

Figure 1

1. INTRODUCTION

Pneumatic Crimping Heads 679301-1, 1338757-1, and 1338758-1 are designed to crimp SOLISTRAND terminals and splices on solid or stranded copper wire. See Figure 2. The crimping head is used with 626 Pneumatic Tooling Assemblies. Figure 1 shows the tool holder assembly, and list the power units for the crimping heads.

This instruction sheet provides recommended procedures for wire preparation, crimp head installation, crimping, and maintenance and inspection. For information concerning tool setup and operation, refer to the customer manual packaged with the appropriate tool. Product specifications and part numbers are available in Tyco Electronic Catalogs. See Figure 1.

Read these instructions thoroughly before proceeding.

NOTE All dimensions in this document are in millimeters [with inches in brackets]. Figures and Illustrations are for reference only and are not drawn to scale.

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

2. DESCRIPTION

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

3. HEAD INSTALLATION AND REMOVAL

3.1. Installation

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

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

DANGER Do NOT operate pneumatic tool without proper crimping head installed; make sure that the quick-pins are FULLY tightened to avoid personal injury and damage to the tool.

CRIMPING HEAD	WIRE RANGE (AWG)	WIRE STRIP LENGTH							
		TERMINAL STANDARD		TERMINAL LONG BARREL		BUTT SPLICE		PARALLEL SPLICE	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
679301-1	22-16	4.37	5.16	6.35	7.14	6.35 [.250]	7.14 [.281]	7.95 [.313]	8.74 [.344]
	16-14	[.172]	[.203]	[.250]	[.281]				
	16-14 HD 12-10	6.35 [.250]	7.14 [.281]	---	---				
1338757-1	8	8.33 [.328]	8.61 [.339]	---	---	10.31 [.406]	11.09 [.437]	10.31 [.406]	11.09 [.437]
1338758-1	6	9.93 [.391]	10.72 [.422]	---	---	11.88 [.468]	12.7 [.50]	11.09 [.437]	11.88 [.468]

Figure 2

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

NOTE *Tyco Electronics recommends using Loctite† No. 242, removable threadlock or equivalent, to prevent the quick pins from loosening.*

4. Connect tool to an adequate air supply between 620–690 kPa [90–100 psi]. For specific information on air line requirements and air hose installation, refer to the customer manual packaged with the pneumatic power unit.

NOTE *When using crimping head 1338758-1 with power units 189721-2 or 189722-2 connect tool to an adequate air supply between 515–585 kPa [75–85 psi].*

3.2. Removal

DANGER *ALWAYS disconnect tool from air supply before removing crimping head.*

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

4. CRIMPING PROCEDURES (Figures 3, 4, and 5)

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

NOTE *Crimping head shown without guard for clarity.*

1. Strip wire to the dimension shown in Figure 2. DO NOT nick the wire strand or use wires with nicked or missing conductor strands.
2. Open crimping jaws by squeezing the rollers simultaneously; then place the terminal or splice into the center of the appropriate crimping chamber. Use the correct crimp chamber for the specific wire size. Refer to Figures 3, 4, and 5.

NOTE *If brazed seam on terminal or splice is visible, position the seam toward “W”-shaped jaw.*

3. After terminal or splice is properly positioned, release rollers to allow the jaws to spring shut, holding terminal or splice in place.
4. Insert stripped wire, as shown in Figures 3, 4, and 5. DO NOT allow wire insulation to enter terminal or splice wire barrel.

