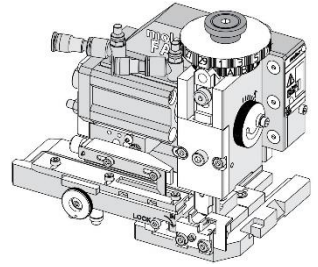


**Order Number**  
**63808-2610**



## 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

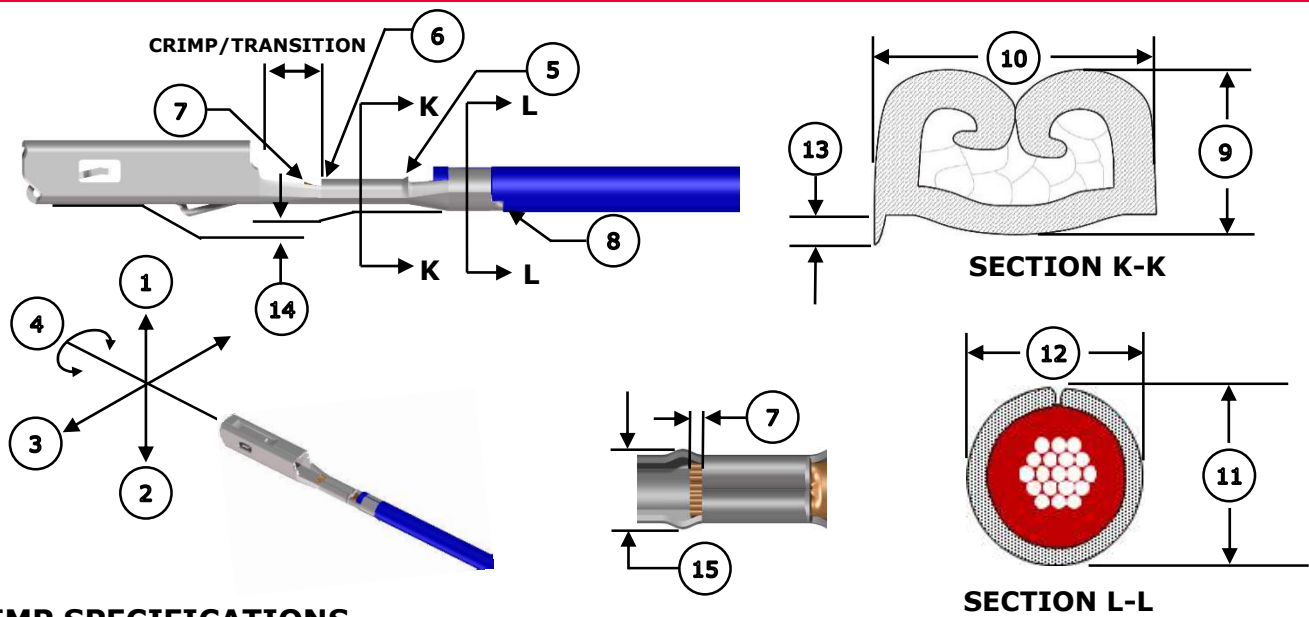
**Products:** MX150 18 Grip Receptacle for 20 AWG and 0.75mm<sup>2</sup> wire.

Terminal Series No.	Terminal Order No.	Wire		Insulation Diameter		Strip Length	
		Wire Type	Wire Size	mm	In.	mm	In.
33001 33012 34750	33001-3004 33001-5002 33012-3002 34750-1002	GXL	20 AWG	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		HIFLON	20 AWG	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		TXL	20 AWG	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		EXRAD BLOCKED	0.75 mm <sup>2</sup>	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		PSA FTP 00949_10_00768	0.75 mm <sup>2</sup>	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		FLR91X-A-XLPO M11-126A1 EXRAD UNBLOCKED	0.75 mm <sup>2</sup>	1.60-2.54	.063-.100	4.70-5.60	.185-.220

