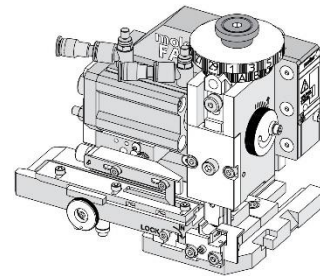


**Order Number**  
**63808-4110**

**molex**<sup>®</sup>

## Application Tooling Specification



### FEATURES

- Applicator designed to industry-standard mounting and 135.80mm (5.346") shut height
- Quick setup 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 (.0006") for conductor crimp height and .025mm (.001") for insulation height
- Fine adjustment of the bend is achieved using the bend adjust dial
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Directly adapts to most automatic wire processing machines
- This applicator is configured with a pneumatic feed, which requires a 4-way pneumatic valve for operation

### SCOPE

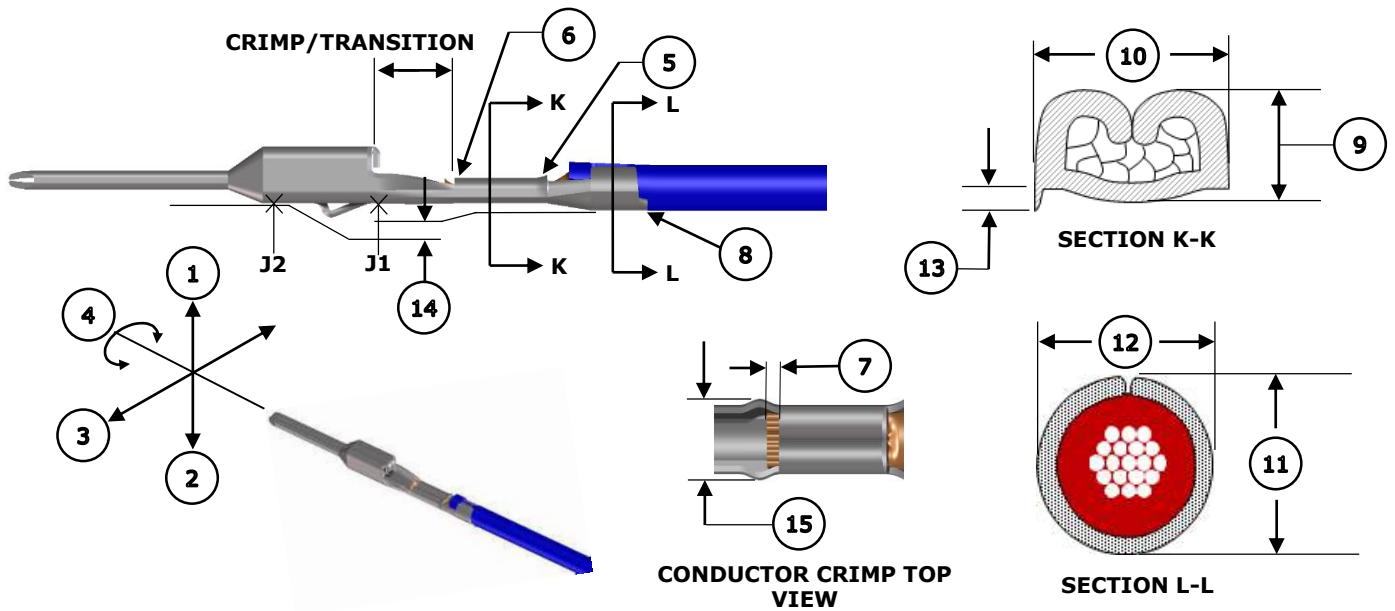
**Products:** MX150 Mat Seal/Unsealed Blade Terminals: 16 AWG TXL type wire and 18 AWG GXL type wire.

