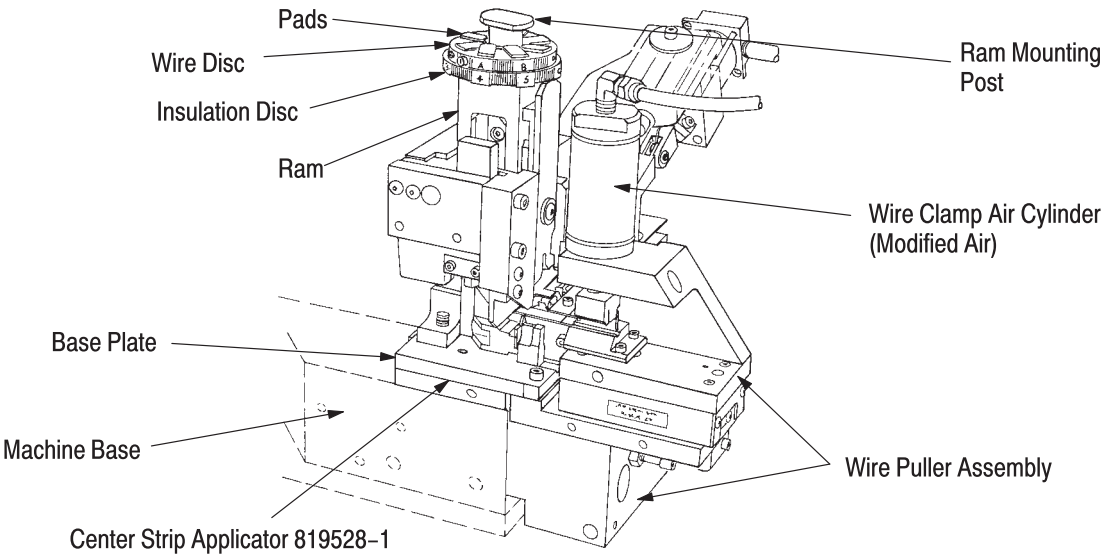

Figure 1

1. INTRODUCTION

Center Strip Applicator Assembly No. 819528–1 (Figure 1) is a special applicator designed to cut and strip prescribed wire types at any location between the ends of the wire without removing the insulation; and to apply a Center Strip FASTON* Flag Terminal.

The applicator construction is that of an air–feed, Heavy Duty Miniature Quick–Change Applicator, with the addition of insulation stripping blades and a wire clamping and pulling mechanism.

This instruction sheet, the parts list and assembly drawing packaged with the applicator, and customer manual 409–5289 (for the Model "T" Terminating Unit), provide all the information required to operate and maintain the applicator and machine.

When reading this document, pay particular attention to DANGER, CAUTION, and NOTE statements.

DANGER — *Denotes an imminent hazard that may result in moderate or severe injury.*

CAUTION — *Denotes a condition that may result in product or equipment damage.*

NOTE — *Highlights special or important information.*

2. DESCRIPTION

2.1. Physical Description

Center Strip Applicator Assembly No. 819528–1 features a heavy, rugged construction that allows it to stand up to the crimping forces needed to apply FASTON Flag Terminals to No. 14, 16, and 18 AWG wire. See Figure 2 for the dimensions and requirements for the Center Strip Applicator Assembly and "T" Terminating Unit. (Note that Figure 2 indicates the requirements for the Center Strip Applicator Assembly and "T" Terminating Unit *combined*.)

DANGER — *The Model "T" is a benchtop unit that is shielded with guards to protect the operator and other personnel during operation. These guards can be removed for setup or maintenance purposes, but must be replaced BEFORE operating machine to avoid injury.*

NOTE — *Measurements are in millimeters [with inches in brackets].*

The terminal strip is fed into the applicator with the barrel (wire) end first, between the front (outer) and rear (inner) strip guides. See Figure1 and Figure 3. The strip passes under the stock drag, and the lead terminal is positioned ahead of the feed finger.

Approximate Dimensions

Length	584 mm [23 In.]
Width	508 mm [20 In.]
Height	940 mm [37 In.]
Weight	113 kg [250 lb.]

Electrical Requirements

230 Vac, 50 Hz [115 Vac, 60 Hz], Single–Phase

Pneumatic Requirements

414 kPa [60 psi]. 141.6 liters/min [5 scfm] minimum

Approximate Production Rate

1200 to 1800 terminations per hour

Figure 2

The feed finger feeds one terminal during each cycle of the machine. Air pressure, controlled by a series of valves, operates an air cylinder which moves the feed finger.

The ram post (also referred to as the ram mounting post) engages the post adapter of the machine ram, and it is the machine ram that actuates the applicator. Just below the ram post are the wire disc and insulation disc. The wire disc has as many as four pairs of pads, depending on the number of different wire sizes the terminals will accept. Each pair of pads has a different height. By rotating the disc, each pair of pads can be lined up with the two bosses on the ram post adapter to change the length of stroke of the wire crimper over the anvil. The insulation disc contains eight pads of different heights. When this disc is turned, the pads line up with the top of the insulation crimper to vary crimp height.

The wire crimper is held in a preset position by a recess in the ram assembly and by the crimper bolt. The insulation crimper is also held by the crimper bolt, but is free to move up and down so the insulation crimp may be changed. The slug blade, which cuts the connecting tab from the strip between the lead and second terminals, is also attached to the bottom of the ram.

