





molex[®]













**Mini-Mac Applicators
Order No. 63880-0000
Instruction Manual**









- Description
- Operation
- Maintenance

Safety Warnings and Information

	<p>Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.</p> <p style="text-align: center;"><u>Keep this manual available when using this tool.</u></p> <p style="text-align: center;">Replacement manuals are available for download at no charge at www.molex.com.</p>
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<h3 style="margin: 0;">SAFETY ALERT SYMBOL</h3>	
<p>This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.</p>	
 DANGER	<p>DANGER: Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.</p>
 WARNING	<p>WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</p>
 CAUTION	<p>CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events that could lead to personal injury.</p>

	<p> WARNING</p> <p>Always wear proper eye protection when Operating or servicing this equipment.</p> <p>Failure to wear eye protection could result in serious eye injury from flying debris.</p>		<p> WARNING</p> <p>Heavy Object</p> <p>To avoid muscle strain or back injury, use lifting aids and proper lifting techniques when removing or replacing.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>
	<p> WARNING</p> <p>Never wear clothing or jewelry that is loose or That could potentially hang into the equipment and get caught.</p> <p>Failure to observe this warning could result in Severe Injury or death.</p>		<p> WARNING</p> <p>Never install or service this machine while connected to any electrical power source. Disconnect power by unplugging the press from its power source.</p> <p>Failure to observe this warning could result In severe injury or death.</p>
	<p> WARNING</p> <p>Never operate, service, install, or adjust this machine without proper instruction and without first reading and understanding the instructions in this manual and all applicable press and/or wire processing machine. manuals.</p>		<p> WARNING</p> <p>Always hand cycle the applicator in the equipment to ensure the tooling is properly aligned.</p> <p>Failure to observe these precautions may result in Injury or property damage.</p>

	 WARNING	 WARNING
	<p>Never use this press or wire processing machine without guards or safety devices that are intended to prevent hands from remaining in the die space.</p> <p>Failure to observe this warning could result in Severe injury or death.</p>	
	 WARNING	
<p>Always wear proper ear protection when Operating or servicing this applicator.</p>		
 CAUTION		
<p>The Molex applicators are designed to operate in presses with standard shut heights of 135.80mm (5.346"). Installation in crimp presses with other than standard shut heights can cause severe tool breakage. It is advisable that before installation, a check of the shut height be performed. Molex will not be liable for any damages as a result of installation in a crimp press with nonstandard or improperly set shut height.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>		
 CAUTION		
<p>Never perform any service or maintenance other than as described in this manual.</p> <p>Never modify, alter or misuse the equipment</p> <p>Molex crimp specifications are valid only when used with Molex terminals, applicators and tooling.</p> <p>Failure to observe this precaution may result in injury and property damage.</p>		

Tooling Technical Assistance

Molex offers tooling technical assistance for customers who may need some guidance for tooling adjustments. This support can be obtained by calling either of the two numbers listed below and asking for the Molex Tooling Group.
 Call Toll Free 1-800-786-6539 (US) 1-630-969-4550 (Global).

This assistance is limited to the operation and set-up of a customer's Molex Press. Questions with regard to Molex connector products or how to identify the proper tooling and/ or tooling documentation should be directed to your local Molex personnel or Customer Service Representative.

When calling for service on the press a copy of the *Tooling Manual* and Specific *Applicator Tooling Specification Sheet* should be present and a person that is familiar with the applicator should be present. Be sure the following information is supplied:

1. Customer name
2. Customer address
3. Person to contact such as (name, title, e-mail, and telephone number)
4. Applicator order number (Lease number also if applicable)
5. Serial number (Lease number also if applicable)
6. Molex Connector product order number
7. Urgency of request
8. Nature of problem

Molex Application Tooling Group
 2200 Wellington Court
 Lisle, IL 60532, USA
 Tel: +1 (630) 969-4550
 Fax: +1 (630) 505-0049

Visit our Web site at <http://www.molex.com>

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Section 1

General Description

- 1.1 Description
- 1.2 Features
- 1.3 Technical Specifications
- 1.4 Delivery Check
- 1.5 Tools
- 1.6 Specification Sheets

Principal Mechanical Parts of the Rear-Carrier Metal Strip Applicator

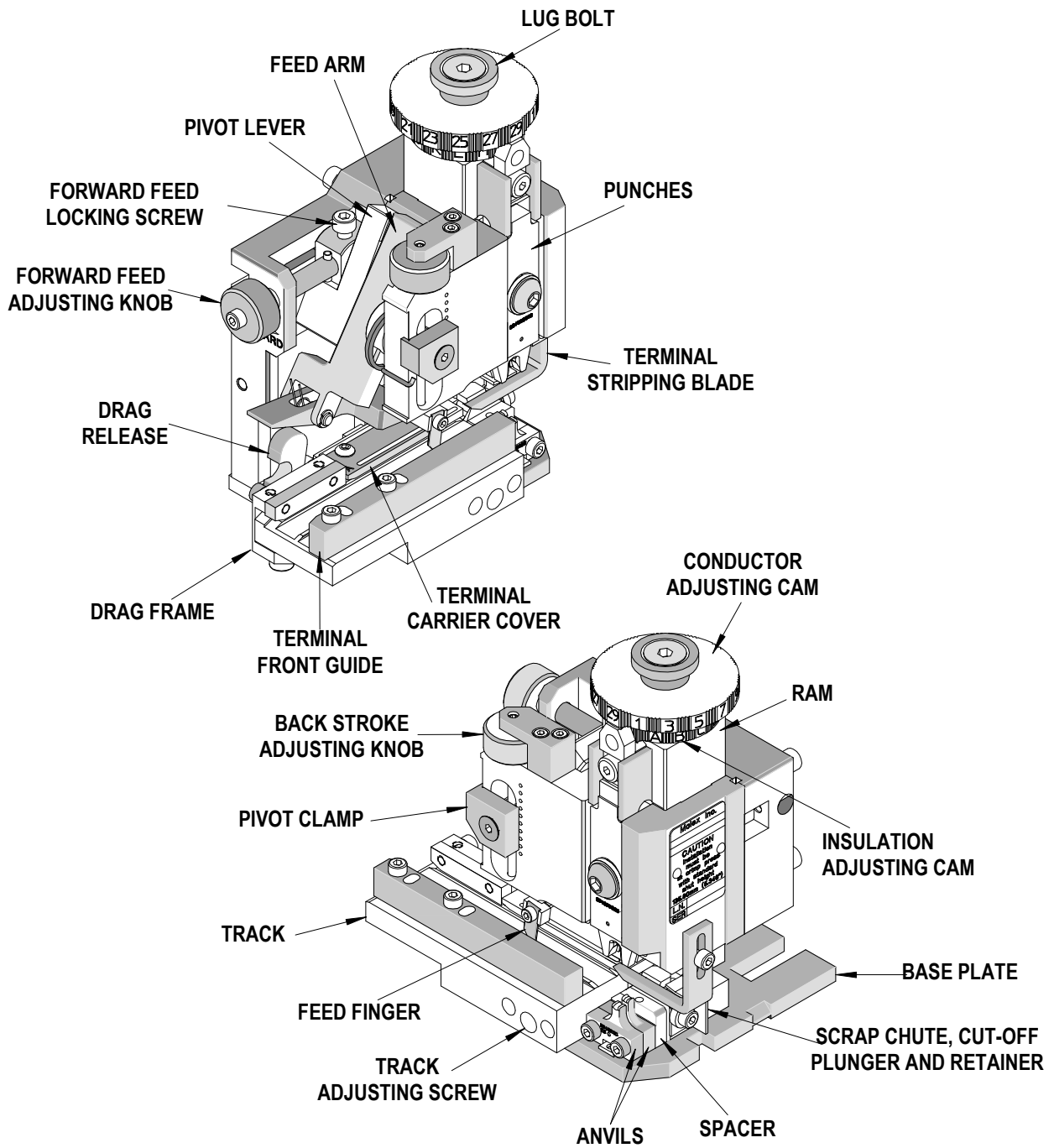


Figure 1-1 REAR-CARRIER METAL STRIP APPLICATOR

Principal Mechanical Parts of the Molded Strip Applicator

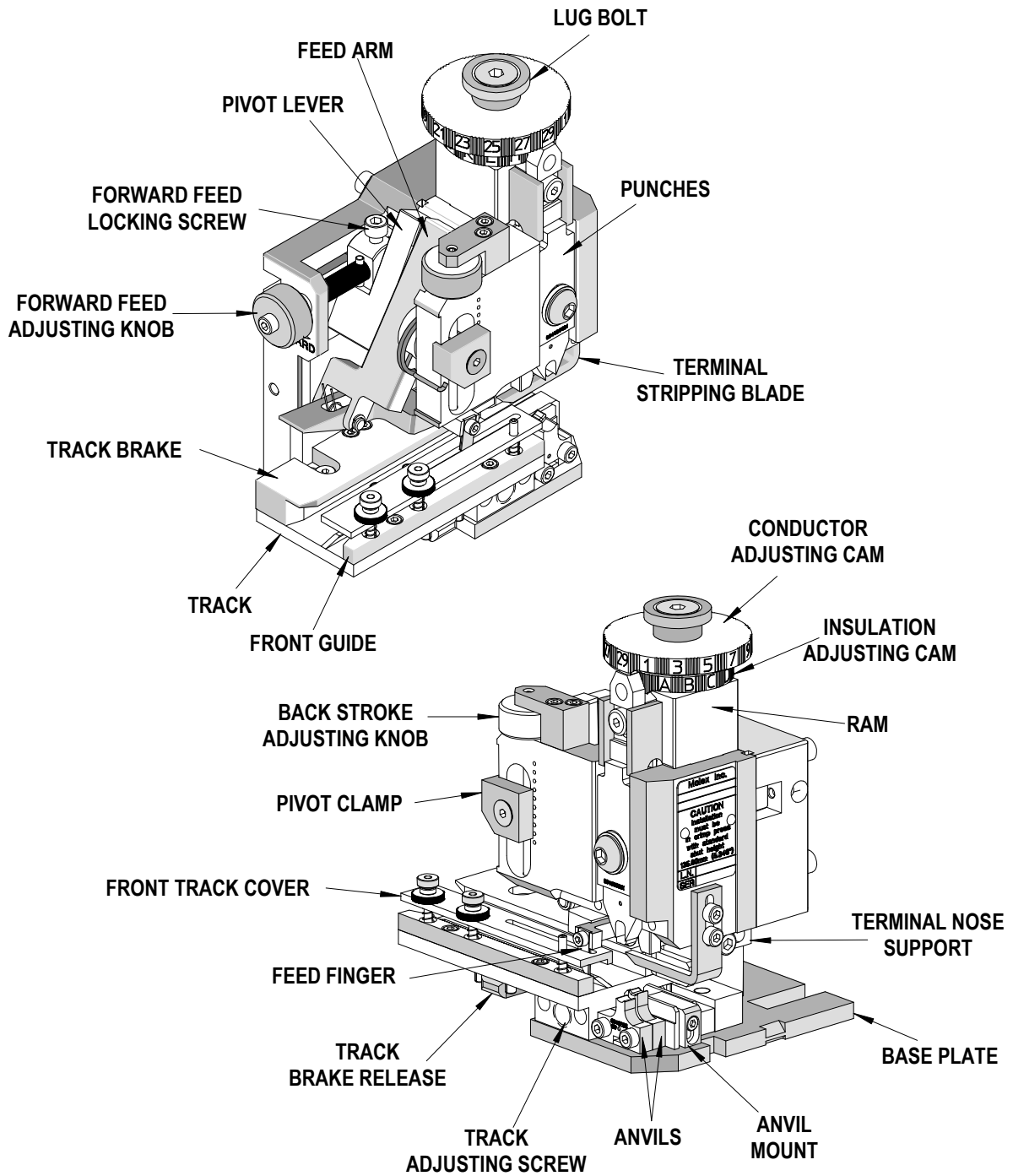


Figure 1-2 MECHANICAL FEED MOLDED STRIP APPLICATOR

**Principal Mechanical Parts of the Mechanical Air Feed Tape Applicator
Earlier Models**

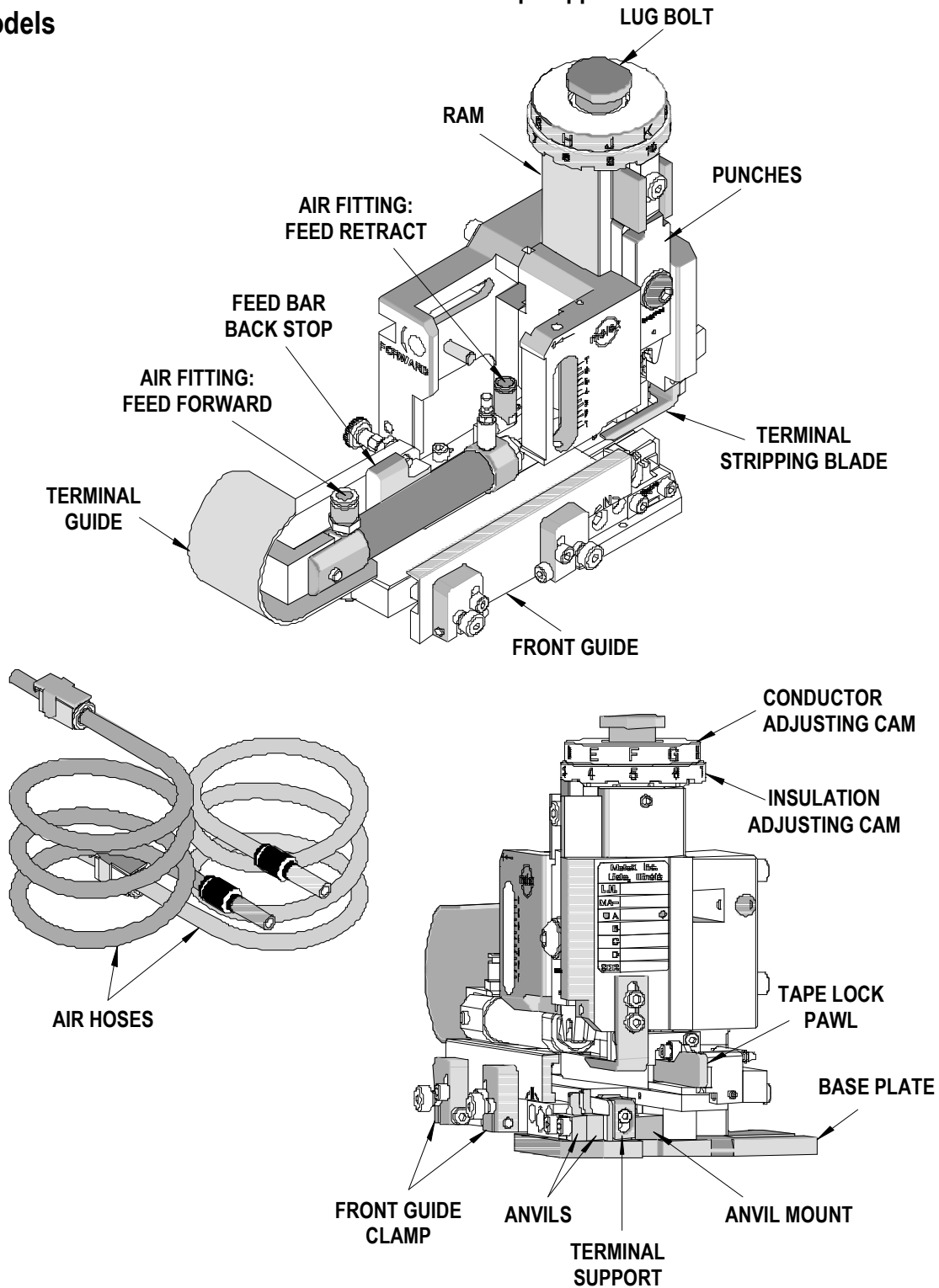


Figure 1-3 AIR-FEED MYLAR TAPE APPLICATOR
EARLIER MODELS

Principal Mechanical Parts of the Mechanical Air Feed Tape Applicator Later Models

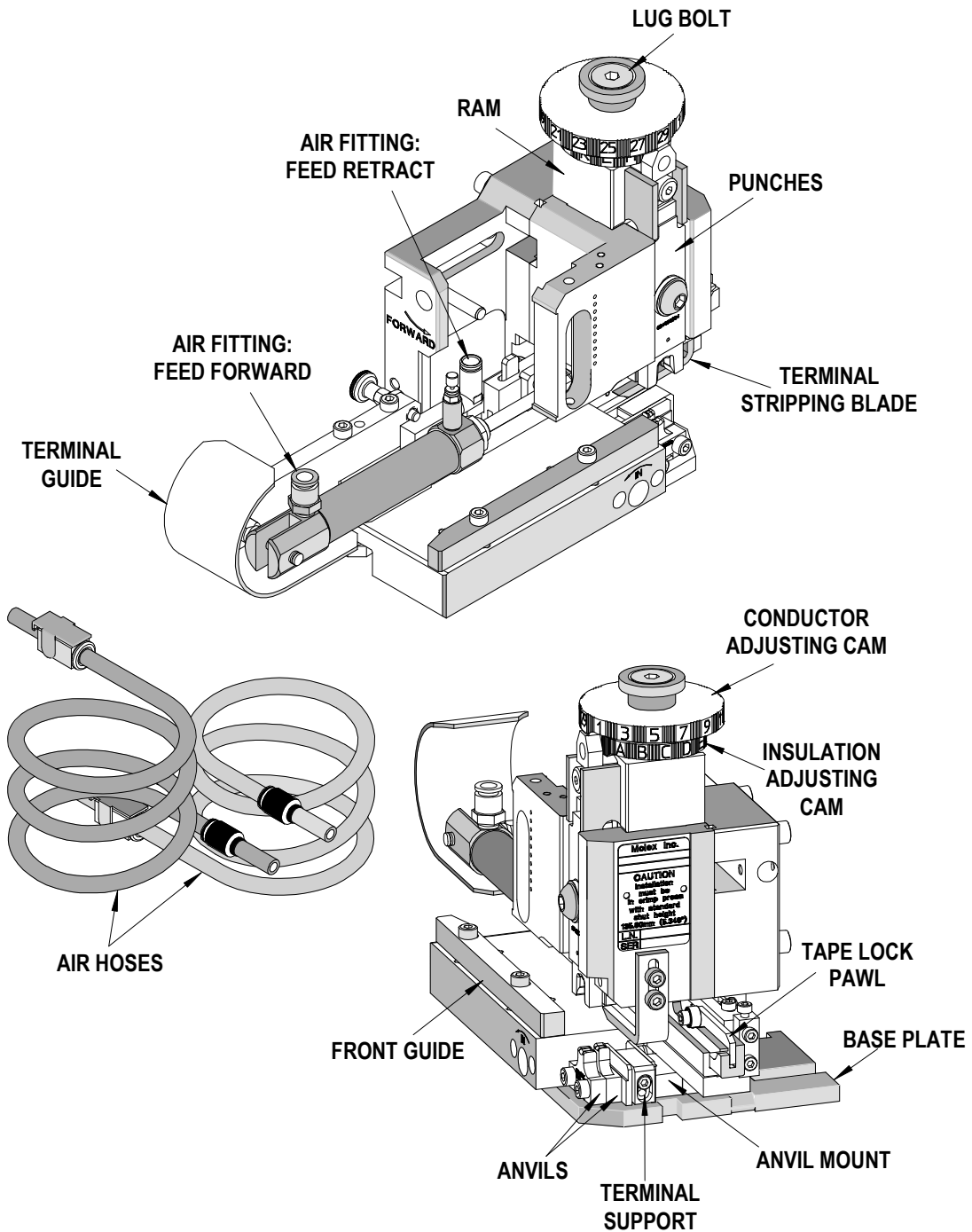


Figure 1-4 AIR-FEED MYLAR TAPE APPLICATOR
LATER MODELS

General Description

1.1 Description

The Molex Applicator provides an effective method of applying a wide range of side feed terminals to pre-stripped discrete wire(s). Quick adjustments of crimp height, track position, and terminal feed are possible without taking the applicator out of the press and without shimming. This allows crimp heights to maintain statistical control at, or near, mean even after wire change over.

This applicator works in the Molex TM-2000, TM-3000, and TM-4000 Universal Press, and in most industry standard presses. The Mini-Mac Applicator offers minimal setup time without the need for shimming, is versatile, reliable, easy to install, and is designed for mid-volume to high-volume, semi or fully-automatic operations.

Molex offers the following crimp presses for operating the Mini-Mac Applicator:

TM-3000 Universal Press 120V AC 60 Hz.

63801-7200

TM-3000 Universal Press 240V AC 60 Hz.

63801-7300

TM-4000 Universal Press 240V AC 60 Hz.

63801-7600

The Mini-Mac Applicator is also compatible with most OEM presses (Artos, Mecal, Komax, Megomat, Toyojamco, etc). It also adapts to most wire processing machines.

1.2 General Features

- Fine adjustment allows users to achieve target with little effort by adjusting in increments (14 settings) of 0.015mm (.0006") for conductor crimp height and (29 settings) in increments of .063mm (.0025") for insulation height.
- Independent adjustment rings allow users to quickly adjust either conductor or insulation crimp height without affecting each other.
- Punches are accessed from the front of the ram, simplifying change over.

- Track adjustment is done while the applicator is in the press.
- Compatible with the Molex TM-3000 Universal Press and most industry standard presses. However, it does NOT fit into Molex TM-40 or TM-42 presses.
- Directly adapts to most automatic wire processing machines.
- Applicator designed to industry standard mounting and 135.80mm (5.346") press shut height.
- Terminal feed adjusted with applicator in press



Caution: DO NOT use the applicator without guards

1.3 Technical Specification

Dimensions

Metal Strip and Molded Applicators

Width:	145mm	(5.7")
Depth:	110mm	(4.3")
Height:		
(with ram down)	145mm	(5.7")

Air Feed Tape Applicators

Width:	250mm	(9.8")
Depth:	110mm	(4.3")
Height:		
(with ram down)	145mm	(5.7")

Weight

4.1kg (9lbs)

Press Stroke Compatibility

Recommended maximum: 41.28mm (1 5/8")

Recommended minimum: 28.58mm (1 1/8")

Guarding

The Industrial Applicator is supplied with no guards and is intended to be used with the guards supplied by the press or wire processor manufacturer.

1.4 Delivery Check

Carefully remove the Mini-Mac Applicator from its shipping container and determine that the following items are included in the package.

- Mini-Mac Applicator (Tooled for desired terminal) 1
- Specification Sheet 1
- TM-638800000 Instruction Manual 1
- Sample Crimped Terminals 5

Metal Strip and Molded Strip applicators also include:

- 11-18-4238 Short Feed Cam 1

1.5 Tools

The following tools are recommended for setup and adjustments to the applicator in this press:

1. Metric standard hex wrench set
2. Wire stripper / cutter
3. Standard screwdriver, 1/8" tip
4. 7mm open-end ignition wrench (air feed applicators only-earlier model)

1.6 Specification Sheets

Specification sheets with every applicator. The specification sheet contains the following:

- ✓ Applicable terminal numbers
- ✓ Wire AWG ranges
- ✓ Insulation diameter ranges
- ✓ Pull Force specification
- ✓ Strip lengths
- ✓ Slug height/crimp height specification
- ✓ Tooling parts lists and assembly drawings

The specification sheet should be filed. These are available on the Molex website (www.molex.com).

Mini-Mac Applicator Mechanical Feed Dual Carrier Metal Strip

molex

Application Tooling Specification Sheet

Order No. 63885-3000

FEATURES

- Directly adapts to most automatic wire processing machines
- Applicator designed to industry standard mounting and slug height (33.80mm (1.330"))
- Quick set-up time; plus the crimp height, track, and feed adjustments can be set without removing the applicator from the press.
- Fine adjustment allows users to achieve target with little effort by adjusting in increments of .015mm (.0005") for conductor crimp height and .030mm (.0120") for insulation height.
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other.

SCOPE

Product: 3.18mm (.125") Male Pin Terminal, 16-18 AWG

Terminal Series No.	Terminal Order No.	Wire Size	Insulation Diameter	Strip Length
4234	4234-4001	16-18	1.304-1.00	195-128
				150-100

DEFINITION OF TERMS

The above terminal drawing is a generic terminal representation. It is not an image of any terminal listed in the scope.

inter power: Check that
 • 63885-3000
 m (1.330"), Tooling
 with the press or wire-
 struction manual
 applicator and tooling

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Section 2

Set-Up and Operation

- 2.1 Shut Height
- 2.2 Setup
- 2.3 Crimp Height Adjustments
- 2.4 Crimp Tooling Installation and Removal
- 2.5 Specific Applicator Adjustments
 - 2.5.1 Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series)
 - 2.5.2 Mechanical Feed Molded Strip Applicator (63883 and 63884 series)
 - 2.5.3 Air Feed Tape Applicator (63885 and 63886 series) **Earlier Models**
 - 2.5.4 Air Feed Tape Applicator (63885 and 63886 series) **Later Models**
 - 2.5.5 Mechanical Feed Front Metal Strip Applicators (63887 series)
- 2.6 Operation
 - 2.6.1 Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series)
 - 2.6.2 Mechanical Feed Molded Strip Applicator (63883 and 63884 series)
 - 2.6.3 Air Feed Tape Applicator (63885 and 63886 series) **Earlier Models**
 - 2.6.4 Air Feed Tape Applicator (63885 and 63886 series) **Later Models**
 - 2.6.5 Mechanical Feed Front Metal Strip Applicators (63887 series)



Read the following instructions before attempting to operate the applicators.

