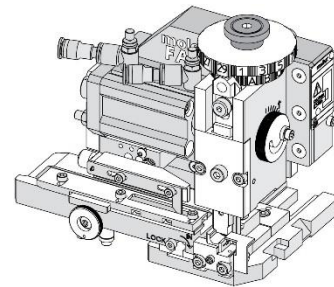


**Order Number**  
**63808-2510**

**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 control 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**

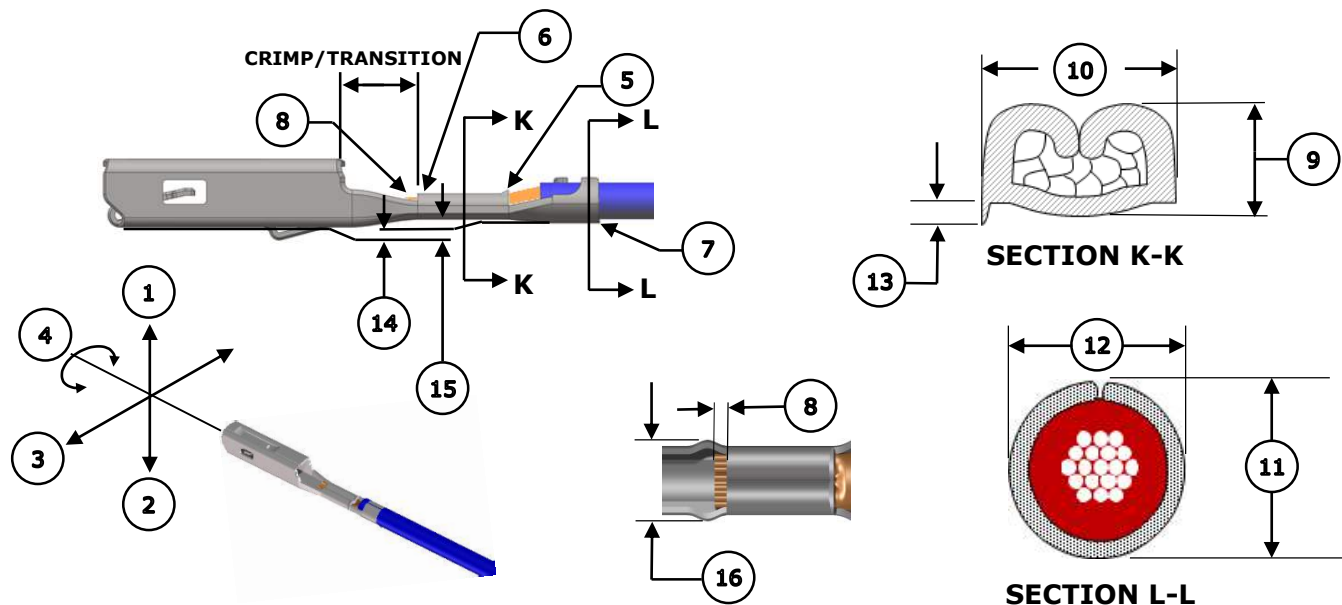
**Products:** MX150 ISO (M3) Receptacle Terminals: 0.35mm<sup>2</sup> and 0.50mm<sup>2</sup> type ISO wire.

Terminal Series No.	Terminal Order No.	Wire Type and Size		Insulation Diameter		Strip Length	
		Type	mm <sup>2</sup>	mm	In.	mm	In.
33001 33012 34750 34780	33001-3006, 33001-5005, 33012-3004, 34750-1004, 34780-1004	PSA FTP 00949_10_00766	0.35	1.20-1.40	.047-.055	4.70-5.60	.185-.220
		PSA FTP 00949_10_00767	0.50	1.40-1.70	.055-.067	4.70-5.60	.185-.220
		TZ3HID FLR91X-A-XLPO	0.35	1.20-1.40	.047-.055	4.70-5.60	.185-.220
			0.50	1.40-1.70	.055-.067	4.70-5.60	.185-.220
		JASO D611 (AVSS)	0.50	1.40-1.70	.055-.067	4.70-5.60	.185-.220
		AVSSB					
JASO D608 (AVSSH)							