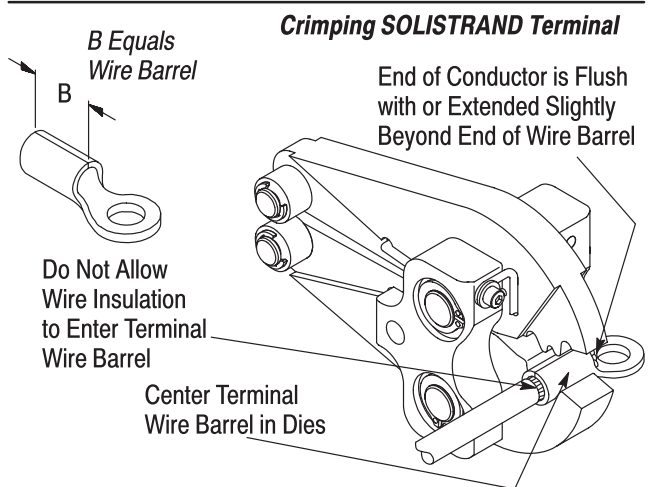


Figure 3

† Trademark of Loctite Corporation

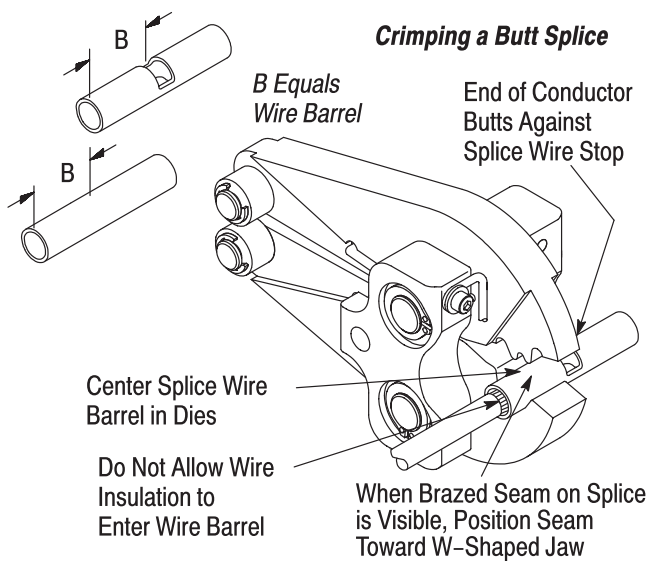


Figure 4

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

NOTE

To crimp the other half of a butt splice, reposition it in the crimping jaws and follow the procedures in Steps 1 through 5. If the splice cannot be turned, rotate the tool head. See Figure 4.

6. Refer to Section 5 and Figure 6 for crimp inspection.

5. CRIMP INSPECTION

Inspect crimped terminals and splices by checking the features described in Figure 6. Use only the terminals or 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.

6. MAINTENANCE AND INSPECTION**DANGER**

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

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

Crimping a Parallel Splice

3.0 – 5.0 mm²
[12–10 AWG]
Crimping

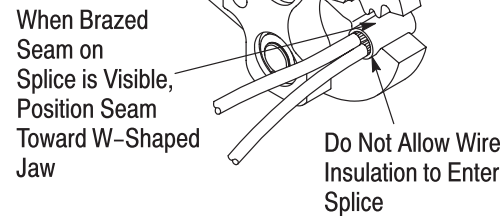
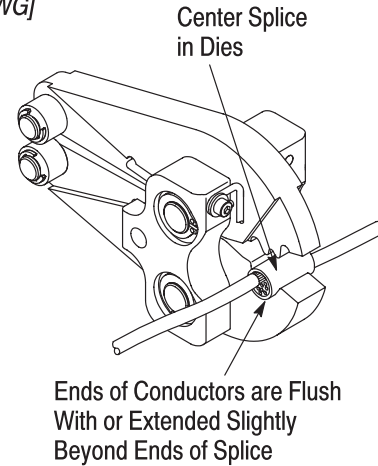


Figure 5

1. The care, amount of use, and handling of the head.
2. The type and size of the products 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 crimping head damage in shipment, new crimping 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 heads.
2. Make sure pins, rings, and other components are in place and secure.

DANGER



Make sure quick pins, are in place and FULLY tightened to avoid personal injury and damage to the tool.

thin coat of any good SAE 20 motor oil. Do NOT oil excessively.