2.1 Shut Height

Molex Industrial Applicators must operate in crimp presses with standard shut height of 135.80mm (5.346"). Installation in crimp presses with other than standard shut heights can cause severe tool damage. Before installing the applicator, the press shut height must be verified. The correct shut height is required to prevent the punches from hitting the anvils and/or the cut-off plunger from bottoming out on the applicator's base plate. Proper shut height allows the exchange of applicators from press to similar press without readjusting the applicator's crimp height.

The shut height of the press can be checked with a shut height gauge, which is calibrated under load to achieve the 135.80mm (5.346") measurement. It is recommended that the shut height be checked monthly. A shut height gauge is available from most press manufacturers.

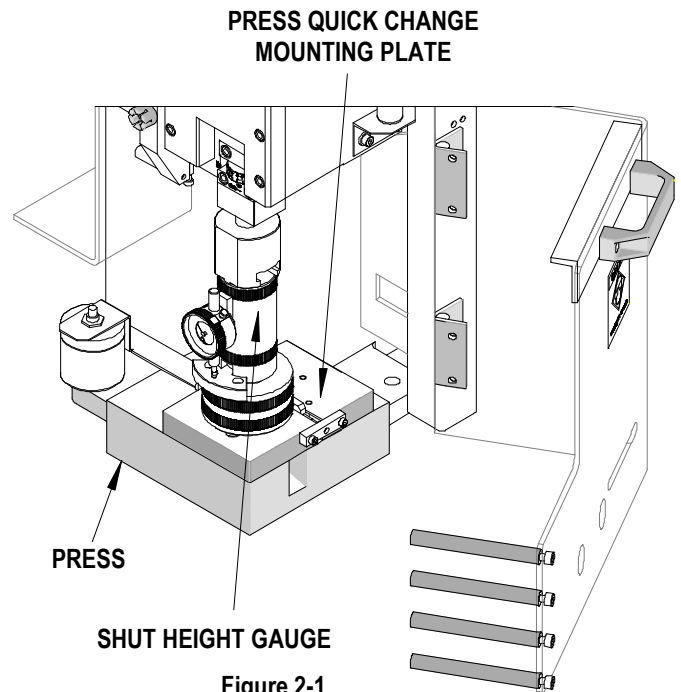


Figure 2-1

Measuring Press Shut Height

1. Disconnect the power supply from the press. Remove the machine guards if necessary.
2. Remove the applicator from the press (See Applicator Installation and Removal for additional information). Make sure that the bottom of the press ram and quick change mounting plate are free from foreign material.
3. Place the shut height gauge into the press on the press quick change mounting plate. See Figure 2-1.
4. Manually cycle the press to the full down stroke position. (Follow press manufacturers' instructions on manually cycling the press.)
5. Read the shut height measurement from the front of the gauge. Follow gauge manufacturer's instruction, usually the gauge reads "0" at the correct shut height.
6. If adjustments are necessary, refer to the press manufacturer for adjustment of the press shut height.
7. Repeat the above steps until the correct shut height is obtained.
8. Shut height gauges must be calibrated on a regular basis.

2.2 Set-Up



IMPORTANT

Power must be shut off and electrical cord disconnected. Manual press cycling is an absolutely required procedure for safety and preventing equipment damage. Always cycle by hand when trouble shooting or changing adjustments, tooling, applicator, or accessories.

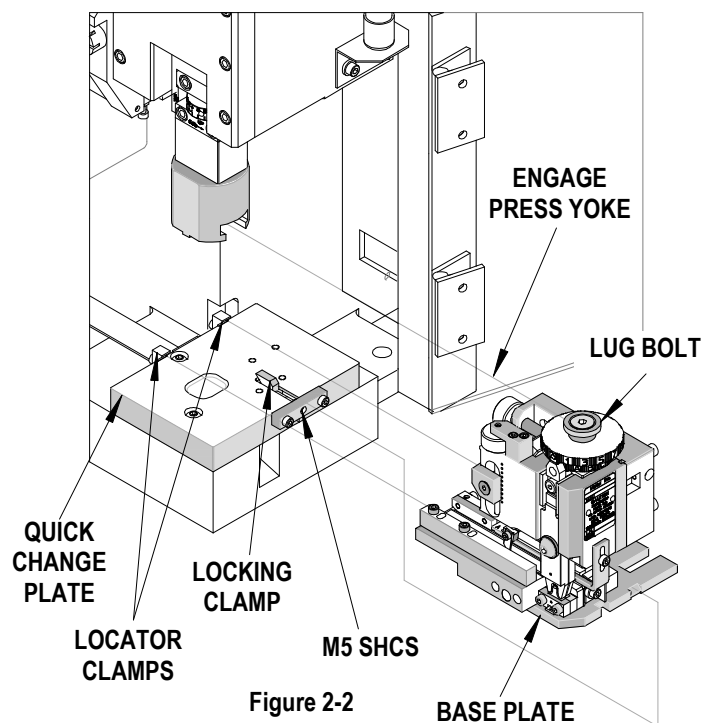
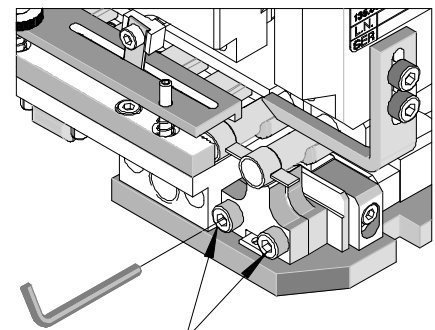


Figure 2-2

The principal mechanical parts of the Applicator are illustrated in Section 4.1 Assembly Drawings.

Applicator Installation and Removal

1. The press must be equipped with a common universal type quick-change mounting plate and adapter on the press. Contact the press manufacturer for specific information.
2. Turn off and disconnect the power. Remove the press guards.
3. Clean the quick-change mounting plate of scrap or chips that may interfere with the applicator installation.
4. **For the TM-3000 and TM-4000 Press follow the procedure below:**
 - a. Using a 4mm hex wrench, turn the M5 SHCS clockwise until the locking clamp is fully opened.
 - b. Visually align the applicator base plate slots with the location clamps on the press quick-change mounting plate.
 - c. Slide the Mini-Mac Applicator onto the quick-change mounting plate until the two notches on the left side engage against the stops, and at the same time, guide the lug bolt into the adapter on the press. See Figure 2-2.
 - d. To lock applicator, turn the M5 SHCS counter clockwise until tight.
5. Some presses have locking latches on the quick-change mounting plate which have to be flipped up to secure the applicator. Others have knurled finger screws or "T" type latches. Most of these are located on the right side of the quick-change mounting plate to secure the position of the applicator. These must be in place and secured before operating the press.
6. **Air Feed Applicator:** Connect the air lines from the feed cylinder to the press air valve. The air line connected to the left side of the cylinder causes the feed to advance and should be connected to the "normally open" valve port. The air line connected to the right side of the cylinder (with the flow control valve) causes the feed to retract and should be connected to the "normally closed" valve port.
7. Replace the press guards.
8. Remove the applicator by reversing the previous steps. When storing an applicator, always leave a strip of terminals in the applicator on the anvils to prevent damage to the tooling. See Section 3.5 Storage.



RELEASE M4 SHCS Figure 2-3

Punch and Anvil Alignments

Note: Always clean mounting surfaces of crimp tooling and tooling holders prior to alignment.

1. Disconnect power from the press. Remove the machine guards if necessary.
2. Using a 3mm hex wrench, slightly loosen the anvil mounting screws. See Figure 2-3.
3. Slowly hand-cycle the ram of the press to bottom of its stroke. With the punches engaging the anvils, securely tighten the anvil mounting screws to ensure alignment of punches and anvils.
4. Hand cycle the press ram to its up position.
5. Replace the machine guards before operating the press.

2.3. Crimp Height Adjustments

Conductor Crimp Punch Adjustment

1. Obtain a piece of solder, approximately 40mm (1.5") long and approximately 0.5mm (.02") larger in diameter than the crimped slug height. If the solder diameter is too large the crimped slug will have large extrusions, making it difficult to measure the overall slug height.

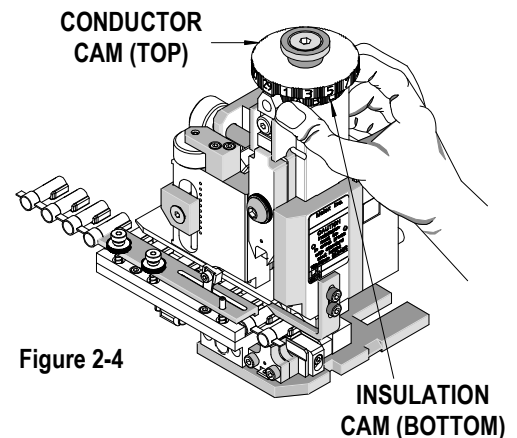


Figure 2-4

INSULATION CAM (BOTTOM)

2. With no terminals in the applicator, lay the solder across the anvils and cycle the press (by hand or under power).
3. Using a crimp micrometer or dial caliper, measure the solder slug height and compare to specification.
4. If adjustments are necessary, turn off the press. Remove the machine guards.
5. The desired crimp height can be achieved by rotating the conductor adjusting cam. See Figure 2-4. There are 14 cam positions, with increments of 0.015mm (.0006") between positions (a total adjustment of 1.80mm). The "A" setting is the loosest (highest) crimp height and the "N" setting is the tightest (lowest). If crimp height is not within specification, rotate the adjusting cam, crimp another solder slug, and measure until crimp height is in spec.

NOTE: Crimp height adjustments for open-barrel industrial terminals are always based on solder slug heights, not terminal crimp heights.

1. Replace the machine guards, load the terminals, and crimp several wires under power.
2. Perform a pull test on conductor crimp to verify the mechanical integrity of the crimp. See Appendix A-Pull Force Test.

Insulation Crimp Height / Molded Strip Cut-off Timing

1. Place a stripped length of the appropriate wire into the terminal and crimp under power.
2. Observe quality of insulation crimp.
3. If adjustments are necessary, turn off the press. Remove the machine guards.
4. Rotate the insulation adjusting cam to achieve the desired insulation height. There are 29 cam positions, with increments of 0.06mm (.0025") between positions (a total adjustment of 3.00mm). The "1" setting is for the loosest (highest) crimp height and the "29" setting is the tightest (lowest).
5. Repeat the previous steps until the desired insulation crimp is obtained.

Note: Due to the large variety of insulation wall thickness, materials, and durometers, Molex does not specify insulation crimp height.

Note: On the molded strip applicator, the insulation adjusting cam is used for setting the cutoff punch timing. A low ("1") setting may result in the carrier not being cut.

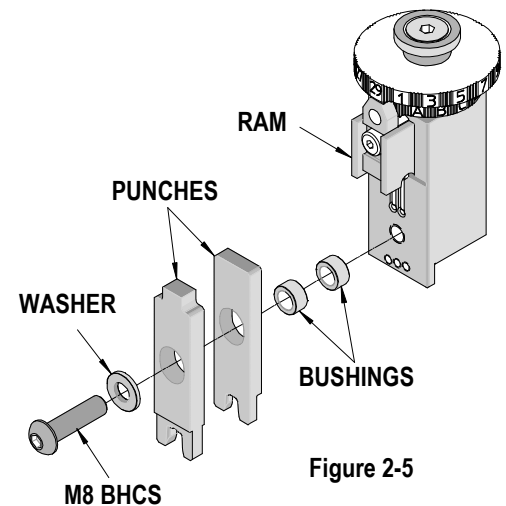


Figure 2-5

2.4 Crimp Tooling Installation and Removal



Caution: Always disconnect power before installing or removing tooling.

Installation and Removal of the Upper Tooling (Punches)

NOTE: Always clean mounting surfaces of crimp tooling and tooling holders prior to installation.

1. Disconnect power from the press. Remove the machine guards if necessary.
2. To remove the punches, use a 5mm hex wrench to remove the M8 BHCS holding the punches, washer, and the bushings to the ram. See Figure 2-5.
3. Remove the screw, punches, washer, and bushings together. Be careful not to lose the washer or bushings that go between the punches.

- To install, place the punches with the bushings and washer against the ram and securely tighten the M8 BHCS. The conductor punch ("E2") goes against the ram and the insulation (or cutoff) punch ("I2") is stacked on the conductor punch. Make sure the etched part numbers on each punch face outward.

Note: The correct length bushing must be used with the punches. A bushing that is too short will cause the punches to be clamped tight, preventing adjustment. A bushing that is too long will cause excessive movement of the punches and possibly damage or destroy the punches and/or anvils. See the parts list in the desired Specification Sheet for the correct bushings.

Installation and Removal of the Lower Tooling (Anvils)

NOTE: Always clean mounting surfaces of crimp tooling and tooling holders prior to installation.

- Disconnect power from the press. Remove the machine guards if necessary.
- If the ram is down, move it manually to the full up position.
- Metal strip applicators** (63881 and 63882 series) have a spring loaded cutoff plunger that must be released prior to removing the anvils. To release the spring load, hold the cutoff plunger down (if the applicator ram is hand-cycled partly down, the plunger striker will hold down the plunger) and use a 3mm hex wrench to remove the plunger retaining screw. After the screw is removed, slowly release the plunger. See Figure 2-6.
- To remove the anvils, use a 3mm hex wrench to remove the (2) M4 SHCS that hold the lower tooling in place.
- To install, insert the new anvils, leaving the mounting screws slightly loose. The conductor anvil ("E1") is installed first and the insulation anvil ("I1") is stacked onto it. Make sure the etched part numbers on each anvil face outward.
- Metal strip applicators** (63881 and 63882 series) use front and rear spacers along with a cutoff blade and a plunger retainer. These items must be stacked in the proper order before installing the anvils. The proper stacking is shown in the applicator's Specification Sheet.
- The anvils must be aligned to the punches before tightening the screws. See section 2.2 (Set Up; Punch and Anvil Alignment).

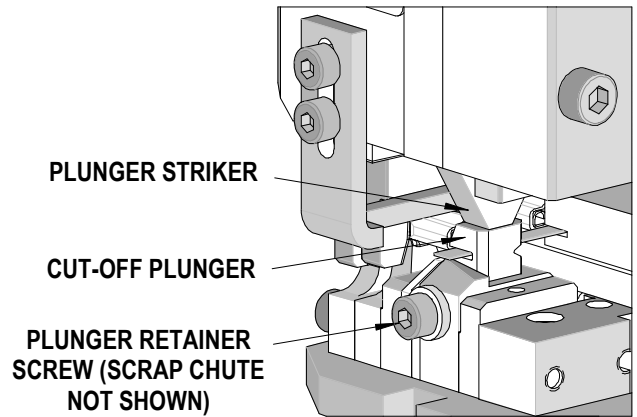


Figure 2-6

2.5 Specific Applicator Adjustments

2.5.1 Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series)

Terminal Front Guide Adjustments

The front guide (63801-4510) keeps the terminal strip in position for a uniform crimp location and a consistent cut-off from the carrier strip. If the terminal strip is excessively loose or tight in the applicator track, follow this adjustment procedure:

- Disconnect power from the press. Remove the machine guards if necessary.
- Load a short (approx. 150mm/6") strip of terminals into the applicator track. If the strip cannot be started into the track (track too tight), proceed to step 3.
- Using a 3mm hex wrench, loosen the (2) M4 SHCS holding the guide in place. See Figure 2-7.

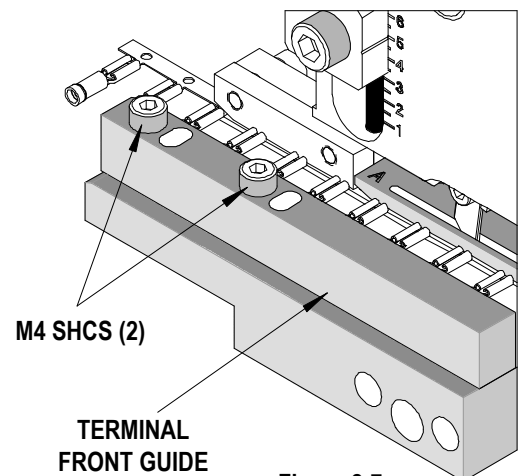


Figure 2-7

4. Gently push the guide up to the terminals until it touches.
5. Securely tighten the (2) M4 SHCS.
6. Verify that the terminal strip slides freely in the applicator track, without excessive play.

Terminal Carrier Cover Positioning

The applicator track accommodates various terminal lengths. There are two steps in the track for the terminal carrier strip. Longer and/or insulated terminal carriers typically rest on the upper step. Some shorter, un-insulated terminals use the lower step.

When changing products, it may be necessary to reposition the carrier cover depending on which track step is used:

1. Disconnect power from the press. Remove the machine guards if necessary.
2. Remove the applicator from the press. See Section 2.2.
3. Lay the applicator on its side. Using a 4mm hex wrench, remove the (2) M6 BHCS that hold the applicator frame to the base plate. See Figure 2-8.
4. Lift the applicator frame off the base plate.
5. Using a 2mm hex wrench, remove the (2) M3 BHCS holding the carrier cover to the track. See Figure 2-9.

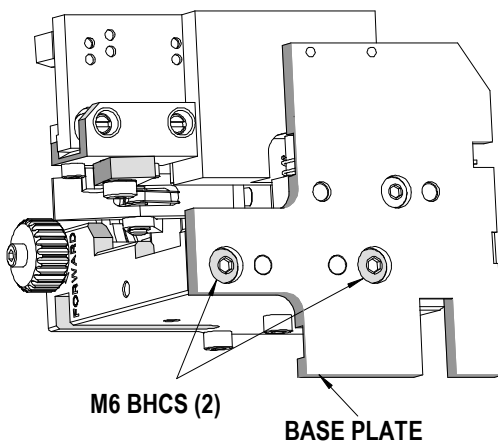


Figure 2-8

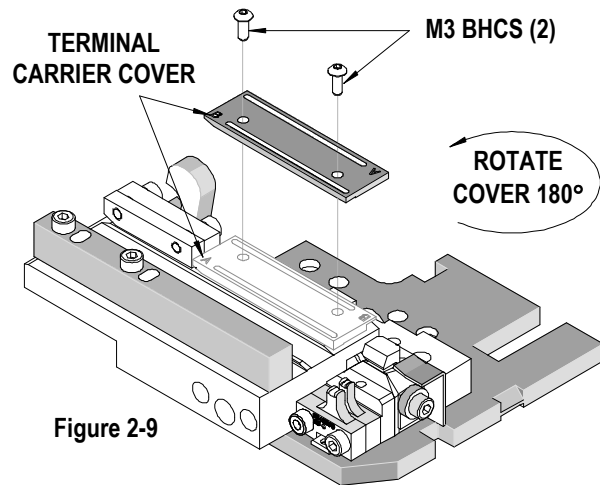


Figure 2-9

6. Rotate the carrier cover 180° and place it back on the track, pushing the step in the cover against the track edge. The carrier cover can be mounted in two positions.
7. Securely tighten the (2) M3 BHCS.
8. Place the applicator frame back on the base plate and securely tighten the (2) M6 BHCS.
9. After repositioning the carrier cover, it will be necessary to adjust the terminal front guide, track position, and feed finger location.

Track Position Adjustment

1. Disconnect power from the press. Remove the machine guards if necessary.
2. To position the terminal track in or out, first use a 5mm hex wrench to loosen the M10 lock screw located on the front of the track. See Figure 2-10.
3. Put a regular screwdriver through the hole in the lock screw and turn the adjusting screw to position the terminal in the correct location. Turning the screw clockwise will move the track

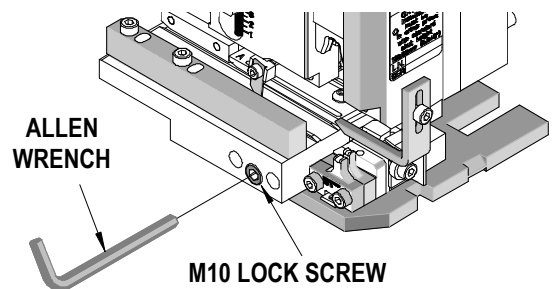


Figure 2-10

towards the operator; to move the track towards the applicator turn the screw counterclockwise. Depending on the amount of movement, the feed finger mount may need to be loosened and readjusted. See Feed Finger adjustment.

4. To lock the track in position, tighten the M10 lock screw.
5. If the feed finger mount was loosened during the track positioning, remember to tighten its mounting screw.
6. Replace machine guards.
7. Hand cycle the press to ensure the terminal is positioned properly on the anvils and does not have an excessive cutoff tab. Also verify the terminal feed operation.
8. Restore power to the press, crimp a terminal under power, and observe the quality of the termination.
9. Repeat the above steps until the desired terminal position is obtained.

Feed Finger Adjustments

1. The feed finger must be located to properly feed the terminals. Typically the feed finger pushes on the web between the terminal nose and the carrier strip. Sometimes the carrier strip hole is used.
2. Depending on the feed cam installation (pre-feed or post-feed), move the press ram until the feed is forward (this makes the feed finger mount more accessible), then disconnect power from the press. Remove the machine guards if necessary.
3. Using a 2.5mm hex wrench, loosen the M3 SHCS located on the feed finger mount. While holding the feed finger lever down slightly, slide the feed finger to the desired position. See Figure 2-11.

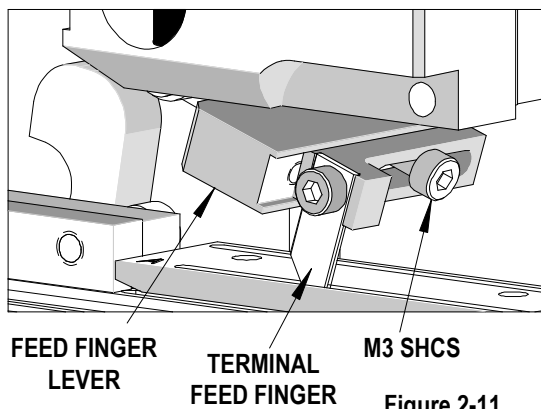


Figure 2-11

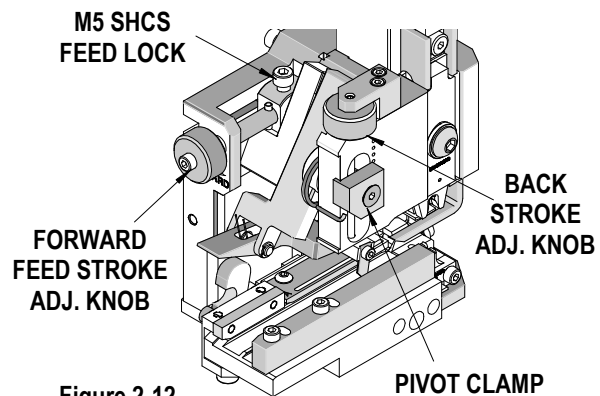


Figure 2-12

4. If the feed finger mount cannot be moved far enough, remove the M3 SHCS completely and install it in another tapped hole on the feed finger lever. In addition, the feed finger mount can be reversed (the feed finger must be reversed as well) to gain additional adjustment.
5. Tighten the M3 SHCS to lock the feed finger in position.

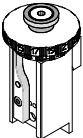
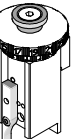
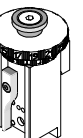
Forward Feed Adjustments

1. The forward feed position must locate the terminal that is being crimped exactly over the anvils.
2. Disconnect the power from the press. Remove the machine guards if necessary.
3. Make sure there is a terminal over the anvils and the feed finger is fully forward (closest to the anvils). Depending on the feed cam setup, the ram must be either (partly) down or fully up at this point.
4. Turn the forward feed adjusting knob to position the terminal. To decrease the feed position, turn the forward feed adjusting knob clockwise. To increase the feed position turn the forward feed adjusting knob counterclockwise. See Figure 2-12.
5. When adjusting to decrease the feed position, it is necessary to pull the terminal strip backwards until it is against the feed finger. When increasing the feed position, the feed finger will push the terminal farther over the anvils.
6. Restore power to the press and crimp several terminals under power. Observe the terminal location on the anvils and readjust if necessary.

Feed Stroke Cam Adjustments

1. The feed stroke is controlled by the ram and is determined by the press stroke. For example, a press with a 28.58mm (1 1/8") stroke uses a shorter feed cam. A press with a 41.28mm (1 5/8") stroke uses a longer feed cam. Refer to the press manual to determine the press stroke.
2. Determine what feed timing is desired. Typically, when the applicator is mounted in a wire processing machine, the feed cam should be assembled in the down stroke position. While the press is idle (in the up position), a terminal will not be present over the anvil. For most bench applications, the cam is installed in the up stroke position. This will leave a terminal over the anvil when the press is idle (in the up position). See Figure 2-13.
3. Turn off and disconnect the power supply from the press. Remove the machine guards if necessary.
4. Remove the applicator from the press. See Applicator Installation and Removal.
5. Pull back on the feed pivot lever and remove the ram from the applicator.
6. Remove the punch(es) from the ram.
7. Use a 3mm hex wrench to remove the M4 SHCS holding the cam on the back of the ram.
8. Position the cam in the desired position for feeding and attach with the M4 SHCS. See Figure 2-13.
9. Replace the punch(es) and reinstall the ram in the applicator.