**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																																										
<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. Bell Mouth Rear</b>	0.30-0.70mm (.012-.028")																																										
<b>6. Bell Mouth Front</b>	Not Applicable																																										
<b>7. Conductor Brush</b>	0.40mm (.016") Not to extend above conductor crimp/transition height																																										
<b>8. Cut-Off Tab</b>	0.50mm (.020") Max No Burr																																										
<b>Conductor Crimp</b>	<table border="1"> <thead> <tr> <th>Wire Type</th> <th>Wire Size</th> <th colspan="2">9. Crimp Height</th> <th colspan="2">10. Crimp Width</th> </tr> </thead> <tbody> <tr> <td>GXL</td> <td>20 AWG</td> <td>1.10-1.20mm</td> <td>.043-.047 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> <tr> <td>HIFLON</td> <td>20 AWG</td> <td>1.10-1.20mm</td> <td>.043-.047 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> <tr> <td>TXL</td> <td>20 AWG</td> <td>1.10-1.20mm</td> <td>.043-.047 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> <tr> <td>EXRAD BLOCKED</td> <td>0.75 mm<sup>2</sup></td> <td>1.10-1.20mm</td> <td>.043-.047 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> <tr> <td>PSA FTP 00949_10_00768</td> <td>0.75 mm<sup>2</sup></td> <td>1.25-1.35mm</td> <td>.049-.053 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> <tr> <td>FLR91X-A-XLPO M1I-126A1 EXRAD UNBLOCKED</td> <td>0.75 mm<sup>2</sup></td> <td>1.20-1.30mm</td> <td>.047-.051 in.</td> <td>2.05-2.25mm</td> <td>.081-.089 in.</td> </tr> </tbody> </table>	Wire Type	Wire Size	9. Crimp Height		10. Crimp Width		GXL	20 AWG	1.10-1.20mm	.043-.047 in.	2.05-2.25mm	.081-.089 in.	HIFLON	20 AWG	1.10-1.20mm	.043-.047 in.	2.05-2.25mm	.081-.089 in.	TXL	20 AWG	1.10-1.20mm	.043-.047 in.	2.05-2.25mm	.081-.089 in.	EXRAD BLOCKED	0.75 mm <sup>2</sup>	1.10-1.20mm	.043-.047 in.	2.05-2.25mm	.081-.089 in.	PSA FTP 00949_10_00768	0.75 mm <sup>2</sup>	1.25-1.35mm	.049-.053 in.	2.05-2.25mm	.081-.089 in.	FLR91X-A-XLPO M1I-126A1 EXRAD UNBLOCKED	0.75 mm <sup>2</sup>	1.20-1.30mm	.047-.051 in.	2.05-2.25mm	.081-.089 in.
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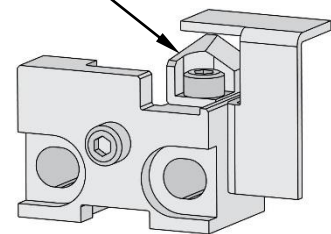
Pull Force	Wire Type	Wire Size	Minimum Force		To be measured with no influence from the insulation crimp.
	GXL	20 AWG	75 N	16.9 lb.	
	HIFLON	20 AWG	75 N	16.9 lb.	
	TXL	20 AWG	75 N	16.9 lb.	
	EXRAD BLOCKED	0.75 mm <sup>2</sup>	90 N	20.3 lb.	
	PSA FTP 00949_10_00768	0.75 mm <sup>2</sup>	90 N	20.3 lb.	
	FLR91X-A-XLPO M1I-126A1 EXRAD UNBLOCKED	0.75 mm <sup>2</sup>	90 N	20.3 lb.	
<b>13. Conductor Anvil Flash</b>	0.22mm (.009") Max				
<b>14. Insulation Grip Step</b>	0.20-0.40mm (.008-.016")				
<b>15. Crimp Bulge</b>	2.65mm (.104") Max within 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.