3. Make certain all surfaces are protected with a

4. When the head assembly is not in use, store it in a clean dry, area.

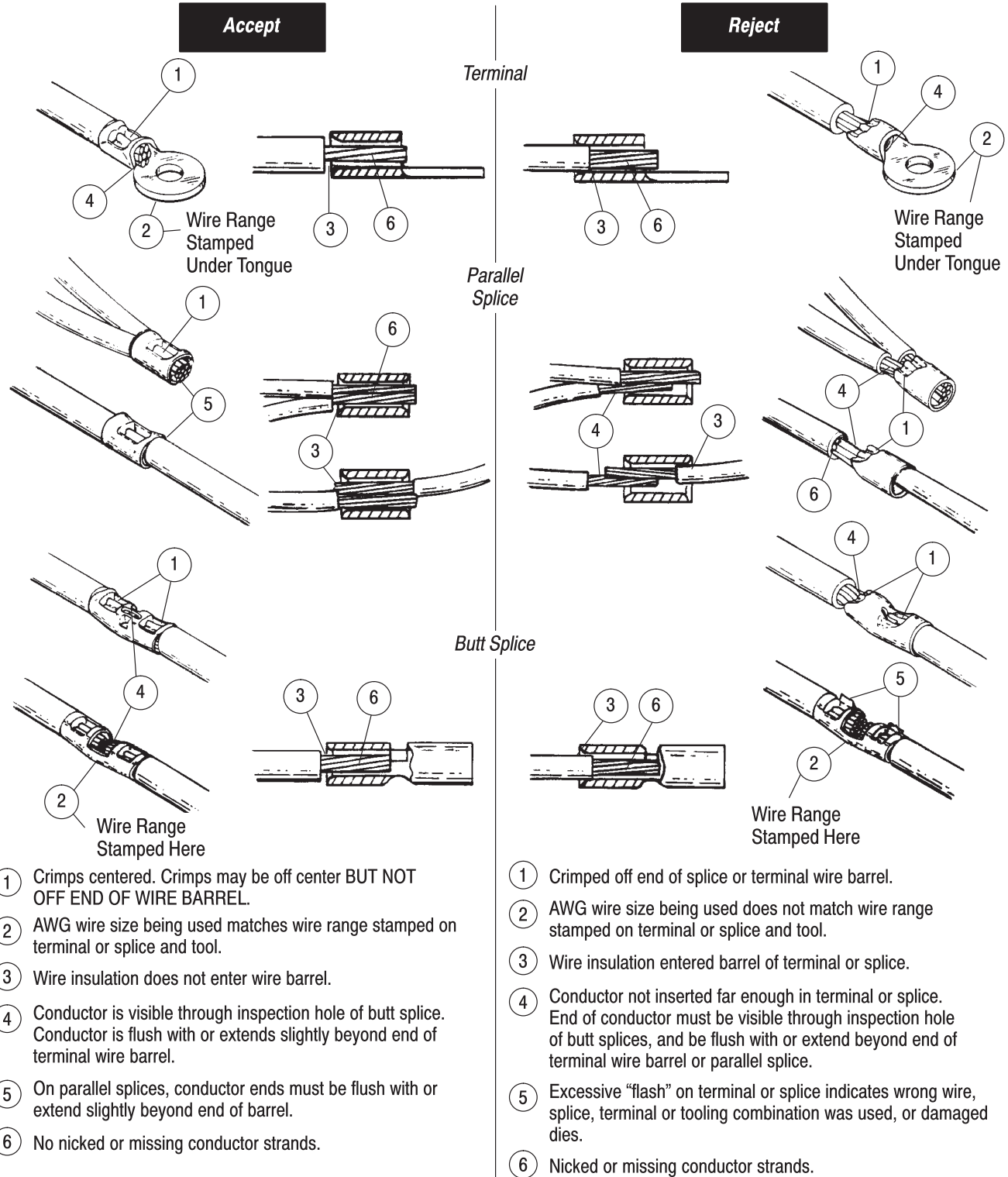


Figure 6

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 Figure 9.
3. Check all bearing surfaces for wear. Make sure the rollers turn freely with minimal resistance. Replace any worn parts.
4. Inspect the crimp area for flattened, chipped, or broken areas. Although the crimping chambers may gage within permissible limits, worn or damaged die closure surfaces are objectionable and will affect the quality of the crimp.

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 die closure areas. Grease transferred from the die closure area onto certain terminations may affect the electrical characteristics of a termination.

