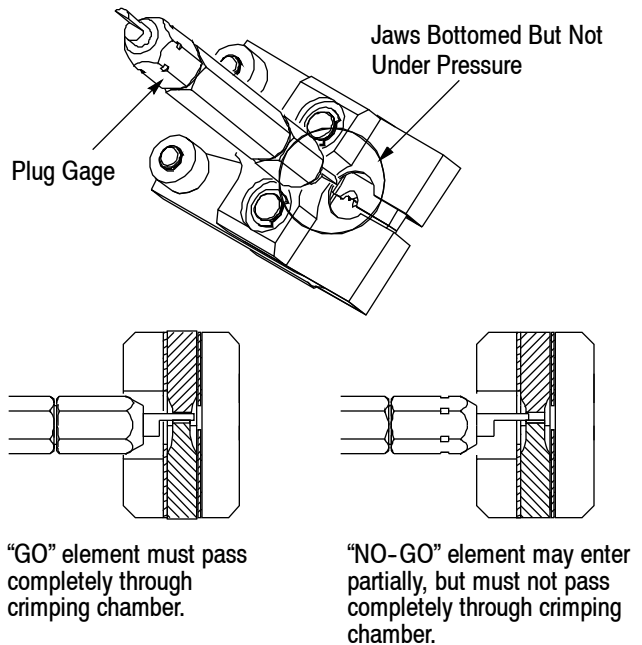
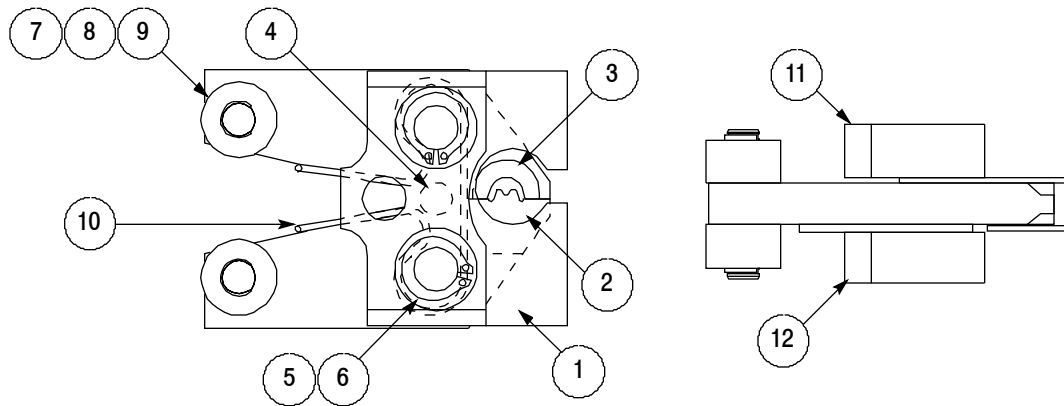
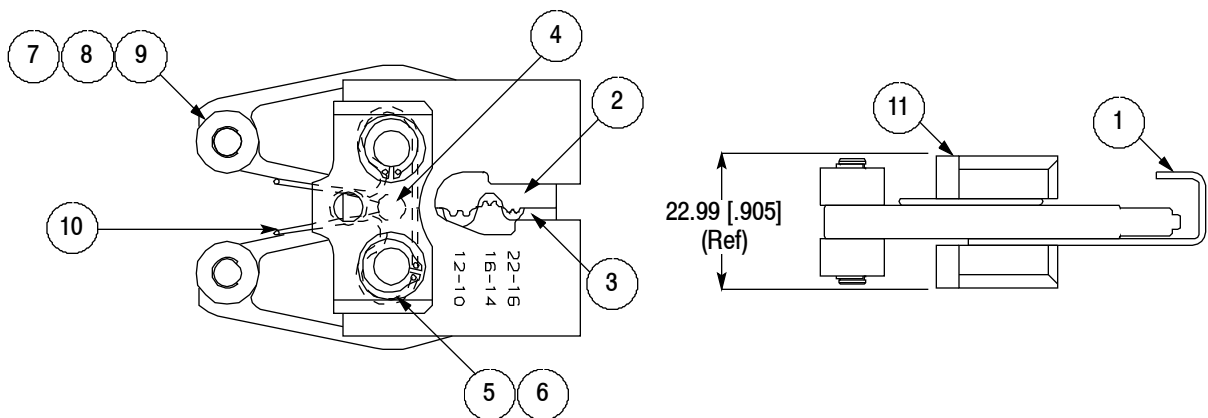


Figure 6

Crimping Heads 314516-1, 314517-1, and 314518-1

Crimping Heads 217204-1, 189989-1, and 217203-1


ITEM	DESCRIPTION	PART NUMBER FOR CRIMPING HEAD			QTY PER CRIMPING HEAD	PART NUMBER FOR CRIMPING HEAD			QTY PER CRIMPING HEAD
		314516-1	314517-1	314518-1		217204-1	189989-1	217203-1	
1	GUARD	314533-1	314533-1	314534-1	1	217428-2	189889-1	217428-1	1
2	INDENTER	48283	48278	314055-1	1	47392	189990-1	217307-1	1
3	NEST	48284	48279	47323	1	49826	189991-1	217308-1	1
4	PIN, Pivot	39141			1	39141			1
5	PIN, Grooved Straight	3-23628-4			2	3-23628-4			2
6	RING, Retaining	21048-7			4	21048-7			4
7■	ROLLER, Cam	314479-1			4	314479-1			4
8■	PIN, Grooved Straight	3-23619-7			2	3-23619-7			2
9	RING, Retaining	21045-3			4	21045-3			4
10■	SPRING	314253-1			1	314253-1			1
11	LINK	314477-3			1	314477-1			2
12	LINK	314477-1			1	—			—

■ Recommended Customer Spare Part

Figure 7