### CUTTING INSERT



### 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 standard 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>FA2 Applicator 63808-2610</b>				
<b>Item</b>	<b>Order No.</b>	<b>Engineering No.</b>	<b>Description</b>	<b>Quantity</b>
<b>Perishable Tooling</b>				
	63808-2670	63808-2670	Tool Kit (All "Y" Items)	Ref
1	63454-0171	63454-0171	Insulation Punch	1 Y
2	63457-0117	63457-0117	Conductor Punch	1 Y
3	63456-2002	63456-2002	Insulation Anvil	1 Y
4	63455-0145	63455-0145	Conductor Anvil	1 Y
5	63443-0034	63443-0034	Front Plunger	1 Y
<b>Non-Perishable 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 Shute	1
9	63443-7502	63443-7502	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	Wire Hold Down Plunger	1
13	63600-5776	63600-5776	Nose Hold Down	1
14	63600-5775	63600-5775	Nose Hold Down Shank	1
15	63443-4714	63443-4714	Terminal Guide	1
16	63808-0220	63808-0220	Hold Down Block	1
17	63808-0229	63808-0229	Bend Adjust Dial	1
<b>Frame</b>				
18	63808-0200	63808-0200	Applicator Core	1
19	63443-4601	63443-4601	Track Assembly	1
20	63443-4801	63443-4801	Drag Pad	1
21	63443-4602	63443-4602	Carrier Cover	1
22	63808-0196	63808-0196	Pneumatic Feed Assembly	1
<b>Hardware</b>				
23	—	—	M2.5 by 4 Long SHCS	1*
24	—	—	M3 Flat Washer Hard	1*
25	—	—	M3 Inner Tooth Lock Washer	1*
26	—	—	M3 Hex Nut	1*
27	—	—	M3 by 3 Long SSS	2*
28	—	—	M3 by 6 long BHCS	2*
29	—	—	M3 by 12 Long SHCS	4*
30	—	—	M4 by 6 Long SHCS	1*
31	—	—	M4 by 6 Long SSS	1*
32	—	—	M4 by 50 Long SHCS	2*
33	—	—	M5 by 12 Long SHCS	1*
34	—	—	#10-32UNF by .25" Long BHCS	1*
*Fastener parts can be purchased through most industrial suppliers by using the description in the table above.				