The spring–loaded terminal hold–down, located on the ram, holds the terminal in place during the crimping and slugging process.

The applicator's mounting surface is its base plate. See Figure 4. The anvil and the strip guide plate are mounted on the base plate. The strip guides, stock drag, and front and rear shear plates are all mounted on the strip guide plate. The shear plates are spaced to allow the slug blade to pass between them and remove the connecting tab from between the terminals.

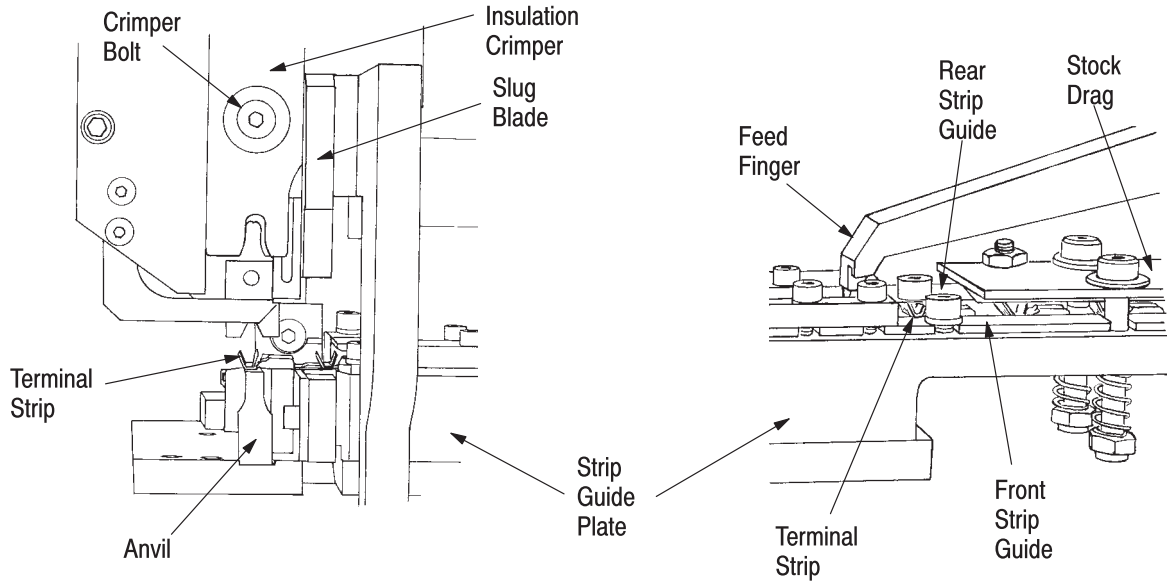

Figure 3

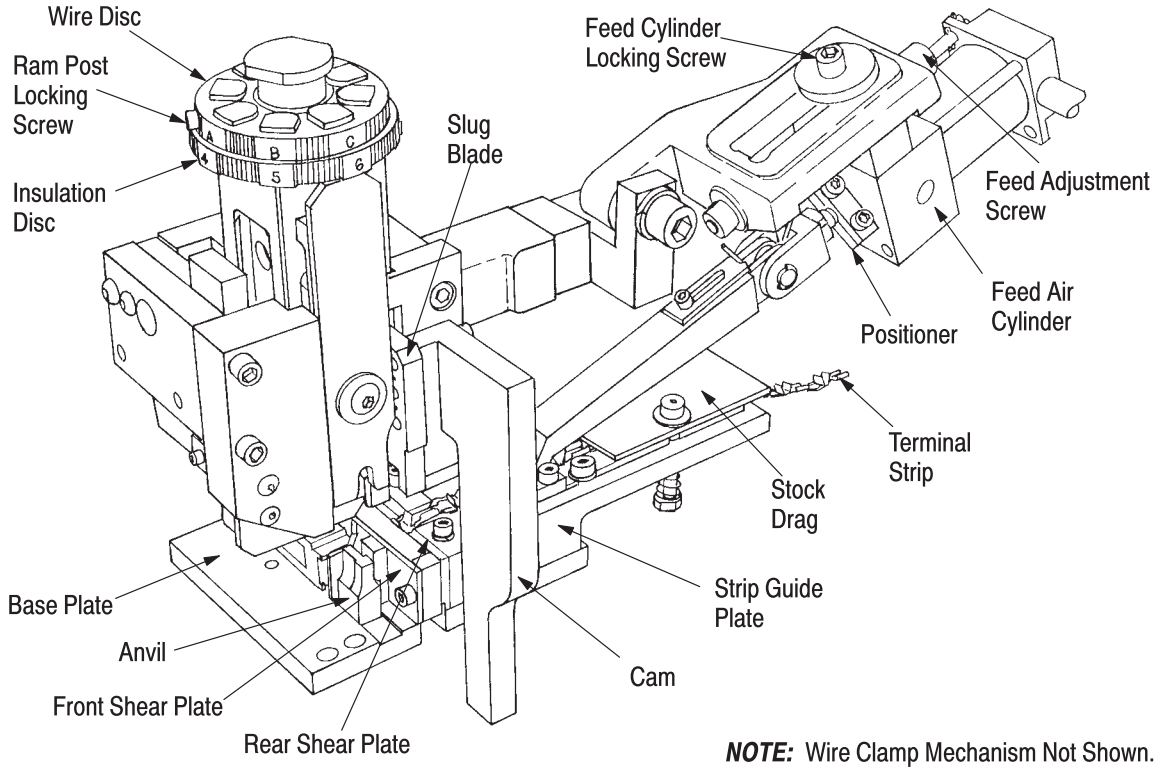

Figure 4

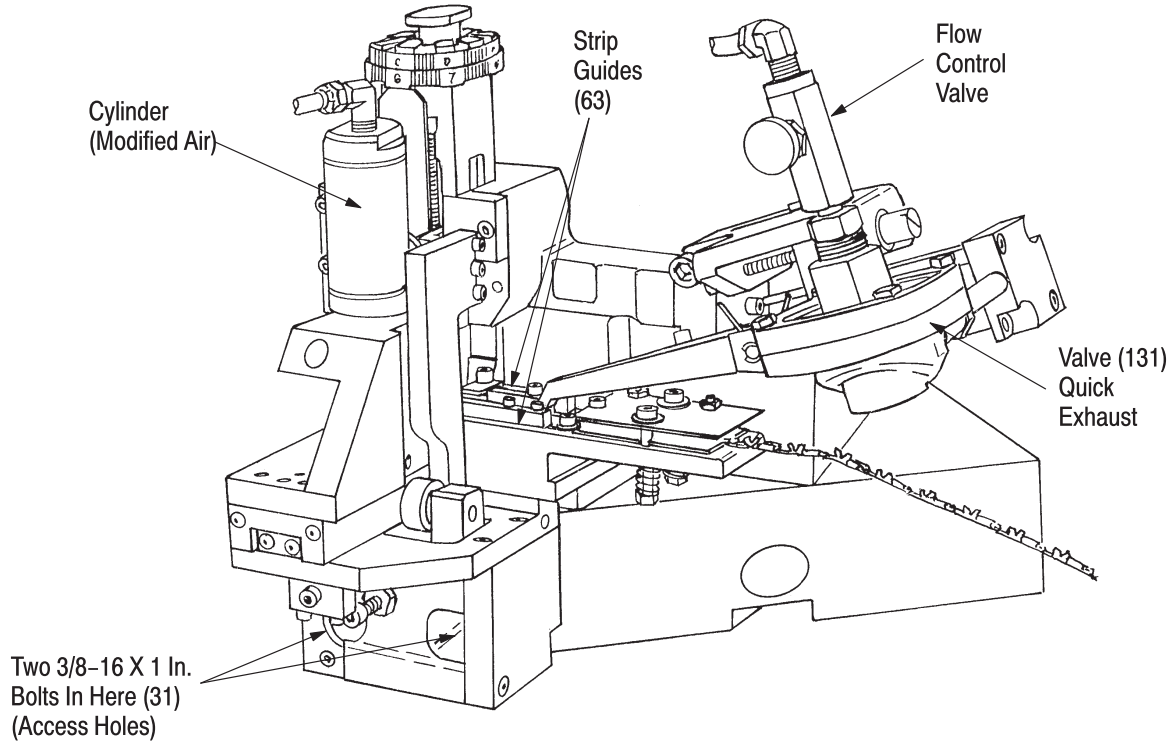

Figure 5

2.2. Functional Description

Depress the foot switch to begin the machine cycle. At the beginning of the machine's ***downward*** stroke, the cam on the "T" unit ram switches the air OFF. When this happens, a spring inside the cylinder retracts the feed finger. The ram continues downward, completes the crimping action, and starts back up again. As it approaches the fully raised position, the "T" unit feed mechanism switches the on–off valve back to the ON position. This supplies air to extend the feed finger and move the next terminal over the anvil. The flow control valve controls the speed of the feed finger stroke. See Figure 5.