Figure 2-13

Feed Cam Order No.	Press Stroke		Feed Timing
	mm	In.	
 63801-3202	41.28	1-5/8	Up stroke (terminal present over anvil)
	28.58	1-1/8	
 63801-3202	41.28	1-5/8	Down stroke (terminal not present over anvil)
 11-18-4238	28.58	1-1/8	Down stroke (terminal not present over anvil)

Back Stroke Feed Adjustments

1. To properly feed the terminal strip, the back feed stroke should have enough over-travel to pick up the next terminal. Too much over travel may, in some cases, cause a double-feed.
2. Disconnect the power from the press. Remove the machine guards if necessary.
3. To achieve the correct back stroke location, adjust the position of the hinge bushing. First, use a 3mm hex wrench to loosen the pivot clamp. Turning the back stroke adjustment knob (which is located above the hinge bushing) clockwise (CW) will raise the hinge bushing and will increase the feed back stroke. Turning the knob counter clockwise (CCW) will lower the hinge bushing and will decrease the feed back stroke. When adjustment is complete, tighten the pivot clamp securely. See Figure 2-12.
4. Since back feed stroke adjustment may not be visibly obvious, the terminal feed should be cycled (by hand, if possible) to observe the changes.
5. Back feed stroke adjustments may affect the entire feed linkage; re-adjustment of the forward feed stroke could be necessary. See Forward Feed Adjustments.

2.5.2 Mechanical Feed Molded Strip (63883 series)

Front Guide Adjustments

The front guide (63801-4459) is not adjustable. The travel of the track brake allows various terminal lengths to fit in the track.

While the track brake accommodates various terminal lengths, the track assembly must be adjusted to position the terminal over the anvils. See Track Adjustments.

Front Track Cover Adjustments

1. Disconnect power from the press. Remove the machine guards if necessary.
2. The front track cover (63801-4456) is adjusted up or down, depending on the diameter of the terminal barrel. See Figure 2-14.
3. The cover height adjustment is done by moving the thumb nuts (63600-1517 and 63600-1518) up or down, allowing the terminal strip to move through the track with a minimal clearance. The top thumb nut (63600-1518) should be tightened against the bottom thumb nut to lock the adjustment.

NOTE: Excessive clearance between the front track cover and the terminal strip can cause cutoff problems. Insufficient clearance will create excessive drag and possible feed or terminal positioning problems.

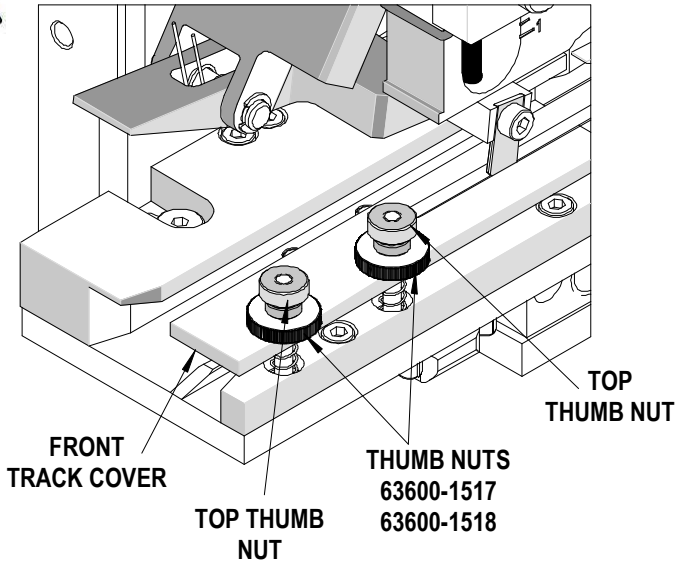


Figure 2-14

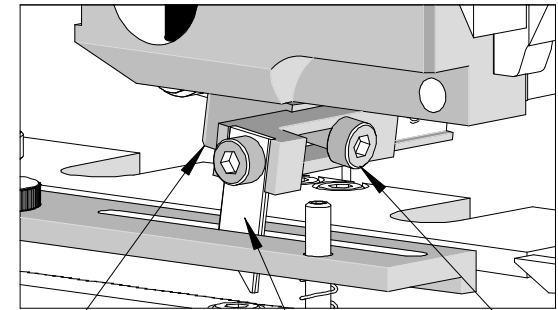


Figure 2-15

Feed Finger Adjustments

1. The feed finger must be located to properly feed the terminal. The feed finger runs in the slot of the front cover, pushing on the terminal barrel just above the molded carrier.
2. Depending on the feed cam installation (pre-feed or post-feed), move the press ram until the feed is forward (this makes the feed finger adjustment more accessible), then disconnect power from the press. Remove the machine guards if necessary.
3. Using a 2.5mm hex wrench, loosen the M3 SHCS located on the feed finger mount. While holding the feed finger lever down slightly, slide the feed finger to the desired position. See Figure 2-15.
4. If the feed finger mount cannot be moved far enough, remove the M3 SHCS completely and install it in another tapped hole on the feed finger lever. Tighten the M3 SHCS to lock the feed finger in position.

Forward Feed Adjustments

1. The forward feed position must locate the terminal that is being crimped exactly over the anvils.
2. Disconnect the power from the press. Remove the machine guards if necessary.
3. Make sure there is a terminal over the anvils and the feed finger is fully forward (closest to the anvils). Depending on the feed cam setup, the ram must be either (partly) down or fully up at this point.
4. Turn the forward feed adjusting knob to position the terminal. To decrease the feed position, turn the forward feed adjusting knob clockwise. To increase the feed position turn the forward feed adjusting knob counterclockwise. See Figure 2-16.

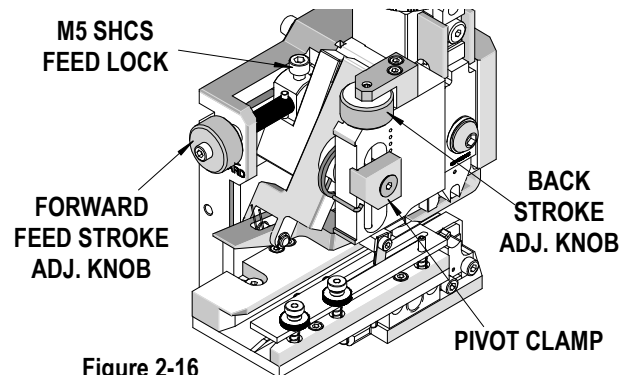


Figure 2-16

5. When adjusting to decrease the feed position, it is necessary to pull the terminal strip backwards until it is against the feed finger. When increasing the feed position, the feed finger will push the terminal farther over the anvils.
6. Restore power to the press and crimp several terminals under power. Observe the terminal location on the anvils and the quality of the molded strip cutoff (each side of the barrel should have a similar appearance); readjust if necessary.

Feed Cam Selection and Mounting

1. The feed stroke is controlled by the ram and is determined by the press stroke. For example, a press with a 28.58mm (1 1/8") stroke uses a shorter feed cam. A press with a 41.28mm (1 5/8") stroke uses a longer feed cam. Refer to the press manual to determine the press stroke.
2. Determine what feed timing is desired. Typically, when the applicator is mounted in a wire processing machine, the feed cam should be assembled in the down stroke position. While the press is idle (in the up position), a terminal will not be present over the anvil. For most bench applications, the cam is installed in the up stroke position. This will leave a terminal over the anvil when the press is idle (in the up position). See Figure 2-17.
3. Turn off and disconnect the power from the press. Remove the machine guards if necessary.
4. Remove the applicator from the press. See Applicator Installation and Removal.
5. Pull back on the feed pivot lever and remove the ram from the applicator.
6. Remove the punches from the ram.
7. Use a 3mm hex wrench to remove the M4 SHCS holding the cam on the back of the ram.
8. Position the cam in the desired position for feeding and attach with the M4 SHCS. See Figure 2-17.
9. Replace the punches and reinstall the ram in the applicator.

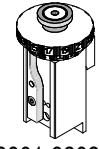
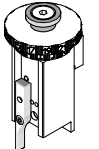
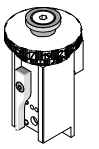
Back Stroke Feed Adjustments

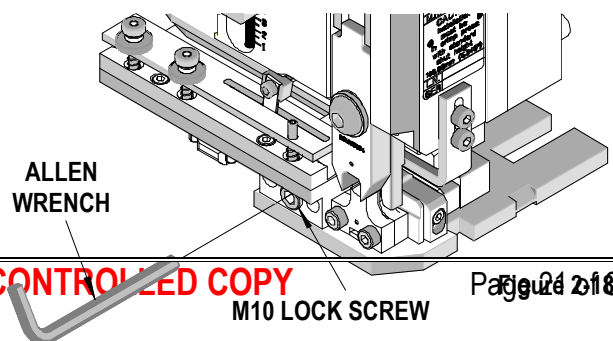
1. To properly feed the terminal strip, the back feed stroke should have enough over-travel to pick up the next terminal. Too much over travel may, in some cases, cause a double-feed.
2. Disconnect power from the press. Remove the machine guards if necessary.
3. To achieve the correct back stroke location, adjust the position of the hinge bushing. First, use a 3mm hex wrench to loosen the pivot clamp. Turning the back stroke adjustment knob (which is located above the hinge bushing) clockwise (CW) will raise the hinge bushing and will lengthen the feed back stroke. Turning the knob counter clockwise (CCW) will lower the hinge bushing and will decrease the feed back stroke. When adjustment is complete, tighten the pivot clamp securely. See Figure 2-16.
4. Since back feed stroke adjustment may not be visibly obvious, the terminal feed should be cycled (by hand, if possible) to observe the changes.
5. Back feed stroke adjustments may affect the entire feed linkage; re-adjustment of the forward feed stroke could be necessary. See Forward Feed Adjustments.

Track Position Adjustment

1. Disconnect power from the press. Remove the machine guards if necessary.

Figure 2-17

Feed Cam Order No.	Press Stroke		Feed Timing
	mm	In.	
 63801-3202	41.28	1-5/8	Up stroke (terminal present over anvil)
	28.58	1-1/8	
 63801-3202	41.28	1-5/8	Down stroke (terminal not present over anvil)
 11-18-4238	28.58	1-1/8	Down stroke (terminal not present over anvil)



2. To position the terminal track in or out, first use a 5mm hex wrench to loosen the M10 lock screw located on the front of the track. See Figure 2-18.
3. Put a regular screwdriver through the hole in the lock screw and turn the adjusting screw to position the terminal in the correct location. Turning the screw clockwise will move the track towards the operator; to move the track towards the applicator turn the screw counterclockwise. Depending on the amount of movement, the feed finger mount may need to be loosened and readjusted. See Feed Finger adjustment.
4. To lock the track in position, tighten the M10 lock screw.
5. If the feed finger mount was loosened during the track positioning, remember to tighten its mounting screw.
6. Replace machine guards.
7. Hand cycle the press to ensure the terminal is positioned properly on the anvils. Also verify the terminal feed operation.
8. Restore power to the press, crimp a terminal under power, and observe the quality of the termination.
9. Repeat the above steps until the desired terminal position is obtained.

Nose Support Adjustment

The nose support (part no. 63466-0931) is used to prevent the terminal from being pushed back when the wire is pushed into the terminal.

1. If the nose support is adjusted too far forward it may create excessive drag on the terminal nose and may cause terminal position problems.
2. If the nose support is adjusted too far back the terminal could be pushed back by the wire, misaligning the terminal to the crimp and cutoff tooling.
3. To adjust the nose support, use a 4mm hex wrench to loosen the M5 SHCS holding the nose support to the applicator frame. Move the support forward or back until it just clears the terminal nose. Retighten the screw. See Figure 2-19.

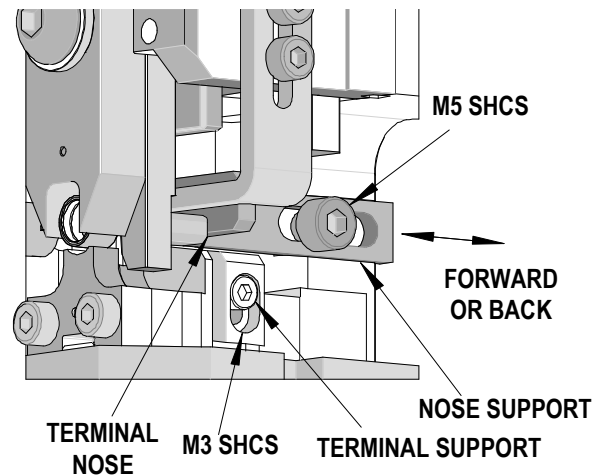


Figure 2-19

Terminal Support Adjustment

The terminal support (63466-0913) is located behind the conductor anvil, providing support for the nose of the terminal during crimping. Most terminal bending problems can be remedied with a terminal support adjustment. For molded strip applicators, the terminal support position can influence the cutoff performance.

1. Disconnect power from the press. Remove the machine guards if necessary.
2. To adjust the terminal support, use a 2.5mm wrench to loosen the M3 SHCS holding it in place. See Figure 2-19.
3. Raise or lower the support until it is just below the terminal. Remember that, during crimping, the entire terminal goes down. If the support is adjusted too high, the terminal nose will bend up. An adjustment that is too low will not support the terminal and will cause cut off timing problems.
4. When adjustment is complete, securely tighten the M3 SHCS.

Stripping Blade Adjustment

The stripping blade (part no. 63466-0921) is used to prevent the crimped terminal from sticking in the punches when the ram moves up.

1. If the stripping blade is adjusted too far down, it may create excessive drag on the terminals, resulting in feed problems.

2. If the stripping blade is adjusted too far up, it may cause a wire bend problem (in a wire processor) since the crimped terminal will be carried farther up by the retracting punch.
3. To adjust the stripping blade, loosen the two M4 SHCS holding the blade to the applicator frame.
4. Move the stripping blade up or down as necessary, until the bottom of the blade is just above the terminal that is over the anvils.
5. Retighten the two M4 SHCS. See Figure 2-20.
6. **The clearance in the stripper blade's adjustment slot can cause the blade to interfere with back of the conductor punch. After adjusting the stripper blade, always hand-cycle the press to insure that the blade clears the conductor punch.**

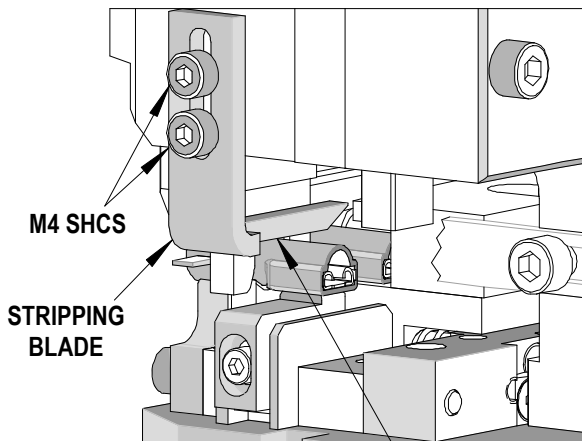


Figure 2-20

JUST ABOVE TERMINAL

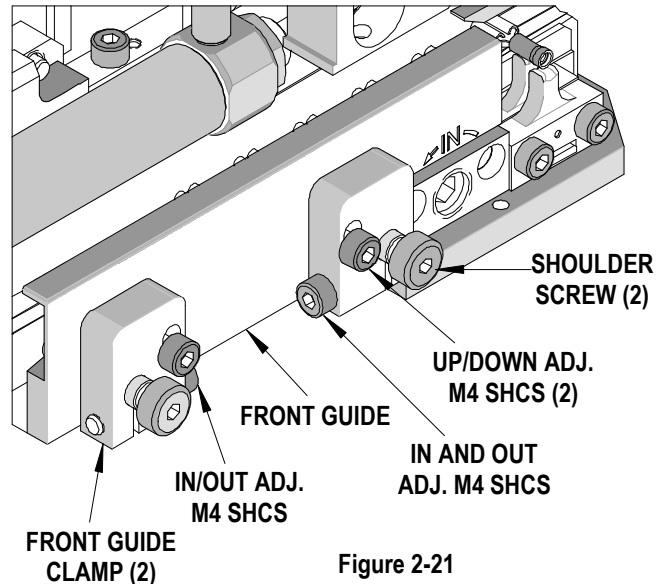


Figure 2-21

2.5.3 Air Feed Tape Applicator (63885 and 63886 series) Earlier Model

Front Guide Adjustment

1. Disconnect power from the press. Remove the machine guards if necessary.
2. The front guide (63801-5865) can be adjusted in or out to properly contain the tape in the track for feeding. It can also have its angle adjusted, to guide the terminals to feed just over the crimp anvil(s).
3. To adjust the front guide in or out, use a 3mm hex wrench to loosen the (2) M4 SHCS that clamp the guide to the shoulder screws. See Figure 2-21.

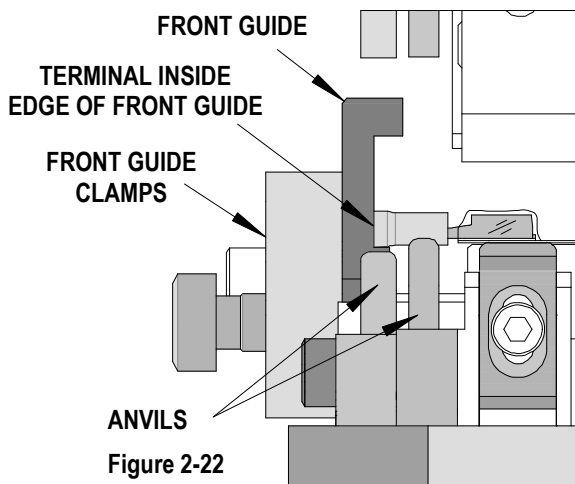


Figure 2-22

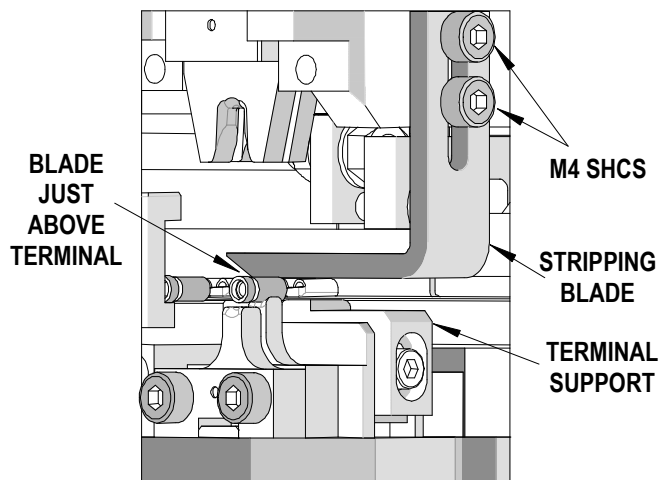


Figure 2-23

4. With taped product loaded in the track, adjust the front guide up to the product so its running surface contacts the terminals. See Figure 2-22. The front guide is adjusted in or out to keep the Mylar tape captured in the track. If the guide is adjusted too far in, excessive drag on the terminals will result, causing slow or short feeds or terminal misalignment on the tape. If the guide is adjusted too far out, the mylar tape may drift off the feed pawls and stop feeding altogether.
5. When the in/out adjustment is complete, lock the guide on the shoulder screws by tightening the (2) M4 SHCS.
6. To adjust the angle of the front guide, loosen the (2) M4 SHCS that hold the front guide to the front guide clamp. See Figure 2-21.
7. Tilt the front guide up or down, so the terminal will feed over the anvil(s). This adjustment is important when crimping expanded-flare products. See Figure 2-22.
8. When the angle adjustment is complete, lock the guide on the clamps by tightening the (2) M4 SHCS.
9. Replace the machine guards before operating the press.

Terminal Support Adjustment

The terminal support (63466-0913) is located behind the conductor anvil, providing support for the nose of the terminal during crimping. Most terminal bending problems can be remedied with a terminal support adjustment.

1. Disconnect power from the press. Remove the machine guards if necessary.
2. To adjust the terminal support, use a 2.5mm wrench to loosen the M3 SHCS holding it in place. See Figure 2-23.
3. Raise or lower the support until it is just below the terminal. Remember that, during crimping, the entire terminal goes down. If the support is adjusted too high, the terminal nose will bend up. Too low of an adjustment that is will not support the terminal, possibly causing a bent-down terminal.
4. When adjustment is complete, securely tighten the M3 SHCS.

Stripping Blade Adjustment

The stripping blade (part no. 63466-0921) is used to prevent the crimped terminal from sticking in the punches when the ram moves up.

1. If the stripping blade is adjusted too far down, it may create excessive drag on the terminals, resulting in feed problems.
2. If the stripping blade is adjusted too far up, it may cause a wire bend problem (in a wire processor) since the crimped terminal could be carried farther up by the retracting punch.
3. To adjust the stripping blade, loosen the two M4 SHCS holding the blade to the applicator frame.
4. Move the stripping blade up or down as necessary, until the bottom of the blade is just above the terminal that is over the anvils.
5. Retighten the two M4 SHCS. See Figure 2-23.
6. **The clearance in the stripper blade's adjustment slot can cause the blade to interfere with back of the conductor punch. After adjusting the stripper blade, always hand-cycle the press to insure that the blade clears the conductor punch.**

Forward Feed Adjustments

Forward feed adjustment is usually not necessary, unless there is a terminal position problem relative to the tape feed holes.

1. The forward feed position is set so the terminal being crimped is exactly over the anvil(s).
2. Disconnect power from the press. Remove the machine guards if necessary.
3. Using a 7mm open-end ignition wrench, loosen the stroke adjustment lock nut (63600-1564).

- Using a 2mm hex wrench, adjust the forward feed position setscrew. Turning the wrench clockwise will reduce the feed stroke; counterclockwise increases the stroke. See Figure 2-24. When reducing the feed stroke, pull the tape backwards to keep the tape index holes against the feed pawls. If (forward) air pressure is on the feed cylinder, the feed assembly should follow the adjustment.
- Tighten the stroke adjustment lock nut.

Feed Cam Selection and Mounting

The air feed tape applicator feed timing is based purely on the press or wire processor air valve timing. No feed cam is mounted to the applicator ram.



WARNING: Since the air feed applicator has no feed cam or feed linkage, the applicator ram can fall out if the applicator is turned upside-down.

Back Stroke Feed Adjustment

Molex industrial terminals delivered on mylar tape are placed on 15.24mm (0.600") or 30.48 (1.200") center spacing, so the back stroke feed is limited to two settings.

- For products on 15.24mm (0.600") spacing, the feed bar back stop (63801-5860) is flipped down.
- To increase the back stroke for 30.48mm (1.200") spaced products, pull back on the spring plunger (63600-1566) and flip up the back stop counterclockwise. Release the spring plunger. See Figure 2-25.
- Both positions of the back stop allow sufficient over travel of the feed pawls so they can engage the tape index holes.

Feed Speed Adjustments

The forward feed speed is adjusted by turning the knob on the flow control valve mounted to the feed cylinder. Turning the knob clockwise causes more exhaust flow restriction, resulting in a slower forward feed. Turning the knob counterclockwise will increase the forward feed speed.

Retract feed speed is not critical, runs at full speed, and has no adjustment.

Feed speed should be matched to the wire processing needs. Some wire processors may require a slower forward feed as they try to pull the crimped terminal off the tape. (Note: earlier AMP CLS machines may require a "shift" in their eject to break the adhesive bond between the terminal and the tape)

If feed forward speed is set too fast, the tape may exhibit overfeeding.

Tape Lock Pawl Adjustment

The tape lock pawl (63801-5858) is intended to hold the tape in place while the feed is not advancing. Some operators tend to pull the crimped terminal off the tape towards the right; without the tape lock pawl, the tape could be pulled out of position.

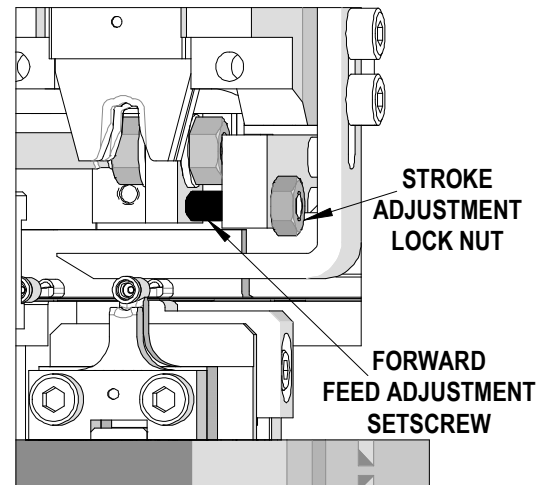


Figure 2-24

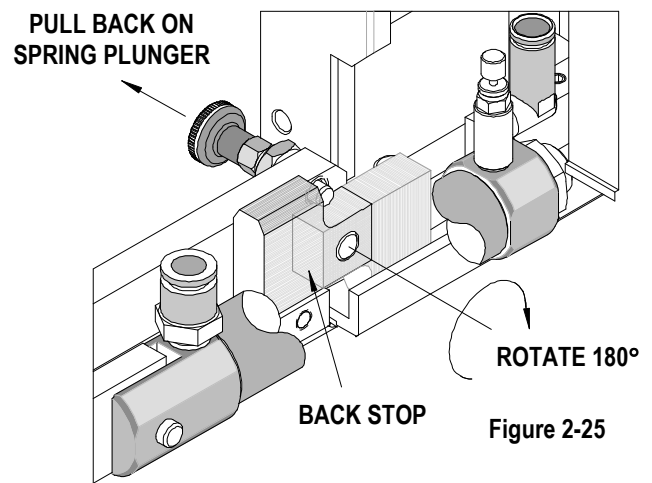


Figure 2-25

1. Make sure the tape is loaded in the track, the terminal is in position over the anvil(s), and some empty tape is exiting the track.
2. Using a 3mm hex wrench, loosen the (2) M4 SHCS holding the lock pawl guide. See Figure 2-26.
3. Lift up the tape lock pawl, just enough to clear the tape, and slide the lock pawl guide to the left or right until the lock pawl “drops in” to the tape holes.
4. While it is engaged in the tape holes, be aware of the clearance between the lock pawl and the tape holes. If the lock pawl is moved too far to the left, it may not always “find” the tape holes. If it is moved too far to the right, it may end up resting on top of the tape, not dropping down. Try to position the pawl between these extremes.
5. Secure the lock pawl guide in position by tightening the (2) M4 SHCS.