**ASSEMBLY DRAWING**

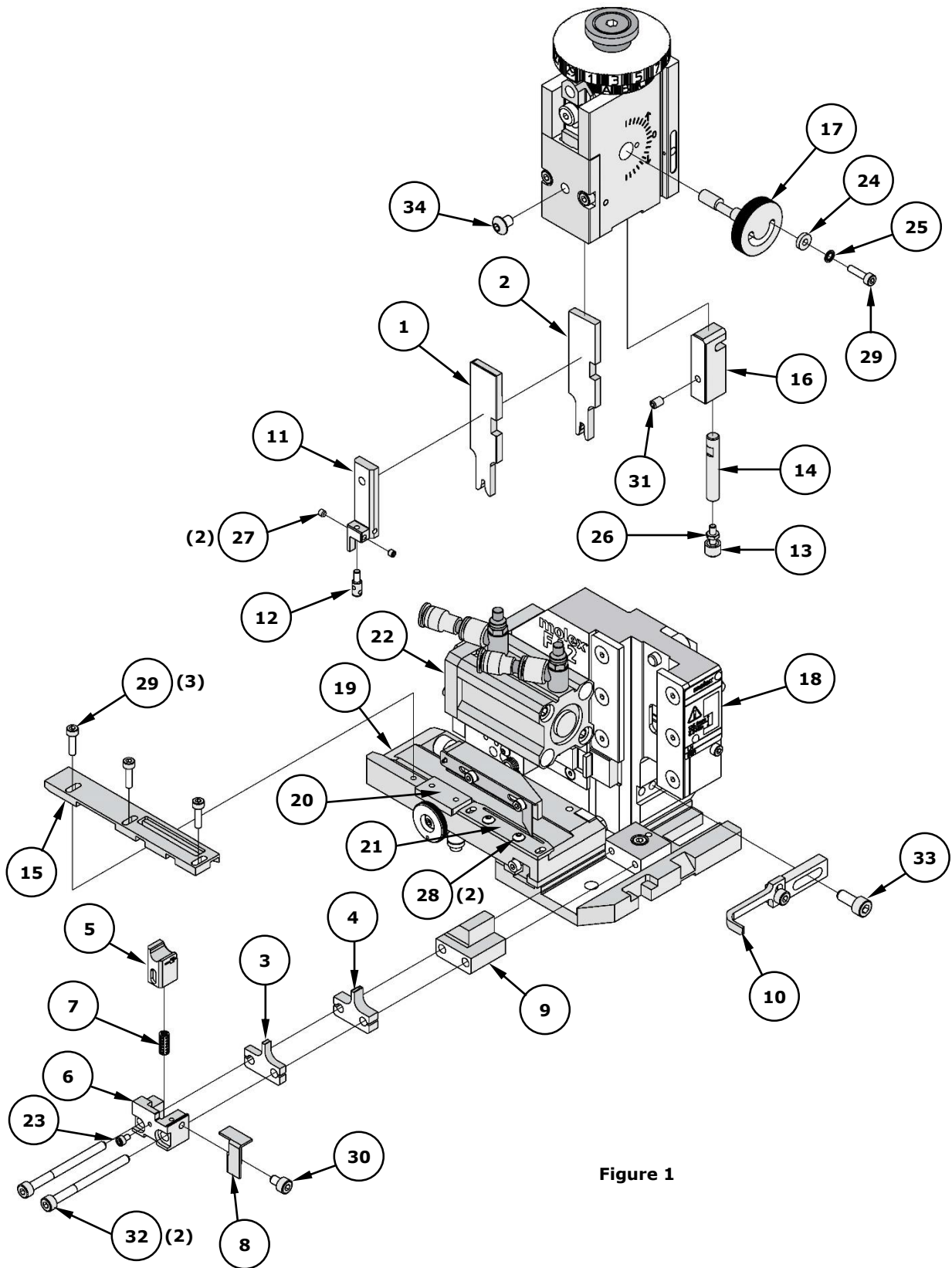


Figure 1

## FACTORY SETTINGS

### Feed Pawl Assembly

The FA2 applicator number 63808-2610 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.