As the applicator ram begins the downward stroke, air is also supplied to the wire clamp air cylinder. This holds the wire in place for the stripping operation. As the ram continues down, two shear blades come together to cut the wires insulation. Next, the cam attached to the ram drives the wire pull assembly away from the crimp area, leaving wire exposed where the crimp is then completed.

3. APPLICATOR INSTALLATION AND REMOVAL

CAUTION

With the applicator in the machine, never attempt to cycle the machine under power without having terminals properly loaded, as described in Section 4; otherwise, the tooling may be damaged.

3.1. Installation (Refer to Drawing No. 819528–1)

DANGER

To prevent injury, isolate the "T" unit from all sources of power and disconnect air supply before installing or removing applicator.

1. Turn off or disconnect power to the "T" unit.

2. Push in the release bar on quick–change base plate. The locking latch will pivot downward.

3. Place applicator on the base plate, and then slide it back until two notches engage stops at back of plate. At the same time, guide the applicator ram post into the "T" unit ram post adapter.

4. Tighten the two socket head cap screws (see item 71 sheet 2 of 4) to secure the applicator to the wire pull unit. See Figure 8.

5. Flip the locking latch up to secure the applicator in place.

6. Bolt the wire pull unit to the "T" unit frame with two 3/8–16 x 1.00 long socket head bolts (item 31, sheet 2 of 4) located in two access holes in Figure 5.