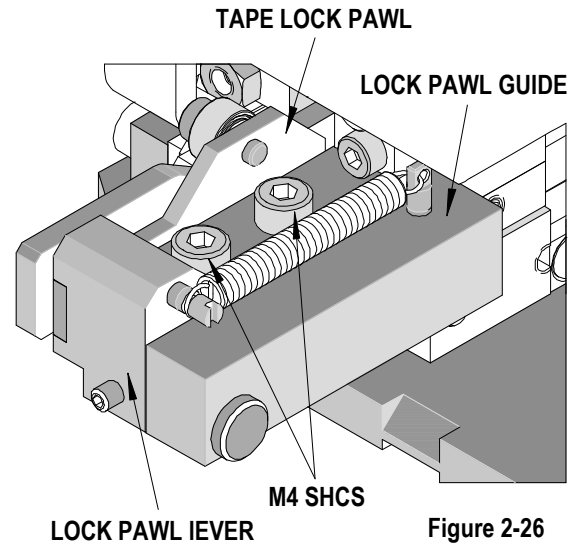


Figure 2-26

2.5.4 Air Feed Tape Applicator (63885 and 63886 series) Later Model

Front Guide Adjustment

1. Disconnect power from the press. Remove the machine guards if necessary.
2. The front guide (63801-5882) can be adjusted in or out to properly contain the tape in the track for feeding.
3. To adjust the front guide, use a 3mm hex wrench to loosen the (2) M4 SHCS that hold the guide to the track. See Figure 2-38.
4. With taped product loaded in the track, adjust the front guide up to the product so its running surface contacts the terminals. See Figure 2-39.
5. The slotted holes in the front guide allow for adjustment. If adjustment is exceeded, the guide can be repositioned to the next set of holes in the track.
6. When the guide adjustment is complete, tighten the (2) M4 SHCS to secure the guide to the track.
7. Replace the machine guards before operating the press.

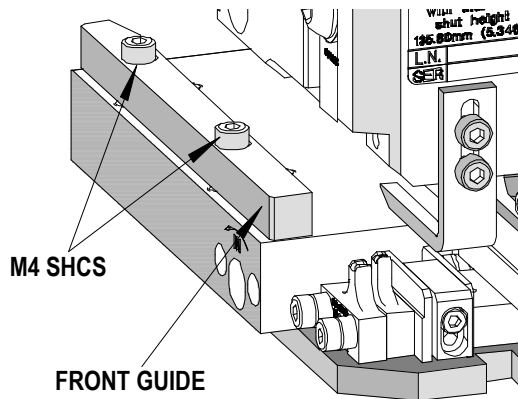


Figure 2-38

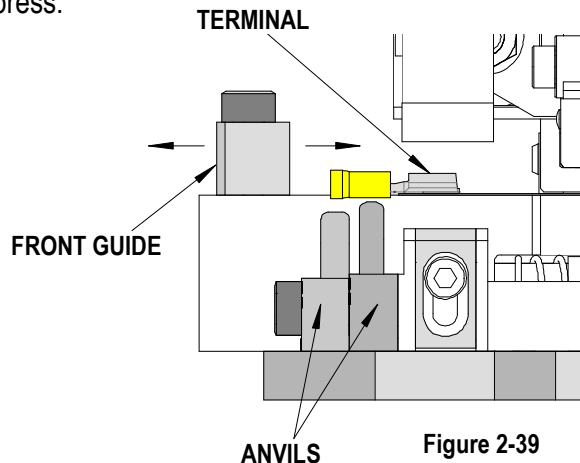


Figure 2-39

Forward Feed Adjustments

Forward feed adjustment is usually not necessary, unless there is a terminal position problem relative to the tape feed holes.

1. The forward feed position is set so the terminal being crimped is exactly over the anvil(s).
2. Disconnect power from the press. Remove the machine guards if necessary.

3. Using a 2.5mm hex wrench, loosen the (2) M3 SHCS lock screws.
4. Using a 2.5mm hex wrench, turn the forward feed adjustment screw clockwise to reduce the feed stroke or counterclockwise to increase the stroke. See Figure 2-40. When reducing the feed stroke, pull the tape backwards to keep the tape index holes against the feed pawls. If (forward) air pressure is on the feed cylinder, the feed assembly should follow the adjustment.
5. When adjustment is complete, tighten the (2) lock screws. To avoid damaging the screw threads, do not over tighten the lock screw that clamps the forward feed adjustment screw.

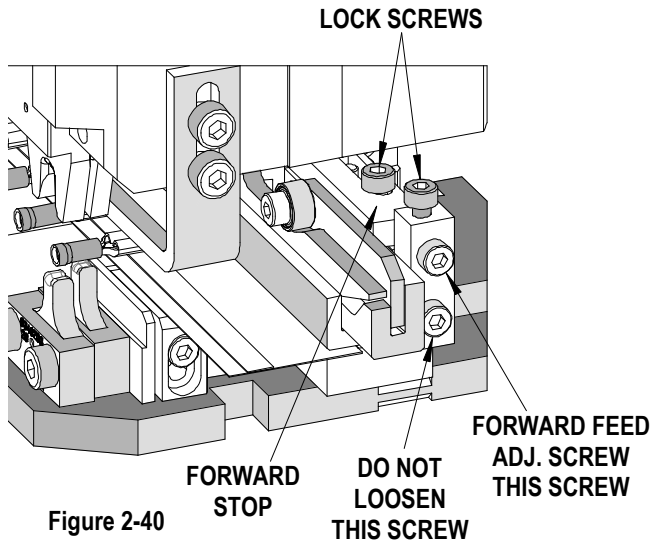


Figure 2-40

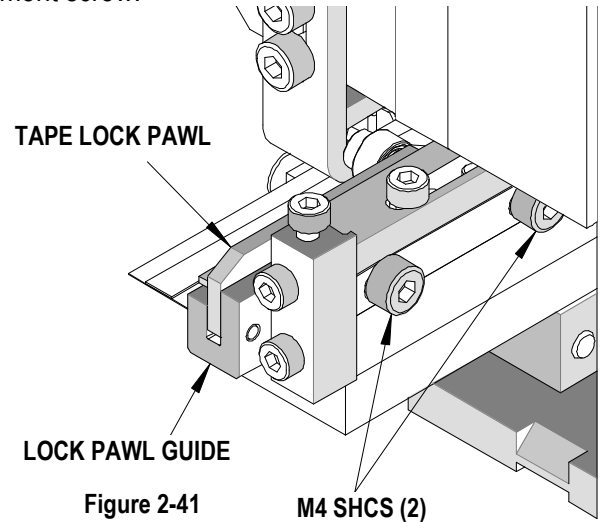


Figure 2-41

Tape Lock Pawl Adjustment

The tape lock pawl (63801-5808) is intended to hold the tape in place while the feed is not advancing. Some operators tend to pull the crimped terminal off the tape towards the right; without the tape lock pawl, the tape could be pulled out of position.

1. Make sure the tape is loaded in the track, the terminal is in position over the anvil(s), and some empty tape is exiting the track.
2. Using a 3mm hex wrench, loosen the (2) M4 SHCS holding the lock pawl guide. See Figure 2-41.
3. Lift up the tape lock pawl, just enough to clear the tape, and slide the lock pawl guide to the left or right until the lock pawl “drops in” to the tape holes.
4. While it is engaged in the tape holes, be aware of the clearance between the lock pawl and the tape holes. If the lock pawl is moved too far to the left, it may not always “find” the tape holes. If it is moved too far to the right, it may end up resting on top of the tape, not dropping down. Try to position the pawl between these extremes.
5. Secure the lock pawl guide in position by tightening the (2) M4 SHCS.

2.5.5 Mechanical Feed Front Metal Strip Applicators (63887 series)

Track Cover Adjustment

The track cover shown in the following illustrations is a generic representation and may vary depending on the terminal being processed. Most track covers have a vertical lip that guides the terminal strip in the slot between the conductor and insulation grips of the terminal.

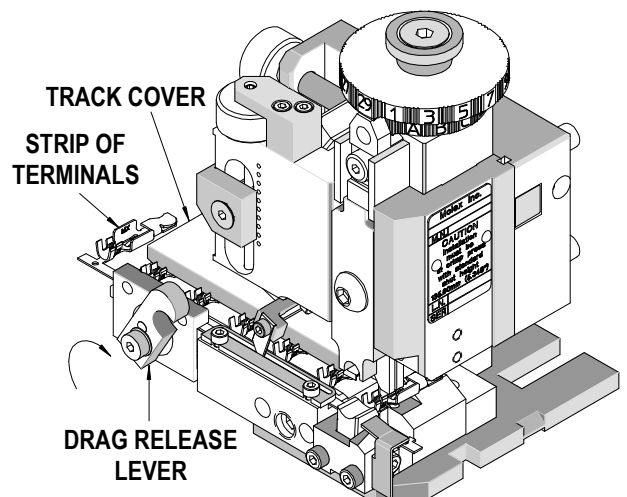


Figure 2-27

1. Disconnect power from the press. Remove the machine guards if necessary.
2. Open the drag by turning the knob on the front of the track.
3. Using a 3mm hex wrench, loosen the (2) M4 SHCS holding the track cover in place. See Figure 2-27.
4. With a strip of terminals in the track, adjust the track cover in or out until the terminals move freely with minimal drag. Excessive in-out movement of the terminal strip will cause variation in crimp position and cutoff tab length. Excessive drag can cause terminals to be damaged during feeding, resulting in poor crimp quality.
5. When adjustment is complete, tighten the (2) M4 SHCS.

Feed Finger Adjustments

1. The feed finger must be positioned to properly feed the terminal. Typically, the feed finger runs in the slot of the carrier cover, pushing on the hole in the carrier strip. Some applicators may have the feed finger push near the insulation or conductor grip of the terminal.
2. Depending on the feed cam installation (pre-feed or post-feed), move the press ram until the feed is forward (this makes the feed finger mount more accessible), then disconnect power from the press. Remove the machine guards if necessary.
3. Using a 2.5mm hex wrench, loosen the M3 SHCS located on the feed finger mount. While holding the feed finger lever down slightly, slide the feed finger to the desired position. See Figure 2-28.
4. If the feed finger mount cannot be moved far enough, remove the M3 SHCS completely and install it in another tapped hole on the feed finger lever. Tighten the M3 SHCS to lock the feed finger in position.

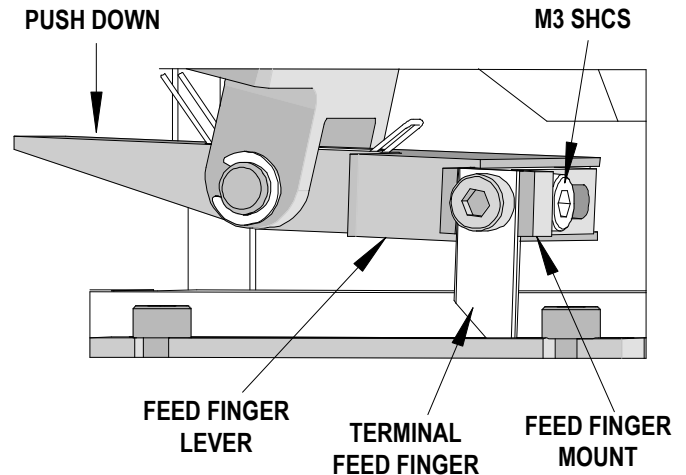


Figure 2-28

Forward Feed Adjustments

1. The forward feed position must locate the terminal that is being crimped exactly over the anvils.
2. Disconnect the power from the press. Remove the machine guards if necessary.
3. Make sure there is a terminal over the anvils and the feed finger is fully forward (closest to the anvils). Depending on the feed cam setup, the ram must be either (partly) down or fully up at this point.
4. Turn the forward feed adjusting knob to position the terminal. To decrease the feed position, turn the forward feed adjusting knob clockwise. To increase the feed position turn the forward feed adjusting knob counterclockwise. See Figure 2-29.
5. When adjusting to decrease the feed position, it is necessary to pull the terminal strip backwards until it is against the feed finger. When increasing the feed position, the feed finger will push the terminal farther over the anvils.
6. Restore power to the press and crimp several terminals under power. Observe the terminal location on the anvils; readjust if necessary.

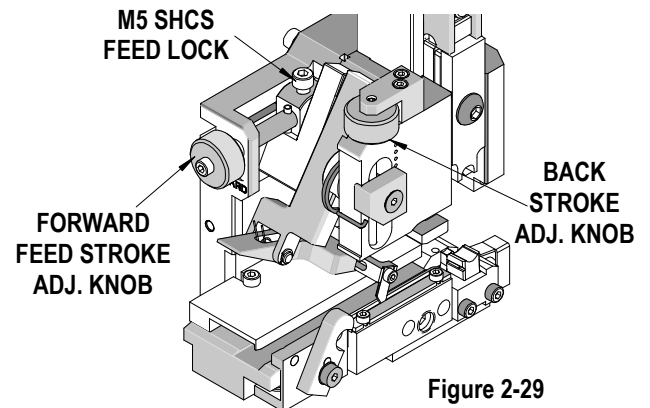
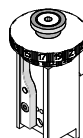
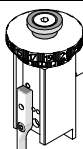
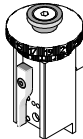


Figure 2-29

Feed Cam Selection and Mounting

1. The feed stroke is controlled by the ram and is determined by the press stroke. For example, a press with a 28.58mm (1 1/8") stroke uses a shorter feed cam. A press with a 41.28mm (1 5/8") stroke uses a longer feed cam. Refer to the press manual to determine the press stroke.
2. Determine what feed timing is desired. Typically, when the applicator is mounted in a wire processing machine, the feed cam should be assembled in the down stroke position. While the press is idle (in the up position), a terminal will not be present over the anvil. For most bench applications, the cam is installed in the up stroke position. This will leave a terminal over the anvil when the press is idle (in the up position). See Figure 2-30.
3. Turn off and disconnect the power supply from the press. Remove the machine guards if necessary.
4. Remove the applicator from the press. See Applicator Installation and Removal.
5. Pull back on the feed pivot lever and remove the ram from the applicator.
6. Remove the punches from the ram.
7. Use a 3mm hex wrench to remove the M4 SHCS holding the cam on the back of the ram.
8. Position the cam in the desired position for feeding and attach with the M4 SHCS. See Figure 2-30.
9. Replace the punches and reinstall the ram in the applicator.

Feed Cam Order No.	Press Stroke		Feed Timing
	mm	In.	
 63801-3202	41.28	1-5/8	Up stroke (terminal present over anvil)
	28.58	1-1/8	
 63801-3202	41.28	1-5/8	Down stroke (terminal not present over anvil)
 11-18-4238	28.58	1-1/8	Down stroke (terminal not present over anvil)

Track Position Adjustment

1. Disconnect power from the press. Remove the machine guards if necessary.
2. To position the terminal track in or out, first use a 5mm hex wrench to loosen the M10 lock screw located on the front of the track. See Figure 2-31.
3. Put a regular screwdriver through the hole in the lock screw and turn the adjusting screw to position the terminal in the correct location. Turning the screw clockwise will move the track towards the operator; to move the track towards the applicator turn the screw counterclockwise. Depending on the amount of movement, the feed finger mount may need to be loosened and readjusted. See Feed Finger adjustment.
4. To lock the track in position, tighten the M10 lock screw.
5. If the feed finger mount was loosened during the track positioning, remember to tighten its mounting screw.
6. Replace machine guards.
7. Hand cycle the press to ensure the terminal is positioned properly on the anvils and does not have an excessive cutoff tab. Also verify the terminal feed operation.
8. Restore power to the press, crimp a terminal under power, and observe the quality of the termination.
9. Repeat the above steps until the desired terminal position is obtained.

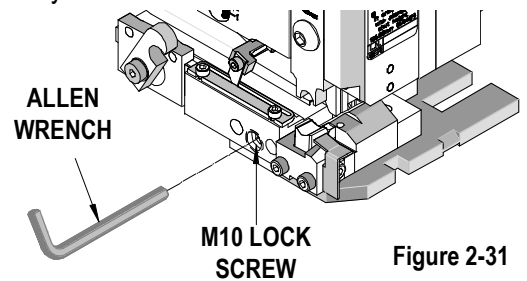


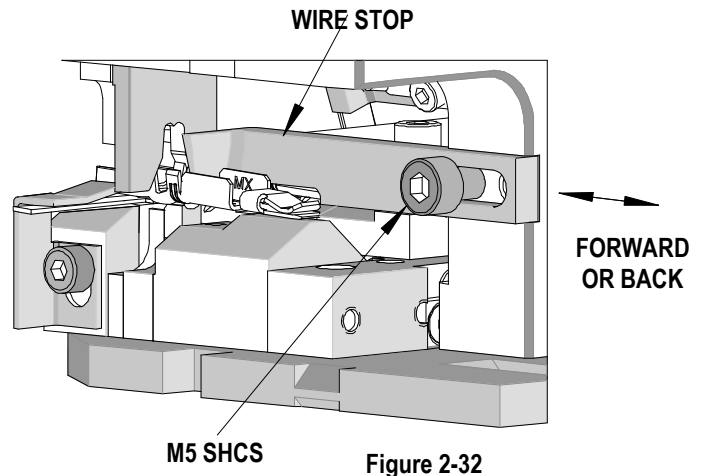
Figure 2-31

Wire Stop Adjustment

The wire stop is a target used by the operator to control the length of wire in the conductor crimp. It is also used as a stripper, to prevent the crimped terminal from sticking in the punches as they retract.

If the applicator is used in a wire processor, the wire stop can be adjusted far back (or removed completely) since the wire processor will consistently control wire position.

1. If the wire stop is adjusted too far forward it may create an insufficient brush (the amount of wire that protrudes from the terminal's conductor grip) or it may create terminal feed jams if the terminal hits the wire stop.
2. If the wire stop is adjusted too far back there will be excessive brush or the wire stop may interfere with the terminal nose.
3. To adjust the wire stop, use a 4mm hex wrench to loosen the M5 SHCS holding the wire stop to the applicator frame. Move the wire stop forward or back to the position that results in the proper brush, without causing feed jams or terminal damage. Retighten the screw. See Figure 2-32.



2.6 Operation

2.6.1 Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series)

Loading and Unloading the Terminal Strip



To avoid terminal damage or feed jams, the terminal dereeler should present the terminals to the applicator track with minimum bending or curling of the carrier strip.

1. Applicable terminals are listed on the Specification Sheet for the applicator. Do not crimp terminals that are not listed on the Specification Sheet.
2. Disconnect power from the press. Remove the machine guards if necessary.
3. Raise the terminal drag by pivoting the drag release lever away from the applicator. This will allow the terminals to slide freely through the applicator track. See Figure 2-33.

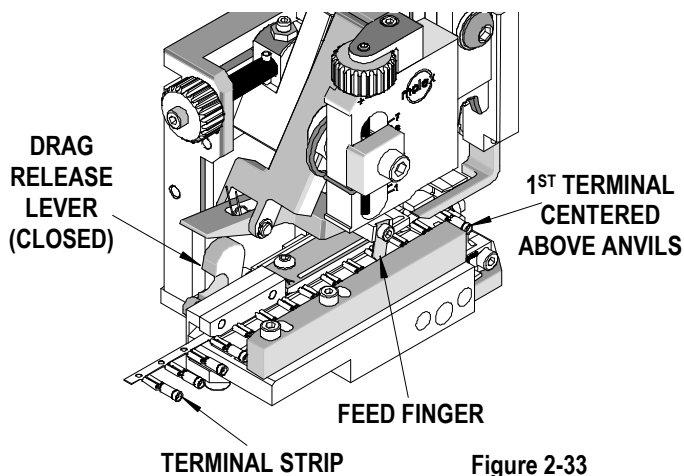


Figure 2-33

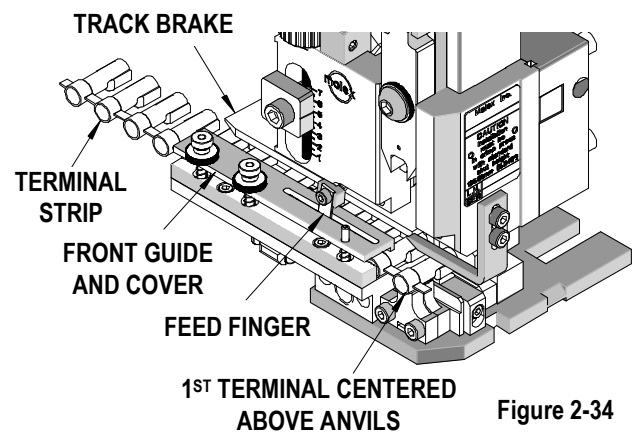


Figure 2-34

4. Push the terminal strip through the track until the first terminal is centered over the anvils.
5. Lower the terminal drag by pivoting the drag release lever towards the applicator.
6. Cycle the press by hand, crimping the empty terminal. Observe that the feed finger transfers the next terminal to a centered position over the anvils. If it does not fall out by itself, remove the loose terminal from the tooling.
7. Install guards, restore power to the press, and resume production.
8. To unload the terminal strip, make sure the press power is turned off. Remove the machine guards if necessary.
9. Raise the terminal drag.

10. Release the feed finger by pushing down on the lever. While holding the lever down, pull the terminal strip backwards through the track.

2.6.2 Mechanical Feed Molded Strip Applicators (63883 and 63884 series)

Loading and Unloading the Terminal Strip



To avoid terminal damage or feed jams, the terminal dereeler should present the terminals to the applicator track with minimum bending or curling of the carrier strip.

1. Applicable terminals are listed on the Specification Sheet for the applicator. Do not crimp terminals that are not listed on the Specification Sheet.
2. Disconnect power from the press. Remove the machine guards if necessary.
3. Push the spring loaded track brake back. This will allow the terminal strip to slide freely through the applicator track. See Figure 2-34.
4. While holding the track brake back, push the terminal strip through the track until the first terminal comes to rest centered above the anvil.
5. Release the track brake to apply drag to the terminals.
6. Cycle the press by hand, crimping the empty terminal. Observe that the feed finger transfers the next terminal to a centered position over the anvils. If it does not fall out by itself, remove the loose terminal from the tooling.
7. Install guards, restore power to the press, and resume production.
8. To unload the terminal strip, make sure the press power is turned off. Remove the machine guards if necessary.
9. Raise the feed finger by pushing down on the lever, while holding the track brake open, pull the terminal strip backwards through the track.

2.6.3 Air Feed Tape Applicators (63885 and 63886 series) Earlier Models

Loading and Unloading Mylar Tape

1. Applicable terminals are listed on the Specification Sheet for the applicator. Do not crimp terminals that are not listed on the Specification Sheet.
2. Disconnect power from the press. Remove the machine guards if necessary.



NOTE: Large-reeled (24" diameter) products are heavy and should be power-dereeled on a wire processor.

3. Raise the tape drag by pivoting the drag release lever away from the applicator. This will allow the tape to enter the applicator track.
4. The tape will be easier to "start" in the track if the corner of the tape is trimmed as shown in Figure 2-35.



To avoid terminal damage or feed jams, the terminal dereeler should present the terminals to the applicator track with minimum bending or curling of the carrier strip.

5. For narrow (1 1/8" wide) tape, align the front edge of the tape with the front edge of the track and gently push the tape into the track until it reaches the feed pawls (the pawls will "click" into the feed holes of the tape). The process is the same for wider (1 7/16") tape but the front edge will protrude about 8mm (0.3") from the front of the track. See Figure 2-36.
6. If the press or wire processor has a manual-mode air feed, cycle it until the first terminal is in location over the anvil(s). Make any necessary front guide adjustments.

7. To unload the tape, it must be cut at the track entrance and fed through the track. **DO NOT ATTEMPT TO PULL THE TAPE BACKWARDS THROUGH THE TRACK.**
8. As the cut tape exits the track, it will be necessary to slightly lift up the tape lock pawl to completely free the tape from the track.

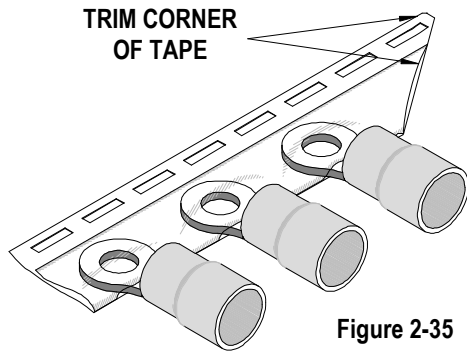


Figure 2-35

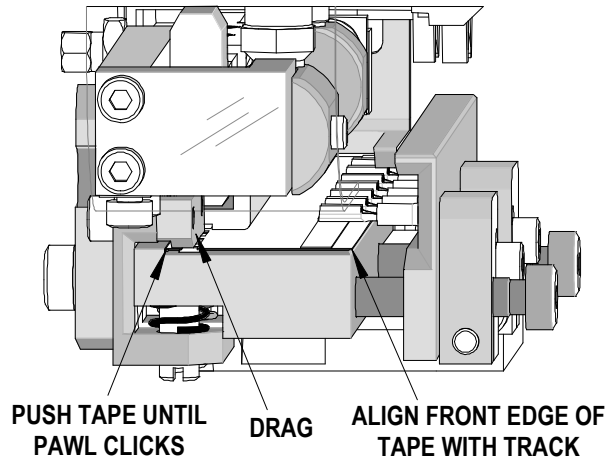


Figure 2-36

2.6.4 Air Feed Tape Applicators(63885 and 63886 series) Later Models

Loading and Unloading Mylar Tape+

1. Applicable terminals are listed on the Specification Sheet for the applicator. Do not crimp terminals that are not listed on the Specification Sheet.
2. Disconnect power from the press. Remove the machine guards if necessary.