Terminal Series No.	Terminal Order No.	Wire Type and Size		Insulation Diameter		Strip Length	
		Type	AWG	mm	In.	mm	In.
33000 33011 34782	33000-1002	M1-123A4 (TXL)	16	1.60-2.54	.063-.100	4.70-5.60	.185-.220
	33011-0004						
	33011-3002	SAE J1128 (GXL)	18				
	34782-1002						

**CAUTION:** This applicator was designed for use in a wire processor only.

**CAUTION:** To operate the pneumatic feed, a 4-way pneumatic valve is required.

**DEFINITION OF TERMS**



**CRIMP SPECIFICATIONS**

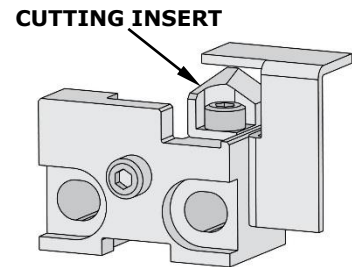
The following crimp specifications are based on document AS-33000-001 Rev. E:

Feature	Requirement				
<b>1. Bend Up</b>	3° Max				
<b>2. Bend Down</b>	3° Max				
<b>3. Twist</b>	3° Max				
<b>4. Roll</b>	3° Max				
<b>5. Rear Bell Mouth</b>	0.30-0.70mm (.012-.028")				
<b>6. Front Bell Mouth</b>	Not Applicable				
<b>7. Conductor Brush</b>	0.40mm (.016") Max Not to extend above conductor crimp/transition height				
<b>8. Cut-Off Tab</b>	0.50mm (.020") Max No Burr				
<b>Conductor Crimp</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>9. Crimp Height</b>		<b>10. Crimp Width</b>
	M1-123A4 (TXL)	16 AWG	1.30-1.40mm	.051-.055 in.	
	SAE J1128 (GXL)	18 AWG	1.20-1.30mm	.047-.051 in.	2.05-2.25mm (.059-.067")
<b>Insulation Crimp</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>11. Crimp Height</b>		<b>12. Crimp Width</b>
	M1-123A4 (TXL)	16 AWG	2.10-2.30mm	.083-.091 in.	
	SAE J1128 (GXL)	18 AWG	2.20-2.40mm	.087-.094 in.	2.50-2.70mm (.098-.106")
<b>Pull Force</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>Minimum Force</b>		To be measured with no influence from the insulation crimp.
	M1-123A4 (TXL)	16 AWG	120 N	27.0 lb.	
	SAE J1128 (GXL)	18 AWG	90 N	20.2 lb.	
<b>13. Conductor Anvil Flash</b>	0.1mm (.004") Max				
<b>14. Insulation Grip Step</b>	0.20-0.40 (.008-.016")				
<b>15. Crimp Bulge</b>	2.55mm (.100") Max within the crimp/transition area				

## NOTES

### Applicator Notes

- This applicator is for automatic wire processor use only.
- This applicator does not include a cutting insert.
- Installing a cutting insert will cause jamming in this applicator.



### Specification Notes

- It is very important that the brush length is consistently within specification for this sealed connector system to work properly.
- This applicator should only be run in a properly set up wire processor to consistently achieve the brush length.

### General Notes

1. Molex recommends that an extra perishable tooling kit be maintained at your facility.
2. Verify tooling alignment by hand cycling the press and applicator before crimping under power. Check that all screws are tight.
3. Slugs, terminals, dirt and oil should be kept clear of the work area.
4. Wear safety glasses at all times.
5. For recommended maintenance, refer to the FA2 manual (TM-638080200).
6. Molex recommends crimping stranded copper wire only.
7. Lubrication must be used when crimping gold and select gold terminals to prevent terminals from sticking in the conductor punch. Use 63801-7240 oiler or equivalent.

## WARNINGS

**CAUTION:** This applicator must be installed in a press with a standard shut height of 135.80mm (5.346"). Tooling damage could result at a lower setting.

**CAUTION:** To prevent injury, never operate this applicator without the guards supplied with the press or wire-processing machine in place. Reference the press or wire processing manufacturer's instruction manual.

**CAUTION:** Molex tooling crimp specifications are valid only when used with Molex terminals and tooling manufactured by Molex and sold by Molex or authorized distributors ("Molex Tooling"). When using tooling other than Molex Tooling with Molex-specific connector systems listed in our ATS documents, the Molex Tooling qualification does not apply, and the responsibility for full qualification of the connector system is that of the customer. Molex accepts no liability for connector performance or tooling support where tooling other than Molex Tooling is used or where Molex Tooling is modified.

