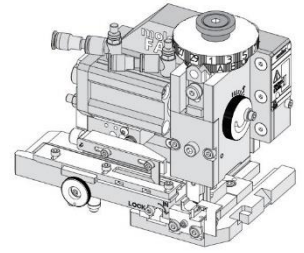


**Order Number**  
**63808-4410**

**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 0.015mm (.0006") for conductor crimp height and 0.025mm (.001") for insulation height
- 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
- Fine adjustment of the bend is achieved using the bend control adjust dial
- This applicator is configured with a pneumatic feed, which requires a 4-way pneumatic valve for operation

### SCOPE

**Products:** 2.00mm W/B DuraClik ISL Series Receptacle Terminals.

Terminal Series No.	Terminal Order No.	Wire			Insulation Diameter				Strip Length	
					IPC/WHMA-A-620 (1)		Terminal (2)			
		Wire Type (3)	AWG	mm <sup>2</sup>	mm	In.	mm	In.	mm	In.
560124	560124-0101 560124-0131	AVSS	—	0.30	1.15-1.40	.045-.055	1.40-1.50	.055-.059	1.30-1.80	.051-.071
		FLRY-A	—	0.35	—	—	1.30 Max	.051 Max	2.00	.079
		Mocar150C	—	0.35	—	—	1.30 Max	.051 Max	2.00	.079
		ACOME A4Z	—	0.35	—	—	1.35 Max	.053 Max	2.00	.079
560236	560236-0101 560236-0131	AVSS	—	0.30	1.15-1.40	.045-.055	1.40-1.50	.055-.059	1.30-1.80	.051-.079
		FLRY-A	—	0.35	—	—	1.30 Max	.051 Max	2.00	.079
		Mocar150C	—	0.35	—	—	1.30 Max	.051 Max	2.00	.079
		ACOME A4Z	—	0.35	—	—	1.35 Max	.053 Max	2.00	.079

(1) To achieve optimum IPC/WHMA-A-620 insulation crimps, use this insulation OD range.

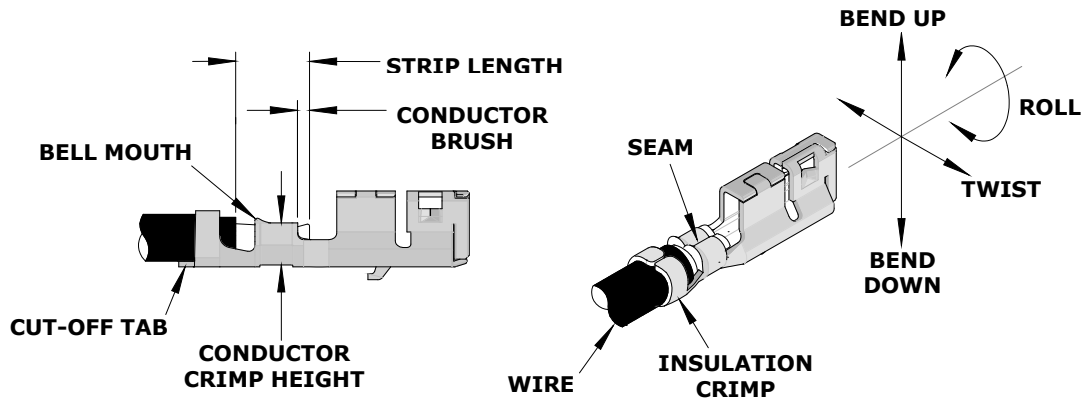
(2) Overall insulation OD specification for terminal.

(3) See Tool Qualification Notes on page 2.

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

**Note:** Oiler (63801-7240) is required to crimp all terminals to improve tooling life and to minimize the crimp extrusion or flash. See FA2 manual (TM-638080200).

**DEFINITION OF TERMS**



**CRIMP SPECIFICATIONS**

The following crimp specifications are from CS-560124-001 Rev A2 and CS-560236-0001 Rev A:

Feature	Requirement					
<b>Bend Up</b>	4° Max					
<b>Bend Down</b>	3° Max					
<b>Twist</b>	3° Max					
<b>Roll</b>	4° Max					
<b>Rear Bell Mouth</b>	0.05-0.35mm (.002-.014")					
<b>Front Bell Mouth</b>	Not Applicable					
<b>Cut-Off Tab</b>	0.15mm (.006") Max					
<b>Conductor Brush</b>	0.00-0.50mm (.000-.020") Max					
<b>Conductor Crimp Height</b>	<b>Terminal Series No.</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>Crimp Height</b>		
	560124	AVSS	0.30mm <sup>2</sup>	0.73-0.78mm	.029-.031 in.	
		FLRY-A	0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.	
		Mocar150C	0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.	
		ACOME A4Z	0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.	
	560236	AVSS	0.30mm <sup>2</sup>	0.73-0.78mm	.029-.031 in.	
		FLRY-A	0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.	
		Mocar150C	0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.	
ACOME A4Z		0.35mm <sup>2</sup>	0.68-0.73mm	.027-.029 in.		
<b>Conductor Crimp Width</b>	1.20-1.30mm (.047-.051")					
<b>Pull Force</b>	<b>Terminal Series No.</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>Minimum Force</b>		To be measured with no influence from the insulation crimp.
	560124	AVSS	0.30mm <sup>2</sup>	58 N	13.0 lb.	
		FLRY-A	0.35mm <sup>2</sup>	58 N	13.0 lb.	
		Mocar150C	0.35mm <sup>2</sup>	58 N	13.0 lb.	
		ACOME A4Z	0.35mm <sup>2</sup>	58 N	13.0 lb.	
	560236	AVSS	0.30mm <sup>2</sup>	58 N	13.0 lb.	
		FLRY-A	0.35mm <sup>2</sup>	58 N	13.0 lb.	
		Mocar150C	0.35mm <sup>2</sup>	58 N	13.0 lb.	
ACOME A4Z		0.35mm <sup>2</sup>	58 N	13.0 lb.		
<b>Insulation Crimp Height</b>	<b>Terminal Series No.</b>	<b>Wire Type</b>	<b>Wire Size</b>	<b>Crimp Height</b>		
	560124	AVSS	0.30mm <sup>2</sup>	1.45-1.55mm	.057-.061 in.	
		FLRY-A	0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.	
		Mocar150C	0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.	
		ACOME A4Z	0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.	
	560236	AVSS	0.30mm <sup>2</sup>	1.45-1.55mm	.057-.061 in.	
		FLRY-A	0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.	
		Mocar150C	0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.	
ACOME A4Z		0.35mm <sup>2</sup>	1.28-1.38mm	.050-.054 in.		
<b>Insulation Crimp Width</b>	1.55mm (.061") Reference					

## Tool Qualification Notes

1. Pull force should be measured with no influence from the insulation crimp.
2. The above specifications are guidelines to an optimum crimp.
3. Oiler (63801-7240) is required to crimp all terminals to improve tooling life and to minimize the crimp extrusion or flash. See FA2 manual (TM-638080200).
4. FLRY-A 0.35mm<sup>2</sup> and terminal 560124-0101 validated to USCAR21 (Rev3) Section 4.3, 4.4 and 4.5.2
5. FLRY-A 0.35mm<sup>2</sup> wire and terminal 560124-0101 validated to VW 60330 (Rev. 2013-12) Section 4.3.4 and 5.5.1. Deviation on 4.3.4.8 (CFE Dimension)
6. FLRY-A 0.35mm<sup>2</sup> wire and terminal 560124-0101 validated to LV214-2 (Rev. 2008-01)
7. Mocar150C 0.35mm<sup>2</sup> and terminal 560124-0101 validated to USCAR21 (Rev3)

## NOTES

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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.

## WARNINGS

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**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 63808-4410</b>				
<b>Item</b>	<b>Order No.</b>	<b>Engineering No.</b>	<b>Description</b>	<b>Quantity</b>
<b>Perishable Tooling</b>				
	63808-4470	63808-4470	Tool Kit (All "Y" Items)	REF
1	63457-1212	63457-1212	Conductor Punch	1 Y
2	200217-1210	200217-1210	Conductor Anvil	1 Y
3	63454-0173	63454-0173	Insulation Punch	1 Y
4	63456-0126	63456-0126	Insulation Anvil	1 Y
5	63443-0136	63443-0136	Cut-Off Plunger	1 Y
<b>Other Components</b>				
6	63443-0118	63443-0118	Front Plunger Retainer	1
7	11-18-5060	60707-21	Cut-Off Plunger Spring	1
8	63443-0117	63443-0117	Scrap Chute	1
9	63443-7528	63443-7528	Anvil Mount	1
10	63443-0090	63443-0090	Wire Stop	1
11	63443-2806	63443-2806	Front Plunger Striker	1
12	63600-1057	63600-1057	Striker Plunger Spring	1
13	63443-2905	63443-2905	Wire Hold Down Plunger	1
14	63443-4704	63443-4704	Terminal Guide	1
15	63808-0229	63808-0229	Bend Adjust Dial	1
16	63443-7404	63443-7404	Hold Down Block	1
17	63600-5775	63600-5775	Nose Hold Down Shank	1
18	63600-5776	63600-5776	Nose Hold Down	1
19	63443-0119	63443-0119	Cutting Insert	1
<b>Frame</b>				
20	63808-0200	63808-0200	Applicator Core	1
21	63808-0196	63808-0196	Pneumatic Feed Assembly	1
22	63808-0191	63808-0191	Track Assembly	1
<b>Hardware</b>				
23	—	—	M2.5 by 3 Long SHCS	2*
24	—	—	M3 by 6 Long BHCS	2*
25	—	—	M3 by 12 Long SHCS	4*
26	—	—	M3 Flat Washer Hard	1*
27	—	—	M3 Inner Tooth Lock Washer	1*
28	—	—	M3 Hex Nut	1*
29	—	—	M4 by 4 Long SSS	1*
30	—	—	M4 by 6 Long BHCS	1*
31	—	—	M4 by 45 Long SHCS	2*
32	—	—	M5 by 12 Long SHCS	1*
33	—	—	M5 x 12 Long Cup Point SSS	1*
34	—	—	M5 Hex Jam Nut	1*