NOTE: Large-reeled (24" diameter) products are heavy and should be power-dereeled on a wire processor.

3. Raise the tape drag by pivoting the drag release lever away from the applicator. This will allow the tape to enter the applicator track.
4. The tape will be easier to "start" in the track if the corner of the tape is trimmed as shown in Figure 2-35.



To avoid terminal damage or feed jams, the terminal dereeler should present the terminals to the applicator track with minimum bending or curling of the carrier strip.

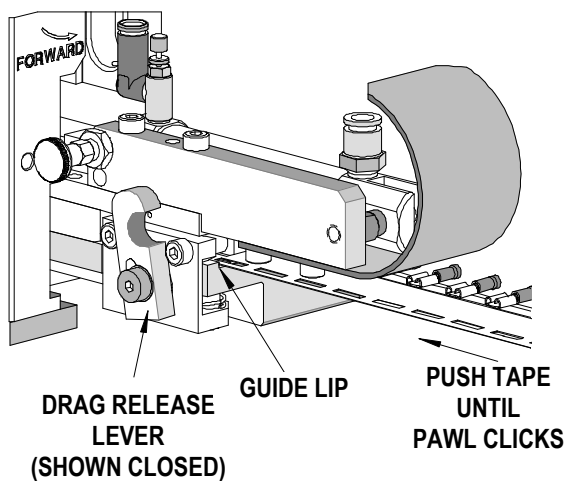


Figure 2-42

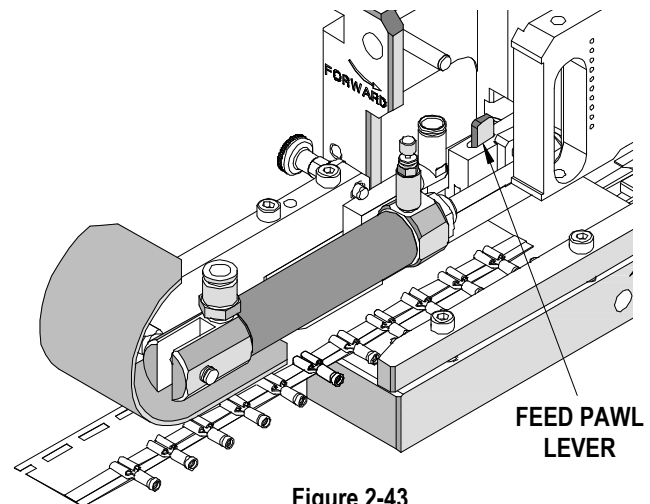


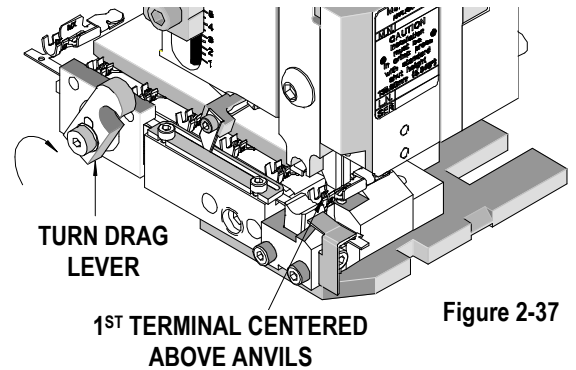
Figure 2-43

5. Align the back edge of the tape with the guide lip on the track and gently push the tape straight in. Finding the guide lip can be done by laying the tape on the front area of the track and slowly pushing it back until it touches the guide lip. See Figure 2-42.
6. If the press or wire processor has a manual-mode air feed, cycle it until the first terminal is in location over the anvil(s). Make any necessary front guide adjustments.
7. To unload the tape, first raise the tape drag. Then lift the feed pawl by pulling back on the feed pawl lever. While the feed pawls are lifted, pull the tape backwards through the track. See Figure 2-43.

2.6.5 Mechanical Feed Front Metal Strip Applicators (63887 series)

Loading and Unloading the Terminal Strip

1. Applicable terminals are listed on the Specification Sheet for the applicator. Do not crimp terminals that are not listed on the Specification Sheet.
2. Disconnect power from the press. Remove the machine guards if necessary.
3. Raise the terminal drag by turning the knob on the front of the track. This will allow the terminals to slide freely through the applicator track. See Figure 2-37.
4. Push the terminal strip through the track until the first terminal is centered over the anvils.
5. Lower the terminal drag by turning the knob until the drag frame drops down.
6. Cycle the press by hand, crimping the empty terminal. Observe that the feed finger transfers the next terminal to a centered position over the anvils. If it does not fall by itself, remove the loose terminal from the tooling.
7. Install guards, restore power to the press, and resume production.
8. To unload the terminal strip, make sure the press power is turned off. Remove the machine guards if necessary.
9. Raise the terminal drag.
10. Release the feed finger by pushing down on the lever. While holding the lever down, pull the terminal strip backwards through the track.



Section 3

Maintenance

- 3.1 Cleaning
- 3.2 Lubrication
- 3.3 Spare parts
- 3.4 Perishable Parts
- 3.5 Storage



CAUTION: Always disconnect power before any maintenance activity

3.1 Cleaning

The Industrial Applicator should be cleaned daily. Use a soft bristle brush to remove debris from critical areas such as the crimp tooling and applicator track. For best results, remove the tooling from the applicator. Brush and then use a clean cloth to wipe off the upper and lower tooling mounting areas. Tooling that crimps un-insulated terminals should be inspected for possible plating build-up.

Before reinstalling tooling, wipe all sides of the punches and anvils with a clean cloth.

Do not use compressed air to clean the applicator. The forces created by compressed air can force debris into the tool.

3.2 Lubrication

1. Grease the ram including the up and down stroke feed arm.
2. Oil the feed finger assembly and all moving parts.
3. Lubricate with multipurpose synthetic lubricant with Teflon or an equivalent. Molex ships its applicators pre-greased with Permatex multi-purpose synthetic grease with Teflon No. 82329. A SAE 30W non-detergent oil, light spindle oil, or "3-in-1" oil should be used on pivot points.



WARNING: Never use penetrates such as WD-40 or Liquid Wrench for any lubrication on the applicator.

4. Lubricate all points shown in Figures 3-1 with the specified oil and grease (or equivalent).
5. Never lubricate the air cylinder. It is designed to run on dry air.

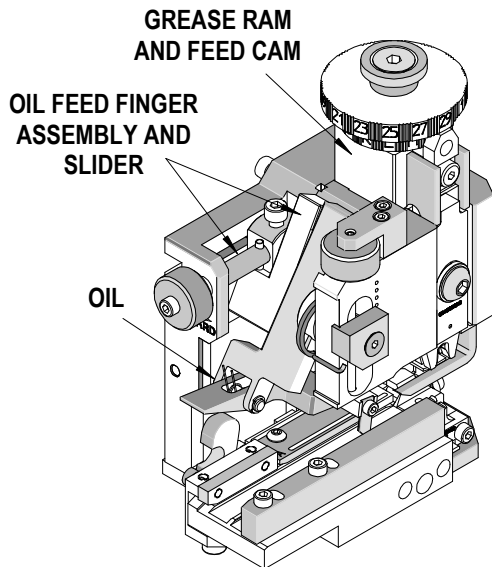


Figure 3-1 MECHANICAL FEED

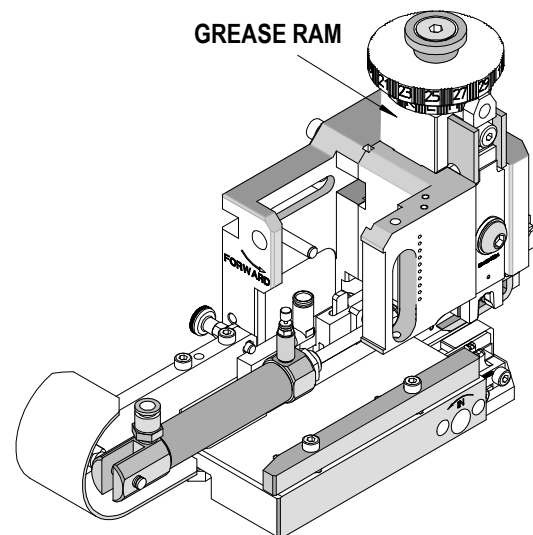


Figure 3-2 AIR-FEED

An example of a maintenance chart is shown below. Copy and use this chart to track the maintenance of your Mini-Mac Applicator or use this as a template to create you own schedule or use your company's standard chart, if applicable.

Preventive Maintenance Chart

Daily: Clean. See Section 3.1.

As Required: Lubricate. See Section 3.2.

CHECK SHEET MONTH _____ YEAR _____

Week	Daily Cycles	Daily Clean	Days of the Week							Solution
			MON	TUE	WED	THU	FRI	SAT	SUN	
1										
2										
3										
4										
Cleaning Reapply grease Reapply oil	25,000	Yes								Soft Brush Industrial Degreaser
Inspect all tooling, feed fingers etc. for wear	25,000	Yes								Replace if signs of wear.

Schedule should be adjusted up or down depending on usage. Molex recommends that a log of preventive maintenance be kept with the press.

3.3 Spare Parts

Customers are responsible for maintaining the Mini-Mac Applicator. Spare parts are available. Moving and functioning parts can be damaged or wear out over time and will require replacement. Molex recommends that the customer keep some or all of them in stock to reduce production down time. These parts are identified in the Parts List. See Section 5.

3.4 Perishable Parts

Customers are responsible for maintaining the Mini-Mac Applicator. Perishable parts are those parts that come in contact with, the product and will wear out over time. Molex recommends that all customers keep at least one set of the perishable tool kits in stock at all times. This will reduce the amount of production down time. **For the proper perishable tool kit information, refer to the Crimp Tooling Specification Sheet supplied with the Applicator.**

3.5 Storage

To prevent the bottoming of the ram which can cause damage to the crimp punches and anvils, leave a strip of terminals in the applicator or place a piece of wood or rubber between the punches and the anvils.

Section 4

4.1 Parts Lists and Assembly Drawings

For perishable tooling information, refer to the appropriate Specification Sheet

- 4.1.1 Mechanical Feed Rear Metal Strip Applicator (63881 and 63882 series)
- 4.1.2 Mechanical Feed Molded Strip Applicator (63883 and 63884 series)
- 4.1.3 Air Feed Tape Applicator (63885 and 63886 series) Earlier Models
- 4.1.4 Air Feed Tape Applicator (63885 and 63886 series) Later Models
- 4.1.5 Mechanical Feed Front Metal Strip Applicator (63887 series)

4.2 Troubleshooting

- 4.2.1 Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series)
Mechanical Feed Front Metal Strip Applicators (63887 series)
- 4.2.2 Mechanical Feed Molded Strip Applicators (63883 and 63884 series)
- 4.2.3 Air Feed Tape Applicators (63885 and 63886 series)

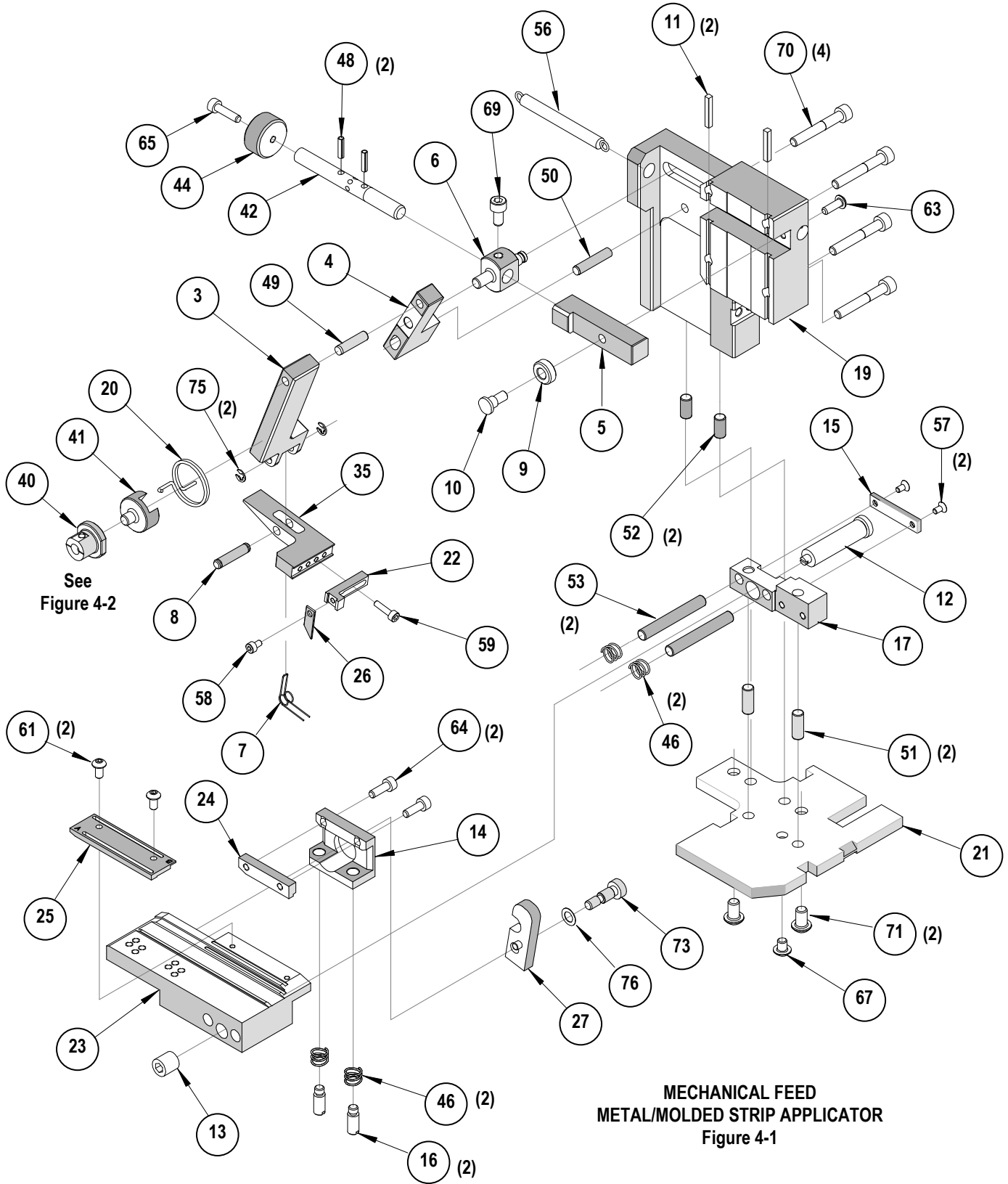
4.1.1 Mechanical Feed Rear Metal Strip Applicator Parts List and Assembly Drawings (63881 and 63882 series)

Mini-Mac Mechanical Feed Rear Metal Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
1	11-18-4238	60700-1	Feed Cam (Short)	1
2	11-32-5346	600000Y422	M4 Ball Spring Plunger	5
3	63800-0120	63800-0120	Feed Arm	1
4	63800-0121	63800-0121	Lever Feed Pivot	1
5	63800-0123	63800-0123	Slider-Feed Cam	1
6	63800-0124	63800-0124	Pin-Feed Adjusting	1
7	63800-0127	63800-0127	Torsion Spring-Feed Pawl	1
8	63800-0140	63800-0140	Cylindrical Pin	1
9	63800-0142	63800-0142	Roller-Cam Follower	1
10	63800-0143	63800-0143	Pin-Cam Follower	1
11	63800-0144	63800-0144	Key Stock 3 by 3 by 19mm Long	2
12	63800-0310	63800-0310	Adjusting Screw	1
13	63800-0311	63800-0311	Locking Nut	1
14	63800-0312	63800-0312	Drag Frame	1
15	63800-0314	63800-0314	Retaining Bar	1
16	63800-0316	63800-0316	Guide Pin	2
17	63800-4309	63800-4309	Rear Support Block	1
18	63801-3202	63801-3202	Feed Cam	1
19	63801-3211	63801-3211	Back Frame	1
20	63801-3225	63801-3225	Torsion Spring	1
21	63801-3281	63801-3281	Base Plate	1
22	63801-4462	63801-4462	Feed Finger Mount	1
23	63801-4551	63801-4551	Track	1
24	63801-4556	63801-4556	Drag Extension	1
25	63801-4558	63801-4558	Rear Cover	1
26	63801-4561	63801-4561	Feed Finger	1
27	63801-5862	63801-5862	Drag Release Lever	1
28	63801-6441	63801-6441	Ram	1
29	63801-6442	63801-6442	Conductor Striker	1
30	63801-6443	63801-6443	Insulation Striker	1
31	63801-6444	63801-6444	Conductor Adjusting Cam	1
32	63801-6445	63801-6445	Insulation Adjusting Cam	1
33	63801-6446	63801-6446	Detent Spacer	1
34	63801-6447	63801-6447	Ram Adapter	1
35	63890-0817	63890-0817	Feed Pawl Lever	1
36	63890-0863	63890-0863	Left Front Cover	1
37	63890-0864	63890-0864	Right Front Cover	1
38	63890-0881	63890-0881	Feed Adjusting Screw	1
39	63890-0883	63890-0883	Adjusting Knob Retainer	1
40	63890-0884	63890-0884	Adjustable Pivot	1
41	63890-0885	63890-0885	Slider	1

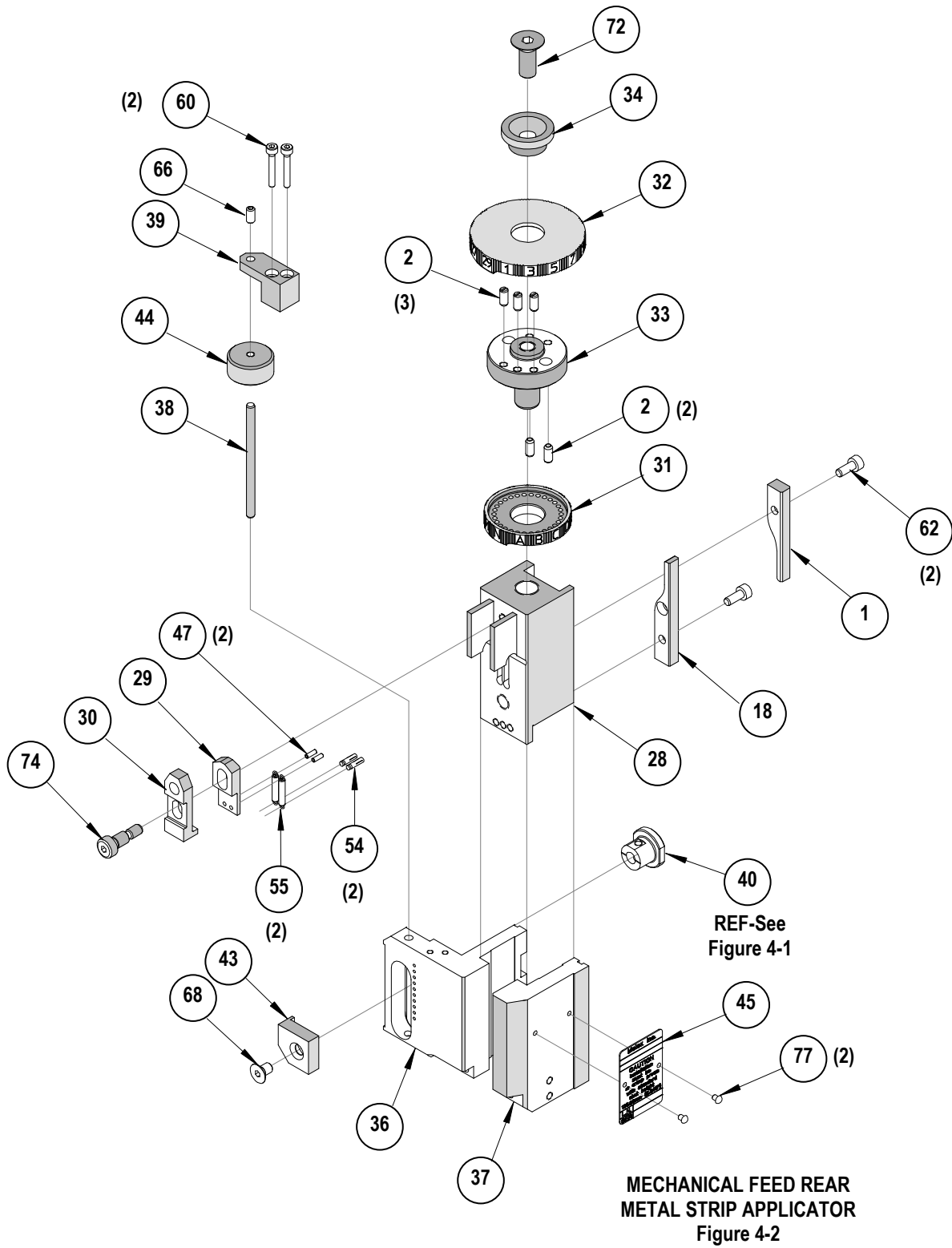
Mini-Mac Mechanical Feed Rear Metal Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
42	63890-0886	63890-0886	Feed Positioning Screw	1
43	63890-0887	63890-0887	Pivot Clamp	1
44	63890-0899	63890-0899	Feed Adjusting Knob	2
45	63890-0999	63890-0999	Serial Tag	REF
46	69028-0660	69028-0660	Compression Spring (Lee Spring # LC-032E-OMW)	4
47	N/A	N/A	2mm by 6 Long Roll Pin	2**
48	N/A	N/A	3mm by 12 Long Roll Pin	2**
49	N/A	N/A	5mm by 20 Long Dowel Pin	1**
50	N/A	N/A	5mm by 25 Long Dowel Pin	1**
51	N/A	N/A	6mm by 10 Long Dowel Pin	2**
52	N/A	N/A	6mm by 20 Long Dowel Pin	2**
53	N/A	N/A	6mm by 45 Long Dowel Pin	2**
54	N/A	N/A	Grooved Pin 3/32 Diameter by 3/8" Long	2**
55	N/A	N/A	Extension Spring 0.12 OD by 0.022 W by 0.62" Long	2**
56	N/A	N/A	Extension Spring 0.25 OD by 0.041 W by 2.25" Long	1**
57	N/A	N/A	M3 by 6 Long FHCS	2**
58	N/A	N/A	M3 by 5 Long SHCS	1**
59	N/A	N/A	M3 by 12 Long SHCS	1**
60	N/A	N/A	M3 by 20 Long SHCS	2**
61	N/A	N/A	M4 by 8 Long BHCS	2**
62	N/A	N/A	M4 by 8 Long SHCS	2**
63	N/A	N/A	M4 by 12 Long BHCS	1**
64	N/A	N/A	M4 by 12 Long SHCS	2**
65	N/A	N/A	M4 by 16 Long SHCS	1**
66	N/A	N/A	M4 by 8 Long Set Screw	1**
67	N/A	N/A	M5 by 6 Long BHCS	1**
68	N/A	N/A	M5 by 8 Long FHCS	1**
69	N/A	N/A	M5 by 10 Long SHCS	1*
70	N/A	N/A	M5 by 35 Long SHCS	4**
71	N/A	N/A	M6 by 10 Long BHCS	2**
72	N/A	N/A	M8 by 20 Long FHCS	1**
73	N/A	N/A	Stripper Bolt M6 by 10 Long-M4 Thread	1**
74	N/A	N/A	Shoulder Screw M6 by 10 Long	1**
75	N/A	N/A	Snap Ring 3.2 ID by 7 OD by 0.62 Thick	2**
76	N/A	N/A	Shim Washer 6.0 ID by 10.0 by 0.3 Thick	1**
77	N/A	N/A	#2 (.098 Diameter) by .125 inch Long Drive Screw	2**REF

** Available from an industrial supply company such as MSC (1-800-645-7270).

Mechanical Feed Rear Metal Strip Applicator Assembly



Mechanical Feed Rear Metal Strip Applicator (Cont.)



