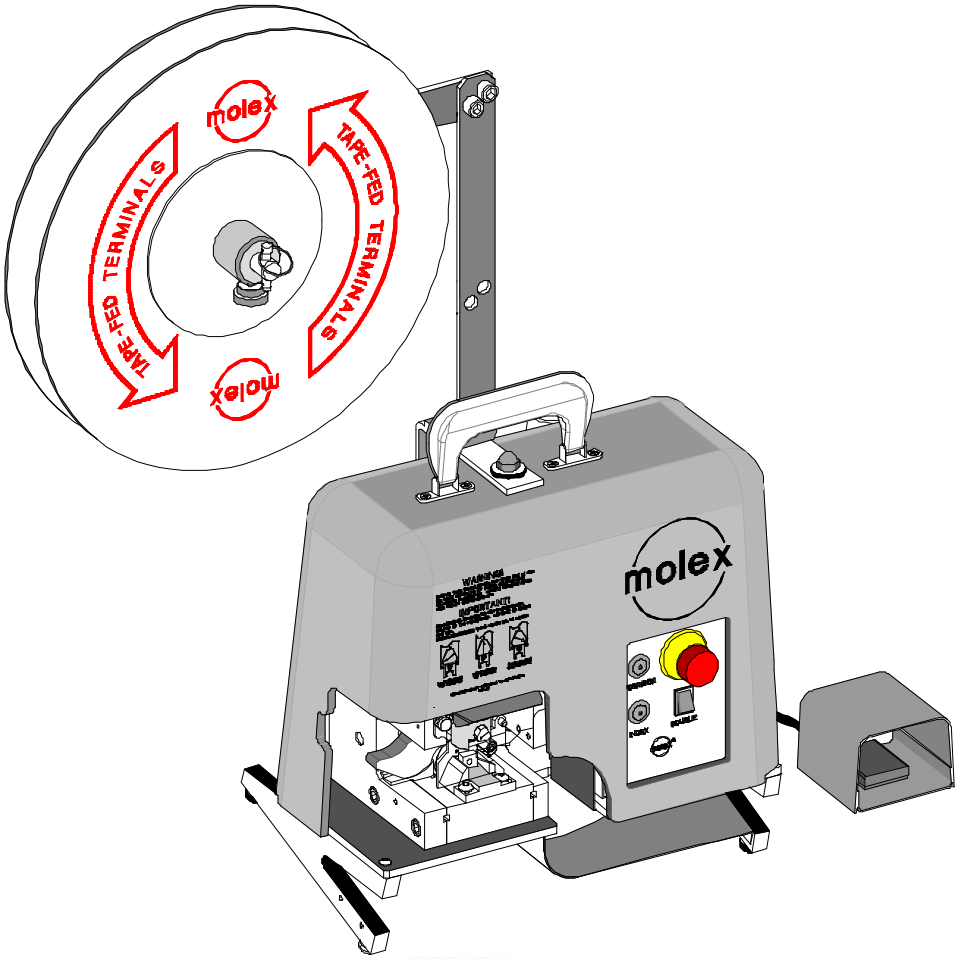

ATP-301 AIR TAPE PRESS
Order No. 19228-0030
Operation Manual For Tape Carried Products
Single or Double Space Indexing

- Description
- Operation
- Maintenance

WARNING

NEVER USE THIS TOOL WITHOUT GUARDS OR SAFETY DEVICES THAT ARE INTENDED TO PREVENT HANDS FROM REMAINING IN THE CRIMP TOOLING AREA.

NEVER OPERATE, SERVICE, INSTALL OR ADJUST THIS TOOL WITHOUT PROPER INSTRUCTION AND WITHOUT FIRST READING AND UNDERSTANDING THE INSTRUCTIONS IN THIS MANUAL AND ALL APPLICABLE AIR POWERED CRIMPING TOOL MANUALS.

NEVER SERVICE THIS MACHINE WHILE IT IS CONNECTED TO ANY ELECTRICAL POWER SOURCE. DISCONNECT POWER BY UNPLUGGING THE PRESS FROM ITS POWER SOURCE.

NEVER INSTALL OR REMOVE CRIMP TOOLING WITH THE AIR LINE CONNECTED.

NEVER OPERATE THE PRESS WITH AIR PRESSURE GREATER THAN 110 PSI (AT PRESS REGULATOR).

CAUTION MOLEX CRIMP SPECIFICATIONS ARE VALID ONLY WHEN USING MOLEX TERMINALS AND MOLEX APPLICATORS AND TOOLING.

WORK SAFELY AT ALL TIMES

For Service, Contact Your Local Molex Sales Office

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

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

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General Description

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Principal Parts of the ATP-301 Tape Press (19228-0030)

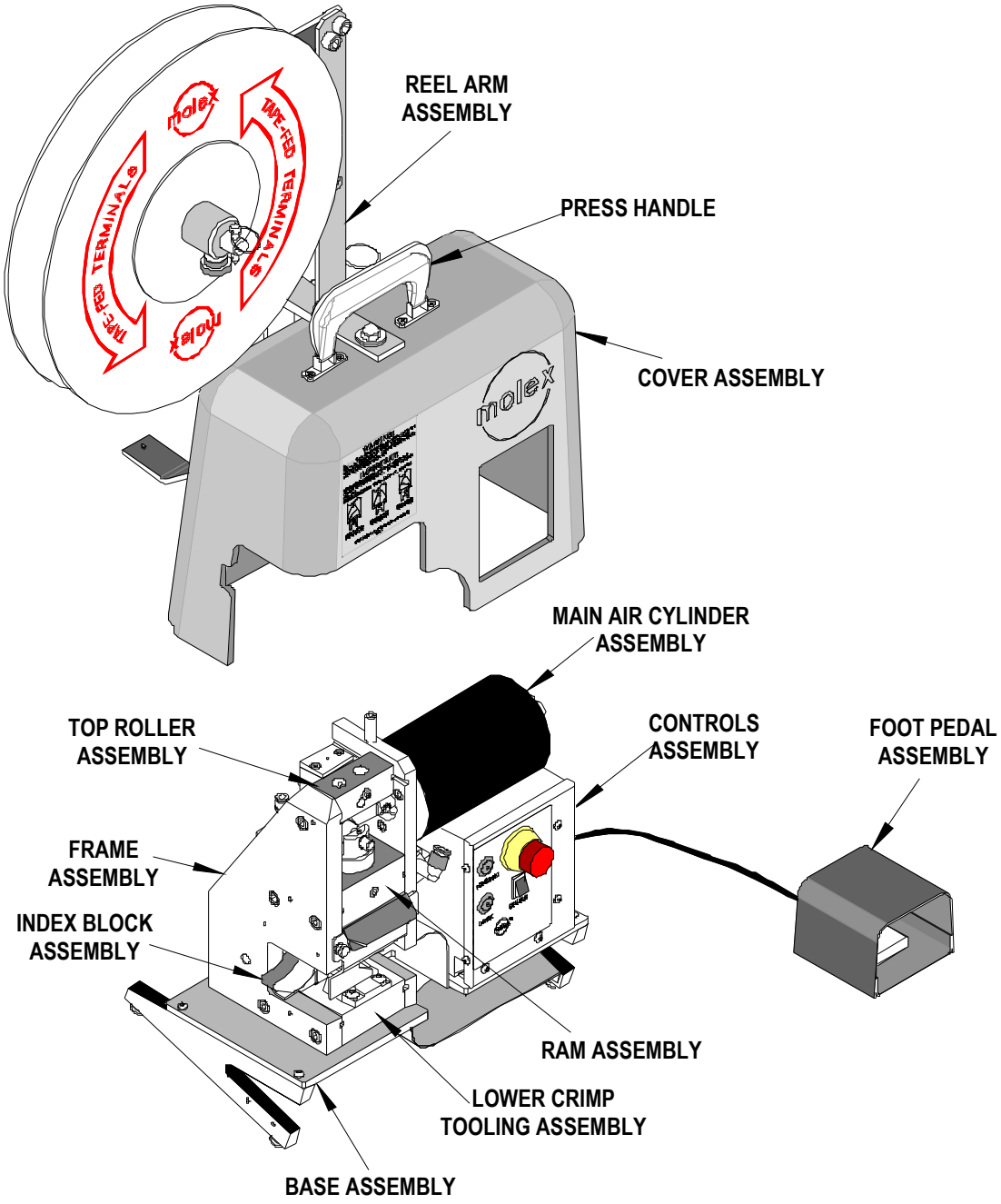


Figure 1-1

General Description

1.1. Description

The ATP-301 (19228-0030) Air Tape Press is an economical, electrically controlled, air powered termination machine. It is designed to provide an effective method for low cost, high quality terminations of tape carried products including insulated and un-insulated terminals, quick disconnects, and some types of splices with sizes from 26 through 8 AWG.

Production flexibility is obtained by interchangeable crimp tooling. Critical setup and gauging time is eliminated because of the butting die design built in to all the ATP-301 crimp tooling. Utilizing this technology allows changeover of product and tooling in only a few minutes, regardless of size or style of product.

The ATP-301 Air Tape Press will complete one crimping cycle with each depression of the foot pedal. A product is terminated and advanced to the next position for removal in approximately one second. Double spaced products can be processed with the flip of a switch.

1.2. Features

- Processes tape carried products including insulated and un-insulated terminals, quick disconnects and splices
- Double index feature for products double spaced on tape such as large ring and spade terminals or flag terminals
- Foot pedal actuation allows hands-free operation
- Versatile, compact, lightweight and portable
- Overhead reel mounting requires less workbench space
- Control panel conveniently located
- Product and tooling changeover in just minutes
- Fast and reliable. Up to 45 cycles per minute (depending on operator skill)

1.3. Technical Specifications

Dimensions without reel mounted

Height	14.00” (355.6mm)
Width	14.00“ (355.6mm)
Depth	1100” (279.4mm)
Unpacked weight	44 lbs (97 kg)
Shipping weight	52 lbs (115 kg)

Dimensions with 24.00” (609.6mm) reel mounted

Height	35.00” (889.0mm)
Width	39.75” (1009.6mm)

Tape reel sizes:
14.00” (355.6mm) and
24.00” (635.0mm)

Power Requirements
Voltage: 120V AC, 60 Hz

Production Rate (depending on operator skill)
Single Index: 2800 per hour
Double Index: 2500 per hour

Air Pressure
95-110PSI (At the press)
(6.55/7.58 Bar)

Air Volume

1 Press	1.5 scfm (.00071m3/s)

Lubrication Oil
40WT Non-detergent

Lubrication Grease
Permatex multi-purpose synthetic grease with Teflon No. 82329

Service Frequency
1 month or 20,000 cycles

Processing Capability
Up to 8 AWG (8.36mm²) of copper conductor in solid or stranded wire.

Sound Level
Operator will be exposed to less than 85 DB.

1.4. Delivery Check

19228-0030	Main press assembly
19228-0076	Reel arm assembly
69018-6237	Power cord
63800-8394 (attached)	Foot pedal assembly
TM-192280498	Instruction manual
19228-0497	Fastener kit (Includes 64016-0068 Stripper / Wire stop assembly)

NOTE: See section 2.1 for unpacking instructions.

1.5. Tools

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

1. Standard hex wrench set (inch)
2. Adjustable wrench
3. Wire stripper / cutter
4. Scissors

Section 2

Installation

2.1. Unpacking and Positioning the Press

2.2. Reel Arm Assembly Installation

2.3. Air Supply and Electrical Power Connection

2.4. Tape Reel Installation

2.5. Crimp Tooling Installation and Removal

2.6. Insulation Punch Adjustment

2.7. Die Spacer Installation

Read the following instructions before attempting to operate tool.

2.1. Unpacking and Positioning the Press

Open the top of the shipping carton. Locate and remove the reel arm assembly and set aside. Remove the packaging film and foam as required to gain access to the air press. Use the press handle to lift the unit out of the shipping carton. As the press is lifted with one hand, support the foot pedal assembly with the other and place the unit on a clean, flat surface. Remove the plastic covering from around the air press and verify that all items are present (See delivery check: Section 1.4).

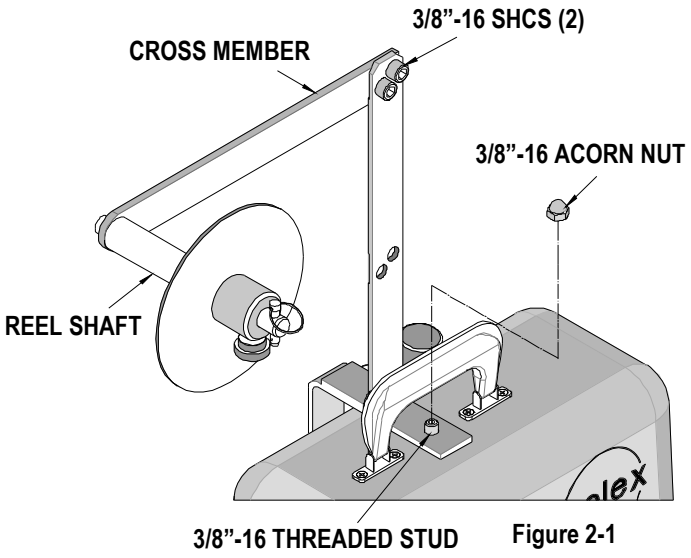


Figure 2-1

Position the air press on top of a flat, sturdy workbench approximately 4.00" (100mm) back from the front edge. Check that the crimping position is ergonomic for the operator's size. A bench height of 30.00 to 32.00" (762 to 813mm) should provide operator comfort and allow both feet to rest on the floor. The foot pedal should be placed in a comfortable position. A chair or stool with an adjustable height and backrest should be provided for maximum comfort and back support for the operator.

2.2. Reel Arm Assembly Installation (See Figure 2-1)

1. Remove the 3/8-16" acorn nut and (2) 3/8" washers from the top cover.
2. Locate the reel arm assembly and disassemble the cross member by removing (2) 3/8" SHCS. Reposition the cross member in a horizontal position extending to the left side with the reel shaft oriented to the front and replace the (2) 3/8" SHCS and tighten securely.
3. Place the reel arm assembly over the 3/8-16" stud on the top of the cover, and replace the 3/8-16" acorn nut and tighten securely. The (2) 3/8" washers are not required for mounting the reel arm to the press but may be required for future use if the reel arm assembly is removed and the press is to be transported.

2.3. Air Supply and Electrical Power Connection

(See Figure 2-2)

1. Connect the air supply hose to the filter/regulator located on the rear of the press cover. A standard 1/4" NPT quick-change air coupler compatible with your quick connect brand should be mounted. A 1/4" minimum diameter air hose should be used to satisfy the 1.5 CFM air volume requirement for the ATP-301.
2. Connect the appropriate end of the power cord to the socket of the ATP-301 power supply module. The power supply module is located at the end of the power cord that extends out the rear of the machine.