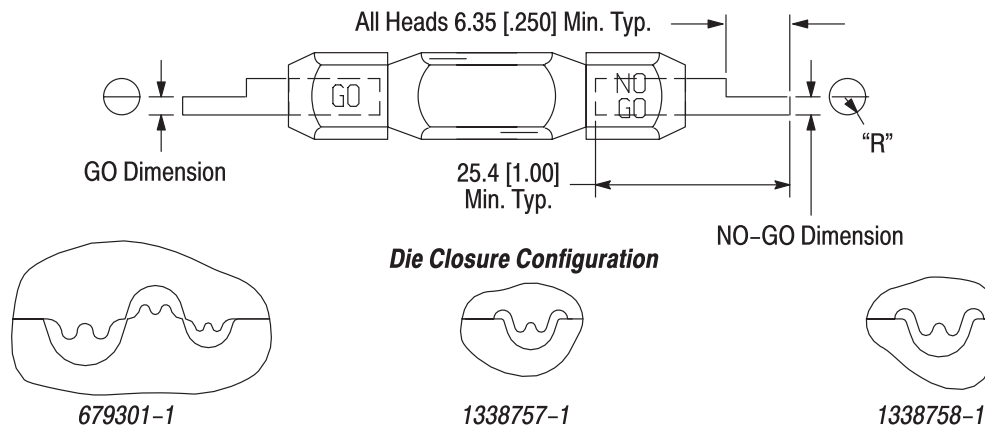
6.5. Gaging the Crimping Chamber

This inspection requires the use of plug gages conforming to the dimensions shown in Figure 7. Tyco Electronics does not manufacture or market these gages.



To avoid personal injury, disconnect air supply and remove crimping head from tool before inspecting the crimping chambers.

1. Remove oil and dirt from the bottom of the jaw surfaces, and plug gage element surfaces.
2. Close the crimping jaws until they are bottomed, but not under pressure.



CRIMPING HEAD	WIRE RANGE [AWG]	GAGE ELEMENTS DIMENSIONS		RADIUS "R"
		GO	NO-GO	
679301-1	22-16	1.168-1.176 [.0460]-.0463]	1.318-1.320 [.0519-.0520]	1.57 [.062]
	16-14	1.371-1.379 [.0540-.0543]	1.521-1.524 [.0599-.0600]	1.57 [.062]
	16-14HD / 12-10	1.930-1.938 [.0760-.0763]	2.080-2.082 [.0819-.0820]	2.36 [.093]
1338757-1	8	2.54 -2.547 [.1000-.1003]	2.690-2.692 [.1059-.1060]	3.58 [.141]
1338758-1	6	3.149-3.157 [.1240-.1243]	3.299-3.302 [.1299-.1300]	3.96 [.156]

† Trademark of Dow Corning Corporation

Figure 7

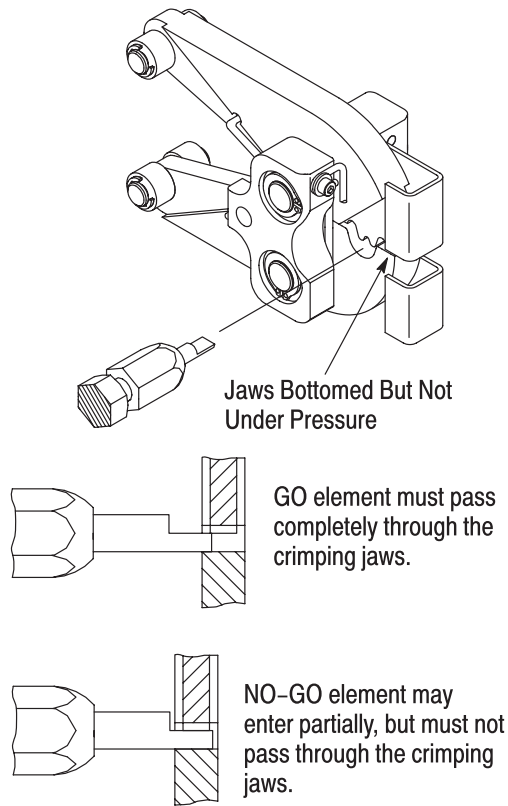


Figure 8

3. Align the GO element with the crimping chamber. Push the GO element straight into the crimping chamber without using force. The GO element must pass completely through the crimping chamber. See Figure 8.

