

Figure 1


## 1. INTRODUCTION

Pneumatic CERTI-CRIMP Tool Holder Assemblies 356302-1 and 356303-1 are used with Pneumatic Tooling Assemblies 189721-1 or 189722-1. Pneumatic CERTI-CRIMP Tool Holder Assembly 1673611-1 is used with Pneumatic Tooling Assembly 1490567-1.

The tool holders are designed to accept interchangeable crimping heads for crimping various types of connectors.

For information concerning setup and operation of the pneumatic tools, refer to Customer Manual 409-5862.

Read these instructions thoroughly before using the tool holder.


**NOTE**  *Measurements are in metric units [with U.S. customary units in brackets]. Figures and illustrations are for reference only and are not drawn to scale.*


Reasons for reissue of this instruction sheet are provided in Section 7, REVISION SUMMARY.


## 2. DESCRIPTION (Figure 1)

The tool holder assembly consists of the tool holder body, cam, adjustable eccentric, pivot pin, and ratchet pawl with emergency release. The ratchet ensures that the tool completes the crimp cycle.


## 3. INSTALLATION

**NOTE**  *Previously installed cams and tool holders must be removed before installing different ones.*


**DANGER**  *Air pressure must be removed from the tool while head or tool holder is detached.*

**DANGER**  *If the piston is not extended, it must first be extended to allow installation of the cam. To extend the piston, firmly grasp the piston with piston pliers and pull away from the body of the tool. Piston pliers are provided with the power unit.*

A strip of adhesive-backed safety labels, printed in various languages, is packaged with the tool holder assembly. Remove the appropriate language label from the strip and attach it to the tool holder or safety sleeve. The safety sleeve is supplied with the small and large tool holder assemblies. For these assemblies, attach the safety labels to the safety sleeve.

**CAUTION**  *Be sure to select the correct assembly of tool holder and cam. If incorrect assembly is used, system will not operate properly.*

1. If cam setscrew is not installed in cam, thread setscrew into cam two to three turns.
2. Place cam (with setscrew) onto piston rod. The cam should butt against the piston rod face. If not, turn cam setscrew *counterclockwise* until cam fits on piston rod properly.

**CAUTION**  *Overtightening the cam setscrew may damage the setscrew or cam.*

3. Tighten cam setscrew, then pull on cam to ensure that it is firmly attached.
4. Properly align tool holder ratchet pawl with the cam teeth (shown in Figure 2) and push tool holder onto power unit so that it passes over the friction ring on the power unit piston.
5. Slide tool holder locking ring toward tool holder until it butts against the stop ring on the power unit piston. Then turn ring *clockwise* to engage threads

on the bottom of the tool holder. Tighten locking ring to fully secure the tool holder.



*When tool holder is properly installed, the tool holder locking ring should be butted against the stop ring, and threads of the tool holder should not be visible. If not properly installed, check that correct assembly of cam and tool holder is being used and that they are aligned properly.*

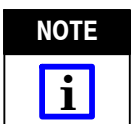
6. Rotate the tool holder one full turn in each direction and note that the tool holder locking ring rotates with the holder.



*To avoid personal injury, periodically check that tool holder locking ring is tightly securing the tool holder.*



*After installation, ALWAYS ensure that the tool holder pivot pins are fully tightened to avoid personal injury or damage to the tool.*



*Removal is the reverse of installation.*

7. For instructions on installing the crimping head (and, if applicable, die set), refer to the instruction sheet packaged with the head.

#### 4. CRIMP HEIGHT ADJUSTMENT

The tool holder assembly features an adjustable eccentric and a ratchet mechanism with a range of settings. The position of the pawl ensures that the tool completes the cycle. The eccentric controls the amount of cam pressure exerted on the crimping head jaws or dies during the crimping procedure. Although the ratchet is preset prior to shipment, it is

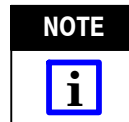
important that the crimp height be verified. Also, general use and subsequent wear may cause the tool to go out of adjustment. It is recommended that the crimp height be inspected, and adjusted if necessary, on a regular basis by quality control personnel.

1. Connect pneumatic tool to an adequate air supply between 620 to 690 kPa [90 to 100 psi]. For specific information on air line requirements and air hose installation, refer to the instructions packaged with the pneumatic tooling assembly.
2. Place a contact on the crimp nest and place a properly prepared wire of the correct size into the wire barrel.
3. Place a 0.025-mm [.001-in.] shim between the crimping jaws where the jaws bottom against each other.
4. Slowly crimp the contact onto the wire until the crimping jaws or dies bottom on the shim. Check that the ratchet releases after the jaws or dies bottom.