**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**

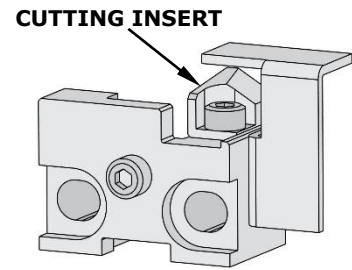
The following crimp specifications are based on document AS-33012-002 Rev. E:

Feature	Requirement			
1. Bend Up	1.5° Max			
2. Bend Down	1.5° Max			
3. Twist	3° Max			
4. Roll	3° Max			
5. Rear Bell Mouth	0.30-0.70mm (.012-.028")			
6. Front Bell Mouth	Not Applicable			
7. Cut-Off Tab	0.50mm (.020") Max No Burr			
8. Conductor Brush	0.40mm (.016") Max Not to extend above conductor crimp/transition height			
9. Conductor Crimp Height	<b>Wire Type</b>		<b>Wire Size</b>	<b>Crimp Height</b>
	PSA FTP 00949 10_00766		0.35mm <sup>2</sup>	1.05-1.11mm .041-.043 in.
	PSA FTP 00949 10_00767		0.50mm <sup>2</sup>	1.10-1.20mm .043-.047 in.
	TZ3HID FLR91X-A-XLPO		0.35mm <sup>2</sup>	1.02-1.08mm .040-.042 in.
	TZ3HID FLR91X-A-XLPO		0.50mm <sup>2</sup>	1.05-1.15mm .041-.045 in.
	JASO D611 (AVSS) AVSSB		0.50mm <sup>2</sup>	1.05-1.15mm .041-.045 in.
10. Conductor Crimp Width	1.50-1.70mm (.059-.067")			
Pull Force	0.35mm <sup>2</sup>	50 N	11.3 lb.	To be measured with no influence from the insulation crimp.
	0.50mm <sup>2</sup>	75 N	16.9 lb.	
11. Insulation Crimp Height	<b>Wire Type</b>		<b>Wire Size</b>	<b>Crimp Height</b>
	PSA FTP 00949 10_00766		0.35mm <sup>2</sup>	1.65-1.85mm .065-.073 in.
	PSA FTP 00949 10_00767		0.50mm <sup>2</sup>	2.05-2.15mm .081-.085 in.
	TZ3HID FLR91X-A-XLPO		0.35mm <sup>2</sup>	1.65-1.85mm .065-.073 in.
	TZ3HID FLR91X-A-XLPO		0.50mm <sup>2</sup>	1.80-2.00mm .071-.079 in.
	JASO D611 (AVSS) AVSSB		0.50mm <sup>2</sup>	1.95-2.05mm .077-.081 in.
12. Insulation Crimp Width	1.90-2.10mm (.075-.083")			
13. Conductor Anvil Flash	Height	Not to extend below lowest point of conductor crimp		
	Width	0.1mm (.004") Max		
14. Insulation Grip Step	0.15±0.30mm (.006±.008")			
15. Conductor Grip Step	0.30±0.15mm (.008±.006")			
16. Crimp Bulge	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.