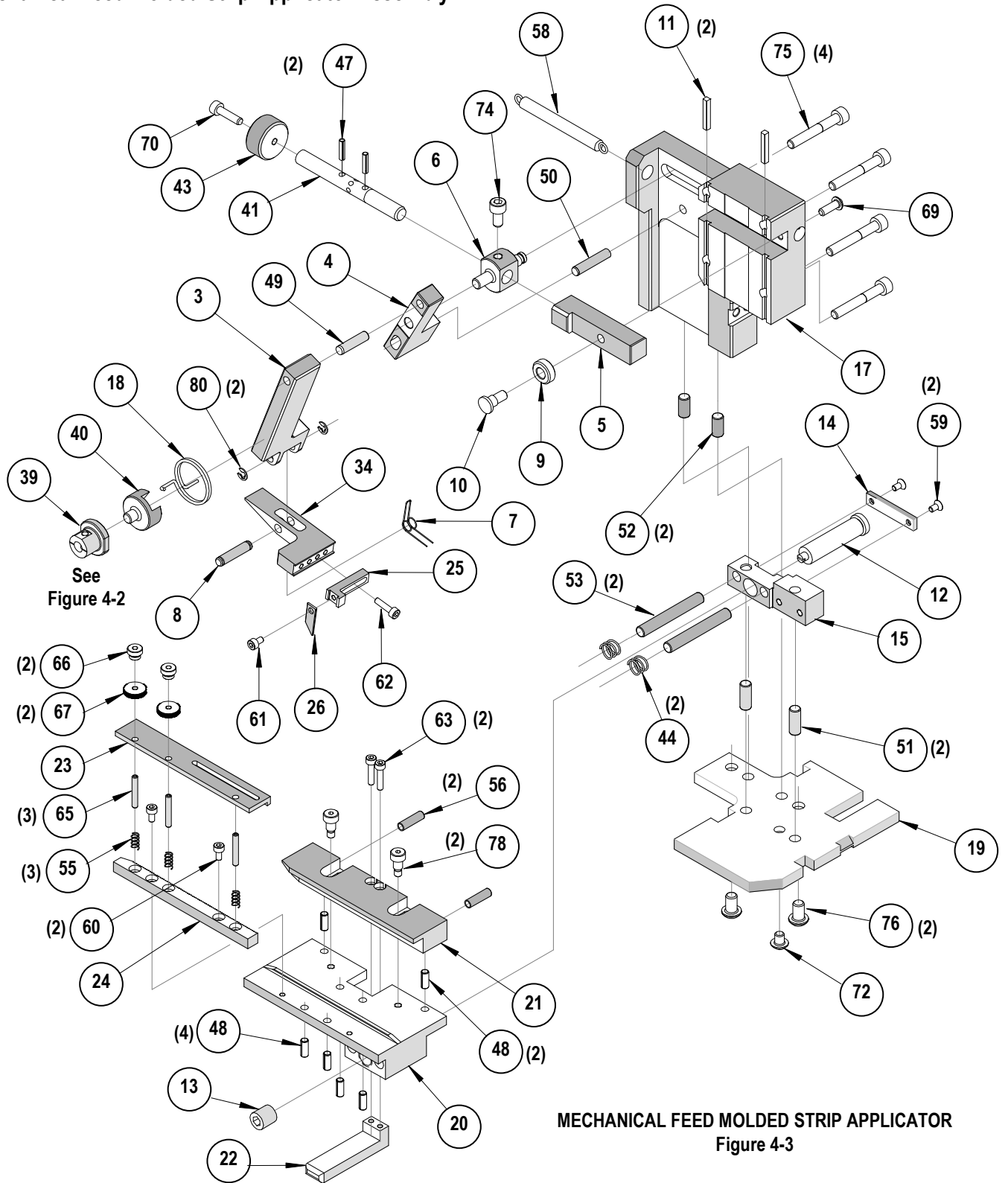
4.1.2 Mechanical Feed Molded Strip Applicator Parts List and Assembly Drawings (63883 and 63884 series)

Mini-Mac Mechanical Feed Molded Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
1	11-18-4238	60700-1	Feed Cam (Short)	1
2	11-32-5346	600000Y422	M4 Ball Spring Plunger	5
3	63800-0120	63800-0120	Feed Arm	1
4	63800-0121	63800-0121	Lever Feed Pivot	1
5	63800-0123	63800-0123	Slider-Feed Cam	1
6	63800-0124	63800-0124	Pin-Feed Adjusting	1
7	63800-0127	63800-0127	Torsion Spring-Feed Pawl	1
8	63800-0140	63800-0140	Cylindrical Pin	1
9	63800-0142	63800-0142	Roller-Cam Follower	1
10	63800-0143	63800-0143	Pin-Cam Follower	1
11	63800-0144	63800-0144	Key Stock 3 by 3 by 19mm Long	2
12	63800-0310	63800-0310	Adjusting Screw	1
13	63800-0311	63800-0311	Locking Nut	1
14	63800-0314	63800-0314	Retaining Bar	1
15	63800-4309	63800-4309	Rear Support Block	1
16	63801-3202	63801-3202	Feed Cam	1
17	63801-3211	63801-3211	Back Frame	1
18	63801-3225	63801-3225	Torsion Spring	1
19	63801-3281	63801-3281	Base Plate	1
20	63801-4451	63801-4451	Track	1
21	63801-4452	63801-4452	Track Brake	1
22	63801-4453	63801-4453	Rear Brake Retract Cover	1
23	63801-4456	63801-4456	Front Track Cover	1
24	63801-4459	63801-4459	Front Guide Anti-Backup	1
25	63801-4462	63801-4462	Feed Finger Mount	1
26	63801-4561	63801-4561	Feed Finger	1
27	63801-6441	63801-6441	Ram	1
28	63801-6442	63801-6442	Conductor Striker	1
29	63801-6443	63801-6443	Insulation Striker	1
30	63801-6444	63801-6444	Conductor Adjusting Cam	1
31	63801-6445	63801-6445	Insulation Adjusting Cam	1
32	63801-6446	63801-6446	Detent Spacer	1
33	63801-6447	63801-6447	Ram Adapter	1
34	63890-0817	63890-0817	Feed Pawl Lever	1
35	63890-0863	63890-0863	Left Front Cover	1
36	63890-0864	63890-0864	Right Front Cover	1
37	63890-0881	63890-0881	Feed Adjusting Screw	1
38	63890-0883	63890-0883	Adjusting Knob Retainer	1
39	63890-0884	63890-0884	Adjustable Pivot	1
40	63890-0885	63890-0885	Slider	1
41	63890-0886	63890-0886	Feed Positioning Screw	1

Mini-Mac Mechanical Feed Molded Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
42	63890-0887	63890-0887	Pivot Clamp	1
43	63890-0899	63890-0899	Feed Adjusting Knob	2
44	69028-0660	69028-0660	Compression Spring (Lee Spring # LC-032E-OMW)	2
45	63890-0999	63890-0999	Serial Tag	REF
46	N/A	N/A	2mm by 6 Long Roll Pin	2**
47	N/A	N/A	3mm by 12 Long Roll Pin	2**
48	N/A	N/A	4mm by 10 Long Roll Pin	6**
49	N/A	N/A	5mm by 20 Long Dowel Pin	1**
50	N/A	N/A	5mm by 25 Long Dowel Pin	1**
51	N/A	N/A	6mm by 10 Long Dowel Pin	2**
52	N/A	N/A	6mm by 20 Long Dowel Pin	2**
53	N/A	N/A	6mm by 45 Long Dowel Pin	2**
54	N/A	N/A	Grooved Pin 3/32 Diameter by 3/8" Long	2**
55	N/A	N/A	Compression Spring 0.18 OD by 0.012 W by 0.44" Long	3**
56	N/A	N/A	Compression Spring 0.18 OD by 0.02 W by 0.88" Long	2**
57	N/A	N/A	Extension Spring 0.12 OD by 0.022 W by 0.62" Long	2**
58	N/A	N/A	Extension Spring 0.25 OD by 0.041 W by 2.25" Long	1**
59	N/A	N/A	M3 by 6 Long FHCS	2**
60	N/A	N/A	M3 by 6 Long SHCS	2**
61	N/A	N/A	M3 by 5 Long SHCS	1**
62	N/A	N/A	M3 by 12 Long SHCS	1**
63	N/A	N/A	M3 by 14 Long SHCS	2**
64	N/A	N/A	M3 by 20 Long SHCS	2**
65	N/A	N/A	M3 by 20 Long Set Screw	3**
66	N/A	N/A	M3 Thread Knurled Thumb Nut	2**
67	N/A	N/A	M3 Knurled Knob	2**
68	N/A	N/A	M4 by 8 Long SHCS	2**
69	N/A	N/A	M4 by 12 Long BHCS	1**
70	N/A	N/A	M4 by 16 Long SHCS	1**
71	N/A	N/A	M4 by 8 Long Set Screw	1**
72	N/A	N/A	M5 by 6 Long BHCS	1**
73	N/A	N/A	M5 by 8 Long FHCS	1**
74	N/A	N/A	M5 by 10 Long SHCS	1**
75	N/A	N/A	M5 by 35 Long SHCS	4**
76	N/A	N/A	M6 by 10 Long BHCS	2**
77	N/A	N/A	M8 by 20 Long FHCS	1**
78	N/A	N/A	Shoulder Screw M5 by 6 Long	2**
79	N/A	N/A	Shoulder Screw M6 by 10 Long	1**
80	N/A	N/A	Snap Ring 3.2 ID by 7 OD by .62 Thick	2**
81	N/A	N/A	#2 (.098 Diameter .125 in. Long Drive Screw	2**

** Available from an industrial supply company such as MSC (1-800-645-7270).

Mechanical Feed Molded Strip Applicator Assembly



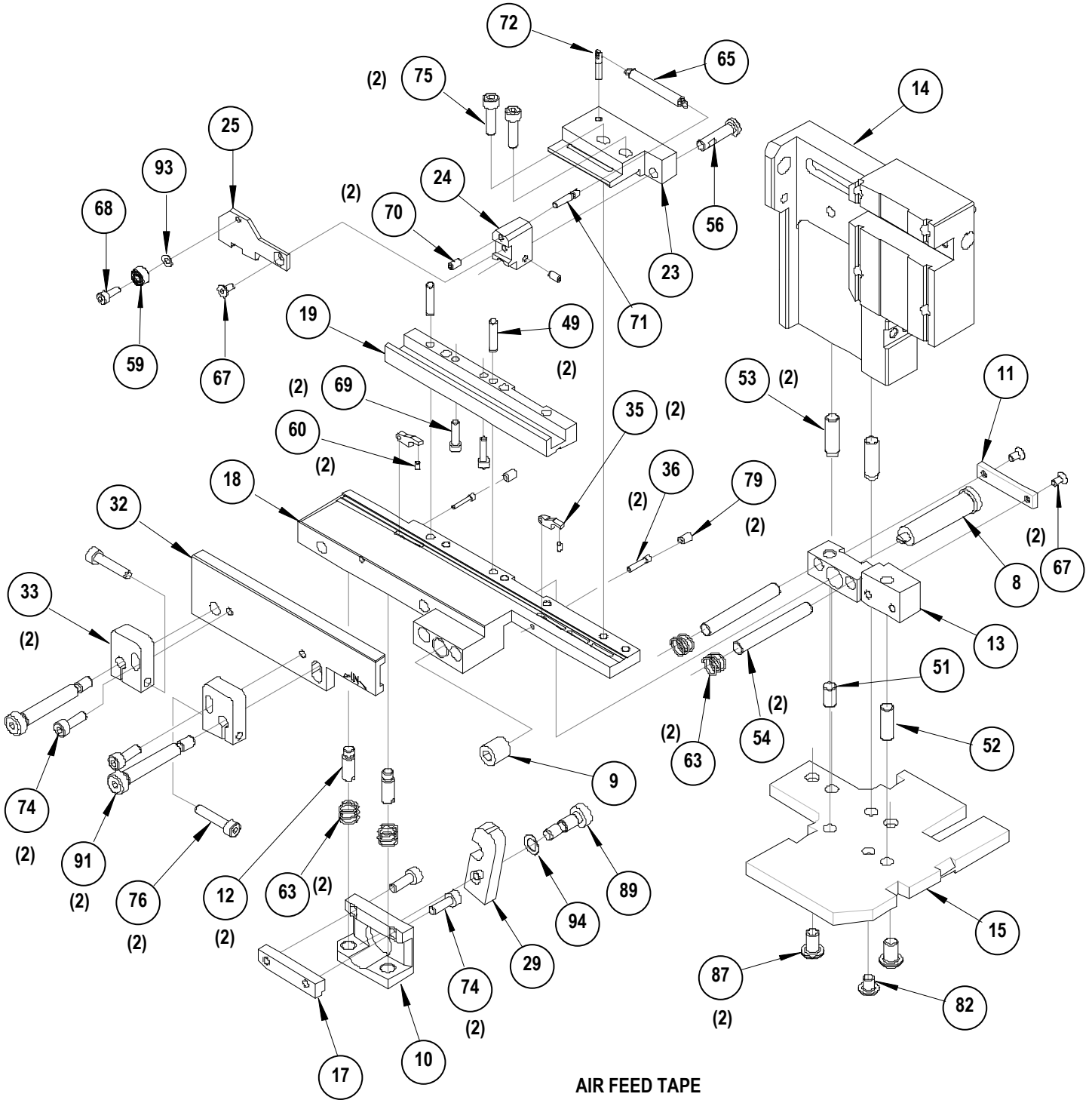
4.1.3 Parts List and Assembly Drawings for Air Feed Tape Applicator (63885 and 63886 series) [Earlier Models](#)

Air Feed Mylar Tape Applicator-Earlier Models				
Item	Order No.	Engineering No.	Description	Qty
1	11-18-4795	60700-66	Wave Washer Spring	1
2	11-32-1111	AM60001-150	Male Connector	1
3	625001584	625001584	Flow Control-Cylinder Mount	1
4	63600-1532	63600-1532	Feed Cylinder	1
5	63700-3601	63700-3601	Retaining Ring	1
6	63800-0129	63800-0129	Washer -3.40 Thick	1
7	63800-0144	63800-0144	Key Stock 3 by 3 by 29mm Long	2
8	63800-0310	63800-0310	Screw-Adjusting	1
9	63800-0311	63800-0311	Locking Nut	1
10	63800-0312	63800-0312	Drag Frame	1
11	63800-0314	63800-0314	Retaining Bar	1
12	63800-0316	63800-0316	Guide Pin-Drag Frame	2
13	63800-4309	63800-4309	Rear Support Block	1
14	63801-3211	63801-3211	Back Frame	1
15	63801-3281	63801-3281	Base Plate	1
16	63801-3390	63801-3390	Air Line Kit	2
17	63801-4556	63801-4556	Drag Extension	2
18	63801-5851	63801-5851	Mylar Tape Track	1
19	63801-5852	63801-5852	Feed Bar Guide	1
20	63801-5853	63801-5853	Feed Bar	1
21	63801-5854	63801-5854	Feed Bar Retainer	1
22	63801-5855	63801-5855	Feed Cylinder Rod Mount	1
23	63801-5856	63801-5856	Lock Pawl Guide	1
24	63801-5857	63801-5857	Lock Pawl Lever	1
25	63801-5858	63801-5858	Tape Lock Pawl	1
26	63801-5859	63801-5859	Lock Pawl Release	1
27	63801-5860	63801-5860	Feed Bar Back Stop	1
28	63801-5861	63801-5861	Feed Bar Forward Stop	1
29	63801-5862	63801-5862	Drag Release Lever	1
30	63801-5863	63801-5863	Feed Cylinder Mount	1
31	63801-5864	63801-5864	Terminal Guide	1
32	63801-5865	63801-5865	Front Guide	1
33	63801-5866	63801-5866	Guide Clamp Block	2
34	63890-0829	63890-0829	Feed Pawl	2
35	63890-0830	63890-0830	Tape Detent Pawl	2
36	63890-0831	63890-0831	Detent Pawl Pivot	2
37	63890-0863	63890-0863	Left Front Cover	1
38	63890-0864	63890-0864	Right Front Cover	1
39	63890-0871	63890-0871	Conductor Adjusting Cam	1
40	63890-0872	63890-0872	Insulation Adjusting Cam	1
41	63890-0873	63890-0873	Conductor Striker	1
42	63890-0874	63890-0874	Insulation Striker	1
43	63890-0875	63890-0875	Lug Bolt	1
44	63890-0876	63890-0876	Ram	1
45	63890-0999	63890-0999	Serial Tag	1
46	N/A	N/A	2mm by 6 Long Roll Pin	2**
47	N/A	N/A	2mm by 8 Long Dowel Pin	2**
48	N/A	N/A	3mm by 8 Long Dowel Pin	1**
49	N/A	N/A	4mm by 16 Long Dowel Pin	2**
50	N/A	N/A	5mm by 25 Long Dowel Pin	1**
51	N/A	N/A	6mm by 10 Long Dowel Pin	1**

Air Feed Mylar Tape Applicator- Earlier Models				
Item	Order No.	Engineering No.	Description	Qty
52	N/A	N/A	6mm by 16 Long Dowel Pin	2**
53	N/A	N/A	6mm by 20 Long Dowel Pin	2**
54	N/A	N/A	6mm by 45 Long Dowel Pin	2**
55	N/A	N/A	Grooved Pin 3/32 Diameter by 3/8" Long	2**
56	N/A	N/A	Hinge Pin 5 Diameter by 20 Long	1**
57	N/A	N/A	Roll Pin 1.5 Diameter by 8 Long	3**
58	N/A	N/A	Ball Retainer 1/8 in.	1**
59	N/A	N/A	Radial Ball Bearing 3 ID by 8 OD by 4 Long	1**
60	N/A	N/A	Compression Spring 0.09 OD by 0.008 W by 0.31" Long	2**
61	N/A	N/A	Compression Spring 0.12 OD by 0.016 W by 0.50" Long	2**
62	N/A	N/A	Compression Spring 0.12 OD by 0.02 W by 0.44" Long	1**
63	N/A	N/A	Compression Spring 0.36 OD by 0.032 W by 0.38" Long	4**
64	N/A	N/A	Extension Spring 0.12 OD by 0.022 W by 0.62" Long	2**
65	N/A	N/A	Extension Spring 0.18 OD by 0.02 W by 0.88" Long	1**
66	N/A	N/A	M3 by 5 Long SHCS	1**
67	N/A	N/A	M3 by 6 Long FHCS	3**
68	N/A	N/A	M3 by 8 Long SHCS	3**
69	N/A	N/A	M3 by 12 Long SHCS	4**
70	N/A	N/A	M3 by 6 Long Set Screw	2**
71	N/A	N/A	M3 by 15 Long Spring Post	1**
72	N/A	N/A	M5 by 15 Long Spring Post	1**
73	N/A	N/A	M4 by 6 Long SHCS	2**
74	N/A	N/A	M4 by 12 Long SHCS	4**
75	N/A	N/A	M4 by 16 Long SHCS	4**
76	N/A	N/A	M4 by 20 Long SHCS	5**
77	N/A	N/A	M4 Hex Nut	1**
78	N/A	N/A	M4 by 5 Long Set Screw	1**
79	N/A	N/A	M4 by 6 Long Set Screw	4**
80	N/A	N/A	M4 by 16 Long Set Screw	1**
81	N/A	N/A	M5 Ball Plunger	1**
82	N/A	N/A	M5 by 6 Long BHCS	1**
83	N/A	N/A	M5 by 35 Long SHCS	4**
84	N/A	N/A	M5 Hex Nut	2**
85	N/A	N/A	M5 Washer 8 OD by 5.0 Thick	1**
86	N/A	N/A	M5 Washer 10 OD by 1.0 Thick	2**
87	N/A	N/A	M6 by 10 Long BHCS	2**
88	N/A	N/A	M6 by 8 Long Set Screw	2**
89	N/A	N/A	M6 by 10 Long Shoulder Screw	1**
90	N/A	N/A	M6 by 10 Long Shoulder Screw	1**
91	N/A	N/A	M6 by 35 Long Shoulder Screw	2**
92	N/A	N/A	M6 Indexing Plunger	1**
93	N/A	N/A	Shim Ring 3 ID by 6 OD by 0.3 Thick	1**
94	N/A	N/A	Shim Washer 6 ID by 10 OD by 0.3 Thick	1**
95	N/A	N/A	Washer 13 ID by 28.6 OD by 0.15 Thick	1**
96	N/A	N/A	Washer 13 ID by 28.6 OD by 0.18 Thick	1**
97	N/A	N/A	#2 (.098 Diameter) by .125 in. Long Drive Screw	2**

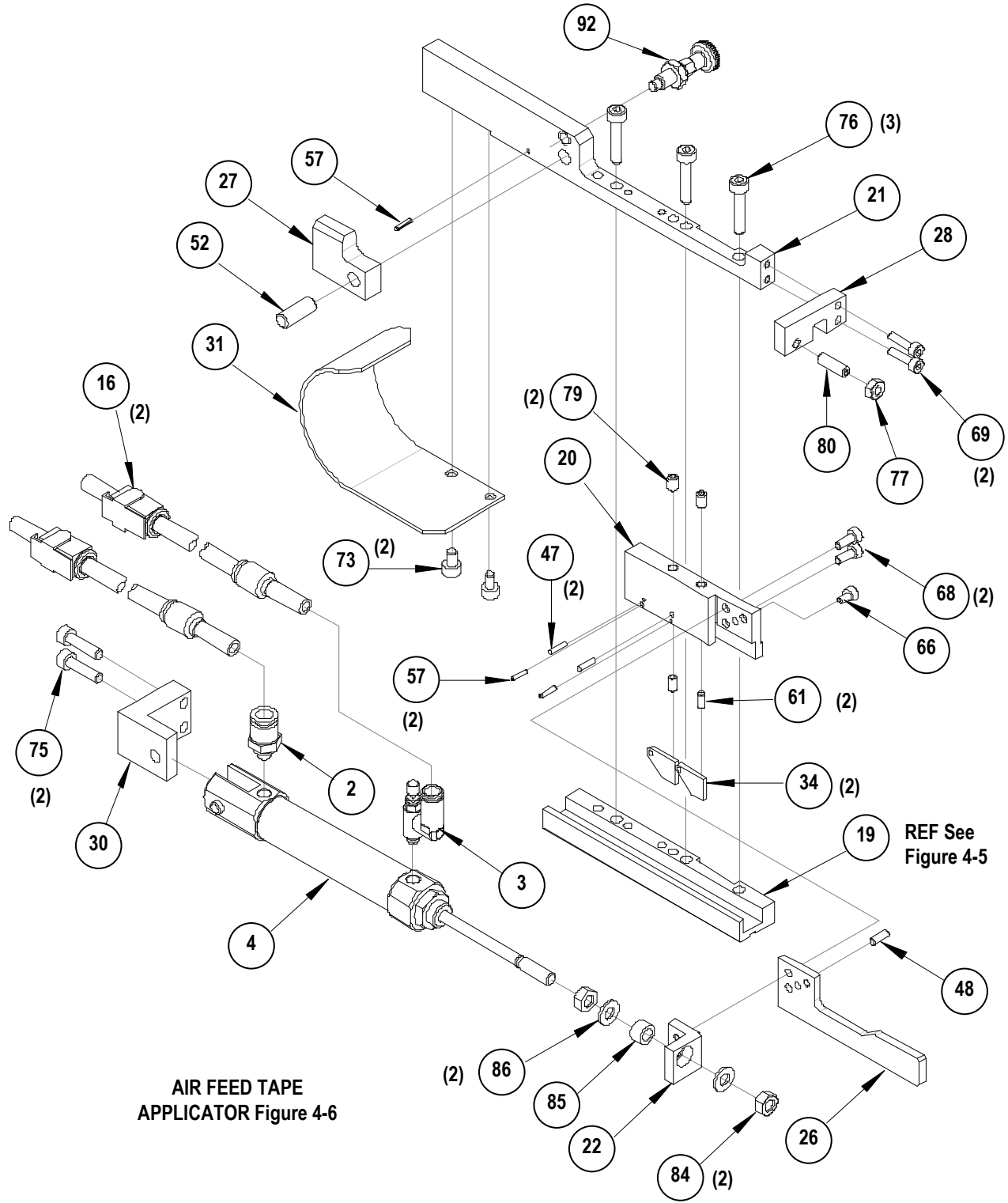
** Available from an industrial supply company such as MSC (1-800-645-7270).