7. Refer to Drawing No. 819528–1, Sheet 4 of 4; connect the air line from port No. 2 of the limit control valve (item 127) to the flow control valve (item 133) on the terminal feed cylinder. Connect the air line from the port labeled "OPEN" on the air solenoid valve (item 134) to the clamping cylinder (item 93), and from the port labeled "CLOSE" to the extend end of the clamping cylinder.

NOTE

Before operating the machine, make sure that the air supply is connected to the applicator. Turn the machine on by pulling the ON/OFF switch located on the front of the machine.

NOTE

The machine will not operate unless the guards are properly in place.

3.2. Removal

DANGER

To prevent injury, isolate the "T" unit from all sources of power and disconnect air supply before installing or removing applicator.

1. Turn off or disconnect the power to the "T" unit.

2. Cut the terminal strip one or two terminals from the end of the applicator.

CAUTION

Terminals must be left in applicator to prevent damage to the crimp tooling when being removed from the press.

3. Push In the release bar on the quick–change base plate. The locking latch will pivot downward.

4. Remove socket head bolts (item 31, Figure 5), holding the wire pull unit to "T" unit.

5. Slide the applicator forward until it is clear of the ram post adapter.

4. TERMINAL STRIP LOADING AND UNLOADING

4.1. Terminal Strip Loading

CAUTION

Before loading terminal strip in applicator, be SURE the installed applicator is the right one for the terminal to be applied. Compare terminal number on reel with numbers listed on the applicator assembly drawing.

1. Turn off or disconnect power to the "T" unit.

2. Be sure the ram assembly is all the way up. If necessary, hand–cycle the machine to raise the ram. (Refer to the customer manual 409–5289).

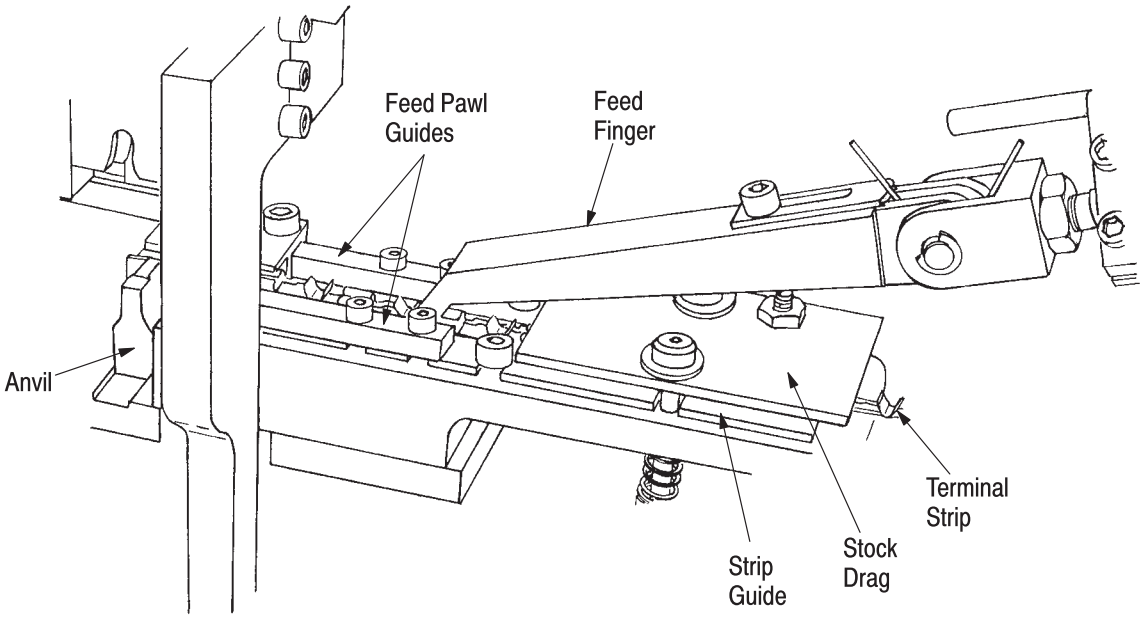

Figure 6

3. Remove the length of terminal strip left in the applicator by grasping the terminal over the anvil with needle–nose pliers and pulling the strip straight out the front of the applicator.

4. With reel of terminals installed on reel support, feed terminal strip into applicator between strip guides.

CAUTION

Be sure the terminal strip enters the strip guides with the barrel (wire) end first and open side up.

5. Lift the stock drag, and feed terminals under it toward the feed finger. (See Figure 6).

NOTE

Terminals are advanced (as in other pre–feed applicators) on the UP stroke of the ram assembly.

6. Lift the feed finger and advance the strip until the feed finger engages the feed area behind the second terminal.

NOTE

Terminal length, or notation on the applicator parts list, may require the strip to be positioned differently under the feed finger.

7. Be sure the terminal strip feed adjustment and the strip guide adjustment are correct, as described in Paragraphs 5.3 and 5.6. Make several test cycles to be sure all other applicator adjustments are correct, as described in Section 5.

4.2. Terminal Strip Unloading

Cut the terminated strip one or two terminals from the end of the applicator.

NOTE

The applicator should never be unloaded unnecessarily. A section of terminal strip should always be left in the unit. Since it is not necessary to remove the terminal strip for cleaning, lubrication, or repair, it should only be removed as part of the loading procedure.