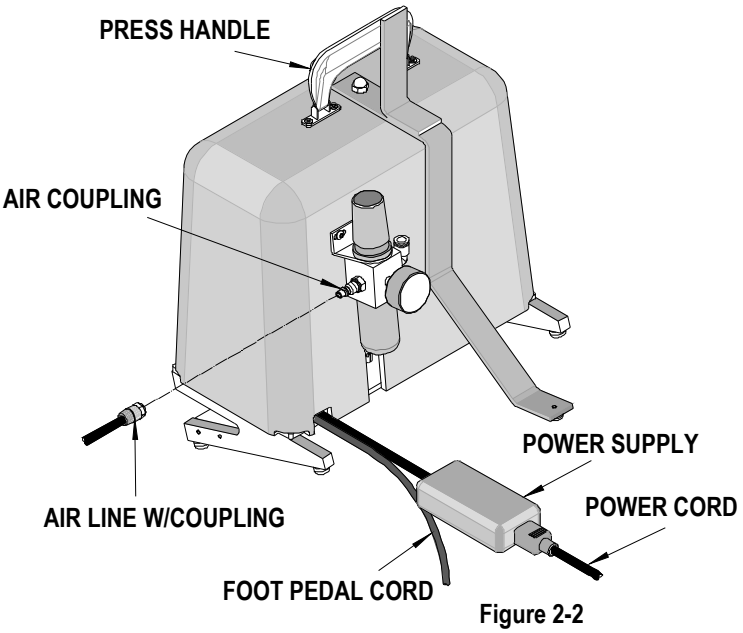


Figure 2-2

3. Connect the appropriate end of the power cord to a grounded electrical outlet (120V AC).

2.4. Tape Reel Installation (See Figure 2-3)

1. Pull the quick release pin from the end of the reel shaft & remove.
2. Loosen the thumbscrew on the disc assembly and remove from the reel shaft.
3. Place the tape-fed terminals reel over the reel shaft. Be certain to orient the reel so the MOLEX logo is facing forward.
4. Place the disc assembly back on the reel shaft and push toward the reel until there is enough force applied to keep the reel from rotating freely and lock in position by tightening the thumbscrew.

NOTE: For precise setting of the tension, unwind a length of terminals from the reel to the top of the work surface. With a full reel of product, this is the maximum amount of resistance the disc assembly will be required to balance.

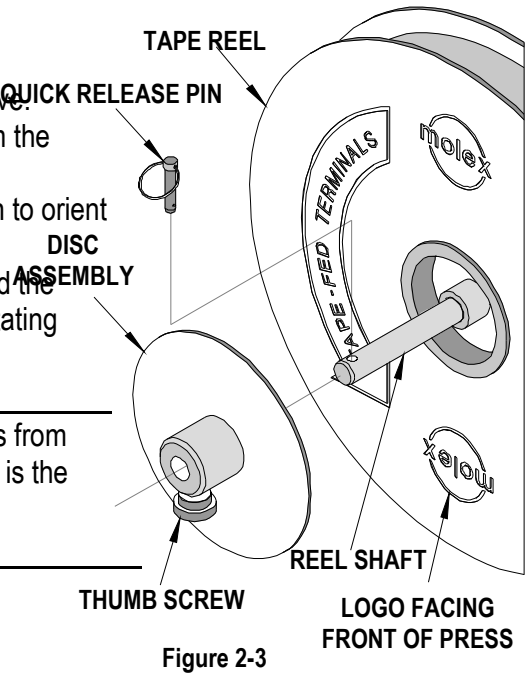


Figure 2-3

2.5. Crimp Tooling Installation and Removal (See Figure 2-4)

Conductor and Insulation Punches (E2 and I2) (Upper Tooling)

CAUTION: Always disconnect power and air supply before installing or removing tooling.

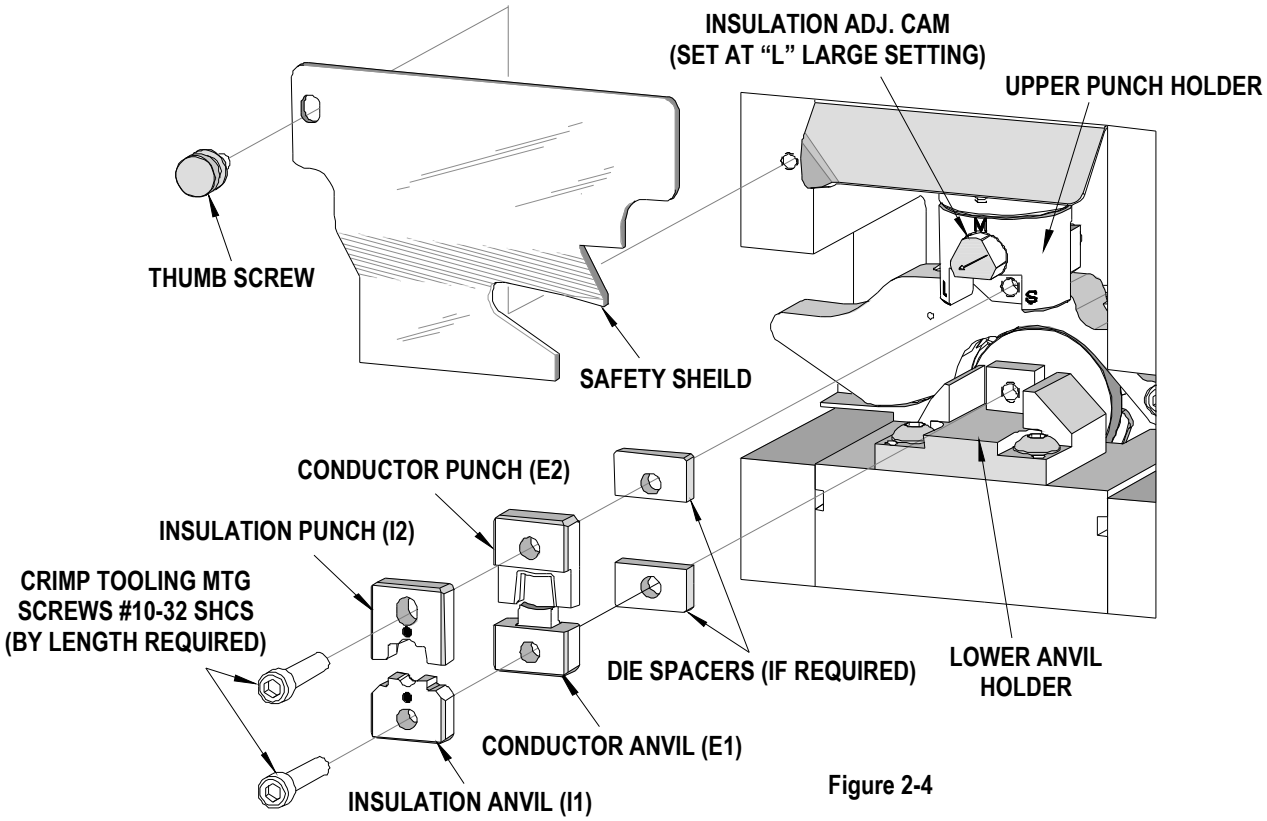


Figure 2-4

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

Installation

1. Unscrew the thumbscrew and remove the safety shield.
2. Rotate the insulation adjustment cam so the arrow points to the "L" setting (largest wire insulation diameter).

NOTE: The insulation adjustment cam MUST always be set to "L" when installing crimp punches (E2 and I2). This is to allow proper clearance to install the conductor punch (E2).

3. Place the crimp punches (E2 and I2 if required) into the upper punch holder. If the upper tooling requires a die spacer, install as shown in Figure 2-4. Be certain to orient the punches in the proper direction (refer to the Crimp Tooling Specification Sheet when necessary). Using a 5/32" hex wrench, start the #10-32 SHCS but do not fully tighten. Rotate the insulation adjustment cam to the desired position ("L", "M", or "S"). See Figure 2-5. Push the upper punches (E2 and I2) upward with your fingers to ensure proper seating in the upper punch holder and tighten the #10-32 SHCS.
4. If the crimp tooling does not include an insulation punch (I2), push up on the conductor punch (E2) and tighten the #10-32 SHCS.

Removal

1. Loosen the #10-32 SHCS.
2. If required, rotate the insulation adjustment cam to the "L" setting.
3. Unscrew the #10-32 SHCS until disengaged and remove the punches.

Conductor and Insulation Anvils (E1 and I1) (Lower Tooling)

CAUTION: Always disconnect power and air supply before installing or removing tooling

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

Installation

1. Lift the ram up and place the crimp anvils (E1 and I1 if required) into the lower anvil holder. If the lower tooling requires a die spacer, install as shown in Figure 2-4. Be certain to orient the anvils in the proper direction with the part number facing the operator (refer to the Crimp Tooling Specification Sheet when necessary). Tighten the #10-32 SHCS.
2. Lower the ram allowing the punches and anvils to close. Crimp tooling should be aligned and engage with no resistance. If binding occurs, loosen the (2) #10-32 SHCS. With the ram in the down position and the tooling engaged, tighten the (2) #10-32 SHCS. If insulation tooling is installed, be certain to push up on the insulation punch before tightening the screw.
3. Replace the safety shield and secure in position with the thumbscrew.

Removal

1. Loosen the #10-32 SHCS.
2. Lift the ram up, and unscrew the #10-32 SHCS until disengaged and remove the anvils.

2.6. Insulation Punch Adjustment (See Figure 2-5)

CAUTION: Always disconnect power and air supply before adjusting insulation punch.

1. Unscrew the thumbscrew and remove the safety shield.
2. With the ram in the down position (tooling closed), loosen the #10-32 SHCS until the insulation punch (I2) is free.
3. Rotate the insulation adjustment cam so the arrow points to the desired setting ("L", "M", or "S").
4. With the ram in the down position, push the insulation punch (I2) up and tighten the #10-32 SHCS. Be certain the ram maintains the full down position while pushing up the insulation punch (I2) and tightening the screw. It is important to keep the conductor punch (E2) butted against the conductor anvil (E1) while locking the insulation punch (I2) in place.
5. Replace the safety shield and secure in position with the thumbscrew.

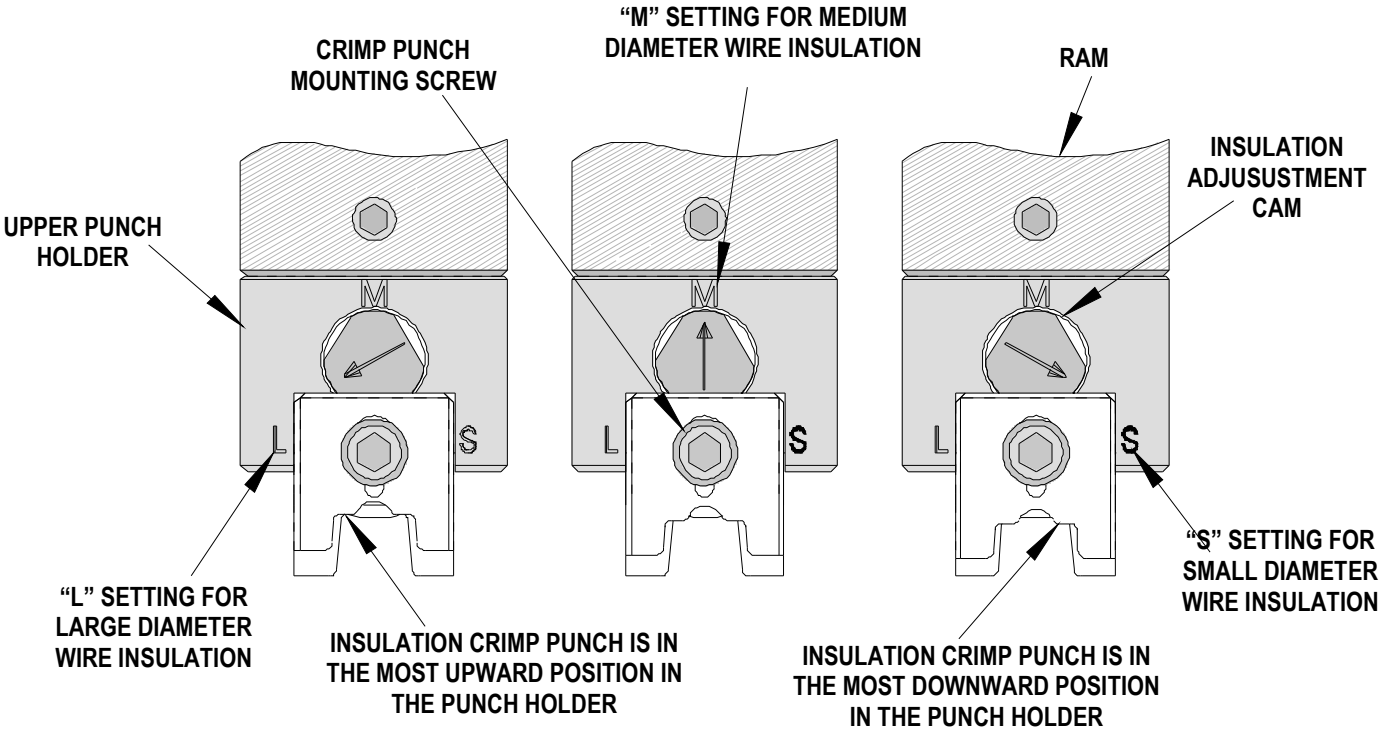


Figure 2-5

2.7. Die Spacer Installation

Die spacers are required for certain tape-mounted products. For example, products with large ring or spade configurations require the crimp tooling to be repositioned for proper termination. To install a die spacer set, follow the instructions in Section 2.4 Crimp Tooling Installation and Removal and refer to the Crimp Tooling Specification Sheet when necessary. Die spacers are always positioned behind the required crimp tooling (See Figure 2.4) and will require longer crimp tooling mounting screws. A variety of screws are provided in the fastener kit supplied with the machine.

Section 3

Setup-Operation

3.1. Control Panel Operation

3.2. Loading Taped Product

3.3. Removing Taped Product

3.4. Wire Stop Installation

3.5. Stripper Installation

3.1. Control Panel Operation (See Figure 3-1)

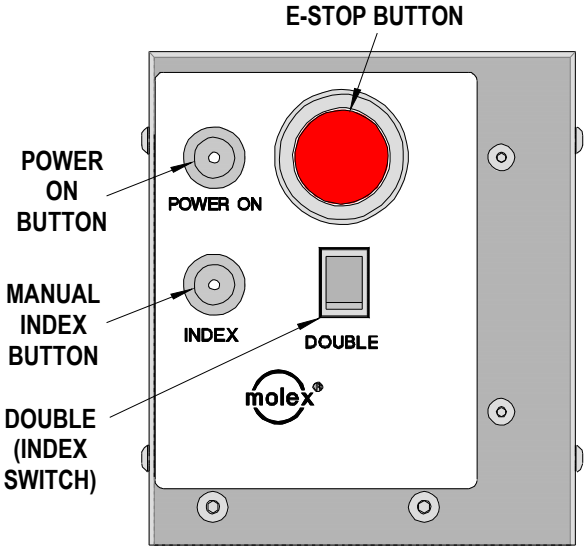


Figure 3-1

1. Pressing POWER ON (momentary) push button permits power to the machine unless one or both of the following conditions exist.
   a) The power cord is not properly plugged in a power source.
   b) The E-STOP push button is depressed (in the off position).