**PARTS LIST**

<b>Applicator 63808-4110</b>				
<b>Item</b>	<b>Order No.</b>	<b>Engineering No.</b>	<b>Description</b>	<b>Quantity</b>
<b>Perishable Tooling</b>				
	63808-4170	63808-4170	Tool Kit (All "Y" Items)	REF
1	63454-0165	63454-0165	Insulation Punch	1 Y
2	63457-0121	63457-0121	Conductor Punch	1 Y
3	63456-0113	63456-0113	Insulation Anvil	1 Y
4	63455-0149	63455-0149	Conductor Anvil	1 Y
5	63443-0034	63443-0034	Cut-Off Plunger	1 Y
<b>Other Components</b>				
6	63443-0128	63443-0128	Front Plunger Retainer	1
7	11-24-1067	4996-4	Cut-Off Plunger Spring	1
8	63443-0117	63443-0117	Front Scrap Chute	1
9	63443-7506	63443-7506	Anvil Mount	1
10	63443-0090	63443-0090	Wire Stop	1
11	63443-3601	63443-3601	Front Plunger Striker	1
12	63443-3702	63443-3702	Front Plunger Striker Screw	1
13	63600-5776	63600-5776	Nose Hold Down	1
14	63600-5775	63600-5775	Nose Hold Down Shank	1
15	63443-4710	63443-4710	Terminal Guide	1
16	63808-0229	63808-0229	Bend Adjust Dial	1
17	63443-7403	63443-7403	Hold Down Block	1
<b>Frame</b>				
18	63808-0200	63808-0200	Applicator Core	1
19	63808-0191	63808-0191	Track Assembly	1
20	63443-4601	63443-4601	Track	1
21	63443-4801	63443-4801	Drag Pad	1
22	63443-4602	63443-4602	Carrier Cover	1
23	63808-0196	63808-0196	Pneumatic Feed Assembly	1
<b>Hardware</b>				
24	—	—	M3 Inner Tooth Lock Washer	1*
25	—	—	M3 by 6 Long BHCS	2*
26	—	—	M3 by 12 Long SHCS	4*
27	—	—	M4 by 6 Long SHCS	1*
28	—	—	M4 by 50 Long SHCS	2*
29	—	—	M5 by 12 Long SHCS	1*
30	—	—	M2.5 by 4 Long SHCS	1*
31	—	—	#10-32UNF by .25" Long BHCS	1*
32	—	—	M3 by 3 Long Flat Point SSS	2*
33	—	—	M4 by 4 Long Flat Point SSS	1*
34	—	—	M3 Flat Washer Hard	1*
35	—	—	M3 Hex Nut	1*
*Fastener parts can be purchased through most industrial suppliers by using the description in the table above.				