5. ADJUSTMENTS

5.1. Wire Crimp Adjustment

1. Select the pad letter (A,B,C, or D) from the data plate for the wire size to be used.

2. Turn the wire disc (upper disc) to line up the selected pad letter with bosses on the ram post adapter. This provides the right crimp height for that wire size.

3. After making insulation crimp adjustment described in Paragraph 5.2, make several test cycles and inspect the terminations *closely.*

a. Look for rough or sharp edges around the crimped barrels (flash), deformed crimps, bent terminals, or other defects caused by worn or broken tooling. If necessary, replace tooling as described in Paragraph 6, REPAIR AND REPLACEMENT OF PARTS.

b. If terminations appear normal, measure crimp height of each termination as described in instruction sheet 408–7424, packaged with the applicator. Crimp height must agree with the

measurement specified on the parts list for wire size being used. Record crimp height dimensions for reference.

c. If crimp height is *incorrect*, remove the applicator and install one that is known to produce terminations of *correct* crimp height. Make several test cycles and repeat Step b. If crimp height is incorrect for this applicator, the problem is the machine shut height. Corrective information can be found in customer manual 409–5289. If the crimp height is correct, the problem is in the original applicator. Corrective measures are presented in Paragraph 6.5, Adjustable Crimp Height Repair.

4. During extensive operation, periodically repeat Step 3 to make sure that the applicator is producing the correct height terminations.

5.2. Insulation Crimp Height Adjustment

To adjust insulation crimp height, turn the insulation disc (lower disc) to line up the number (1 through 8) with the top of the insulation crimper on the ram assembly. Setting No. 8 makes the tightest crimp and No. 1 the loosest, a difference of approximately .89 mm [.035 in.]. To find the insulation crimp you want, start with No. 1 and make test crimps. Increase the setting one number at a time until you achieve the proper insulation crimp height. See applicator log for crimp height.

5.3. Terminal Strip Feed Adjustment (Figure 4)

1. With terminal strip loaded in applicator as described in Paragraph 4.1, check position of lead terminal in relation to slug blade (determined by forward limit of feed finger stroke) and of the wire barrel in relation to the anvil by running several test crimps and inspecting the terminals. Slug blade MUST remove the connecting tab between the lead and second terminals — without deforming either terminal.

2. If tab is correctly removed and terminals are not damaged, the forward limit of the feed finger stroke is correct; proceed to Step 5. If adjustment is necessary, continue with Step 3.

3. Adjust the forward limit of the feed finger stroke.

a. Loosen the feed cylinder locking screw on top of the feed cylinder. See Figure 4.

b. Turn the feed adjustment screw (Figure 4) ***clockwise*** to retract forward limit or ***counterclockwise*** to extend forward limit of the stroke.

c. Tighten feed cylinder locking screw.

4. Repeat Steps 1, 2, and 3 as required. When adjustment is correct, proceed to Step 5.

5. Hand–cycle the machine and observe the feed finger. The feed finger should have enough over–travel on the backstroke to pick up the next terminal, but not so much that it over–feeds.

NOTE

If the pickup point is the contact end of the wire barrel, backstroke over–travel should be about equal to the distance between the wire barrel and contact part of the terminal. For other types of terminals, over–travel should be about the same, depending on contact configurations.

NOTE

If feed finger stroke is satisfactory, proceed to Step 8; if not, continue with Step 6.

6. Adjust the length of the feed finger stroke.

a. With the machine at rest and feed finger extended, loosen two screws holding positioner to feed cylinder shaft and move positioner in required direction on shaft. See Figure 4.

b. Retighten screws.

c. Repeat Step 5 to check stroke length.

7. Repeat Steps 5 and 6 until stroke length is correct. Recheck Step 1 (forward limit) before proceeding to Step 8.

8. Hand–cycle the machine several times, and check side–to–side centering of the crimp on the wire barrel. If centered, adjustments are complete; if not, continue with Step 9.

9. Loosen all 8 screws holding strip guides, and move both guides in desired direction. Tighten the screws and check to be sure guides are parallel and that the terminal strip can move freely without too much side clearance. Recheck side–to–side centering by repeating Step 8. See Figure 7.

5.4. Stock Drag Adjustment

Stock drag must be adjusted to apply ONLY enough pressure to the terminal strip so that it will stop at the end of the feed finger stroke, and keep the terminals there as the feed cylinder retracts.

1. Turn the stock drag adjustment nuts up to increase the drag or down to decrease the drag. See Figure 7.

2. Cycle the machine ***under power*** to be sure the drag is properly adjusted.

NOTE

Before operating the machine, make sure that the air supply is connected to the applicator. Turn the machine ON by pulling the ON/OFF switch located on the front of the machine.