   This green push button will illuminate when power is on.
2. Pressing the E-STOP push button will power down the machine. This is a locking push button. To reset the E-STOP, rotate the push button clockwise until it resets. The switch will pop out when reset. The POWER ON push button will not supply power to the machine until the E-STOP is reset.
3. The INDEX (momentary) push button is used to index the tape product without terminating the terminals. This push button operates in two stages described below.
   a) Pressing this push button the first time will cause the ram to rise to the full up position and index the tape. This red push button will flash on and off when the machine is in this condition.
   b) Pressing this push button a second time will allow the ram to lower down but will not actuate the main ram cylinder for termination. The ram will fall down and capture the terminal (if present in the termination position). The push button will stop flashing at this time to indicate that it is no longer active.

NOTE: When the red INDEX push button is depressed and no motion is performed, the red light will flash on and off. One or both of the following conditions may exist.

a) The E-STOP push button is depressed (in the off position). Push INDEX one time to stop the flashing condition. Rotate the E-STOP clockwise to reset and press the POWER ON push button to restore power to the machine.
b) The air supply is disconnected. Press INDEX one time to stop the flashing condition. Reconnect the airline. Push INDEX to initiate the index cycle.

CAUTION: It is recommended to always deactivate the index cycle by pressing INDEX one time to stop the flashing condition before POWER ON or RECONNECTING the air supply. If the light is flashing, the machine will perform the index immediately upon restoration of power or air supply.

4. The DOUBLE INDEX (rocker) switch changes the machine from single index mode to double index mode. When this switch is in the off position (the “o” symbol on the lower half of switch depressed), the machine will single index. When this switch is on (the “I” symbol on the upper half of switch depressed), the machine will perform double indexing.

NOTE: The following two items are not on the control panel.

5. The WORKLAMPS will remain illuminated at all times as long as there is power to the machine. There is no on/off switch for the work lamps.

6. The FOOT PEDAL (SWITCH) should be placed on the floor and positioned for operator comfort. Pressing the foot pedal and releasing will initiate one press cycle.

3.2. Loading Taped Product (See Figure 3-3)

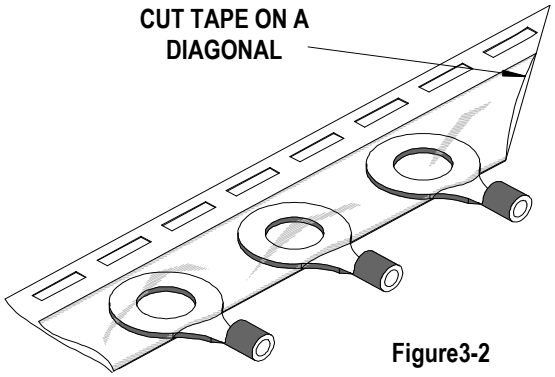


Figure3-2

1. Prepare the tape for loading. Use scissors to cut the tape on a diagonal. The diagonal cut must pass between the slots in the tape. See Figure 3-2.
2. Slide the tape between the upper and lower tape guides with the rear edge of the tape against the rail on the lower guide. Push the tape to the right into the mechanism until the slot in the tape engages to first tooth on the index wheel. Listen for a click sound when the slot snaps over the tooth in the wheel.

NOTE: If the wire stop assembly is installed, check position of tape after each index to ensure the tape has passed under the wire stop. It may be necessary to lift the wire stop over the tape.
Depending on the condition of the tape, the above step may have to be repeated until successful.

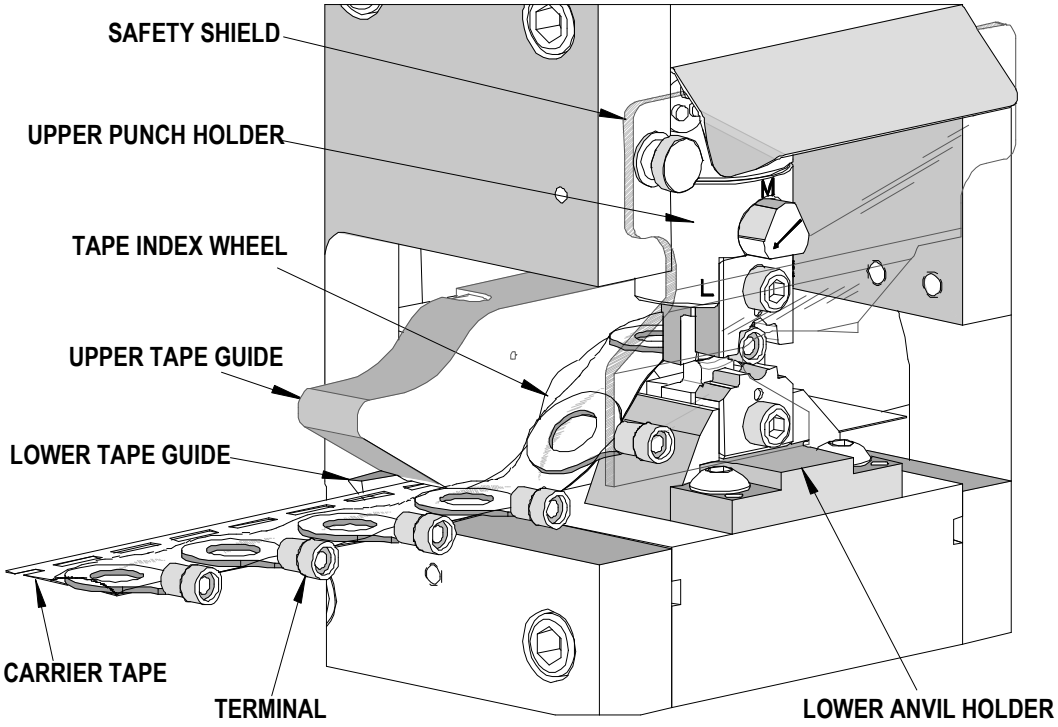


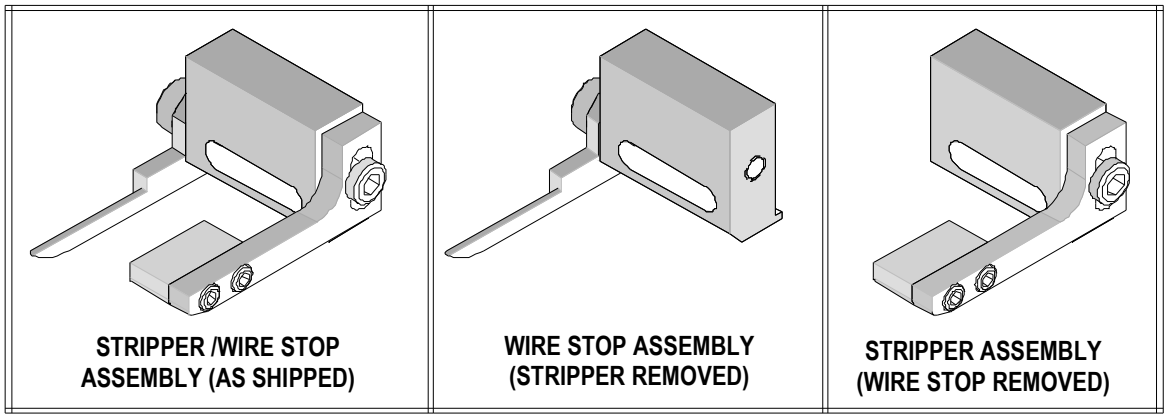
Figure 3-3

3. Press the Index push button on the control panel twice to index the tape (See Section 3.1, Item 3 for more details on the Index push button). Repeat this step as necessary until a terminal is in the termination position centered over the lower anvil or anvils.

NOTE: It is recommended the operator always observe the tape as it passes through the exit guides to the right of the crimp tooling. Adjustment of the tape may be required to maintain a smooth flow of the used tape through the upper and lower exit guides.

3.3 Removing Taped Product

1. When 5 wires remain to be terminated, cut the tape off with 4 terminals to the left of the crimp tooling.
2. When terminations are complete, cycle or index the machine as required to allow the tape to exit the feed mechanism. The foot switch or the index push button can be used to run the tape out of the machine.



64016-0068 STRIPPER/ WIRE STOP CONFIGURATIONS

3.4 Wire Stop Installation

Note: The Wire Stop Assembly is not installed at the factory. It is supplied with the machine and can be installed at anytime. It is recommended for use with terminals that do not have a wire stop feature such as un-insulated rings and spades.

Prior to installing the wire stop into the press, remove the stripper from the sub-assembly. See stripper/wire stop configurations. This is done by removing the #10-32 Low Head SHCS from the end of the support that mounts the stripper.

CAUTION: Always disconnect power and air supply before installing or removing wire stop.

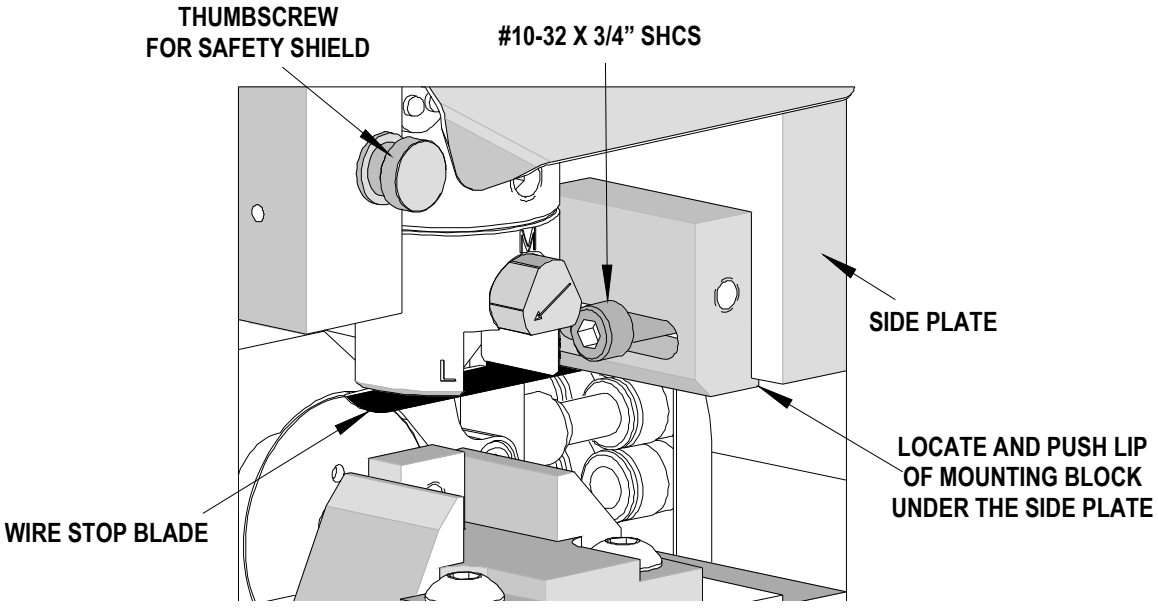


Figure 3-4
(SHOWN WITH TOOLING REMOVED)

1. Unscrew the thumbscrew and remove the safety shield.

NOTE: Although not necessary, it is recommended that all crimp tooling and taped products be removed before mounting the wire stop assembly.

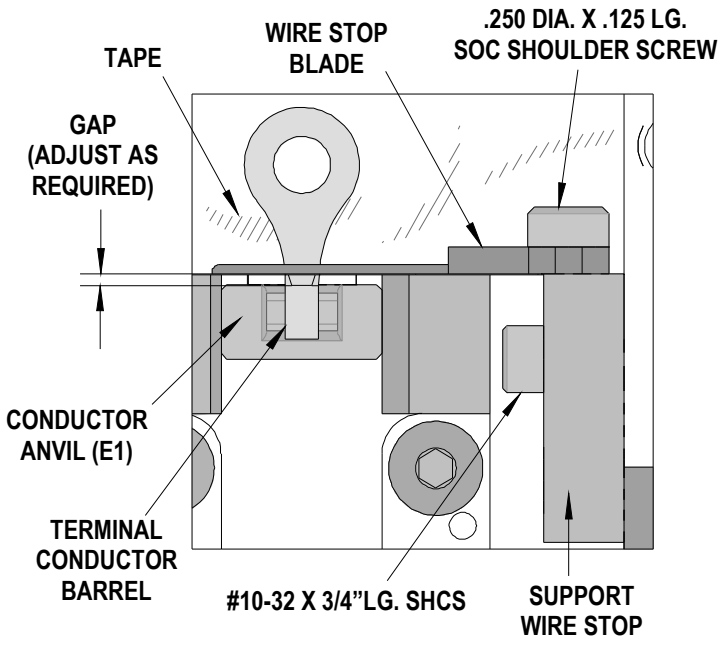
2. Position the wire stop assembly on the inside wall of the right side plate. Be certain the lip of the support block locates under the edge of the side plate and secure with the #10-32 x 3/4" SHCS into the far #10-32 tapped hole. See Figure 3-4.

NOTE: Crimp tooling must be installed for the following step.

3. To properly position the wire stop, loosen the #10-32 SHCS. While pushing up on the mounting block, slide the assembly in or out to achieve the required gap between the rear of the terminal conductor barrel and the front face of the wire stop blade (See Figure 3-5) and lock in place by tightening the #10-32 SHCS.
4. Replace the safety shield and secure in position with the thumbscrew.

NOTE: Taped product must be loaded for the following step.

5. Make a test sample to evaluate the position of the wire stop. If the wire brush on the far side of the terminal is too long or too short, adjust the gap between the conductor barrel and wire stop blade per step 3 above.



TOP VIEW (Termination area with wire stop)
Figure 3-5

3.5 Stripper Installation

Note: The Stripper Assembly is not installed at the factory. It is supplied with the machine and can be installed at anytime. It is recommended for use with terminals that stick in the conductor punch after termination.

Prior to installing the wire stripper into the press, remove the wire stop from the sub-assembly. See stripper / wire stop configurations. This is done by removing the 1/4" diameter x 1/8" long Shoulder Screw from the end of the support bar that mounts the wire stop blade.

CAUTION: Always disconnect power and air supply before installing or removing wire stripper.

1. Unscrew the thumbscrew and remove the safety shield.

NOTE: Although not necessary, it is recommended that all crimp tooling and taped products be removed before mounting the stripper assembly.

2. Position the stripper assembly on the inside wall of the right side plate. Be certain the lip of the support block locates under the edge of the side plate and install the #10-32 x 3/4" SHCS into the far #10-32 tapped hole. Slide the block all the way forward (toward you) and tighten the #10 SHCS. See Figure 3-6.