*To avoid personal injury, DISCONNECT TOOL FROM AIR SUPPLY before adjusting the pawl position. After the adjustment, ALWAYS ensure that the tool holder pivot pins are fully tightened to avoid personal injury or damage to the tool.*

5. If the ratchet releases before the jaws or dies bottom, loosen the three securing screws (see Figure 1), remove the eccentric adjustment screw and rotate the eccentric *clockwise* to a higher setting. Repeat as required.



*If the ratchet does not release and the tool will not return, slowly actuate the tool until the force of the cam teeth is off the pawl, then push on the pawl with a small screwdriver until the pawl is released from the teeth, release the tool handle and allow the tool to return. See Figure 3.*

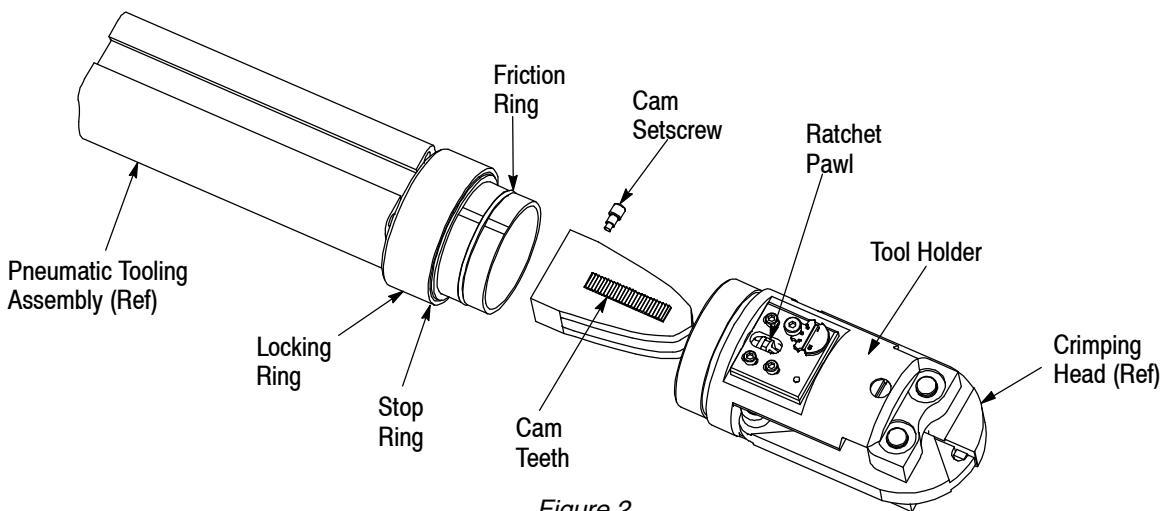


Figure 2

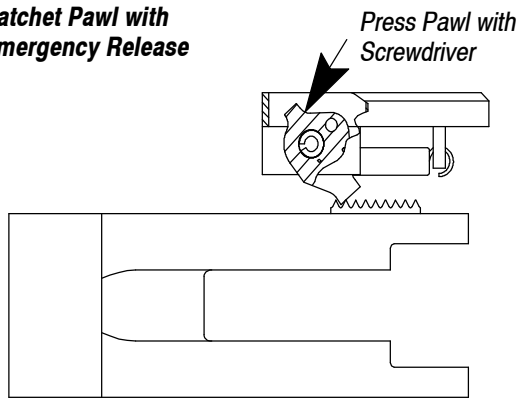
**Ratchet Pawl with  
Emergency Release**

Figure 3

6. If the ratchet does not release after the jaws or dies bottom, loosen the three securing screws, remove the eccentric adjustment screw and rotate the eccentric *counterclockwise* to a lower setting. Repeat as required.

7. If the crimp cannot be made to conform to the dimensions provided in the appropriate application specification (114-series), the crimping head and/or dies are defective and must be replaced.

**5. MAINTENANCE AND INSPECTION**

*To avoid injury, DISCONNECT TOOL FROM AIR SUPPLY before performing any maintenance or inspection procedures.*

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

1. Care, amount of use, and handling of the tool.
2. Type and size of the products crimped.
3. Degree of operator skill.
4. Presence of abnormal amounts of dust and dirt.
5. Your own established standards.

The tool holder is thoroughly inspected before packaging. Since there is the possibility of damage during shipment, the tool holder should be inspected immediately upon arrival at your facility.

**5.1. Maintenance****A. Cleaning**

Remove dust, moisture, and other contaminants with a clean, soft brush, or a soft, lint-free cloth. Do NOT

use objects that could damage the tool. Re-lubricate tool holder (refer to Paragraph 5.1,B) before placing it back into service.