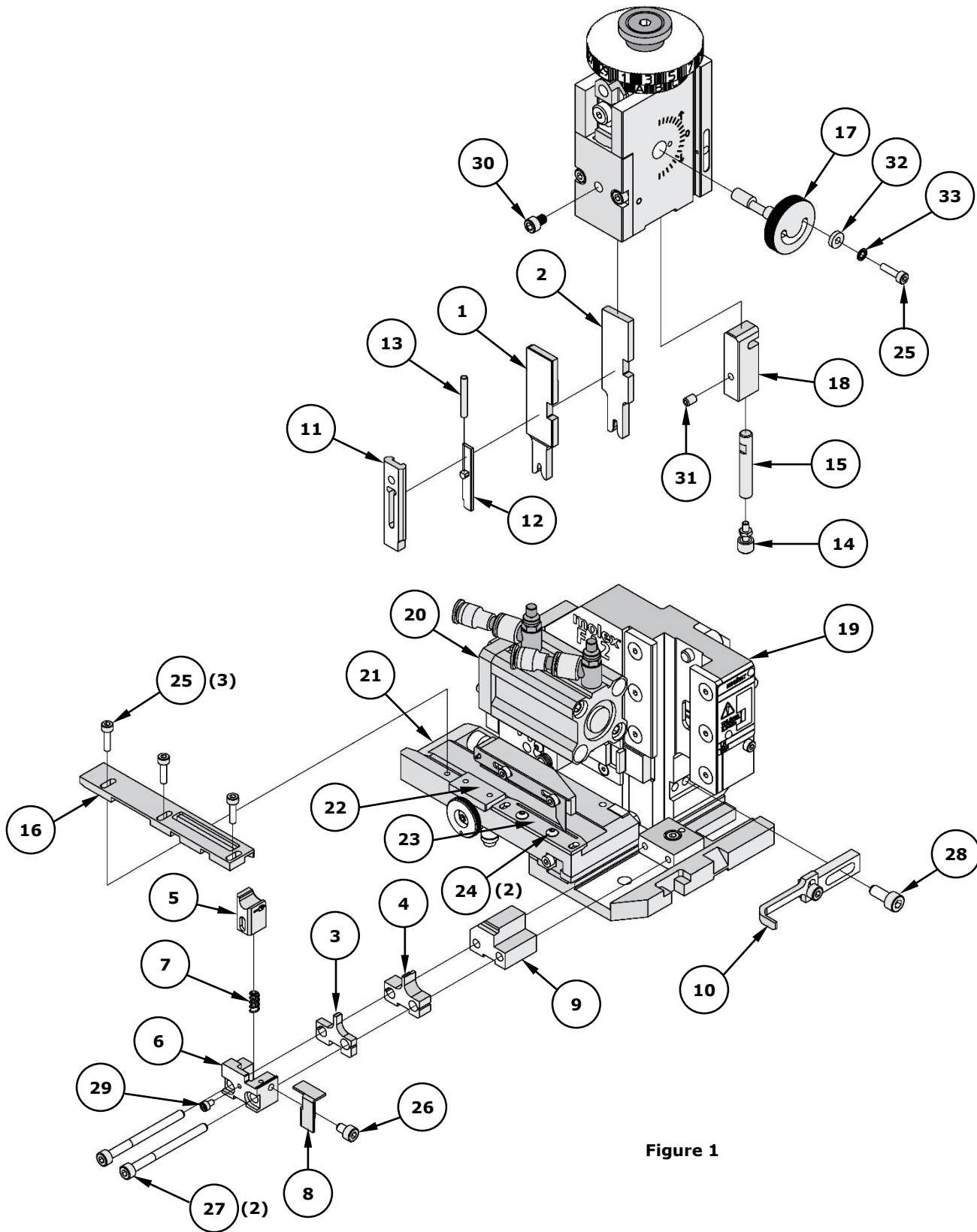
**CAUTION:** Molex tooling crimp specifications are valid only when used with Molex terminals and tooling manufactured by Molex and sold by Molex or authorized distributors ("Molex Tooling"). When using tooling other than Molex Tooling with Molex-specific connector systems listed in our ATS documents, 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 63808-2510</b>				
<b>Item</b>	<b>Order No.</b>	<b>Engineering No.</b>	<b>Description</b>	<b>Quantity</b>
<b>Perishable Tooling</b>				
	63808-2570	63808-2570	Tool Kit (All "Y" Items)	REF
1	63454-0172	63454-0172	Insulation Punch	1 Y
2	63457-1502	63457-1502	Conductor Punch	1 Y
3	63456-0078	63456-0078	Insulation Anvil	1 Y
4	63455-0098	63455-0098	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	63443-7501	63443-7501	Anvil Mount	1
10	63443-0090	63443-0090	Wire Stop	1
11	63443-2804	63443-2804	Front Plunger Striker	1
12	63443-2915	63443-2915	Wire Hold Down Plunger	1
13	63600-0021	63600-0021	Wire Hold Down Spring	1
14	63600-5776	63600-5776	Nose Hold Down	1
15	63600-5775	63600-5775	Nose Hold Down Shank	1
16	63443-4716	63443-4716	Terminal Guide	1
17	63808-0229	63808-0229	Bend Adjust Dial	1
18	63808-0220	63808-0220	Hold Down Block	1
<b>Frame</b>				
19	63808-0200	63808-0200	Applicator Core	1
20	63808-0196	63808-0196	Air Feed Assembly	1
21	63443-4601	63443-4601	Track	1
22	63443-4801	63443-4801	Drag Pad	1
23	63443-4602	63443-4602	Carrier Cover	1
<b>Hardware</b>				
24	—	—	M3 by 6 Long BHCS	2*
25	—	—	M3 by 12 Long SHCS	4*
26	—	—	M4 by 6 Long SHCS	1*
27	—	—	M4 by 50 Long SHCS	2*
28	—	—	M5 by 12 Long SHCS	1*
29	—	—	M2.5 by 4 Long SHCS	1*
30	—	—	#10-32UNF by .25" Long SHCS	1*
31	—	—	M4 by 6 Long Set Screw	1*
32	—	—	M3 Flat Washer Hard	1*
33	—	—	M3 Inner Tooth Lock Washer	1*