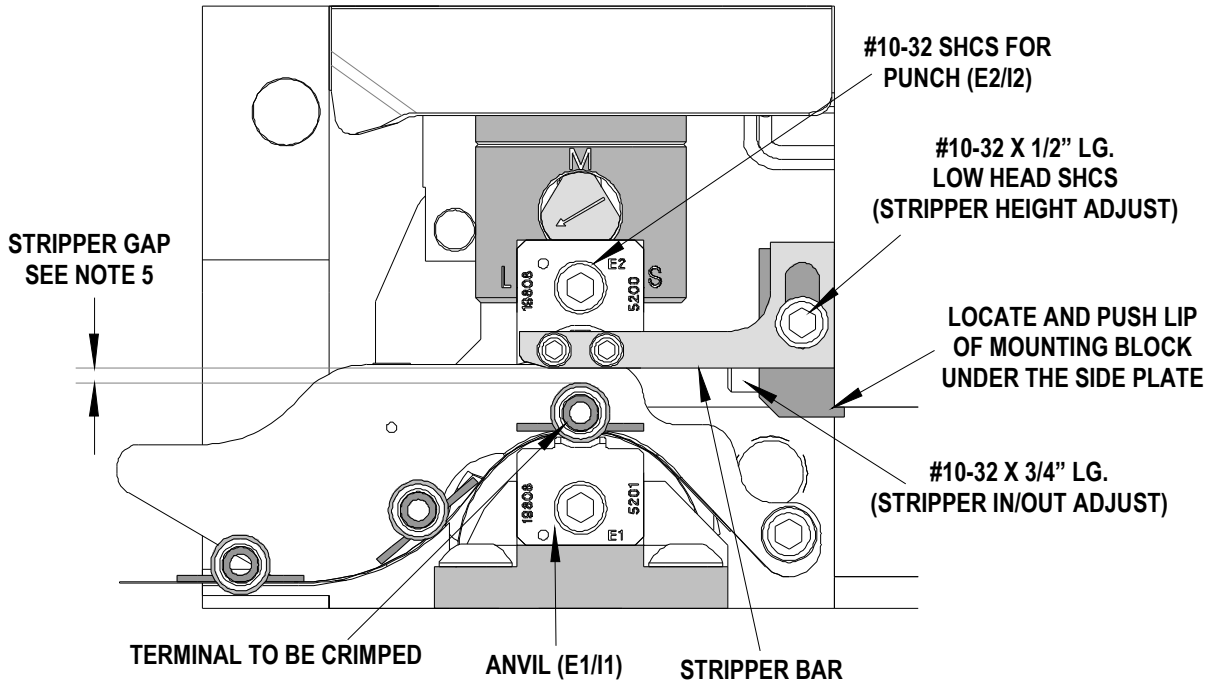


Figure 3-6

3. Adjust the height of stripper bar by loosening the #10-32 x 1/2" Low Head SHCS and position the stripper bar up and down in the center of the mounting slot and tighten the screw.

NOTE: Crimp tooling must be installed for the following step.

4. To properly position the support block depth, loosen the #10-32 x 3/ 4" SHCS and slide the entire assembly in until the stripper pad clears to #10-32 SHCS that mounts the conductor (E2) or insulation (I2) punch and tighten the #10-32 SHCS. See Figure 3-6.

NOTE: Taped product must be loaded for the following step.

5. Adjust the stripper gap by positioning the stripper bar height. Loosen the #10-32 x 1/2" Low Head SHCS on the end of the support block and slide the stripper bar down so it is positioned just above the terminal that is to be crimped, and tighten the #10 Low Head SHCS. See Figure 3-6. To verify the stripper gap, push the index button twice to advance the terminal. Repeat this several times. If the terminal does not position properly between the punch and anvil, increase the stripper gap as required until the terminal positions properly.

Section 4

Maintenance

4.1. Cleaning

WARNING: Disconnect electrical power and air supply before all maintenance.

For efficient operation, the ATP-301 Tape Press should be cleaned daily. Use a soft bristle brush to remove debris from critical areas such as the crimp tooling and tape feed wheel assembly. For best results, remove the safety shield, taped product, and crimp tooling from the press. Using your thumb, lift open the upper tape guide and brush out all debris between the upper and lower tape feed guides, around the tape feed wheel, and to the right where the tape exits the machine. Brush and then use a clean cloth to wipe off the upper and lower tooling mounting areas. Before reinstalling tooling, wipe all sides of the punches and anvils with a clean cloth.

Use window cleaner and cloth to clean the safety shield. Never use solvents. If the shield is severely scuffed or scratched, replacement may be necessary. See Section 5 for part numbers.

CAUTION: Never use compressed air to clean the machine.

4.2. Compressed Air System Maintenance

WARNING: Disconnect electrical power and air supply before all maintenance.

Due to the nature of the system, air compressors commonly create condensation and moisture in the system. This will cause problems in any pneumatic piece of equipment. The moisture will cause premature corrosion inside the valves and device. As the tool operates, commonly there is an exhaust port that will spray the moisture out and cause the mechanical aspect of the tool to corrode. This tool is designed for a clean, dry air system. To maximize the life span of your tool you should maintain a low moisture system. This may include a weekly spot check of the moisture in your lines. This can be checked easily. Connect an air nozzle to a low point in the hard piping or near the press. Blowing air onto a piece of paper for a period of time, you will see if any moisture is being circulated.

All air compressors have a dump valve or plug on the underside of the tank. ***With the compressor off and no pressure in the system*** . . . you can open this and drain any built up moisture. There can also be moisture collected in the drop down pipes from overhead. There should be an extra length of pipe with a valve to drain. Water can collect at these points, and not be blown through.

4.3. Lubrication

For trouble free operation, regular maintenance is mandatory. The following maintenance procedures will help ensure top quality machine performance. Depending on machine usage, the time between maintenance can vary. For machines with high daily cycle counts, over 1,000 cycles per day, maintenance is required more often than machines used for lower volumes, under 1,000 cycles per day. It is recommended to perform the following maintenance at least every 20,000 cycles. This could be once a month for low volume users or every two to three days for high volume production. The following formula and examples can be used to determine maintenance frequency:

C x H = D then 20,000 ÷ D = #

Where: C = cycles per hour
H = hours per day
D = cycles per day
20,000 = maintenance frequency
= Number of days between maintenance

Example for a low volume user: 220 cycles per hour for 4 hours per day
220 x 4 = 880 and then 20,000 ÷ 880 = 22.72 or maintenance every 23 days.

Example for a high volume user: 360 cycles per hour for 8 hours per day
360 x 8 = 2,880 and then 20,000 ÷ 2,880 = 6.94 or maintenance every 7 days.

WARNING: Disconnect electrical power and air supply before all maintenance.

1. Remove the 3/8-16" acorn nut from the top of the press.
2. Remove and set aside the reel arm assembly.
3. Remove and set aside the cover assembly. Use caution when lifting the cover. The lower edge of the opening for the control panel can interfere with push buttons and damage the controls.
4. Lubricate all points shown in Figures 4-1 with the specified oil and grease (or equivalent).

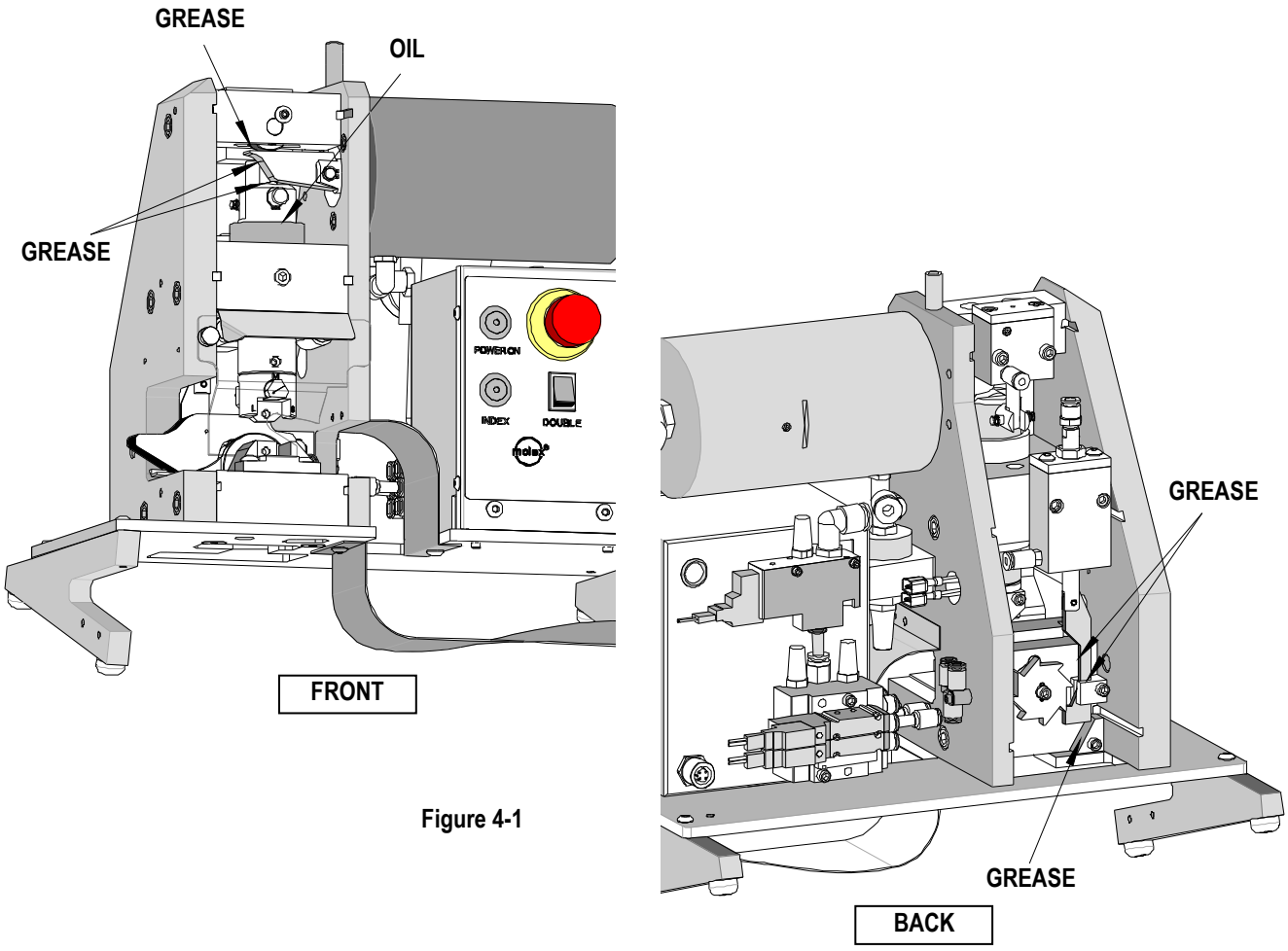


Figure 4-1

Lubricate with 40WT non-detergent oil and grease with Permatex multi-purpose synthetic grease with Teflon No. 82329.

WARNING: Never use solvents or penetrants for any lubrication on the machine.

5. Replace the cover and reel arm assemblies, and secure with the 3/8-16" acorn nut.

An example of a maintenance chart is shown below. Copy and use this chart to track the maintenance of your ATP-301 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 4.1).
As Required: Lubrication (See Section 4.3).

CHECK SHEET MONTH _____ YEAR _____

Week	Daily Clean	Days of the Week						
		MON	TUE	WED	THU	FRI	SAT	SUN
1								
2								
3								
4								
(As Required) Lubricate								

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

4.4 Spare Parts

Customers are responsible for maintaining the ATP-301 Air Tape Press. 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.

4.5 Perishable Parts

Customers are responsible for maintaining the ATP-301 Air Tape Press. Perishable parts are those parts that come in contact with the product and may wear out over time. Molex recommends that all customers keep at least one set of the perishable tool kit 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 tool kit.**

Section 5

5.1. Parts Lists and Assembly Drawings

5.2. Electrical Schematic

5.3. Pneumatic Diagram

5.4. Troubleshooting

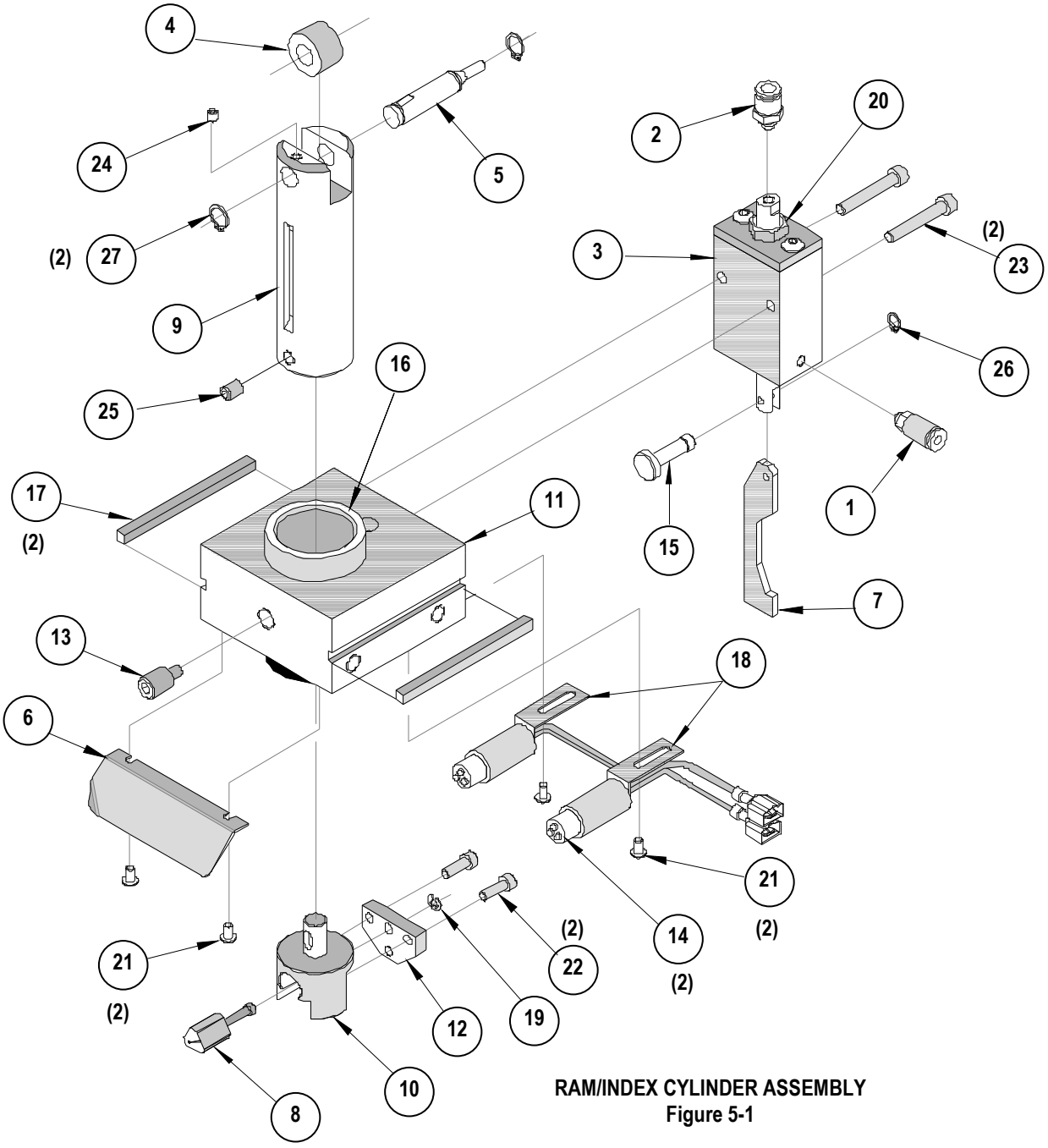
5.1. Parts List and Assembly Drawings

19228-0030 Air Tape Press Figure 1-1		
Figure	**Description**	**Qty**
Figure 5-1	Ram/Index Cylinder Assembly	1
Figure 5-2	Main Air/Top Roller Assembly	1
Figure 5-3	Index Block Assembly	1
Figure 5-4	Lower Tooling Assembly	1
Figure 5-5	Base Assembly	1
Figure 5-6	Cover Assembly	1
Figure 5-7	Reel Arm Assembly	1
Figure 5-8	Frame Assembly	1
Figure 5-9	Controls Assembly	1