4. Align the NO-GO element with the crimping chamber, and try to insert it straight into the

crimping chamber. The NO-GO element may start entry but must not pass completely through the chamber.

If the jaw closure meets the plug gage conditions, the crimping head is considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If the crimping chambers do not conform to the plug gage conditions, contact your local Tyco Electronics Representative, or refer to Section 7, REPLACEMENT AND REPAIR.

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

7. REPLACEMENT AND REPAIR

Replacement parts and recommended spares are listed in Figure 9. The recommended spares should be stocked for immediate replacement. Parts should be replaced by Tyco Electronics to ensure quality and reliability of the tool. Order replacement parts through your Tyco Electronics 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 CORPORATION
 P.O. BOX 3608
 HARRISBURG, PA 17105-3608

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

Damaged contacts must be removed, discarded and replaced.

8. REVISION SUMMARY

- Updated document to corporate requirements
- New format

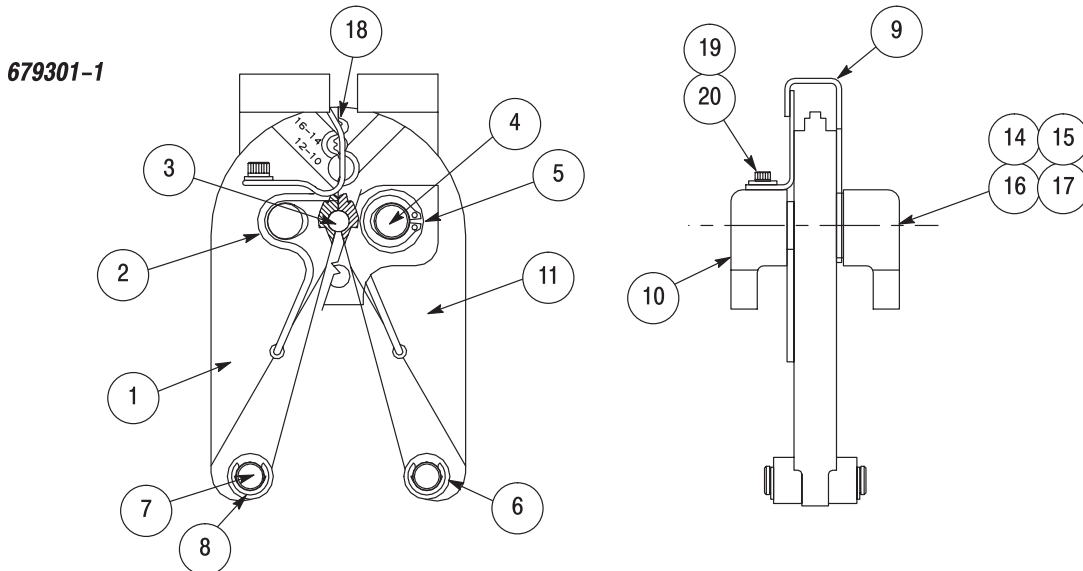
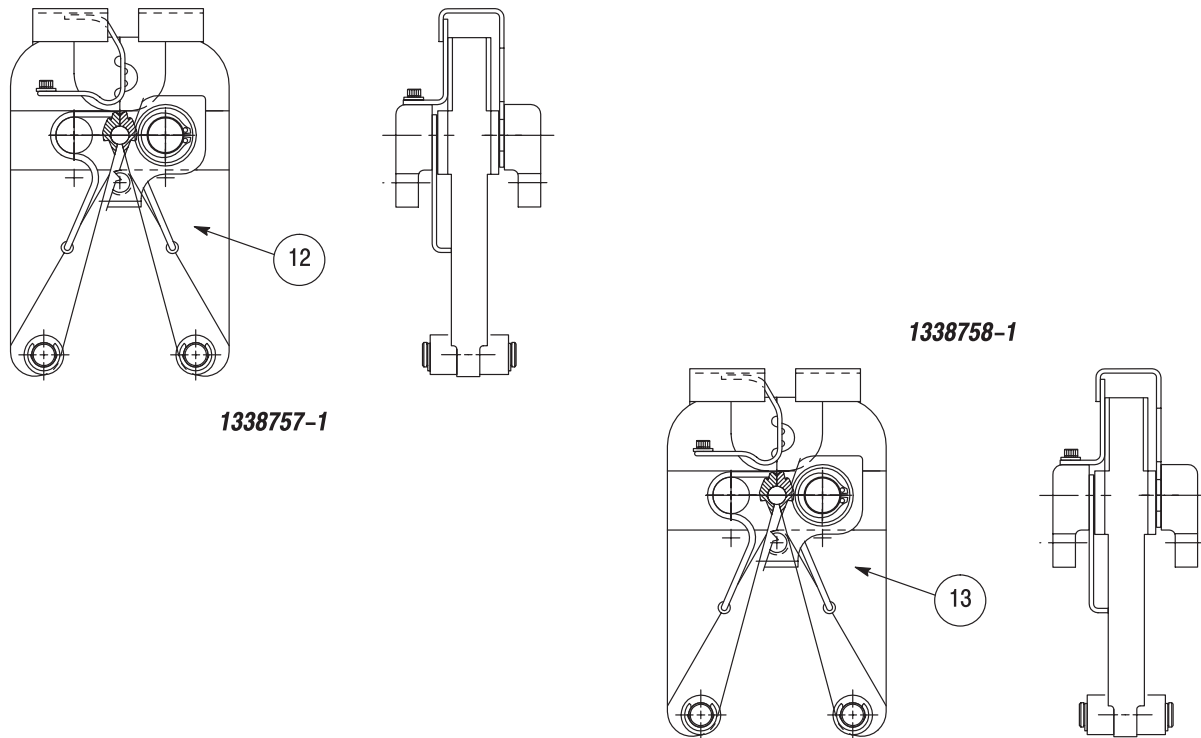