\* Available from an industrial supply company.

**ASSEMBLY DRAWING**



**Figure 1**

## FACTORY SETTINGS

### Feed Pawl Assembly

The FA2 applicator number 63808-2510 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 B.

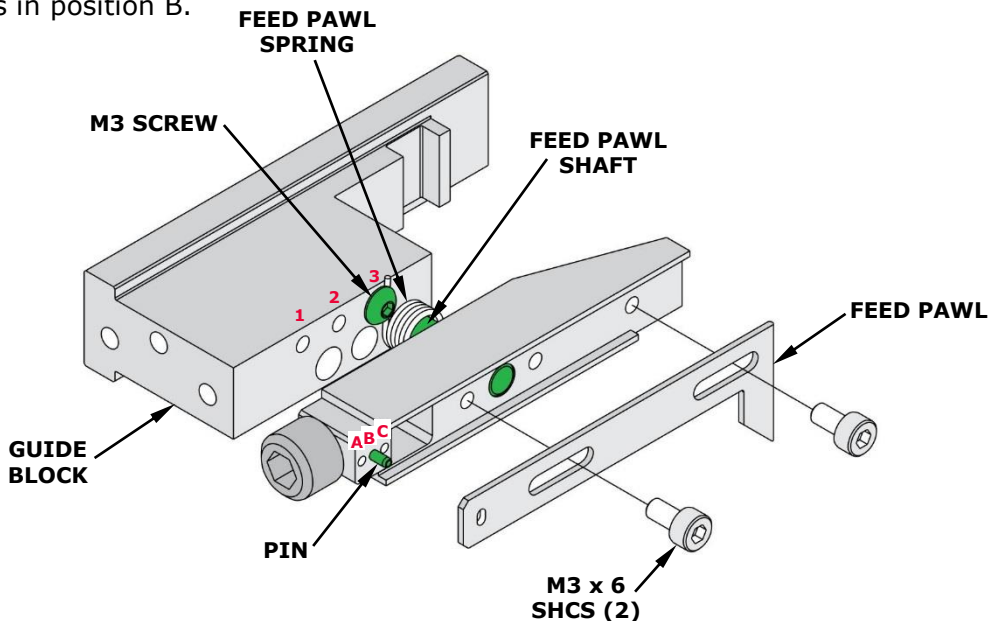


Figure 2

**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

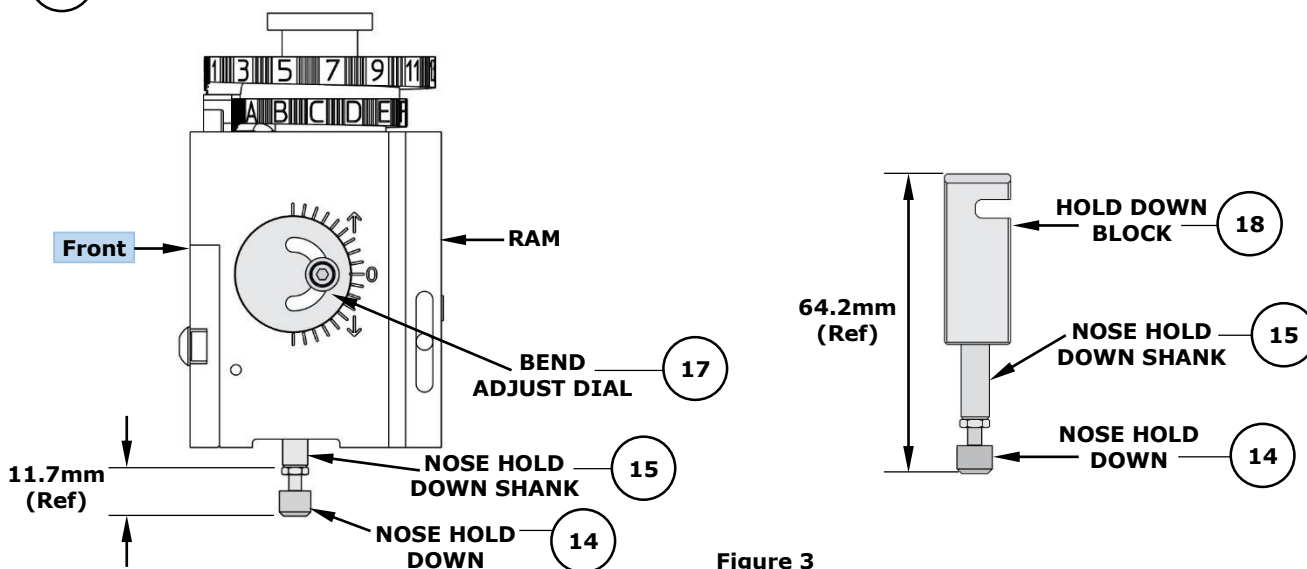


Figure 3

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

## PNEUMATIC CONNECTION (AIR FEED)

- The air feed applicator uses a double-acting air cylinder that must be actuated by a 4-way air valve.