Ram / Index Cylinder Parts List (See Figure 5-1)

Ram/Index Cylinder Assembly Figure 5-1				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	11-31-6809	AM60018-46	Male Connector #10-32 THD-5/32" Tube	1**
2	11-32-1111	AM60001-150	Male Connector #10-32 THD-1/4" Tube	1**
3	19228-0068	23195-01	Index Cylinder Assembly	1
4	19228-0108	23155-02	Ram Roller - Lower	1
5	19228-0109	23155-03	Ram Lift Pin	1
6	19228-0116	23155-27	Light Deflector	1
7	19228-0138	23156-31	Index Lever	1
8	19228-0147	23157-07	Cam - Insulation Crimp	1
9	19228-0199	23155-01	Ram	1
10	19228-0201	23157-05	Upper Punch Holder	1
11	19228-0204	23154-07	Block - Ram Guide	1
12	19228-0240	23157-06	Back Plate-Upper Punch Holder	1
13	19228-0406	23155-11	Ram Lock Screw	1
14	62500-1172	62500-1172	Miniature Lamp	2
15	63700-3795	63700-3795	Precision Pivot Pin	1
16	63700-3796	63700-3796	Bushing-Ram Guide	1
17	64000-0008	64000-0008	Key	2
18	64000-0097	64000-0097	Work Light Assembly	1
19	N/A	N/A	E-Ring. (5/32" External)	1**
20	N/A	N/A	3/8-16 Jam Nut	1**
21	N/A	N/A	#6-32 by 1/4" Long BHCS	4**
22	N/A	N/A	#8-32 by 1/2" Long SHCS	2**
23	N/A	N/A	#10-32 by 1-1/4" Long SHCS	2**
24	N/A	N/A	#8-32 by 3/16" Long SSS (Cup Pt.)	1**
25	N/A	N/A	1/4-20 by 3/8" Long SSS (Cup Pt. with Nylok)	1**
26	N/A	N/A	Retaining Ring (1/8" External)	1**
27	N/A	N/A	Retaining Ring (3/8" External)	1**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Ram / Index Cylinder Assembly

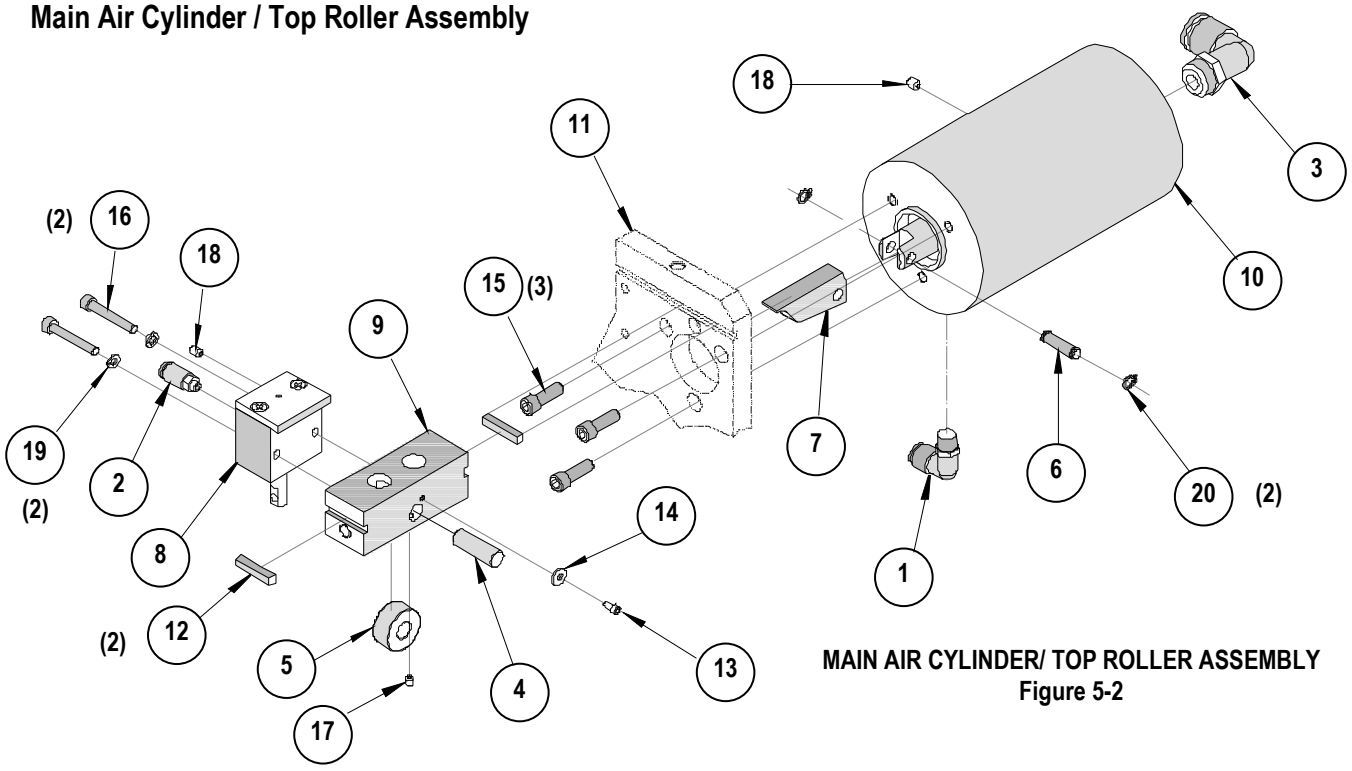


RAM/INDEX CYLINDER ASSEMBLY
Figure 5-1

Main Air Cylinder / Top Roller Parts List (See Figure 5-2)

Main Air Cylinder / Top Roller Assembly Figure 5-2				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	11-31-1897	R8432-23	Male Elbow Fitting (1/8" NPT- 1/4" Tube)	1**
2	11-31-6809	AM60018-46	Male Connector (#10-32 THD-5/32" Tube)	1**
3	11-32-1061	AM60001-124	Male Elbow Fitting (1/4" NPT- 3/8" Tube)	1**
4	19228-0106	23154-10	Top Roller Pin	1
5	19228-0110	23155-05	Top Roller	1
6	19228-0112	23155-15	Power Cam Pin	1
7	19228-0113	23155-16	Power Cam	1
8	19228-0172	23194-01	Ram Lift Cylinder	1
9	19228-0186	23154-04	Top Roller Block	1
10	19228-0194	23192-02	Main Air Cylinder	1
11	19228-0207	23561-26D	Right Side Plate	REF
12	64000-0007	64000-0007	Key	2
13	N/A	N/A	#4-40 by 1/4" Long SHCS	1**
14	N/A	N/A	#6 Washer (Common)	1**
15	N/A	N/A	1/4-20 by 3/4" Long SHCS	3**
16	N/A	N/A	#10-32 by 1-1/4" Long SHCS	2**
17	N/A	N/A	#8-32 by 3/16" Long SSS (Cup Pt.)	1**
18	N/A	N/A	#10-32 by 1/4" Long SSS (Cup Pt.)	2**
19	N/A	N/A	#10 Lock Washer	2**
20	N/A	N/A	Retaining Ring (1/4" External)	2**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Main Air Cylinder / Top Roller Assembly

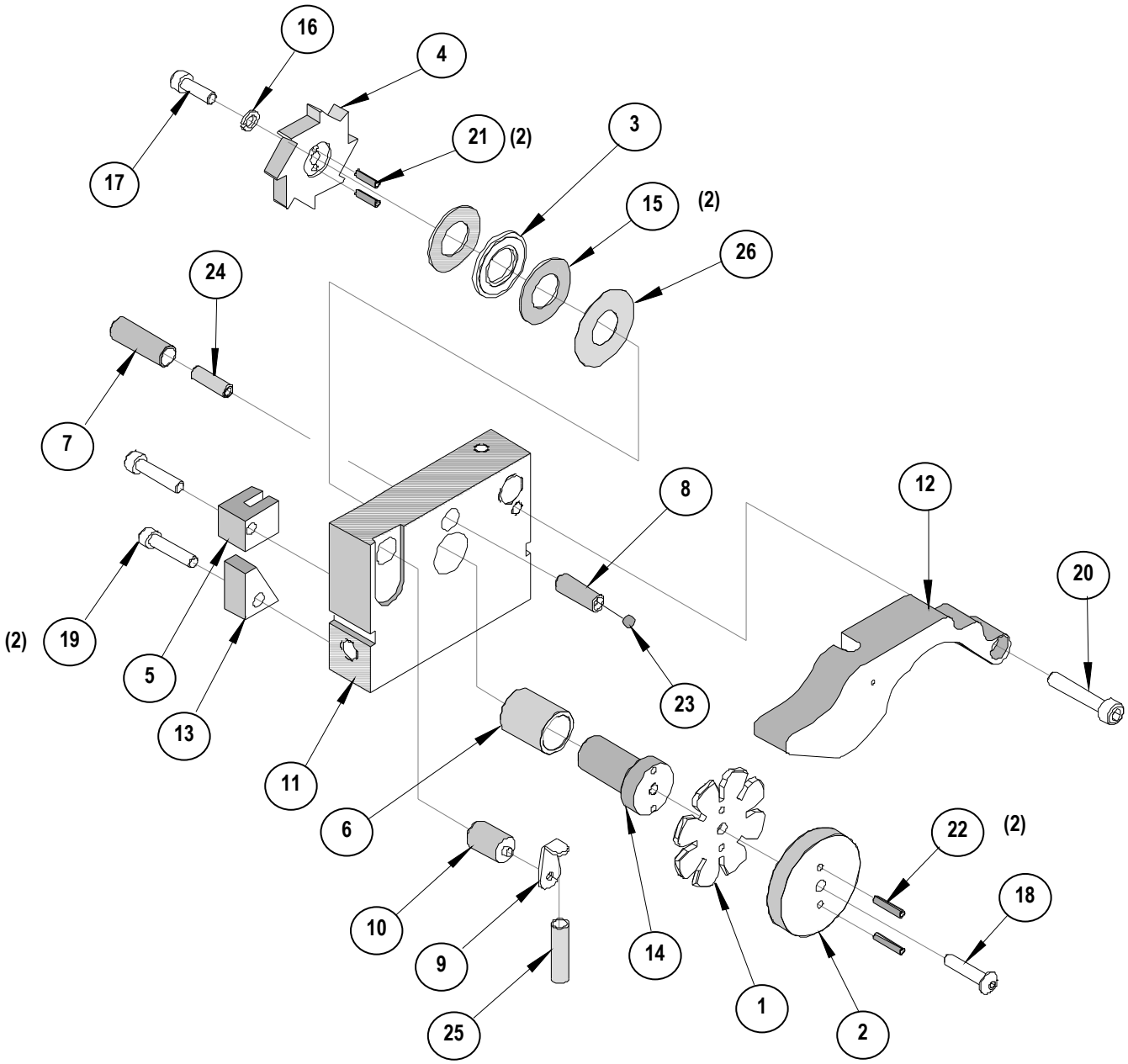


MAIN AIR CYLINDER/ TOP ROLLER ASSEMBLY
Figure 5-2

Index Block Parts List (See Figure 5-3)

Index Block Assembly Figure 5-3				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	19228-0124	23156-04	Tape Index Wheel	1
2	19228-0125	23156-07	Tape Driver Disk	1
3	19228-0127	23156-03	Thrust Bearing	1
4	19228-0128	23156-10	Ratchet Wheel	1
5	19228-0132	23156-18	Index Arm Guide	1
6	19228-0135	23156-25	Plain Bearing	1
7	19228-0136	23156-26	Housing-Ball Detent	1
8	19228-0137	23156-27	Ball Detent	1
9	19228-0141	23156-46	Spring Hold Down	1
10	19228-0142	23156-47	Spring Hold Down Post	1
11	19228-0187	23154-09	Ratchet Index Block	1
12	19228-0188	23156-44	Tape Hold Down	1
13	19228-0209	23156-30	Index Cam Deflector	1
14	19228-0400	23156-06	Tape Driver Shaft	1
15	19411-0146	26220-704	Thrust Washer	2
16	N/A	N/A	#8 Lock Washer	1**
17	N/A	N/A	#8-32 by 1/2” Long SHCS	1**
18	N/A	N/A	#8-32 by 3/4” Long BHCS	1**
19	N/A	N/A	#8-32 by 3/4” Long SHCS	2**
20	N/A	N/A	#10-32 by 1.0” Long SHCS	1**
21	N/A	N/A	3/32” by 3/8”Long Dowel Pin	2**
22	N/A	N/A	3/32” by 1/2”Long Dowel Pin	2**
23	N/A	N/A	5/32” Diameter Steel Ball	1**
24	N/A	N/A	Compression Spring (.18” O.D. by .032” W. by .88” Lg.)	1**
25	N/A	N/A	Compression Spring (.24” O.D. by .032” W. by 1.0” Lg.))	1**
26	N/A	N/A	Shim Washer (.50” I.D. by 1.13” O.D. by .010” Lg.)	1**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Index Block Assembly