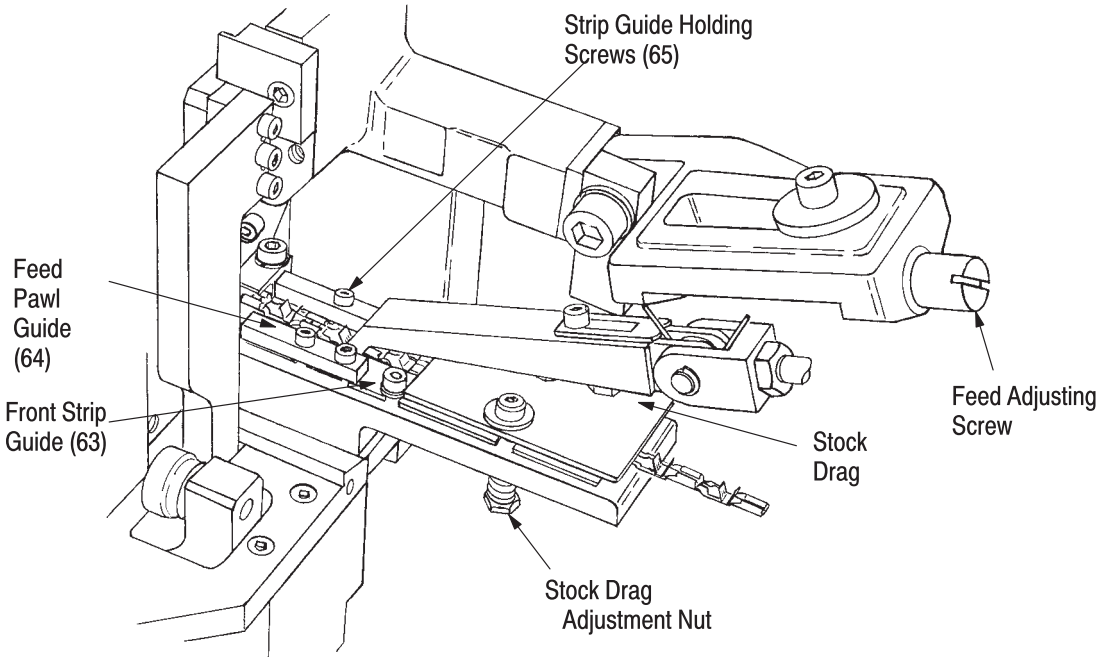

Figure 7

NOTE

The machine will not operate unless the guards are properly in place.

5.5. Insulation Stripping Adjustment (Figure 8)

To adjust the insulation stripping blade closure, proceed as follows:

1. Loosen the two clamping screws on the strip blade height adjuster.

2. Turn the height adjuster clockwise (viewed from below) for larger wire sizes or counterclockwise for smaller sizes.

3. Slide the adjuster back for larger wire sizes, or forward for smaller wire sizes. The adjuster must be moved approximately .79 [.031] between No. 18 and No. 16 AWG wire sizes, and 1.59 [.063] between No. 16 and No.14 AWG wire sizes.

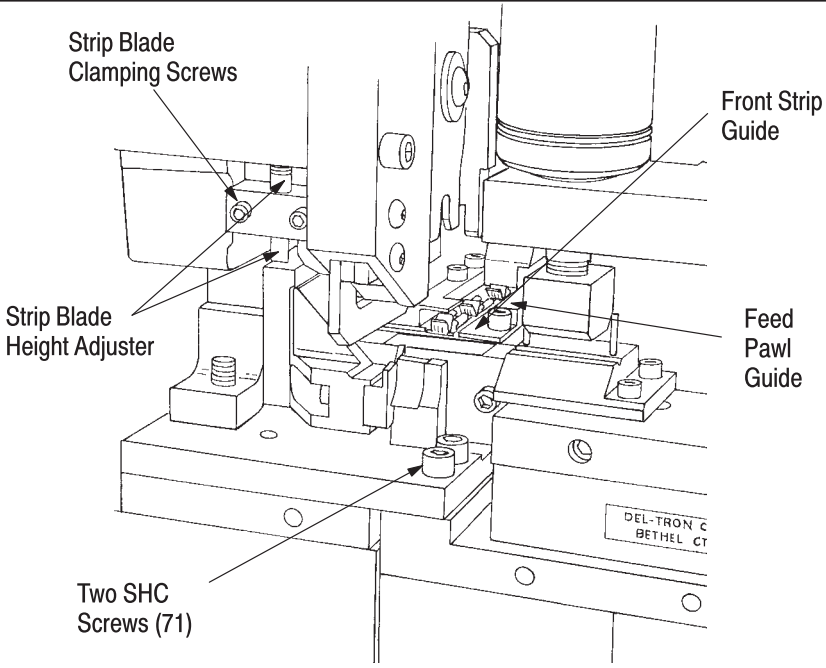

Figure 8

4. Retighten the height adjuster clamping screws.

5. Cycle the machine several cycles, applying terminals to the wire. Inspect the terminations for:

- nicked or cut wire strands;
- signs of torn insulation: the insulation should be cut cleanly and vertically.

6. If the wire strands are nicked, move the adjuster slightly (.25 to .38 [.010 to .015 IN.]) clockwise. If the insulation is torn, move the adjuster counterclockwise. If the wire strands are *not* nicked and the insulation is *not* torn, the stripping blade closure is correct.

5.6. Strip Guide Adjustment (Refer to Drawing No. 819528–1 and Figure 7)

1. Loosen the screws on the front strip guide (Item 63) and the feed pawl guide (Item 64).

2. Adjust the front strip guide in or out so that the terminal strip slides freely on the terminal strip guide plate without excess play.