**B. Lubrication**

Lubricate all pins, pivot points, and bearing surfaces with a high quality grease. (Commercially available Molykote grease is recommended.) Lubricate according to the following schedule:

- Holder used in daily production—lubricate daily
- Holder used daily (occasional)—lubricate weekly
- Holder used weekly—lubricate monthly

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

**5.2. Periodic Inspection**

Regular inspections of the tool should be performed by quality control personnel. A record of scheduled inspections should remain with the tool or be supplied to supervisory personnel responsible for the tool. Inspection frequency should be based upon amount of use, working conditions, operator training and skill, and established company standards.

1. Inspect the tool holder for missing pins or parts. If parts are missing or defective, replace them by referring to Section 6.
2. Check all bearing surfaces for wear. Make sure the rollers on the crimping head turn freely with minimal resistance. Replace any worn parts.
3. Inspect crimping jaws or dies for flattened, chipped, or broken areas. Worn or damaged surfaces are objectionable and will affect the quality of the crimp.
4. When the tool is not in use, store in a clean, dry area.

**6. REPLACEMENT AND REPAIR**

Replaceable parts are listed in Figure 4. Parts other than those listed in Figure 4 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:

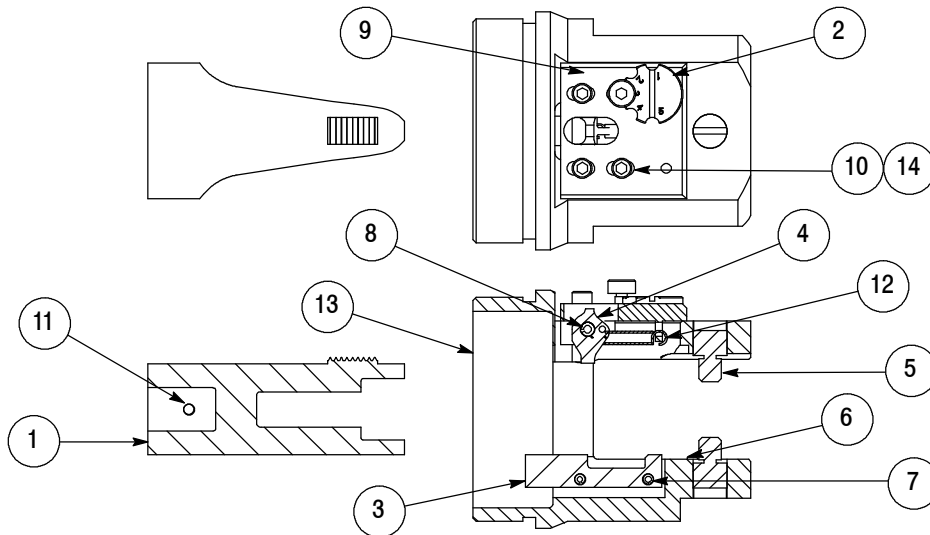
CUSTOMER SERVICE  
TYCO ELECTRONICS  
P.O. BOX 3608  
HARRISBURG, PA 17105-3608

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

**7. REVISION SUMMARY**

Since the previous release of this sheet, the following changes were made:

- Updated document to corporate requirements
- Added ORIGINAL INSTRUCTIONS



ITEM	PART NUMBER	DESCRIPTION	QTY PER TOOL HOLDER		
			356302-1	356303-1	1673611-1
1	356438-1	CAM, Small	-	1	-
	356444-1	CAM, Large	1	-	-
	1673602-1	CAM, Logic, Short	-	-	1
2	356439-1	ECCENTRIC	1	1	1
3	356440-2	INSERT, 626 Ratchet	-	1	1
	356440-1	INSERT, 626 Ratchet	1	-	-
4	356441-1	PAWL	1	1	1
5	354425-1**	PIN, Pivot	2	2	2
6	3-21028-5	PIN, Slotted Spring (.09 x .375 in.)	-	2	2
7	4-21028-4	PIN, Slotted Spring (.09 x 1.00 in.)	2	2	2
8	4-21028-9	PIN, Slotted Spring (.125 x .375 in.)	1	1	1
9	356437-1	PLATE, Eccentric Adjustment	1	1	1
10	1-21000-5	SCREW, Socket Head Cap (4-40 x .500 in.)	4	4	4
11	189765-1**	SETSCREW, Cam	1	1	1
12	37887	SPRING	1	1	1
13	356442-1	TOOL HOLDER, Small	-	1	1
	356443-1	TOOL HOLDER, Large	1	-	-
14	21055-4	WASHER, Flat No. 4	3	3	3
Not Shown	356022-1**	SLEEVE, Safety, Small	-	1	1
	356022-2**	SLEEVE, Safety, Large	1	-	-

\*\* Recommended Spare Part

Figure 4