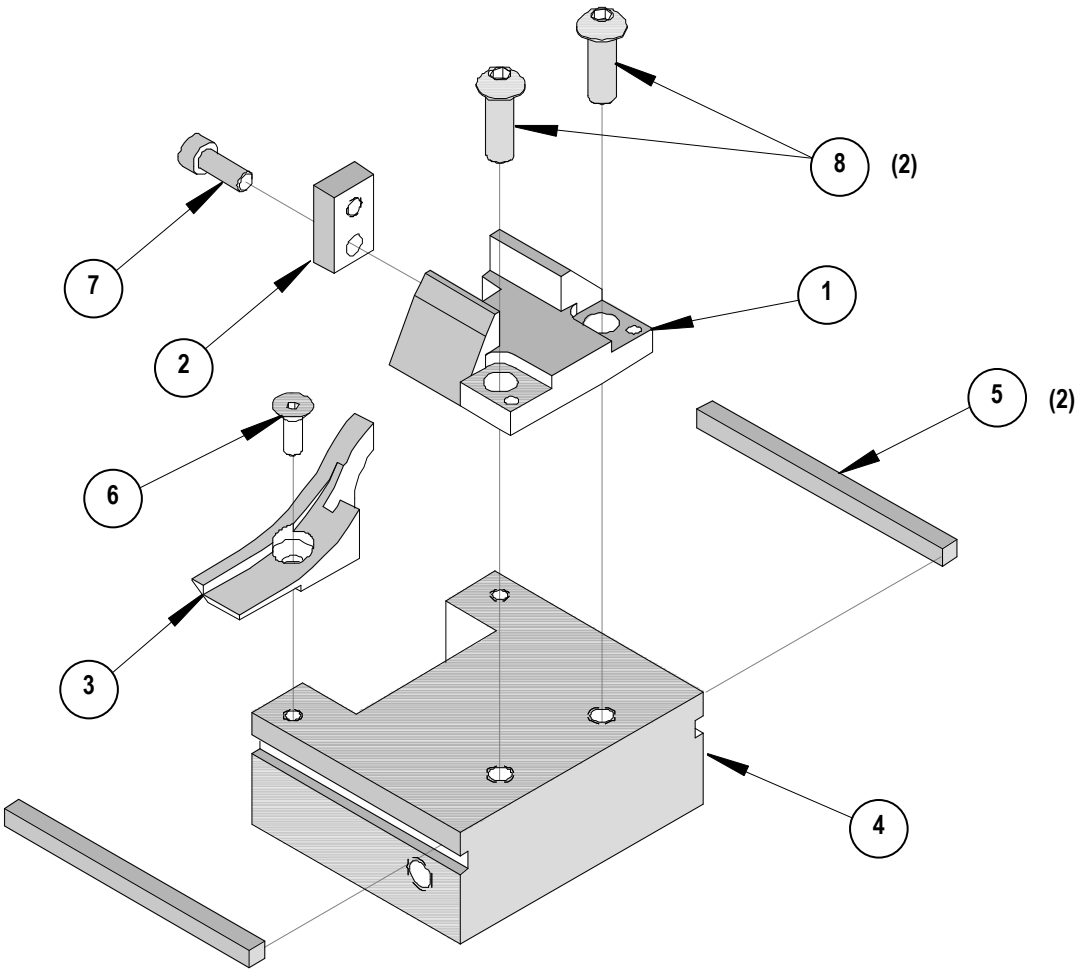


INDEX BLOCK ASSEMBLY
Figure 5-3

Lower Tooling Parts List (See Figure 5-4)

Lower Tooling Assembly Figure 5-4				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	19228-0145	23157-02	Lower Anvil Holder	1
2	19228-0146	23157-03	Back Plate- Lower Anvil Holder	1
3	19228-0189	23156-45	Auto Tape Start	1
4	19228-0218	23154-08	Front Base Block	1
5	64000-0008	64000-0008	Key	2
6	N/A	N/A	#8-32 by 3/8" Long FHCS	1**
7	N/A	N/A	#10-32 by 1/2" Long SHCS	1**
8	N/A	N/A	1/4-20 by 3/4" Long BHCS	2**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Lower Tooling Assembly

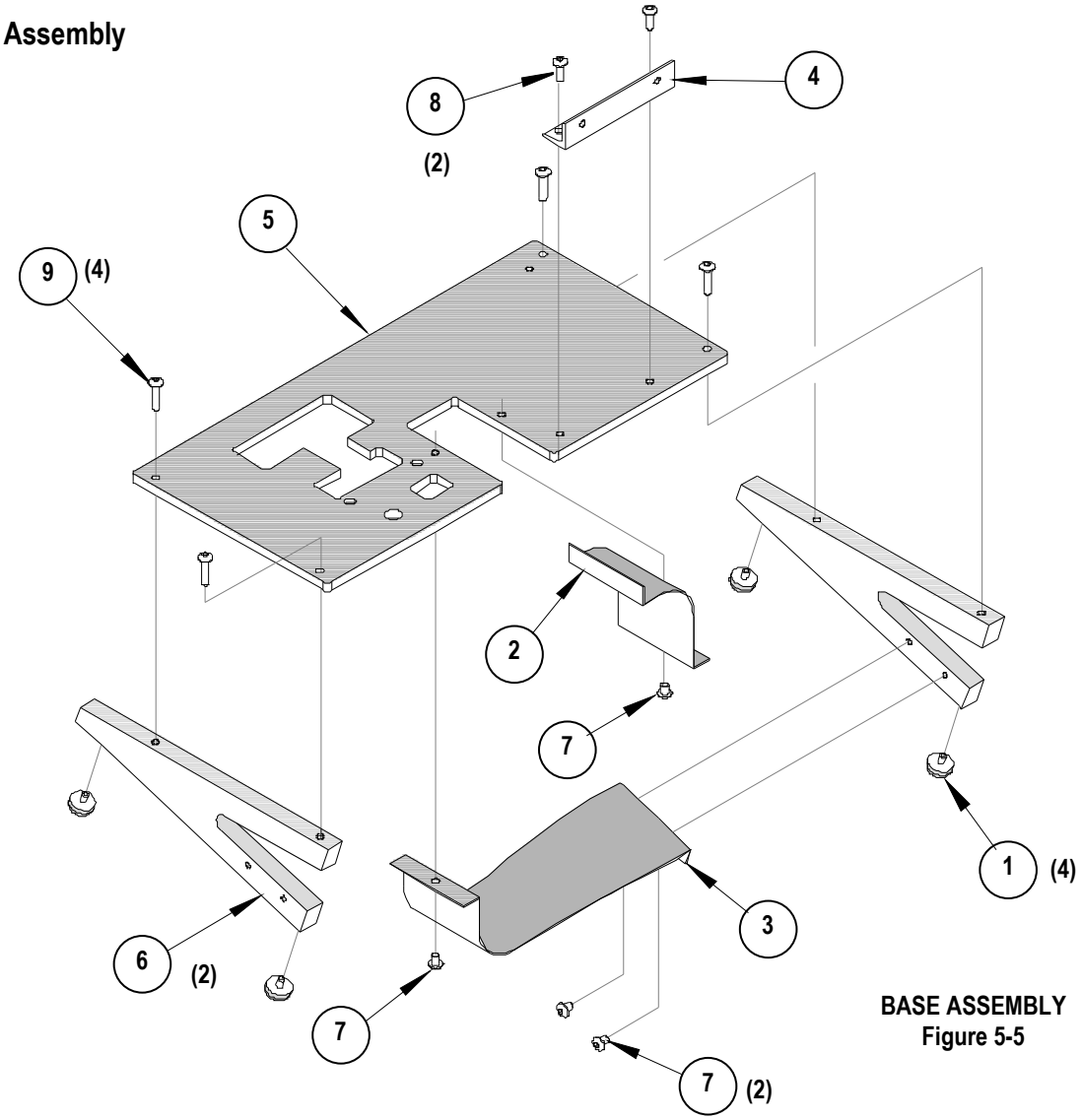


LOWER TOOLING ASSEMBLY
Figure 5-4

Base Parts List (See Figure 5-5)

Base Assembly Figure 5-5				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	19228-0102	23151-07	Rubber Bumper with Stud	4
2	19228-0103	23151-10	Upper Tape Guide	1
3	19228-0104	23151-11	Lower Tape Guide	1
4	19228-0107	23154-28	Mounting Bracket	1
5	19228-0206	23154-23	Base Plate	1
6	19228-0215	23151-09	Tilt Leg	2
7	N/A	N/A	#10-32 by 1/4" Long BHCS	4**
8	N/A	N/A	#10-32 by 1/2" Long BHCS	2**
9	N/A	N/A	#10-32 by 3/4" Long BHCS	4**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Base Assembly

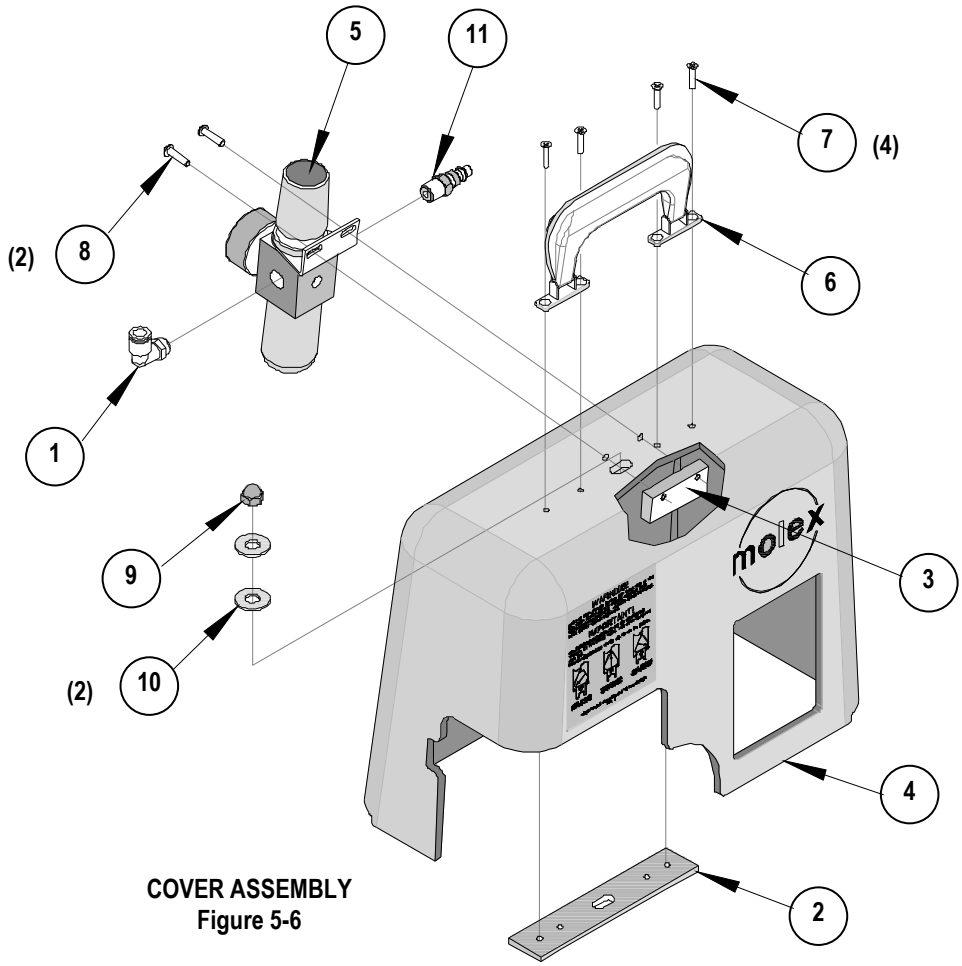


BASE ASSEMBLY
Figure 5-5

Cover Parts List (See Figure 5-6)

Cover Assembly Figure 5-6				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	11-31-8944	AM60506P109	Male Elbow (1/4"NPT-1/4" Tube)	1**
2	19228-0117	23155-30	Handle Bracket	1
3	19228-5001	19228-5001	Nut Plate – Air Regulator	1
4	19818-5010	19818-5010	Cover	1
5	62500-0189	62500-0189	Filter Regulator	1
6	63700-3274	63700-3274	Handle	1
7	N/A	N/A	#6-32 by 1/2" Long FHCS	4**
8	N/A	N/A	#10-32 by 3/4" Long BHCS	2**
9	N/A	N/A	3/8-16 Acorn Nut	1**
10	N/A	N/A	3/8" Washer (common)	2**
11	N/A	N/A	Air Coupler 1/4 NPT (to Suit by Customer)	REF ONLY**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Cover Assembly

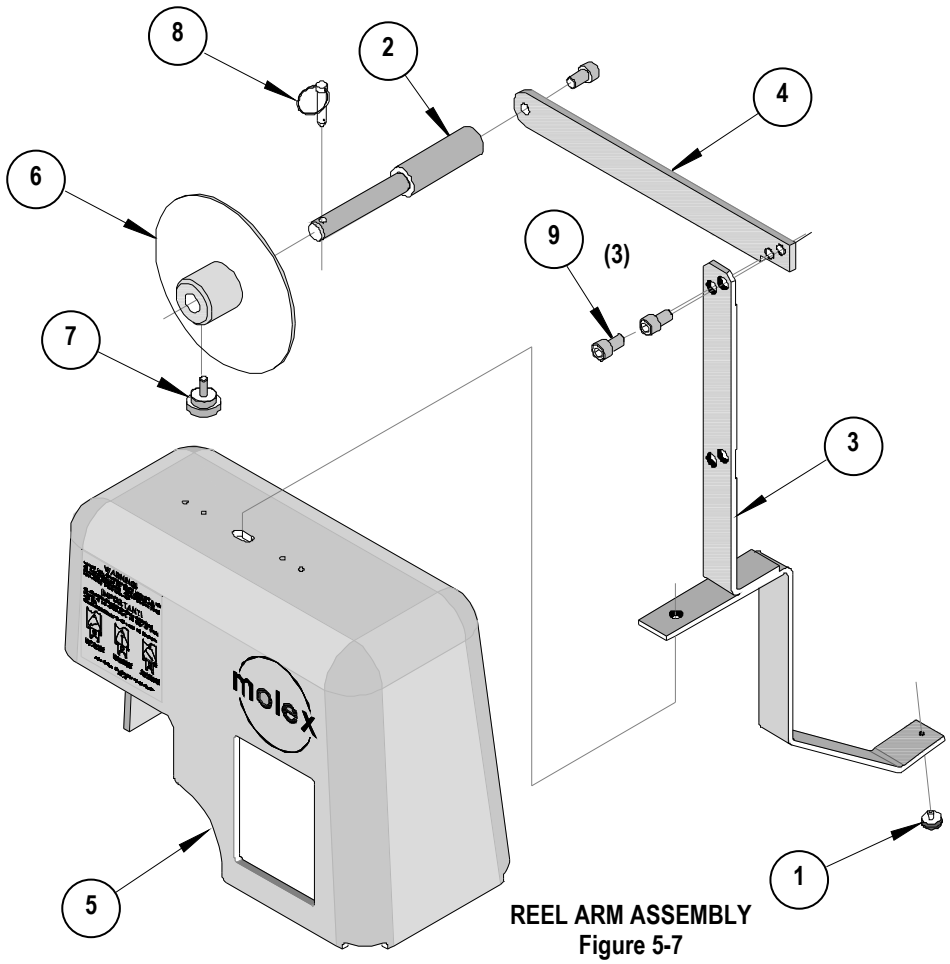


COVER ASSEMBLY
Figure 5-6

Reel Arm Parts List (See Figure 5-7)