3. Retighten the screws securing the front strip guide (Item 63) and the feed pawl guide (Item 64).

NOTE

Be sure there is clearance between the feed pawl and the feed pawl guides through the complete stroke of the feed pawl.

6. REPAIR AND REPLACEMENT OF PARTS

These procedures cover the applicator parts which most often need repair or replacement because of wear. Remove the applicator from the machine before doing any maintenance work. Refer to the assembly drawing packaged with the applicator for identification of parts. Be sure to order replacements for parts used from spare parts stock, so that they will be available when needed.

DANGER

To prevent injury, isolate machine from all sources of power and disconnect air supply before installing or removing the applicator. The machine ram should be in he raised position.

NOTE

Wipe parts with a clean, dry cloth as they are removed from the applicator. Then, when putting them back into the applicator, wipe the mating surfaces with your fingers to make sure that all lint and other foreign matter have been removed.

6.1. Anvil Replacement (Refer to Drawing No. 819528–1)

1. Remove the applicator from the “T” unit (see Paragraph 3.2).

2. From the bottom of the applicator base plate, remove the screw (item 54) which holds the anvil (item 53) in place.

3. Remove the anvil from the groove in the top of the base plate.

NOTE

If a section of terminal strip is in the way, lift the stock drag (item 41) and feed finger (item 75) and pull the strip back so the lead terminal is between the strip guides. See Figure 6.

4. Install anvil using reversed procedure. If a new anvil is required, be sure the part number of the new anvil agrees with the number on the applicator parts list.

5. Loosen the crimper bolt until it is just snug, then re–align the crimpers as described in Paragraph 6.3, Step 5.

6.2. Shear Plate Replacement

1. Remove the applicator from the “T” unit (see Paragraph 3.2).

2. Lift the stock drag and feed finger and pull the terminal strip out of the applicator. See Figure 6.

3. Loosen both of the two bolts (item 74, sheet 3 of 4) that attach the strip guide plate to the base plate, and remove the bolt which is farther from the anvil.

4. Slide the strip guide plate away from the crimp area to allow access to the two bolts (item 52, sheet 3 of 4) holding the shear plates to the strip guide.

5. Note which way the spacers are angled and remove the screws, shear plates, and spacers from the strip guide plate.

6. With old plates repositioned, or with new plates properly positioned, re–install shear plates and spacers and loosely secure them in place with the screws. Note that both shear plates should have the higher side of their slope closest to the anvil.

7. Slide the strip guide plate in slightly and make sure that the shear plates are both positioned all the way down against the base plate.

8. Tighten the two shear plate screws.

9. Slide the strip guide plate into position up against the anvil and insert the screw removed in Step 3 (item 74, sheet 3 of 4).

10. Hold the top of the ram assembly with one hand and slowly lower it to check the alignment of the slug blade with the shear plates. Move the strip guide plate forward or back until the slug blade fits between the newly positioned shear plates.

11. With the slug blade between the shear plates, tighten the screws (item 74) holding the strip guide plate to the base plate.

12. Set the applicator upright and raise the ram assembly until the slug blade is clear of the shear plates. Then lower and raise the ram assembly several times to be sure that the slug blade moves in and out of the shear plates freely.

13. Lift the stock drag and feed finger and slide the terminal strip section forward until the lead terminal is over the anvil.

6.3. Crimper Replacement (Refer to Drawing No. 819528–1)

1. Remove the wire pull unit from the applicator:

   a. remove the screws (item 71, sheet 2 of 4) that join the applicator with the pull unit;

   b. remove the two screws bolting the pull unit to the “T” unit (item 31, sheet 2 of 4).

2. Carefully remove the crimper bolt and spacer (items 27 and 28, sheet 3 of 4).

NOTE

The terminal hold–down is spring–loaded; do NOT lose the spring.

3. Note position of parts for re–installation and replace crimpers as required.

4. Re–install parts by reversing the removal procedure.

5. Form a piece of heavy paper over the anvil, and then hand–cycle the machine while watching the alignment of the crimpers with the anvil. When the ram assembly has reached the bottom of the stroke, push down on top of the insulation spacer to vary the initial position of the terminal hold–down (item 112) as needed, and tighten the crimper bolt.

6.4. Slug Blade Replacement

1. Remove the applicator from the “T” unit as described in Paragraph 3.2.

2. Remove the left and right ram caps (items 94 and 171, sheet 2 of 4) from the applicator.

3. Remove the ram assembly from the applicator.

   a. Pull ram to full up position.

   b. Hold cam (item 167, sheet 2 of 4) to the left while pulling the ram assembly toward the front, then to the right side. Ram assembly should now be separated from the applicator.

4. Remove the three screws (item 73, sheet 3 of 4) holding the cam to the slug blade.

5. Remove the two screws (item 115) holding the slug blade to the ram.

6. Re–assemble the parts in reverse order, making sure that there is not a loose fit when the left and right ram caps are tightened (items 94 and 171, sheet 2 of 4).

6.5. Adjustable Crimp Height Repair

Under the insulation disc is a laminated washer (see Figure 9) which may break or compress after extensive use, causing the applicator to produce terminations with a different crimp height than specified. To correct this problem, proceed as follows:

1. Subtract specified nominal crimp height from average crimp height recorded as part of Paragraph 5.1, Wire Crimp Adjustment. This difference will be the thickness of washer(s) (No. 690125–1) to be added under the insulation disc.