Figure 9 (cont'd)



ITEM NO.	DESCRIPTION	TOOLING PART NUMBER			QTY PER ASSY
		679301-1	1338757-1	1338758-1	
1	INDENTER	679313-1	1338678-1	1338679-1	1
2‡	SPRING	679942-1	679942-2	679942-2	1
3	BALL, STEEL	23241-2	23241-2	23241-2	1
4	PIN, STR, GRV	6-23629-0	5-23630-2	5-23630-2	2
5	RING, RETAINING	1-21048-0	1-21048-3	1-21048-3	4
6‡	ROLLER	314479-3	314479-6	314479-2	4
7‡	PIN, STR, GRV, .2500 DIA	3-23620-3	3-23620-3	3-23620-3	2
8‡	RING, RETAINING	21045-6	21045-6	21045-6	4
9	GUARD	189889-1	189888-2	189887-2	1
10	LINK	768521-2	1338796-1	1338796-1	2
11	ANVIL, 22-10 AWG SOLISTRAND	679312-1	---	---	1
12	ANVIL, 8 AWG SOLISTRAND	---	1338797-1	---	1
13	ANVIL, 6 AWG SOLISTRAND	---	---	1338740-1	1
14	SHIM, .20 [.008] Thick	301185-6	1-301185-7	1-301185-7	as required
15	SHIM, .25 [.010] Thick	301185-7	1-301185-8	1-301185-8	as required
16	SHIM, .30 [.012] Thick	301185-8	1-301185-9	1-301185-9	as required
17	SHIM, .38 [.015] Thick	301185-9	2-301185-0	2-301185-0	as required
18	GUARD	217177-1	217177-2	217177-2	1
19	WASHER, FLAT	1-21899-4	21055-4	21055-4	1
20	SCREW, SHC, 4-40 x .25	1-21000-3	1-21000-3	1-21000-3	1

‡Recommended Spares

Figure 9 (end)