Reel Arm Assembly Figure 5-7				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	19228-0102	23151-07	Rubber Bumper With Stud	1
2	19228-0179	23291-02	Reel Shaft	1
3	19228-0210	23291-22	Weldment- Reel Arm	1
4	19228-0211	23291-23	Reel Arm	1
5	19818-5010	19818-5010	Cover	REF
6	64016-0053	64016-0053	Disc Assembly	1
7	69018-8135	69018-8135	Knurled knob	1
8	69018-8136	69018-8136	Quick release pin	1
9	N/A	N/A	3/8-16 by 5/8" Long SHCS	3**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Reel Arm Assembly

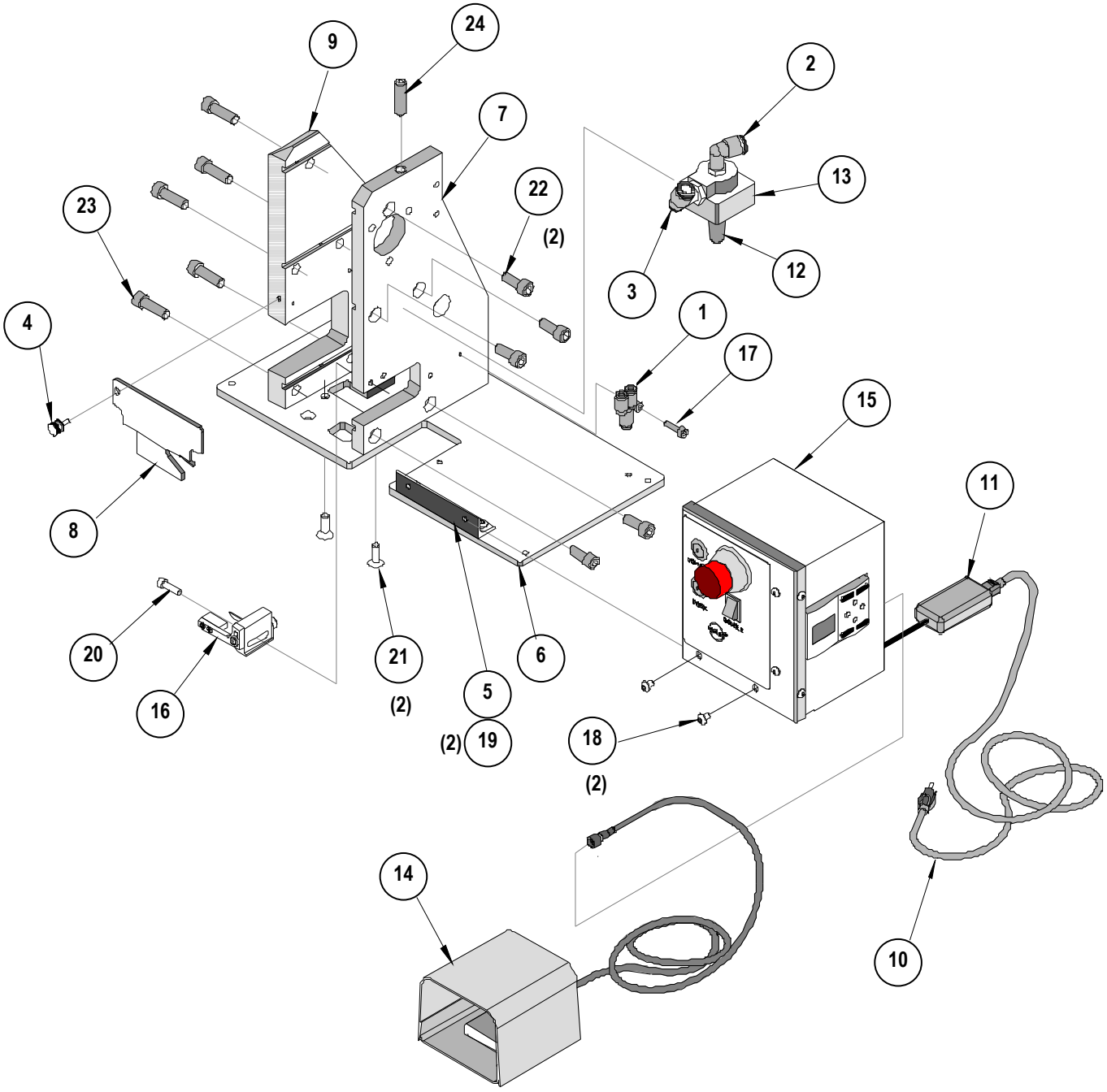


REEL ARM ASSEMBLY
Figure 5-7

Frame Parts List (See Figure 5-8)

Frame Assembly Figure 5-8				
Item	**Order No.**	**Engineering No.**	**Description**	**Qty**
1	11-31-1904	R8432-30	Union Y Fitting (5/32" Tube)	1**
2	11-31-8944	AM60506P109	Male Elbow (1/4 NPT by 1/4" Tube)	1**
3	11-32-1059	AM60001-122	Male Elbow (1/4 NPT by 3/8" Tube)	1**
4	19228-0047	26110-90	Thumb Srew (#8-32 Thd)	1**
5	19228-0107	23154-28	Mounting Bracket	REF
6	19228-0206	23154-23	Base Plate	REF
7	19228-0207	23561-26D	Right Side Plate	1
8	19228-0213	23151-05	Safety Shield	1
9	19228-0221	23154-14	Left Side Plate	1
10	62500-1089	62500-1089	Power Cord	1
11	62500-1091	62500-1091	Power Supply (24 VDC)	1
12	62500-1240	62500-1240	Exhaust Muffler (1/4 "NPT – sintered bronze)	1**
13	63700-2899	63700-2899	Quick Exhaust Valve	1
14	63800-8394	63800-8394	Foot Petal Assembly	1
15	64000-0009	64000-0009	Control Assembly	1
16	64016-0068	64016-0068	Stripper / Wire Stop Assembly	1
17	N/A	N/A	#4-40 by 5/8" Long SHCS	1**
18	N/A	N/A	#10-32 by 1/4" Long BHCS	2**
19	N/A	N/A	#10-32 by 1/2" Long BHCS	2**
20	N/A	N/A	#10-32 by 3/4" Long SHCS	1**
21	N/A	N/A	1/4-20 by 3/4" Long FHCS	2**
22	N/A	N/A	5/16-18 by 3/4" Long SHCS	5**
23	N/A	N/A	5/16-18 by 1.0" Long SHCS	5**
24	N/A	N/A	3/8-16 by 1-1/4" Long SSS (Cup Pt.)	1**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).				

Frame Assembly

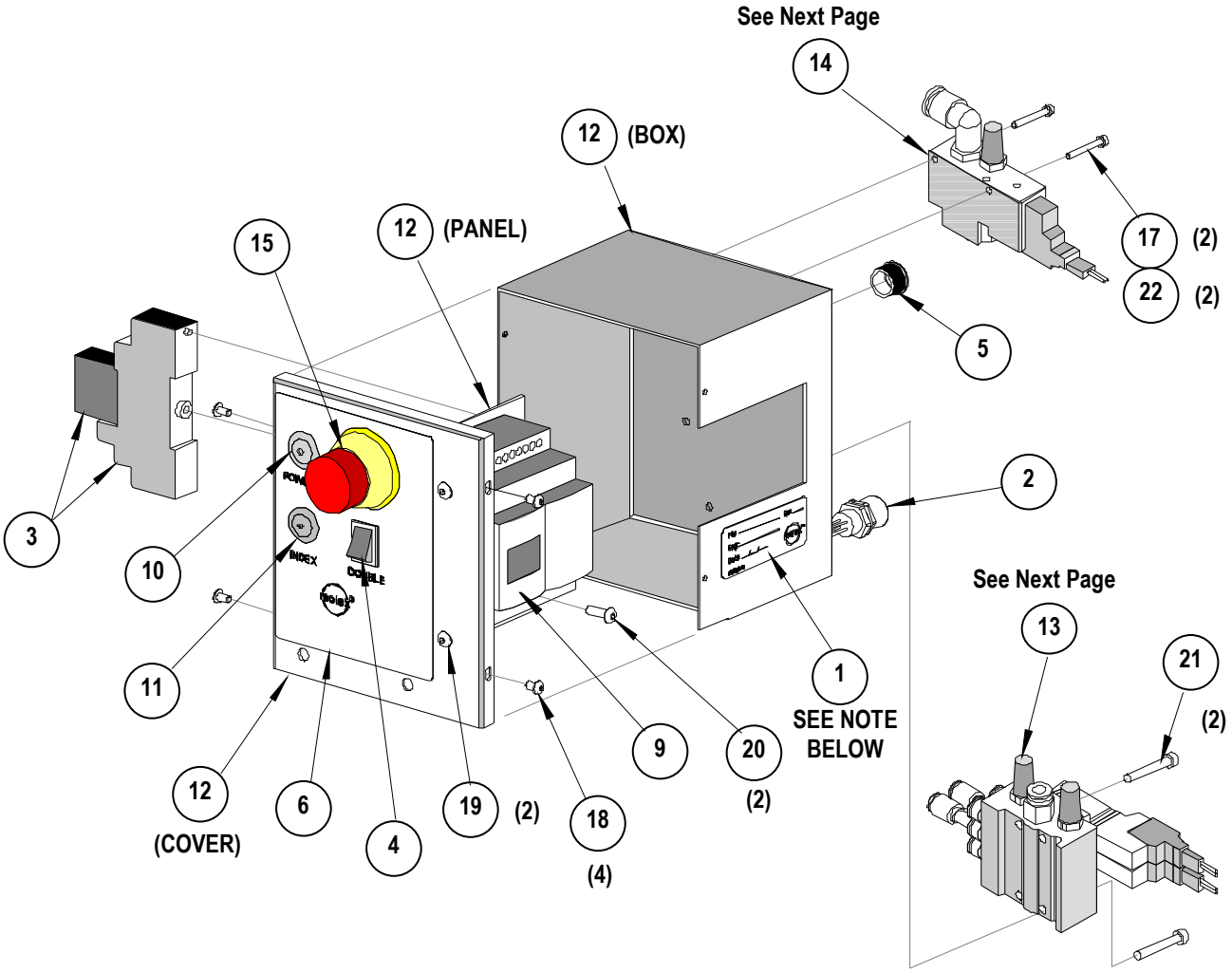


FRAME ASSEMBLY
Figure 5-8

Controls Assembly and Parts List (Figure 5-9)

64000-0009 Controls Assembly Figure 5-9			
Item	**Order No.**	**Description**	**Qty**
1	REF	Software Revision Label - ISO	1
2	62500-1055	Receptacle, 4 Pin Female	1
3	62500-1065	Omron DPDT Relay Assembly	1
4	62500-1066	Miniature Rocker Switch	1
5	62500-1082	Plastic Snap Bushing 0.562 in OD	1
6	62500-1084	Air Press Controls Enclosure Label	1
7	62500-1089	US 120V AC Power Cord, 18/3 (not shown)	1
8	62500-1091	24V DC Desktop Power Supply (not shown)	1
9	62500-1224	ZEN PLC, No Display, 10I/O 24V DC PWR	1
10	64000-0100	Power-On Pushbutton Assembly	1
11	64000-0101	Index Pushbutton Assembly	1
12	64000-0023	Air Press Controls Enclosure	1
13	64000-0024	Valve Assembly - Air Press	1
14	64000-0025	Air Dump Assembly-Air Press	1
15	64000-0065	E-Stop PB Assembly for ATP controls	1
16	64000-0097	Work Light Assembly (not shown)	1
17	N/A	#4-40 by 1.0” Long BHCS	2**
18	N/A	#6-32 by 1/4” Long BHCS	4**
19	N/A	#8-32 by 1/4” Long BHCS	2**
20	N/A	#8-32 by 1/2” Long BHCS	2**
21	N/A	#8-32 by 1.25” Long SHCS	2**
22	N/A	#4 Lock Washer	2**
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).			

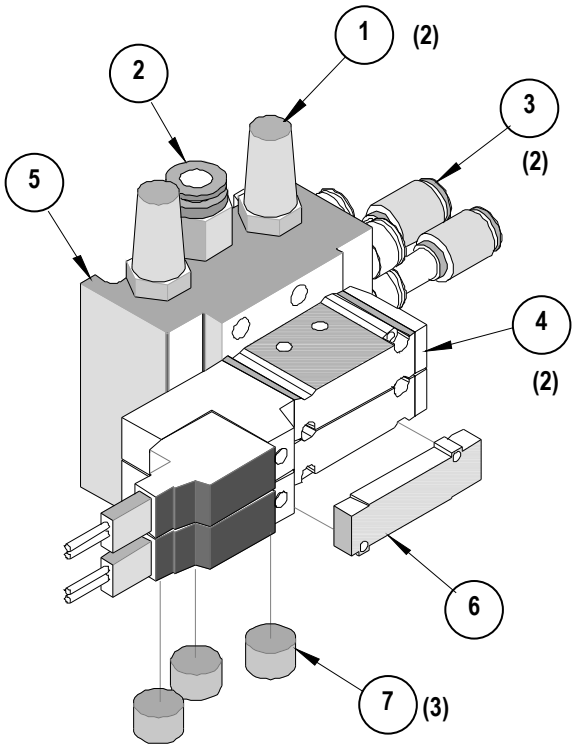
Controls Assembly and Parts List (Figure 5-9)



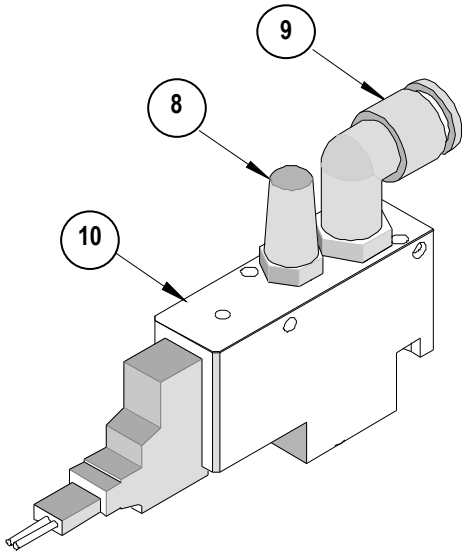
CONTROL ASSEMBLY
Figure 5-9

Note: See Item No. 1 for Control revision level.
Items No. 7, 8, and 16 not shown.