NOTE

Washer 690125–1 is a peel–type, laminated washer consisting of five layers, with each layer being .051 mm [.002 in.] thick.

2. Remove left and right ram caps from the applicator housing.

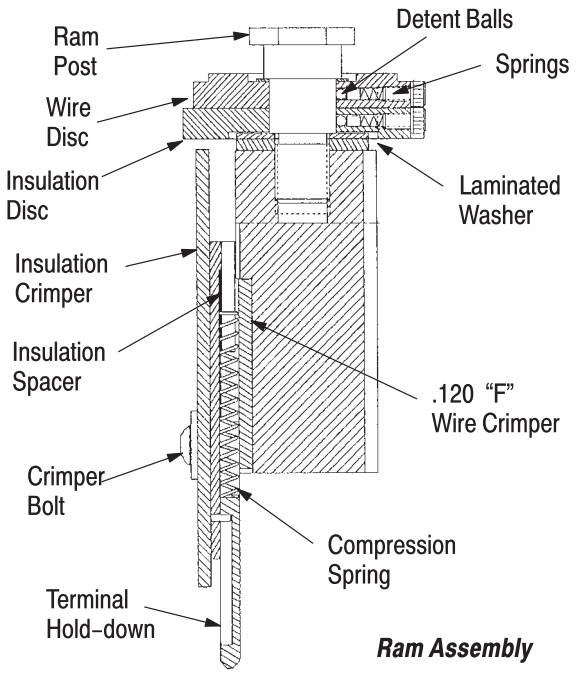

Figure 9

3. Remove the ram assembly from the applicator, and loosen the ram post locking screw (in the side of the applicator ram).

4. Hold the ram assembly with the ram post pointing down, and unscrew the ram from the ram post, leaving the wire disc and insulation disc in place on the ram post. If necessary, the end of the ram post may be placed in a vise to free both hands for turning the ram.

CAUTION

Do not remove wire disc and insulation disc from the ram post. Detent balls and springs will pop out and may become lost if the discs are removed.

5. Place washer(s) of thickness determined in Step 1 on the ram post. If the old washer is broken and must be replaced, measure the thickness of the broken washer with a micrometer. Add this measurement to the amount to be added (determined in Step 1), and select new washer(s) of this thickness. Place new washer(s) on the ram post.

6. Hold ram with the ram post hole facing downward, screw ram post into ram, and tighten by hand until post is snug.

7. Check that the numbers on the wire disc and letters on the insulation disc line up properly over top of the insulation crimper. Discs are held in position by ball detents. If necessary, turn ram back slightly until numbers and letters line up, then tighten the ram post locking screw to fasten the ram post in positio

NOTE

Turn the wire and insulation discs to other positions. When "click" of detent ball is heard, check for centering of number or letter over the insulation crimper.

8. Tighten the ram post locking screw (do *not* overtighten).

9. Put the ram assembly back into the applicator.

10. Install the applicator in the machine and make some test crimps. Measure crimp height, and check it against the crimp height specified on the applicator parts list. If crimp height is within the specified tolerances, the applicator may be placed in service. If not, repeat this procedure, beginning with Step 1.

7. CLEANING AND LUBRICATION

For best performance and minimum downtime, the applicator should be cleaned, inspected, and lubricated after each eight hours of operation, and each time it is removed from the machine to be placed in storage.

7.1. Cleaning

1. Remove the applicator from the machine.

2. Remove the ram assembly from the applicator as described in Paragraph 6.5.

NOTE

It is NOT necessary to remove terminal strip to clean the applicator.

3. Using a clean, dry cloth, remove dirt and chips from the applicator. The entire applicator may be immersed in a suitable commercial solvent (one that won't affect paint or plastic) once a month to flush out chips.

4. Lubricate the applicator as described in Paragraph 7.2 before re–assembling.

7.2. Lubrication

Lubricate applicator at the following points after each eight hours of operation. Lubricate with SAE No. 20 motor oil (non–detergent), or — where specified — use light grease.

CAUTION

Do NOT use too much oil or grease on the applicator. Any excess lubricant MUST be wiped off before placing the applicator back in service. Do NOT put lubricants between the wire and insulation discs, ball detents will become gummed up.

1. Take ram assembly out of the applicator as described in Paragraph 6.5. Clean the ram, and apply a thin coat of grease to each corner of the ram and the cam track (Item 91).

2. Carefully lay the applicator on its side, and put one drop of oil on the feed finger pin and on the lever pivot screw (Item 103). Remove excess oil.

3. Place the ram assembly back into the applicator. Wipe off excess grease.

8. APPLICATOR STORAGE

CAUTION

When storing the applicator, or when taking it out of the machine for any reason, use the following procedure to prevent the tooling from being damaged by the bottoming of the ram assembly.

1. Cut the terminal strip one or two terminals from the end of the applicator.

2. Take the applicator out of the machine as described in Section 3. Clean and lubricate the applicator as described in Section 7.

3. Lower the ram assembly to hold the lead terminal between the crimpers and the anvil. This will also serve to identify the type of terminal to be used when putting the applicator back in service.

9. REVISION SUMMARY

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

- The format was completely updated.
- The TE logo was added.