Air Feed Tape Applicator Assembly Earlier Models



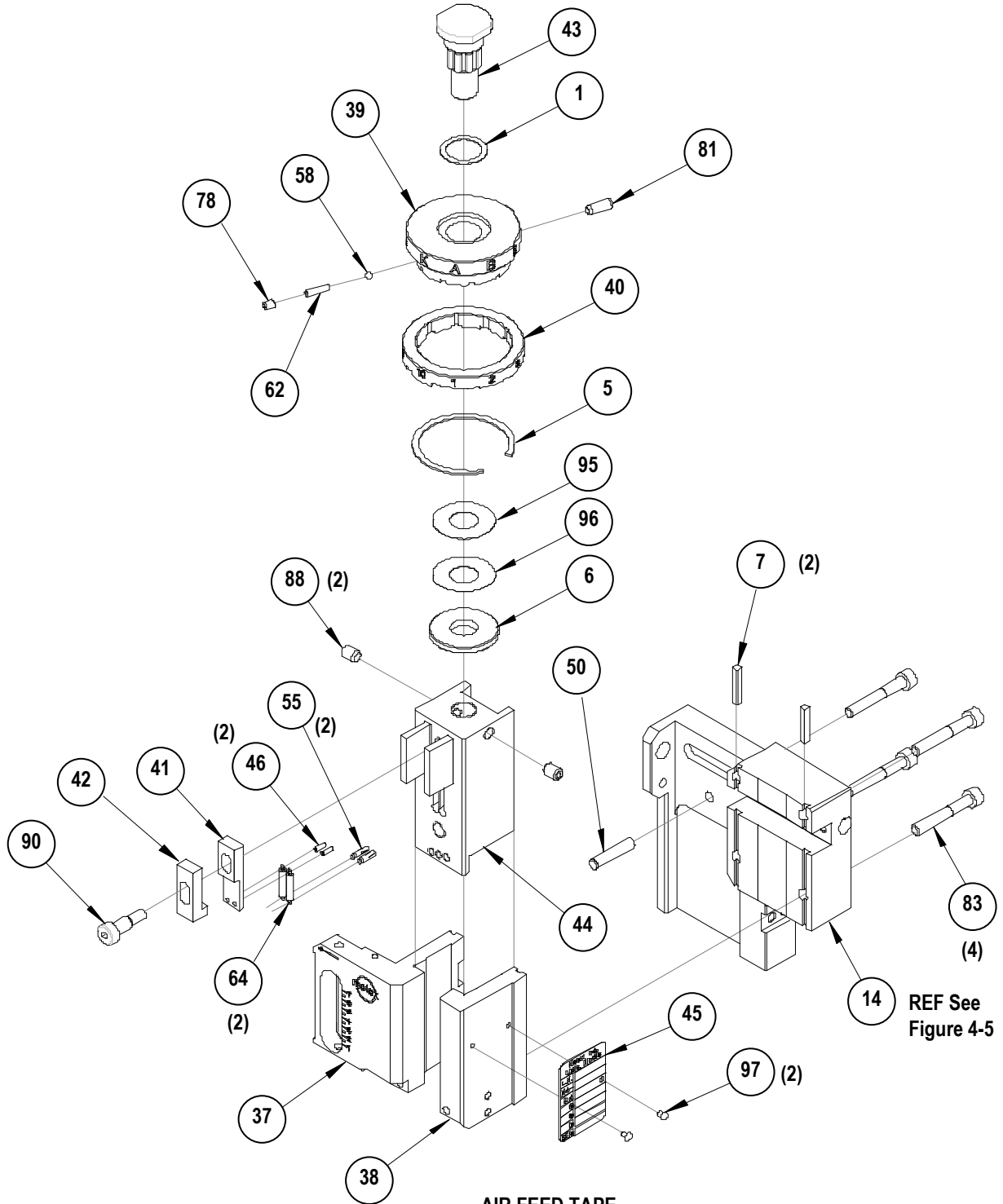
AIR FEED TAPE
APPLICATOR Figure 4-5

Air Feed Tape Applicator Assembly (Cont.) **Earlier Models**



AIR FEED TAPE
APPLICATOR Figure 4-6

Air Feed Tape Applicator Assembly (Cont.) Earlier Models



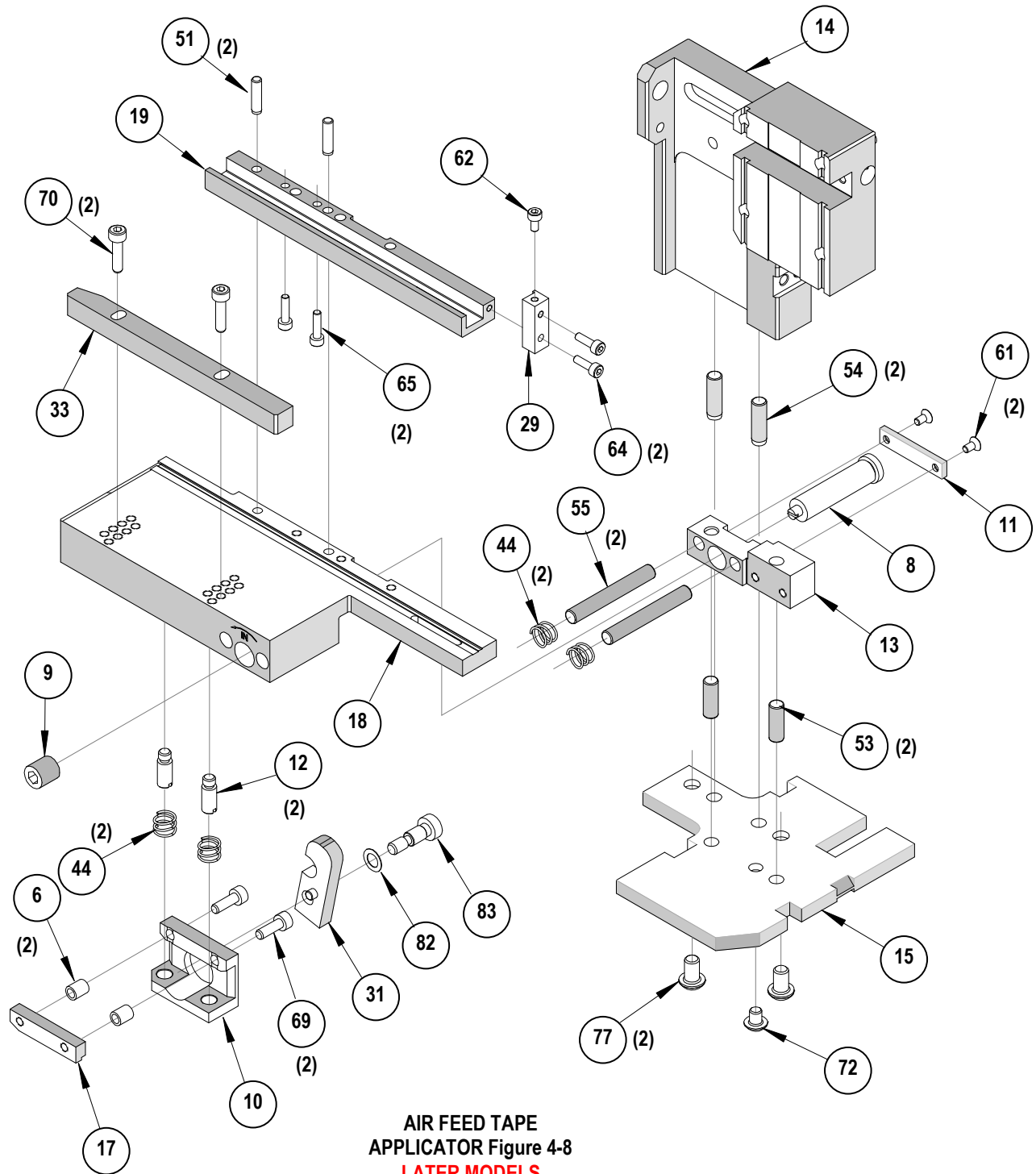
AIR FEED TAPE
APPLICATOR Figure 4-7

4.1.4 Air Feed Tape Applicator Parts List and Assembly Drawings Later Models (63885 and 63886 series)

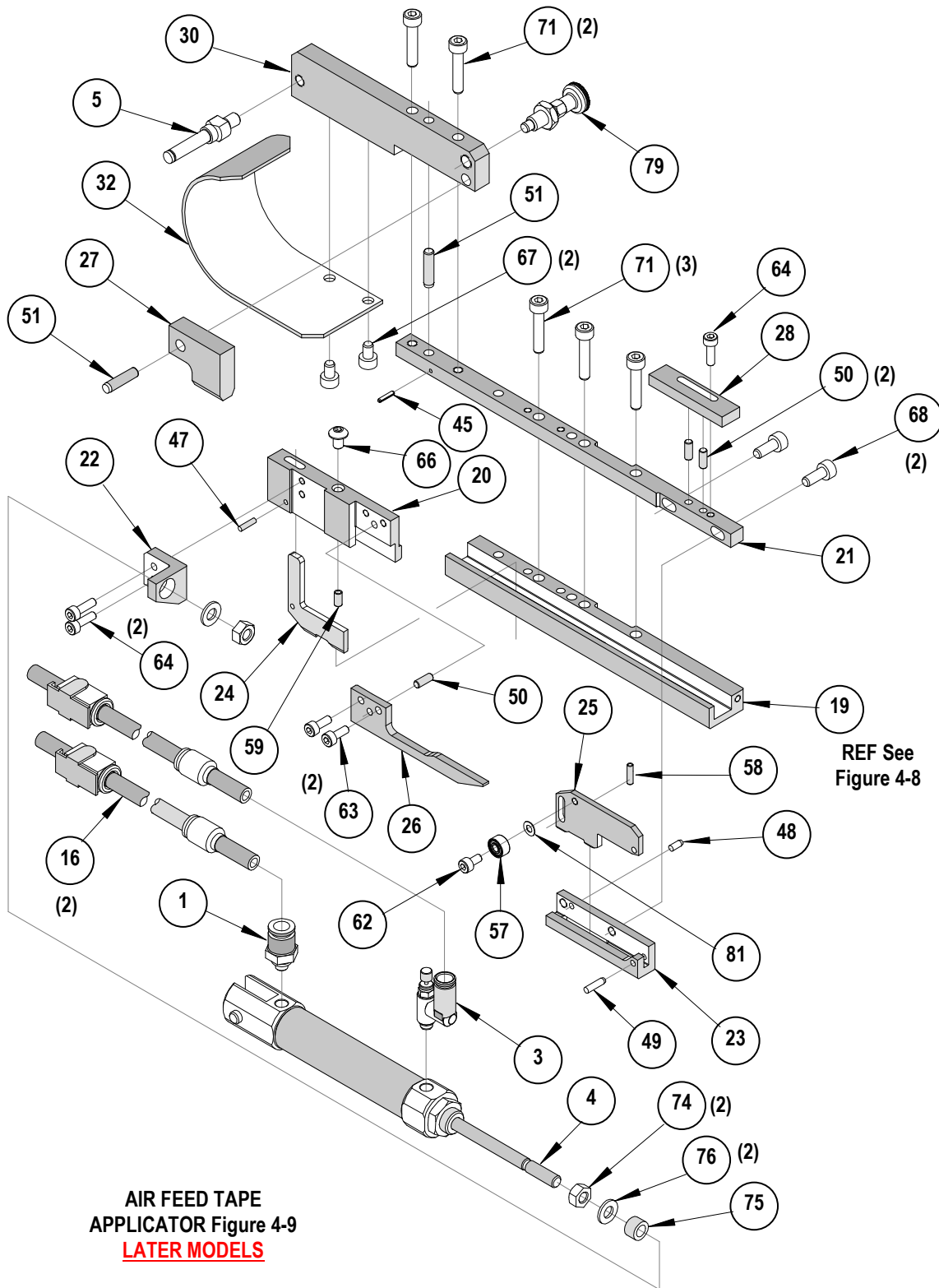
Air Feed Mylar Tape Applicator- <u>Later Models</u>				
Item	Order No.	Engineering No.	Description	Qty.
1	11-32-1111	AM60001-150	Male Connector	1
2	11-32-5346	600000Y422	M4 Ball Spring Plunger	5
3	625001584	625001584	Flow Control-Cylinder Mount	1
4	63600-1532	63600-1532	Feed Cylinder	1
5	63600-1596	63600-1596	Cantilever Shaft	1
6	63800-0115	63800-0115	Spacer Tube	2
7	63800-0144	63800-0144	Key Stock 3 by 3 by 19mm Long	2
8	63800-0310	63800-0310	Screw-Adjusting	1
9	63800-0311	63800-0311	Locking Nut	1
10	63800-0312	63800-0312	Drag Frame	1
11	63800-0314	63800-0314	Retaining Bar	1
12	63800-0316	63800-0316	Guide Pin-Drag Frame	2
13	63800-4309	63800-4309	Rear Support Block	1
14	63801-3211	63801-3211	Back Frame	1
15	63801-3281	63801-3281	Base Plate	1
16	63801-3390	63801-3390	Air Line Kit	2
17	63801-4556	63801-4556	Drag Extension	2
18	63801-5801	63801-5801	Mylar Tape Track	1
19	63801-5802	63801-5802	Feed Bar Guide	1
20	63801-5803	63801-5803	Feed Bar	1
21	63801-5804	63801-5804	Feed Bar Retainer	1
22	63801-5805	63801-5805	Feed Cylinder Rod Mount	1
23	63801-5806	63801-5806	Lock Pawl Guide	1
24	63801-5807	63801-5807	Tape Feed Pawl	2
25	63801-5808	63801-5808	Tape Lock Pawl	1
26	63801-5809	63801-5809	Lock Pawl Release Cam	1
27	63801-5810	63801-5810	Feed Bar Back Stop	1
28	63801-5811	63801-5811	Feed Bar Forward Stop	1
29	63801-5812	63801-5812	Stop Adjusting Block	1
30	63801-5813	63801-5813	Feed Cylinder Mount	1
31	63801-5862	63801-5862	Tape Drag Release Lever	1
32	63801-5864	63801-5864	Terminal Guide	1
33	63801-5882	63801-5882	Guide Bar	1
34	63801-6441	63801-6441	Ram	1
35	63801-6442	63801-6442	Conductor Striker	1
36	63801-6443	63801-6443	Insulation Striker	1
37	63801-6444	63801-6444	Conductor Adjusting Cam	1
38	63801-6445	63801-6445	Insulation Adjusting Cam	1
39	63801-6446	63801-6446	Detent Spacer	1
40	63801-6447	63801-6447	Ram Adapter	1
41	63890-0863	63890-0863	Left Front Cover	1
42	63890-0864	63890-0864	Right Front Cover	1
43	63890-0999	63890-0999	Serial Tag	1
44	69028-0660	69028-0660	Compression Spring (Lee Spring # LC-032E-OMW)	4
45	N/A	N/A	1.5mm by 8 Long Roll Pin	1**
46	N/A	N/A	2mm by 6 Long Roll Pin	2**
47	N/A	N/A	2mm by 8 Long Dowel Pin	1**
48	N/A	N/A	2.5mm by 6 Long Dowel Pin	1**
49	N/A	N/A	2.5mm by 10 Long Dowel Pin	5**
50	N/A	N/A	3mm by 8 Long Dowel Pin	3**

Air Feed Mylar Tape Applicator- <u>Later Models</u>				
Item	Order No.	Engineering No.	Description	Qty.
51	N/A	N/A	4mm by 16 Long Dowel Pin	4**
52	N/A	N/A	5mm by 25 Long Dowel Pin	1**
53	N/A	N/A	6mm by 10 Long Dowel Pin	2**
54	N/A	N/A	6mm by 20 Long Dowel Pin	2**
55	N/A	N/A	6mm by 45 Long Dowel Pin	2**
56	N/A	N/A	Grooved Pin 3/32 Diameter by 3/8" Long	2**
57	N/A	N/A	Radial Ball Bearing 3 ID by 8 OD by 4 Long	1**
58	N/A	N/A	Compression Spring .064 OD by .088 W by 0.50" Long	1**
59	N/A	N/A	Compression Spring .120 OD by .088 W by 0.50" Long	1**
60	N/A	N/A	Extension Spring .120 OD by .022 W by 0.62" Long	2**
61	N/A	N/A	M3 by 6 Long FHCS	2**
62	N/A	N/A	M3 by 6 Long SHCS	2**
63	N/A	N/A	M3 by 8 Long SHCS	3**
64	N/A	N/A	M3 by 10 Long SHCS	5**
65	N/A	N/A	M3 by 12 Long SHCS	2**
66	N/A	N/A	M4 by 6 Long BHCS	1**
67	N/A	N/A	M4 by 6 Long SHCS	2**
68	N/A	N/A	M4 by 10 Long SHCS	2**
69	N/A	N/A	M4 by 12 Long SHCS	2**
70	N/A	N/A	M4 by 16 Long SHCS	2**
71	N/A	N/A	M4 by 20 Long SHCS	5**
72	N/A	N/A	M5 by 6 Long BHCS	1**
73	N/A	N/A	M5 by 35 Long SHCS	4**
74	N/A	N/A	M5 Hex Nut	2**
75	N/A	N/A	M5 Washer 8 OD by 5.0 Thick	1**
76	N/A	N/A	M5 Washer 10 OD by 1.0 Thick	2**
77	N/A	N/A	M6 by 10 Long BHCS	2**
78	N/A	N/A	M6 by 10 Long Shoulder Screw	1**
79	N/A	N/A	M6 Indexing Plunger	1**
80	N/A	N/A	M8 by 20 Long FHCS	1**
81	N/A	N/A	Shim Ring 3 ID by 6 OD by 0.3 Thick	1**
82	N/A	N/A	Shim Washer 6 ID by 10 OD by 0.3 Thick	1**
83	N/A	N/A	Stripper Bolt M6 by 10 Long-M4 Thread	1**
84	N/A	N/A	#2 (.098 Diameter) by .125 in. Long Drive Screw	2**
** Available from an industrial supply company such as MSC (1-800-645-7270).				

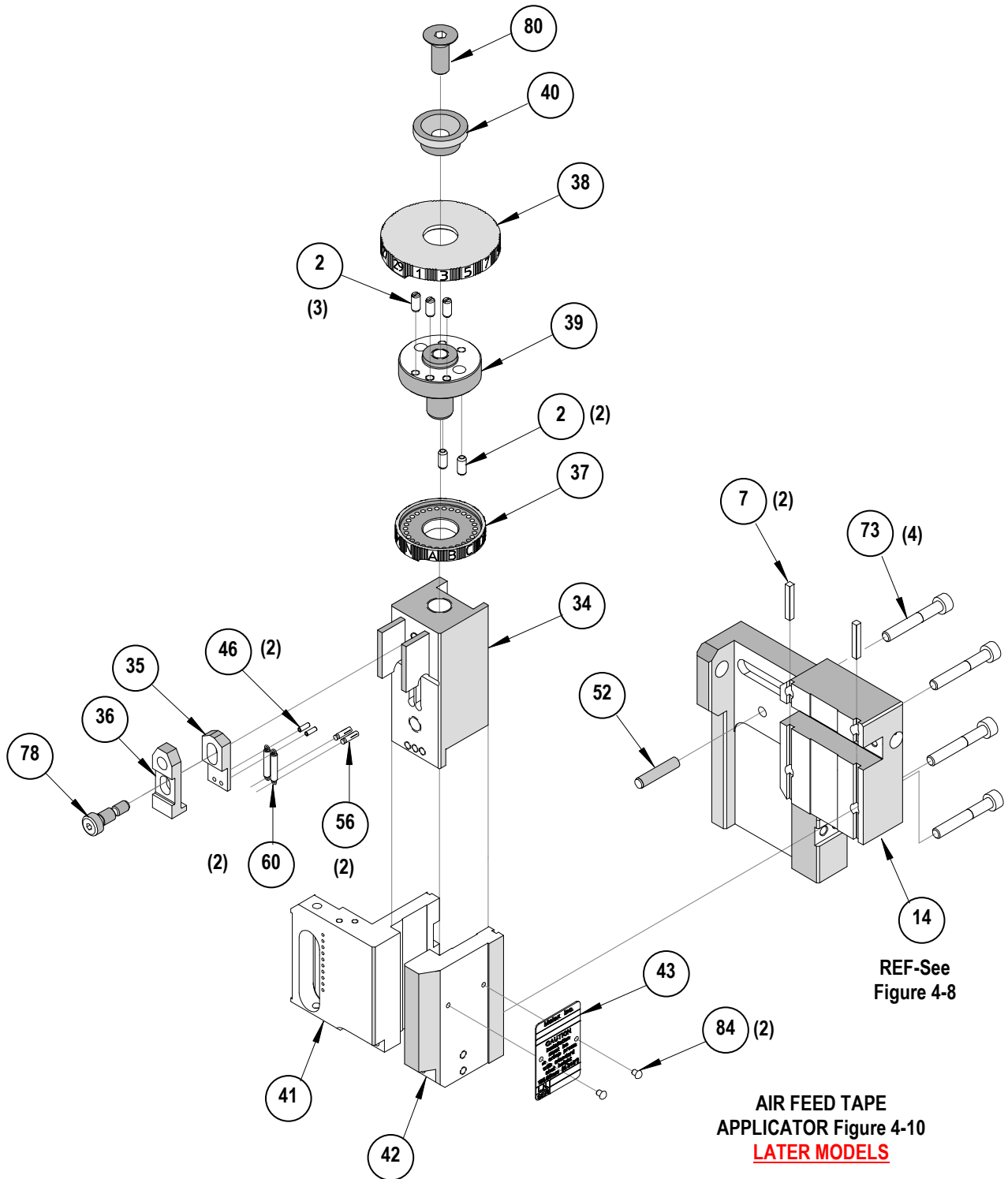
Air Feed Tape Applicator Assembly Later Models



Air Feed Tape Applicator Assembly (Cont.) Later Models



Air Feed Tape Applicator Assembly (Cont.) Later Models



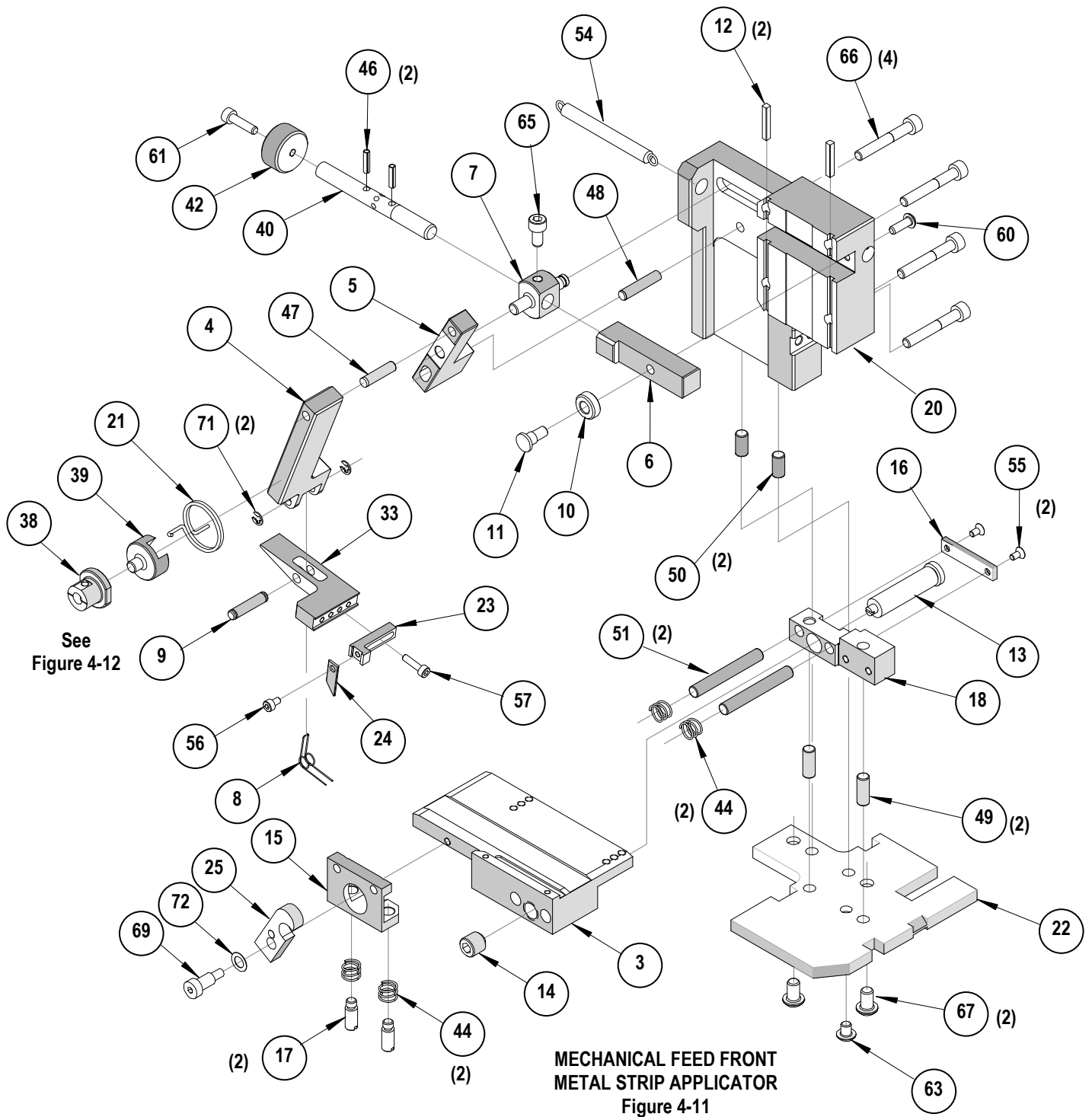
4.1.5 Mechanical Feed Front Metal Strip Applicator Parts List and Assembly Drawings (63887 series)

Mini-Mac Mechanical Feed Front Metal Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
1	11-18-4238	60700-1	Feed Cam (Short)	1
2	11-32-5346	600000Y422	M4 Ball Spring Plunger	5
3	63443-6202	63443-6202	Front Track	1
4	63800-0120	63800-0120	Feed Arm	1
5	63800-0121	63800-0121	Lever Feed Pivot	1
6	63800-0123	63800-0123	Slider-Feed Cam	1
7	63800-0124	63800-0124	Pin-Feed Adjusting	1
8	63800-0127	63800-0127	Torsion Spring-Feed Pawl	1
9	63800-0140	63800-0140	Cylindrical Pin	1
10	63800-0142	63800-0142	Roller-Cam Follower	1
11	63800-0143	63800-0143	Pin-Cam Follower	1
12	63800-0144	63800-0144	Key Stock 3 by 3 by 19mm Long	2
13	63800-0310	63800-0310	Adjusting Screw	1
14	63800-0311	63800-0311	Locking Nut	1
15	63800-0312	63800-0312	Drag Frame	1
16	63800-0314	63800-0314	Retaining Bar	1
17	63800-0316	63800-0316	Guide Pin	2
18	63800-4309	63800-4309	Rear Support Block	1
19	63801-3202	63801-3202	Feed Cam	1
20	63801-3211	63801-3211	Back Frame	1
21	63801-3225	63801-3225	Torsion Spring	1
22	63801-3281	63801-3281	Base Plate	1
23	63801-4462	63801-4462	Feed Finger Mount	1
24	63801-4561	63801-4561	Feed Finger	1
25	63801-5862	63801-5862	Drag Release Lever	1
26	63801-6441	63801-6441	Ram	1
27	63801-6442	63801-6442	Conductor Striker	1
28	63801-6443	63801-6443	Insulation Striker	1
29	63801-6444	63801-6444	Conductor Adjusting Cam	1
30	63801-6445	63801-6445	Insulation Adjusting Cam	1
31	63801-6446	63801-6446	Detent Spacer	1
32	63801-6447	63801-6447	Ram Adaptor	1
33	63890-0817	63890-0817	Feed Pawl Lever	1
34	63890-0863	63890-0863	Left Front Cover	1
35	63890-0864	63890-0864	Right Front Cover	1
36	63890-0881	63890-0881	Feed Adjusting Screw	1
37	63890-0883	63890-0883	Adjusting Knob Retainer	1
38	63890-0884	63890-0884	Adjustable Pivot	1
39	63890-0885	63890-0885	Slider	1
40	63890-0886	63890-0886	Feed Positioning Screw	1
41	63890-0887	63890-0887	Pivot Clamp	1
42	63890-0899	63890-0899	Feed Adjusting Knob	2
43	63890-0999	63890-0999	Serial Tag	REF
44	69028-0660	69028-0660	Compression Spring (Lee Spring # LC-032E-OMW)	4
45	N/A	N/A	2mm by 6 Long Roll Pin	2**
46	N/A	N/A	3mm by 12 Long Roll Pin	2**
47	N/A	N/A	5mm by 20 Long Dowel Pin	1**
48	N/A	N/A	5mm by 25 Long Dowel Pin	1**
49	N/A	N/A	6mm by 10 Long Dowel Pin	2**