Controls Assembly and Parts List Continued



64000-0024
VALVE ASSEMBLY



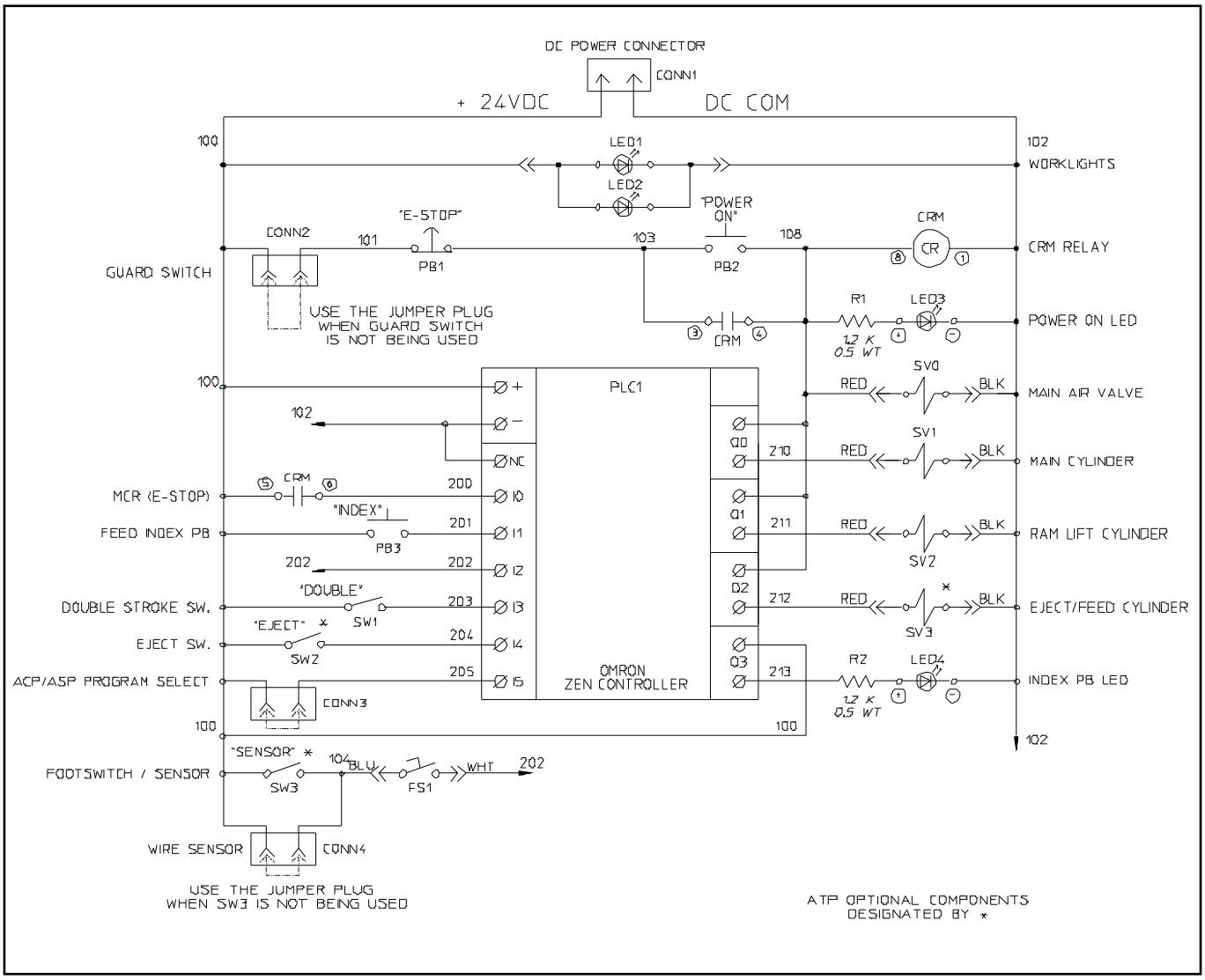
64000-0025
AIR DUMP ASSEMBLY

64000-0024 Valve Assembly				
Item	**Order No.**	**Eng No.**	**Description**	**Qty**
1	11-31-1917	R8432-40	Exhaust Muffler (1/8" NPT Sintered bronze)	2**
2	11-31-8310	AM60506P106	Male Connector (1/8" NPT - 1/4" Tube)	1**
3	11-32-1084	AM60001-147	Reducer Air Fitting (1/4" Tube to 5/32" Tube)	2**
4	62500-1071	62500-1071	SMC Valve VQZ1000 Series	2
5	62500-1073	62500-1073	3 STA. Manifold VQZ1000 1/4" OT Ports	1
6	62500-1080	62500-1080	VQZ1000 Series Blanking Plate	1
7	62500-1081	62500-1081	Pipe Plug 1/8 NPT	3**

64000-0025 Air Dump Assembly				
Item	**Order No.**	**Eng No.**	**Description**	**Qty**
8	11-31-1917	R8432-40	Exhaust Muffler (1/8" NPT Sintered bronze)	1**
9	11-31-8944	AM60506P109	Male Elbow (1/8" NPT - 1/4" Tube)	1**
10	62500-1079	62500-1079	3 POS. N.C. VQZ300 Valve, 1/4" OT Port	3

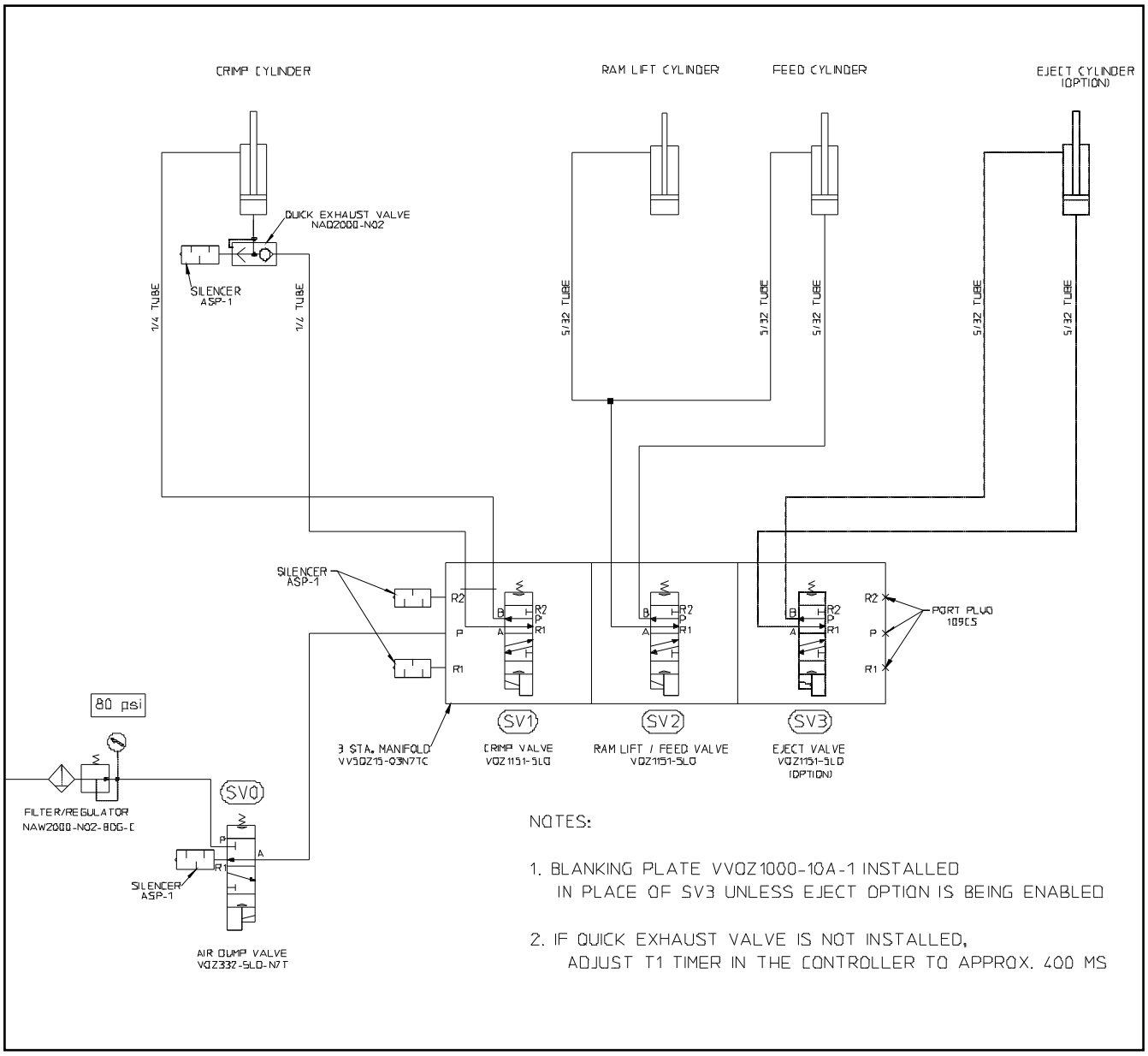
The components indicated with **are available from an Industrial supply company such as MSC (1-800-645-7270).

5.2 Electrical Schematic



ATP-301 ELECTRICAL SCHEMATICS

5.3 Pneumatic Diagram



ATP-301 PNEUMATIC DIAGRAM

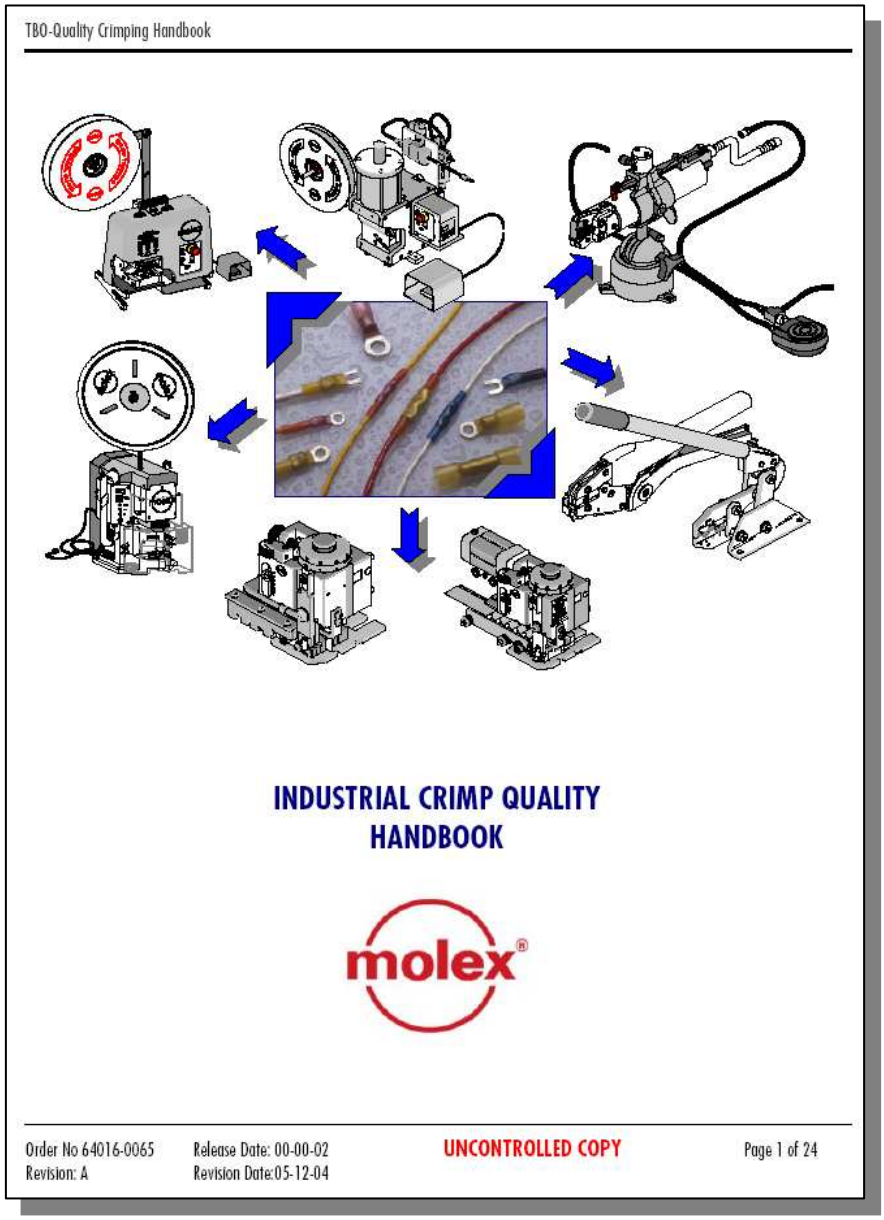
5.4 Troubleshooting

Symptom	Cause	Solution
Electrically inoperative	Power switch is off	Turn power switch on
	E-Stop button depressed	Rotate/reset E-Stop button
	Faulty power source	Check voltage at power outlet
	Faulty power supply	Replace
Pneumatically inoperative	Faulty air supply	Check air supply pressure
	Air pressure too low	Adjust air regular
	Restricted air flow	Clean air filter
	Contaminated air valves	Drain/clean air system
Terminals do not index	Product reel jammed	Adjust tension on reel hub
	Tape not engaged	Reload tape on index wheel
	Tooling spacers required	Locate and install spacers
	Faulty index mechanism	Contact Molex
Terminals index improperly	Wrong tooling	Replace with proper tooling
	Tooling is backwards	Properly mount tooling
Crimp at wrong position	Wrong tooling	Replace with proper tooling
	Tooling is backwards	Properly mount tooling
	Tooling spacers required	Locate and install spacers
	Terminal position	Verify position on tape
Conductor crimp is too loose	Air pressure too low	Adjust air regulator
	Wrong tooling	Replace with proper tooling
	Tooling worn or damaged	Replace tooling
	Check for fractured frame	Contact Molex
	Lower ram roller worn	Replace roller
	Ram lift yoke worn	Replace yoke
Conductor crimp is too tight	Wrong tooling	Replace with proper tooling
	Tooling worn or damaged	Replace tooling
	Terminal position	Verify position on tape
Insulation crimp is too loose	Air pressure too low	Adjust air regulator
	Cam out of adjustment	Readjust insulation cam
	Wrong tooling	Replace with proper tooling
	Tooling worn or damaged	Replace tooling
	Check for fractured frame	Contact Molex
	Tooling backwards	Reverse mounting of tooling
	Terminal position	Verify position on tape
	Lower ram roller worn	Replace roller
	Ram lift yoke worn	Replace yoke
Insulation crimp is too tight	Cam out of adjustment	Readjust insulation cam
	Wrong tooling	Replace with proper tooling
	Tooling worn or damaged	Replace tooling
	Terminal position	Verify position on tape
Terminal slips during crimp	Wrong tooling	Replace with proper tooling
	Tooling worn or damaged	Replace tooling

Symptom	▪ Cause	Solution
Ram stays in up position	▪ Ram dirty or not lubricated	Lubricate ram (oil)
	▪ Contaminated air valves	Drain/clean air system
Foot pedal inoperative	▪ Loose connection	Tighten connection
	▪ Faulty foot pedal	Replace foot pedal
Work light not illuminated	▪ Faulty lamp	Replace lamp

For more information review the Industrial Crimping Quality Handbook
(Order No. 64016-0065)

There is no charge for this book, which can be found on the Molex Web or contact you local Molex sales engineer



Americas Headquarters
Lisle, Illinois 60532 U.S.A.
1-800-78MOLEX
amerinfo@molex.com

Far East North Headquarters
Yamato, Kanagawa, Japan
81-462-65-2324
feninfo@molex.com

Far East South Headquarters
Jurong, Singapore
65-6-268-6868
fesinfo@molex.com

European Headquarters
Munich, Germany
49-89-413092-0
eurinfo@molex.com

Corporate Headquarters
2222 Wellington Ct.
Lisle, IL 60532 U.S.A.
630-969-4550
Fax: 630-969-1352

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