**ASSEMBLY DRAWING**

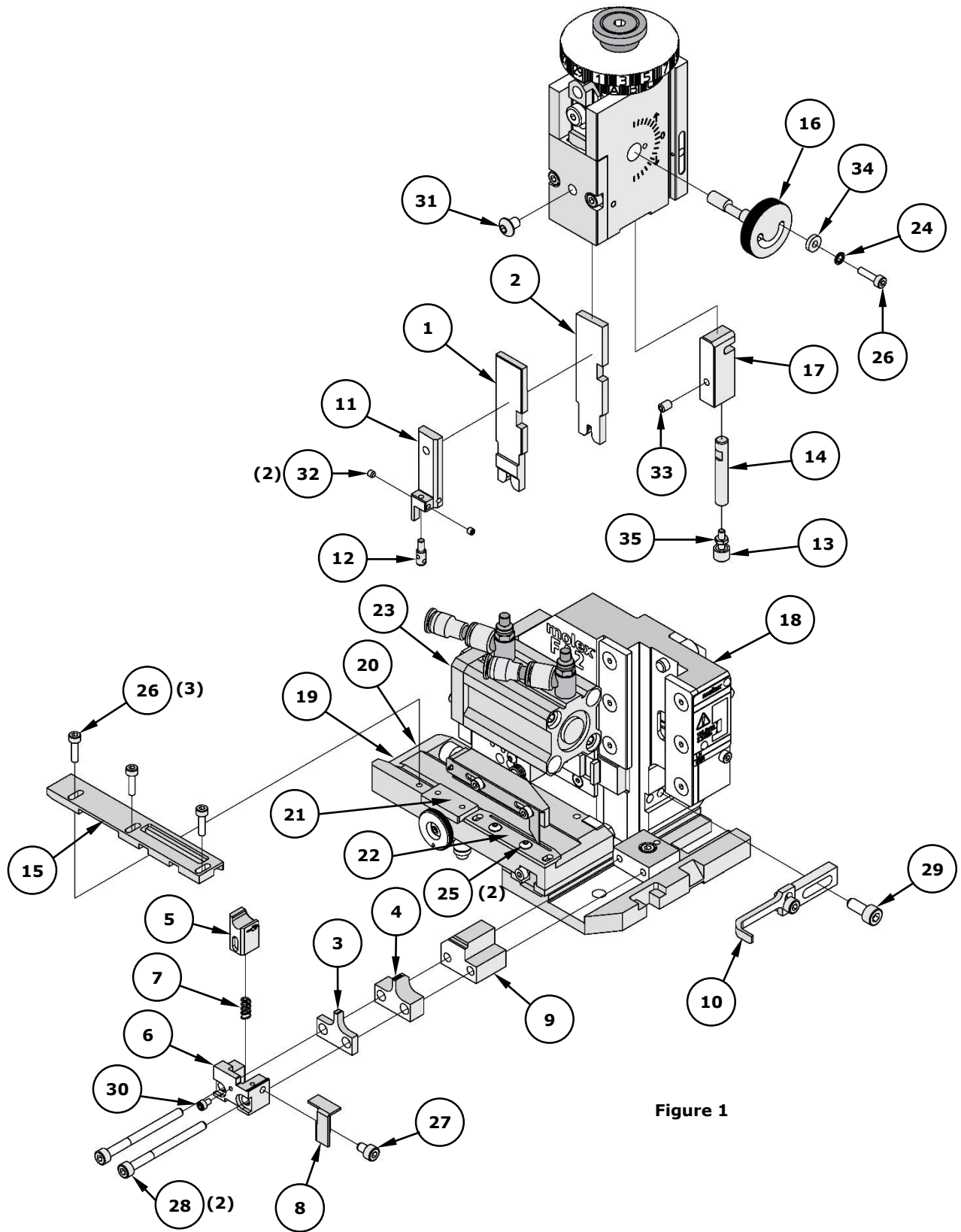


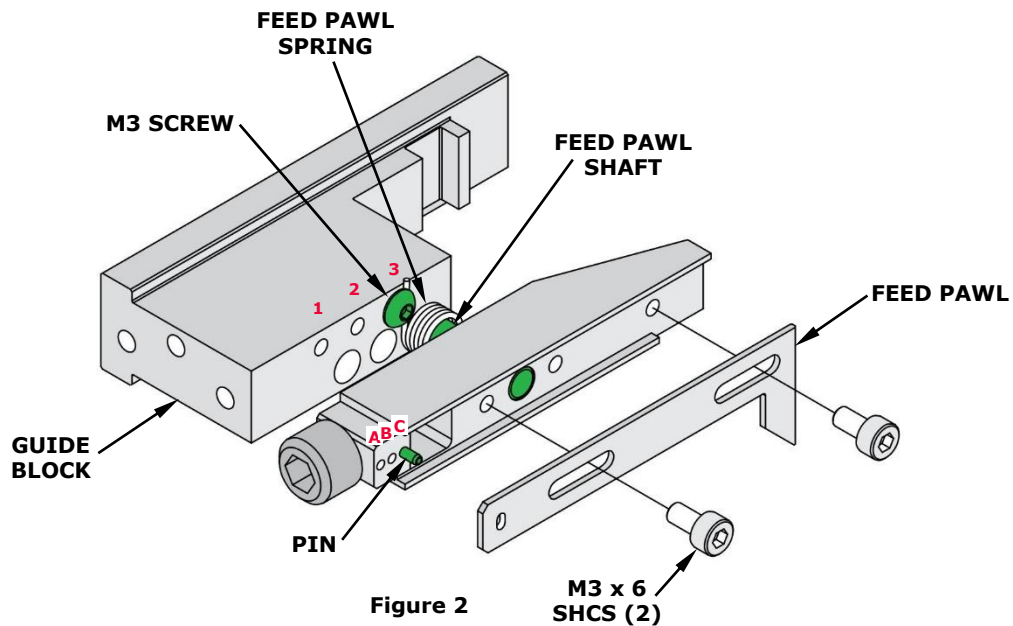
Figure 1

## FACTORY SETTINGS

### Feed Pawl Assembly

The FA2 applicator number 638084110 ships with the following factory settings. See Figure 2:

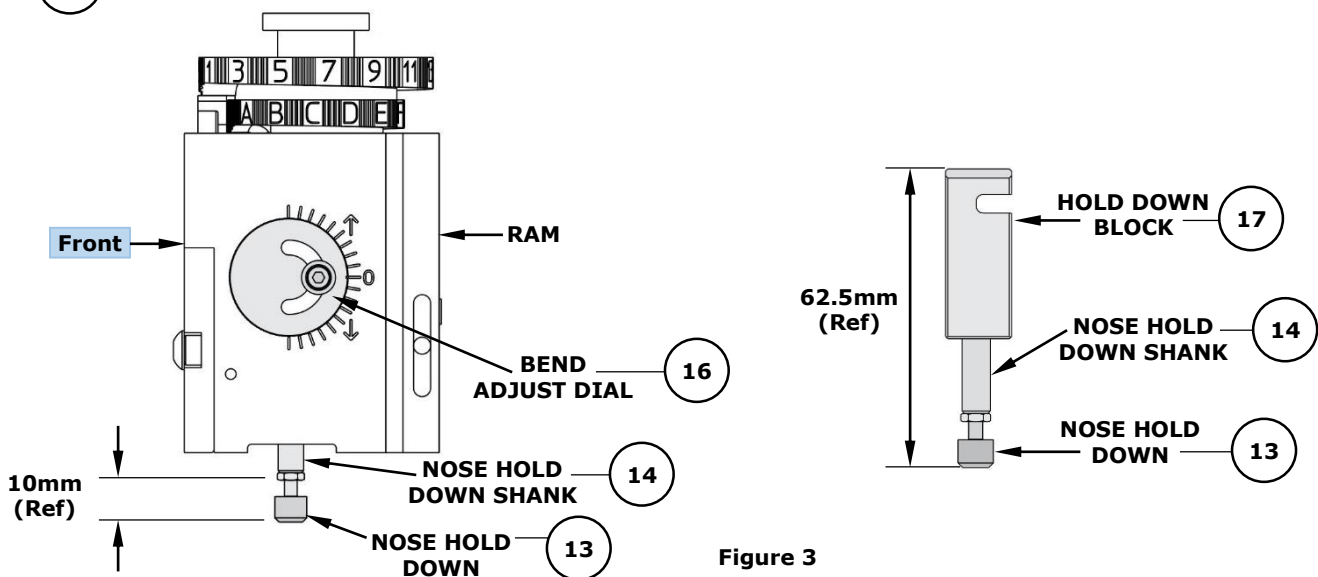
- The feed pawl shaft and M3 screw that holds the feed pawl spring are in position 3.
- The pin is in position C.



**Note:** Each applicator is configured and tested by Molex prior to shipping, and the above settings were used to produce the included sample crimps.

### Third Dial/Ram Assembly

○ Indicates item number on the Parts List and Assembly Drawing



**Note:** The above dimensions were measured during setup and are included as a reference only. Additional adjustments may be required before crimping for production.

### Mounting Datum Location

This applicator was assembled and tested by Molex with the mounting datum in the location shown in Figure 4. Do not remove the mounting datum.