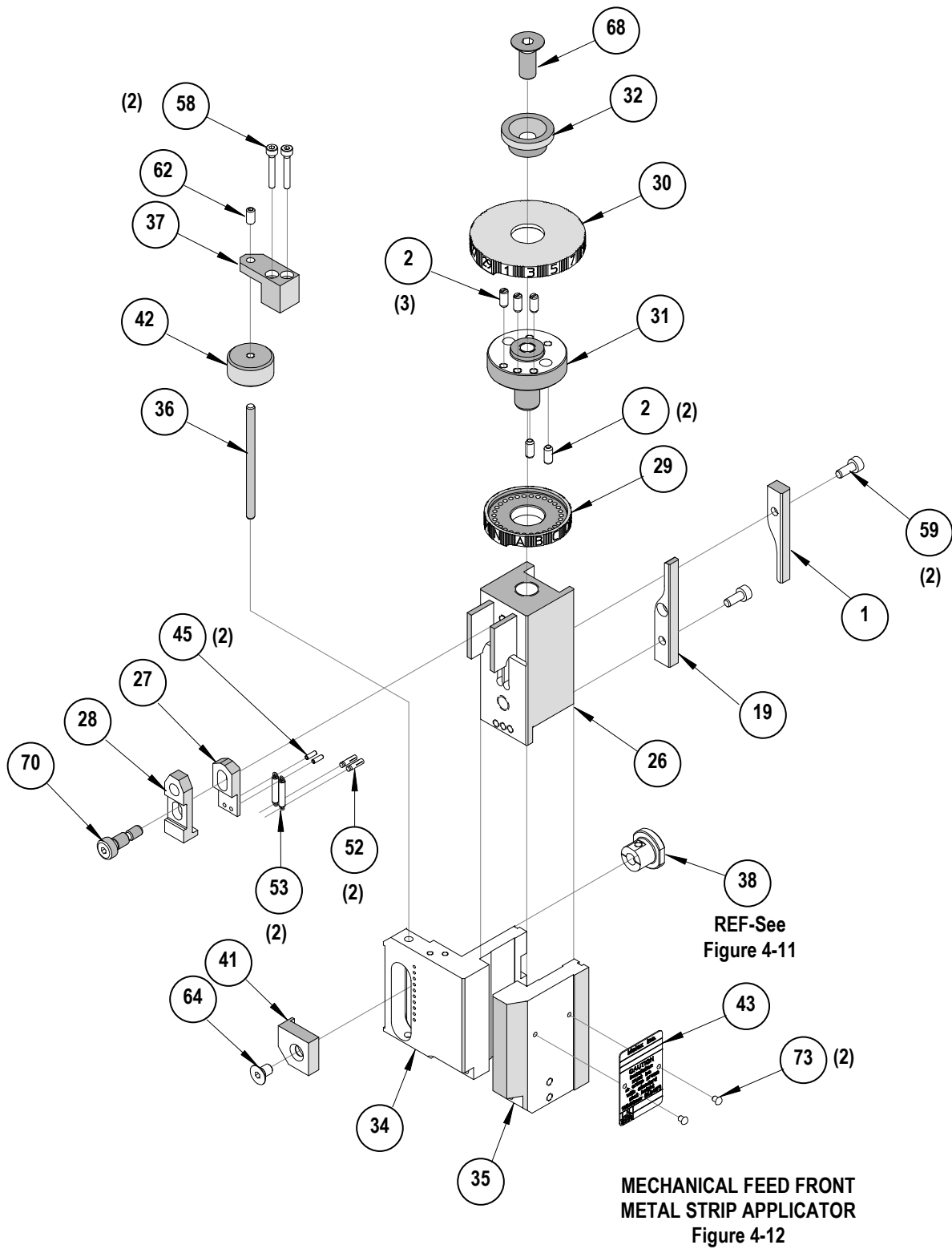
Mini-Mac Mechanical Feed Front Metal Strip Applicator				
Item	Order No.	Engineering No.	Description	Qty
50	N/A	N/A	6mm by 20 Long Dowel Pin	2**
51	N/A	N/A	6mm by 45 Long Dowel Pin	2**
52	N/A	N/A	Grooved Pin 3/32 Diameter by 3/8" Long	2**
53	N/A	N/A	Extension Spring 0.12 OD by 0.022 W by 0.62" Long	2**
54	N/A	N/A	Extension Spring 0.25 OD by 0.041 W by 2.25" Long	1**
55	N/A	N/A	M3 by 6 Long FHCS	2**
56	N/A	N/A	M3 by 5 Long SHCS	1**
57	N/A	N/A	M3 by 12 Long SHCS	1**
58	N/A	N/A	M3 by 20 Long SHCS	2**
59	N/A	N/A	M4 by 8 Long SHCS	2**
60	N/A	N/A	M4 by 12 Long BHCS	1**
61	N/A	N/A	M4 by 16 Long SHCS	1**
62	N/A	N/A	M4 by 8 Long Set Screw	1**
63	N/A	N/A	M5 by 6 Long BHCS	1**
64	N/A	N/A	M5 by 8 Long FHCS	1**
65	N/A	N/A	M5 by 10 Long SHCS	1**
66	N/A	N/A	M5 by 35 Long SHCS	4**
67	N/A	N/A	M6 by 10 Long BHCS	2**
68	N/A	N/A	M8 by 20 Long FHCS	1**
69	N/A	N/A	Stripper Bolt M6 by 10 Long-M4 Thread	1**
70	N/A	N/A	Shoulder Screw M6 by 10 Long	1**
71	N/A	N/A	Snap Ring 3.2 ID by 7 OD by 0.62 Thick	2**
72	N/A	N/A	Shim Washer 6.0 ID by 10.0 by 0.3 Thick	1**
73	N/A	N/A	#2 (.098 Diameter) by .125 in. Long Drive Screw	2**

** Available from an industrial supply company such as MSC (1-800-645-7270).

Mechanical Feed Front Metal Strip Applicator Assembly



Mechanical Feed Front Metal Strip Applicator (Cont.)



4.2. Troubleshooting

4.2.1 Troubleshooting: Mechanical Feed Rear Metal Strip Applicators (63881 and 63882 series) and Mechanical Feed Front Metal Strip Applicators (63887 series)

Symptom	Cause	Solution
Terminals do not feed	Verify terminals are not bent or damaged	Replace terminals.
	Feed finger worn or not properly adjusted	Check feed finger condition and setting.
	Track drag brake open or jammed shut	Check operation of track brake.
	Terminal jammed under stripper blade/wire stop	Adjust stripper blade/wire stop to clear.
	Cutoff plunger jammed down/broken spring	Check cutoff plunger operation.
	Track cover/Front guide set too tight	Readjust track cover/front guide.
Excessive flare (bellmouth) (Un-insulated Product)	Conductor punch worn	Replace conductor punch.
	Terminal track out of position (too far in or out)	Adjust track for proper alignment with the punches and anvil.
	Cut-off plunger spring damaged or broken	Replace spring
	Plunger sides or plunger retainer scored	Remove scoring marks. If problem not solved, replace with new cut-off parts.
Conductor crimp is too loose	Wrong tooling	Replace with proper tooling.
	Anvil spacers in wrong position	Reassemble anvil stack.
	Wrong crimp height	Reset crimp height.
	Press shut height too high	Calibrate press shut height.
Conductor crimp is too tight	Wrong tooling	Replace with proper tooling.
	Wrong crimp height	Reset crimp height.
	Anvil spacers in wrong position	Reassemble anvil stack.
	Punch installed backwards	Reverse mounting of punch.
	Press shut height too low	Calibrate press shut height.
Insulation crimp is too tight	Wire insulation too big for terminal	Check product specification.
	Wrong crimp height	Reset crimp height.
	Wrong tooling	Replace with proper tooling.
	Press shut height too low	Calibrate press shut height.
Terminal sticks during crimping	Stripping blade too high	Lower stripping blade.
	Wrong tooling	Replace with proper tooling.
	Terminal plating buildup on punches	Inspect punches.
	Lack of lubrication on terminal	Add a terminal lubricator to applicator.
	Tooling worn or damaged	Replace tooling.

4.2.2 Troubleshooting: Mechanical Feed Molded Strip Applicators (63883 and 63884 series)

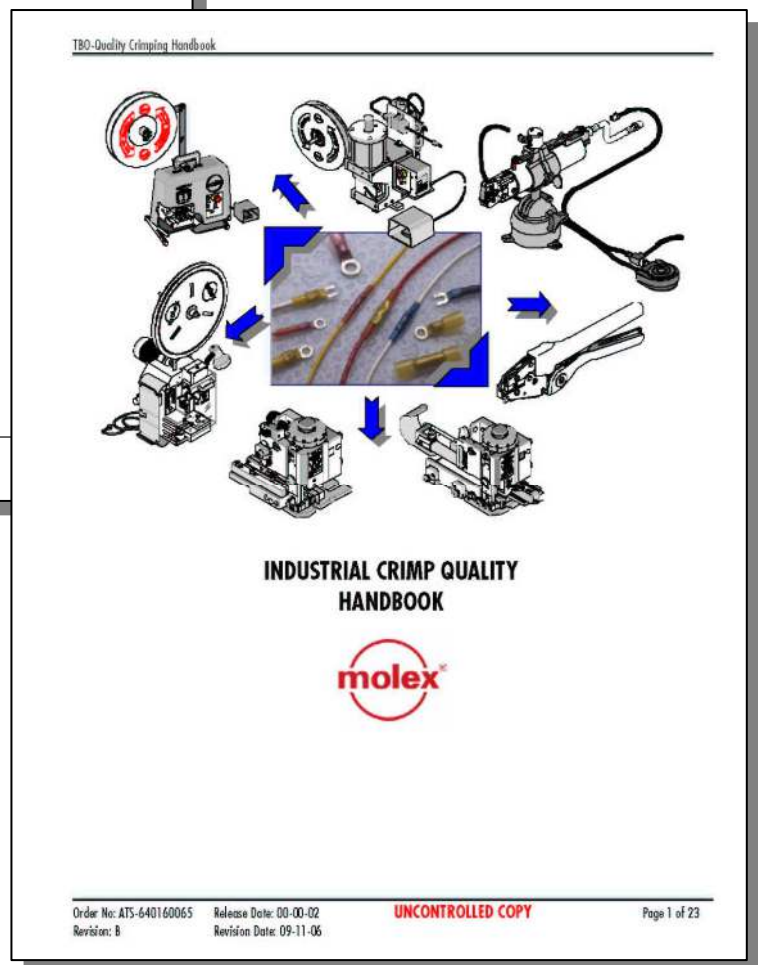
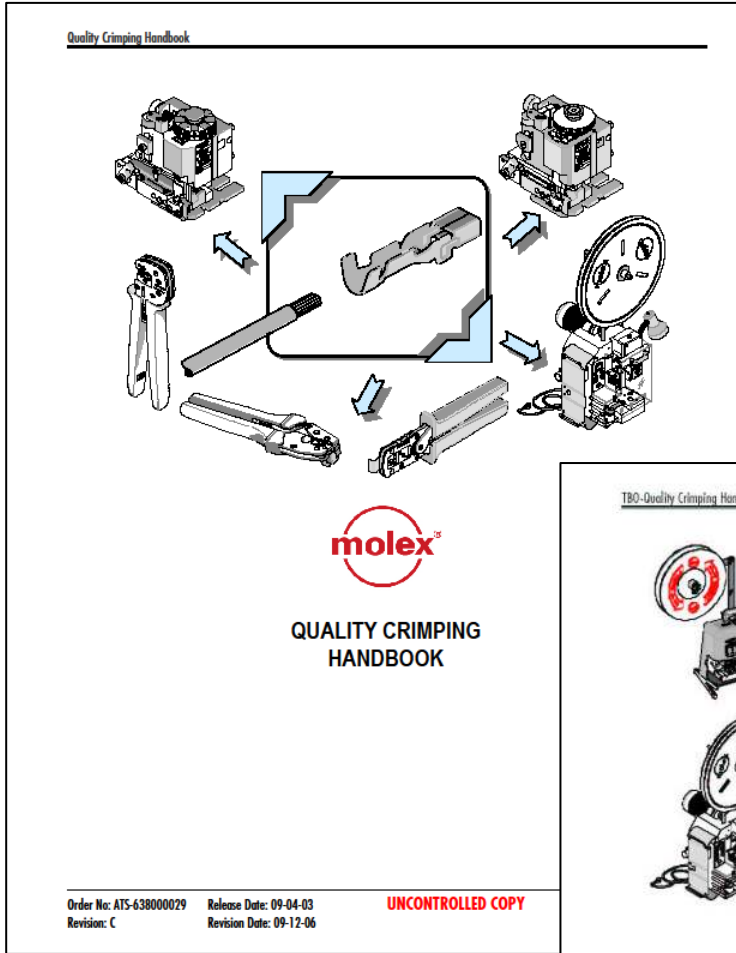
Symptom	Cause	Solution
Terminals do not feed	▪ Verify terminals are not bent or damaged	Replace terminals.
	▪ Feed finger worn or not properly adjusted	Check feed finger condition and setting.
	▪ Track drag brake not operating/jammed	Check operation of track brake.
	▪ Terminal jammed under stripper blade	Adjust stripper blade to clear.
	▪ Terminals jamming against nose support	Adjust nose support back.
	▪ Front cover set too tight	Adjust front cover up.
Conductor crimp is too loose	▪ Wrong tooling	Replace with proper tooling.
	▪ Wrong conductor crimp height	Reset conductor crimp height.
	▪ Press shut height too high	Calibrate press shut height.
Conductor crimp is too tight	▪ Wrong tooling	Replace with proper tooling.
	▪ Wrong crimp height	Reset crimp height.
	▪ Punch installed backwards	Reverse mounting of punch.
	▪ Press shut height too low	Calibrate press shut height.
No cutoff Poor cutoff	▪ Front track cover too loose	Adjust front cover down.
	▪ Terminal feed position underfed or overfed	Adjust feed forward position.
	▪ Wrong (insulation) cam setting	Increase cam setting for more punch travel.
	▪ Terminal (nose) support too low	Raise terminal support.
	▪ Stripping blade too high	Lower stripping blade.
	▪ Wrong cutoff tooling	Replace with proper tooling.
	▪ Dull cutoff punch	Sharpen or replace punch.
	▪ Old, dried-out nylon product	Replace with new reel.
Terminal sticks during crimping	▪ Wrong tooling	Replace with proper tooling.
	▪ Stripping blade too high	Lower stripping blade.
	▪ Tooling worn or damaged	Replace tooling.

4.2.3 Troubleshooting: Air Feed Tape Applicators (63885 and 63886 series)

Symptom	Cause	Solution
Tape does not feed	Reel jam or jam at track entry	Check tape entry into track.
	Tape drifted off track	Adjust front guide in.
	Front guide set too tight	Readjust front guide.
	Feed cylinder flow too restricted	Adjust flow control open.
	Tape drag left open or jammed shut	Check operation of tape drag.
	Insufficient air pressure to feed cylinder	Adjust air pressure >80psi (0.5MPa).
	Tape splice jammed in track	Clear jam.
Tape overfeeds	Feed cylinder advancing too fast	Adjust flow control.
	Feed forward position out of adjustment	Adjust feed forward position.
Excessive flare (bellmouth) (Un-insulated Product)	Conductor punch worn	Replace.
	Terminal track out of position (too far in or out)	Adjust track for proper alignment with the punches and anvil.
Conductor crimp is too loose	Wrong tooling	Replace with proper tooling.
	Wrong conductor crimp height	Reset conductor crimp height.
	Press shut height too high	Calibrate press shut height.
Conductor crimp is too tight	Wrong tooling	Replace with proper tooling.
	Wrong crimp height	Reset crimp height.
	Punch installed backwards	Reverse mounting of punch.
	Press shut height too low	Calibrate press shut height.
Terminal sticks during crimping	Stripping blade too high	Lower stripping blade.
	Wrong tooling	Replace with proper tooling.
	Tooling worn or damaged	Replace tooling.
Insulation crimp is too tight	Wire insulation too big for terminal	Check product specification.
	Wrong insulation crimp height	Reset insulation crimp height.
	Wrong tooling	Replace with proper tooling.
	Press shut height too low	Calibrate press shut height.

For more information use the Quality Crimping Handbook And Industrial Crimping Handbook

There is no charge for these books, they can be found on the Molex Website (www.molex.com) or contact you local Molex sales engineer



Appendix

A Pull Force Testing

B Options

1. Oiler

Appendix A

Pull Force Testing

A.1 Pull Force Procedure

A.2 Pull Force Problems

Pull Force Testing

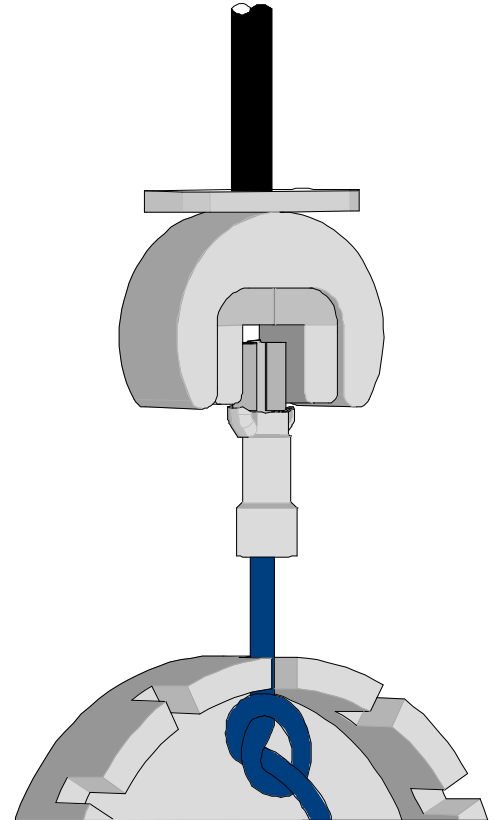
A.1 Pull Force Procedure

Wire connectors and soldering lugs for use with copper conductors. (Per UL486A October 8, 1991) UL Section 12 Pullout Test.

- 12.1 The connectors subjected to the static heating test or secureness test shall be subjected to a direct pull of the value specified for one minute. The connector is acceptable if it does not become separated from the conductor or conductors after completion of the test.
- 12.2 For an insulated connector in which the insulation is assembled to the connector during installation, the test should be conducted with the insulation in place if it is always supplied with the connector by the manufacturer. Otherwise, the test should be conducted without the insulation assembled to the connector. Breaking or tearing of the insulation of an insulated connector is acceptable in the pullout test. The pull is to be exerted by means of a tension testing machine or equivalent, so that there will be no sudden application of force or jerking during the test.

The following is the procedure Molex uses for the qualification of pull force:

1. Cut wire length approximately 150mm (6.0") long.
2. Strip one end to 13mm (.50"), or long enough so no wire insulation is under the insulation grip.
3. Terminate the appropriate terminal to the wire to the nominal crimp height.
4. Visually inspect the termination for wire brush and cut strands.
5. Set pull tester to 25.4mm (1.0") per minute. For most applications, a higher rate will not have a significant impact on the data. Verify higher pull rates with data taken at 25.4mm (1.0") per minute.
6. Knot the non-terminated end of the wire.
7. Regardless of pull tester type, both wire and terminated end must be securely clamped. (Note: Clamp the terminal contact interface; do not clamp the conductor crimp. Insulated terminals should have their insulation trimmed back so the contact can be clamped.)
8. Activate pull test.
9. Record a minimum of 25 readings of maximum pull force. After the application has been qualified, a minimum of 5 pull force measurements should be done to confirm each setup.
10. Compare lowest reading to minimum pull force specification.



PULL FORCE TESTING

A.2 Pull Test Problems

1. Wire breaks before conductor grip, pull force low

Material Evaluation

Cause: Wire material properties, and/or coatings.

Solution: Test non-terminated wire for breaking strength.

Stripping Evaluation

Cause: Cut or nicked strands from stripping operation.

- 1) Wire being manually stripped.
- 2) Poor automatic stripping cutoff.
- 3) Worn strip tooling.

Solution: 1) Switch to semiautomatic or automatic wire stripping machine.

2) Correct stripping machine setup.

2. Wire pulls out of conductor grip, crimp height good

Material Evaluation

- Cause:**
- 1) Terminal material thickness too small.
 - 2) Terminal serration depth/form.
 - 3) Terminal plating thickness.
 - 4) Gold plating application.

- Solution:**
- 1) Evaluate a new terminal.
 - 2) Or 3) Contact terminal manufacturer.
 - 4) Evaluate selective Gold application.

Stripping Evaluation

Cause: Wrong strip length, poor conductor brush.

Solution: Adjust strip length.

Tensile Test Value (LB)

Wire Size (AWG)	*Military	**UL- 486A	***UL – 486C	*****UL-310
26	7	3	N/A	N/A
24	10	5	N/A	N/A
22	15	8	8	8
20	19	13	10	13
18	38	20	10	20
16	50	30	15	30
14	70	50	25	50
12	110	70	35	70
10	150	80	40	80
8	225	90	45	N/A
6	300	100	50	N/A
4	400	140	N/A	N/A
2	550	180	N/A	N/A
1	650	200	N/A	N/A
1/0	700	250	N/A	N/A
2/0	750	300	N/A	N/A
3/0	825	350	N/A	N/A
4/0	875	450	N/A	N/A

*Military – Military Approved Terminals

**UL-486A – Terminals (Copper conductors only)

***UL-486C – Butt Splices, Parallel Splices, Closed End Connectors, and Wire Nuts

*****UL-310 – Quick Disconnects, Flags and Couplers

Appendix B

Options

1 Oiler

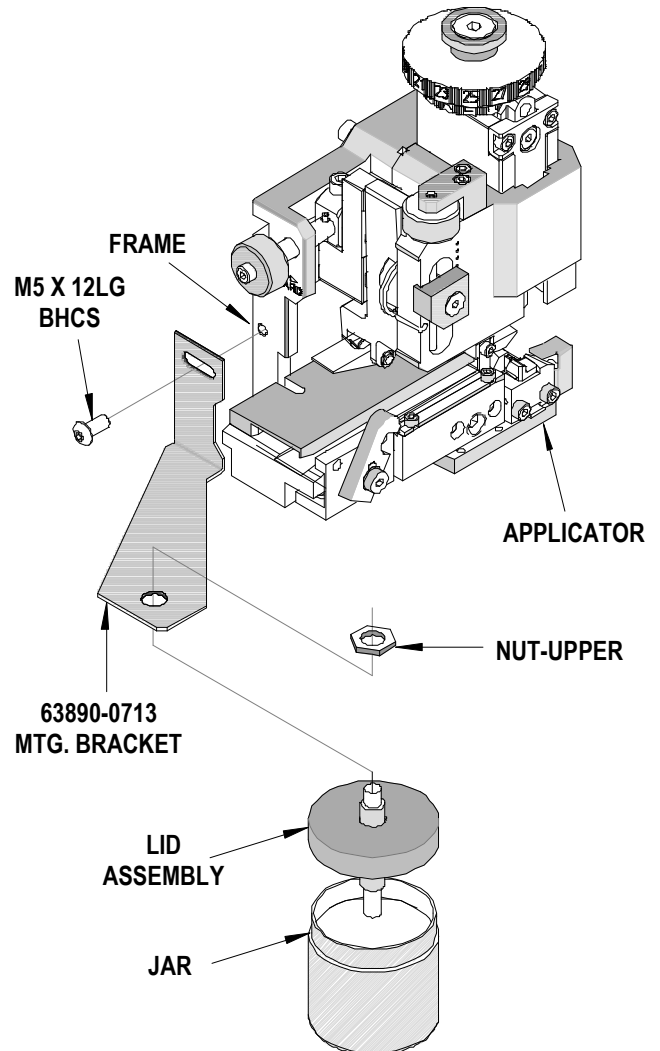
<p style="text-align: center;">Terminal Oiler For FineAdjust and Mini-Mac Applicators</p>		
	<p>Application Tooling Information Sheet</p>	

Terminal Oiler

To install a Terminal Oiler (Order No. 63890-0719) to any FineAdjust or Mini-Mac Applicator, use the following procedure.

1. Remove lid assembly from the oiler jar.
2. Remove upper oiler nut from lid assembly.
3. Place oiler mtg. bracket over tube, replace upper nut, and tighten securely.
4. Place lid assembly with mtg. bracket on the oiler jar and turn until hand tight. Do not over tighten.
5. Mount terminal oiler assembly with bracket on the frame of the FineAdjust or Mini-Mac Applicator.
6. Recommended lubricant oil:

Product Name: Transdraw B-19
Vendor: Mid-Town Petroleum
 9707 South 76th Avenue
 Bridgeview, IL 60455
 Toll-Free: 877-255-3533
 Direct: 708-599-8700
 Fax: 708-599-1040
 E-mail: sales@midtownoil.com
 www.midtownoil.com
 www.precisionlubricantsinc.com



7. For replacement wicks use part no. 63890-0727 (package of 25).

Visit our Web site at <http://www.molex.com>