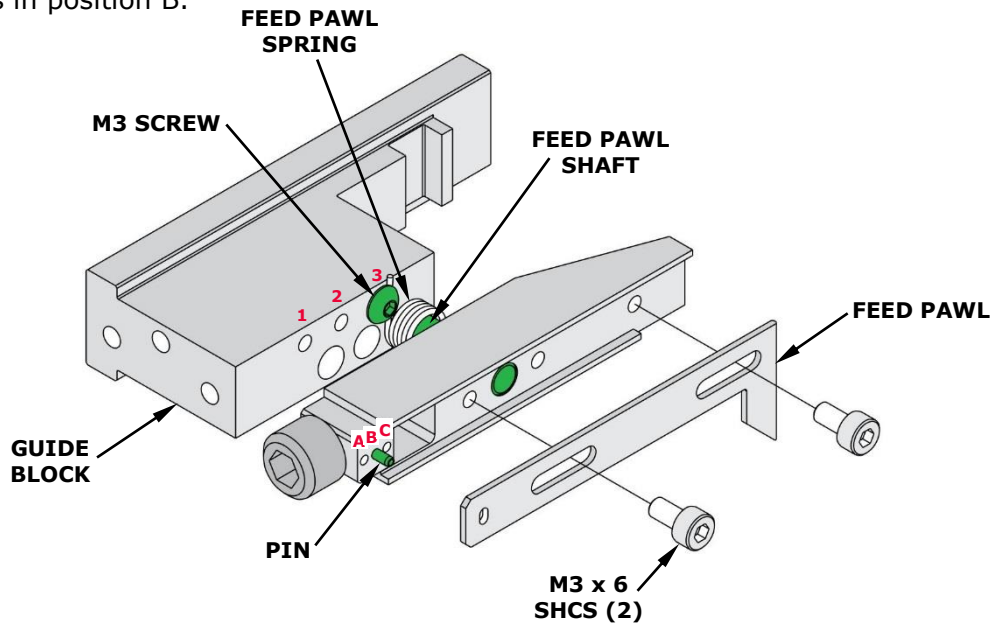


Figure 2

**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

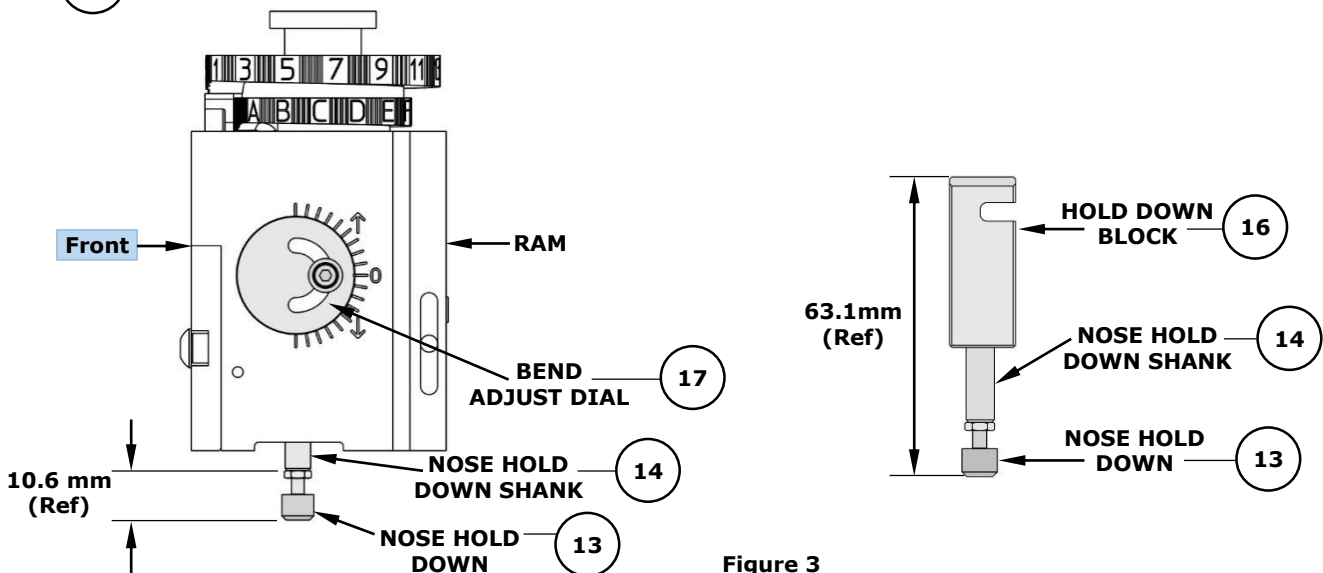


Figure 3

**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 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 ¼" diameter and 4mm diameter vinyl or Nylon tube.

**Note:** The TM-3000 and TM-4000 presses have pneumatic 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 pneumatic valve as shown in Figure 5.

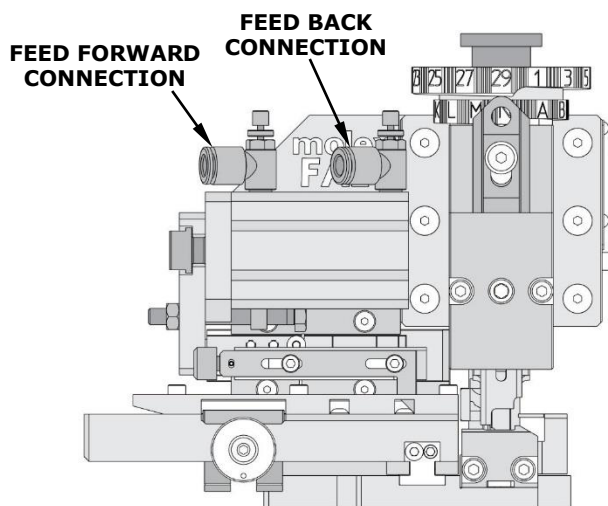


Figure 4

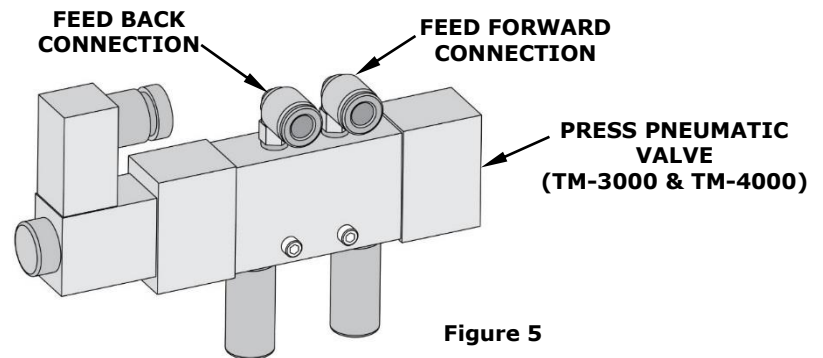


Figure 5

### 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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