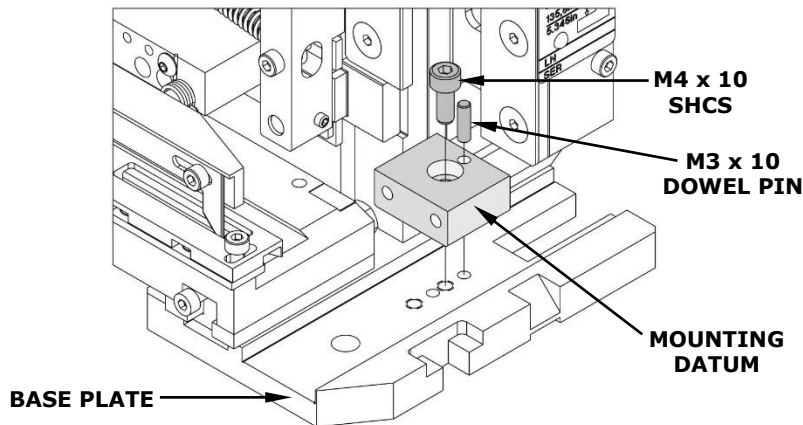


Figure 4

### PNEUMATIC CONNECTION (AIR FEED)

- The pneumatic feed applicator uses a double-acting air cylinder that must be actuated by a 4-way pneumatic valve.
- The air cylinder is equipped with push-in fittings for 6mm diameter vinyl or Nylon tube. Adapters are included for 1/4" diameter and 4mm diameter vinyl or Nylon tube.

**Note:** The TM-3000 and TM-4000 presses have pneumatic valves with 1/4" diameter tube fittings. Be sure to install the 1/4" diameter adapters in the air cylinder fittings and use 1/4" diameter vinyl or Nylon tube.

- Pneumatic tubes must be connected as shown in Figure 5. Tubes are typically connected so the terminal feed is forward when the applicator ram is up.
- When using the TM-3000 or TM-4000 presses, connect the tubes to the press pneumatic valve as shown in Figure 6.

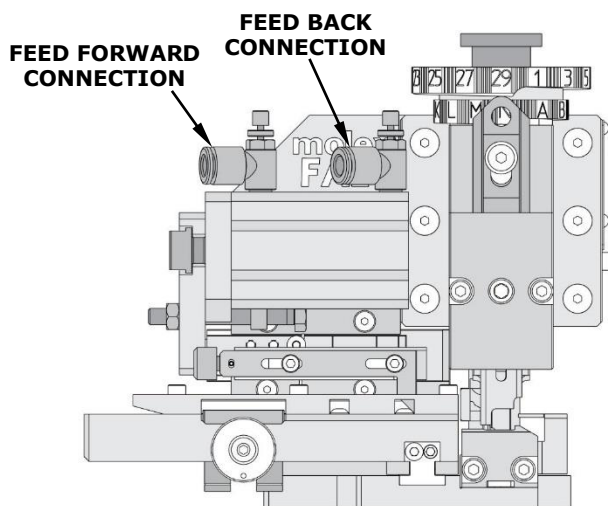


Figure 5

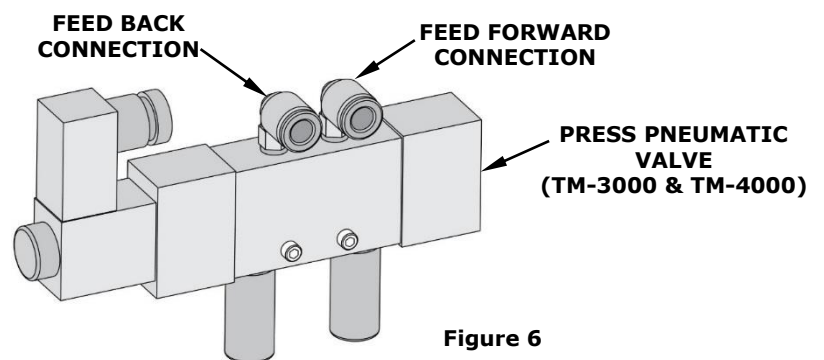


Figure 6



**Application Tooling Support**

**Phone:** (402) 458-TOOL (8665)

**E-Mail:** [applicationtooling@molex.com](mailto:applicationtooling@molex.com)

**Website:** [www.molex.com/applicationtooling](http://www.molex.com/applicationtooling)

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