- The air cylinder is equipped with push-in fittings for 6mm diameter vinyl or Nylon tube. Adapters are included for ¼" diameter and 4mm diameter vinyl or Nylon tube.

**Note:** The TM-3000 and TM-4000 presses have air valves with ¼" diameter tube fittings. Be sure to install the ¼" diameter adapters in the air cylinder fittings, and use ¼" diameter vinyl or Nylon tube.

- Pneumatic tubes must be connected as shown in Figure 4. 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 air valve as shown in Figure 5.

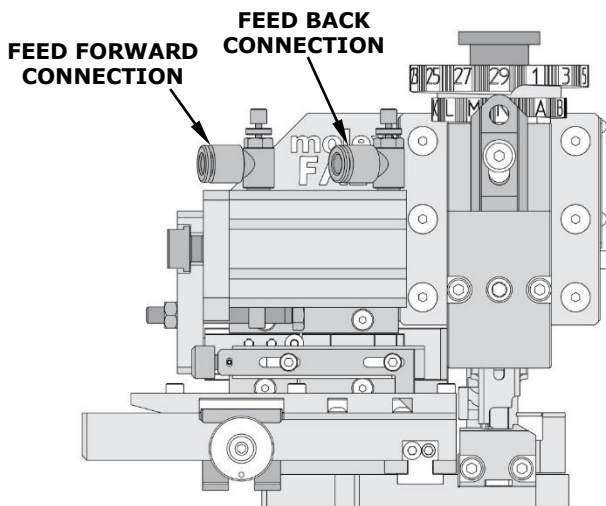


Figure 4

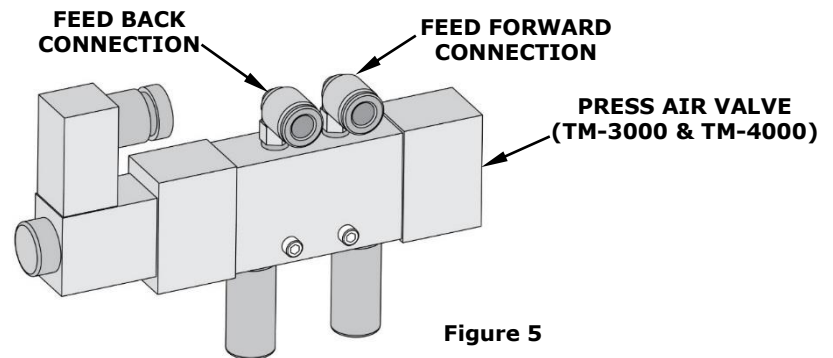


Figure 5

### 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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