\* Available from an industrial supply company.

**ASSEMBLY DRAWING**

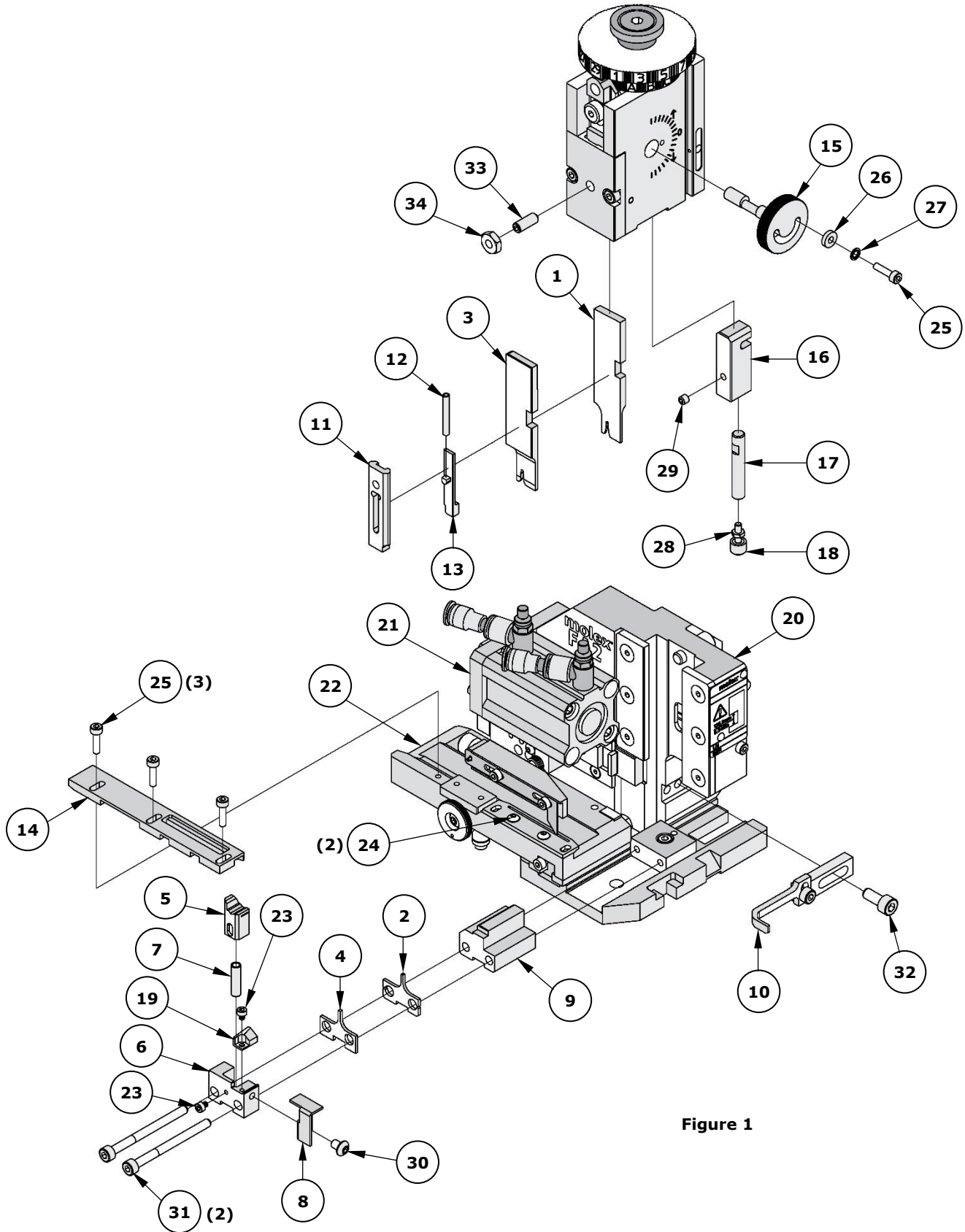


Figure 1

## FACTORY SETTINGS

### Feed Pawl Assembly

The FA2 applicator number 63808-4410 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.

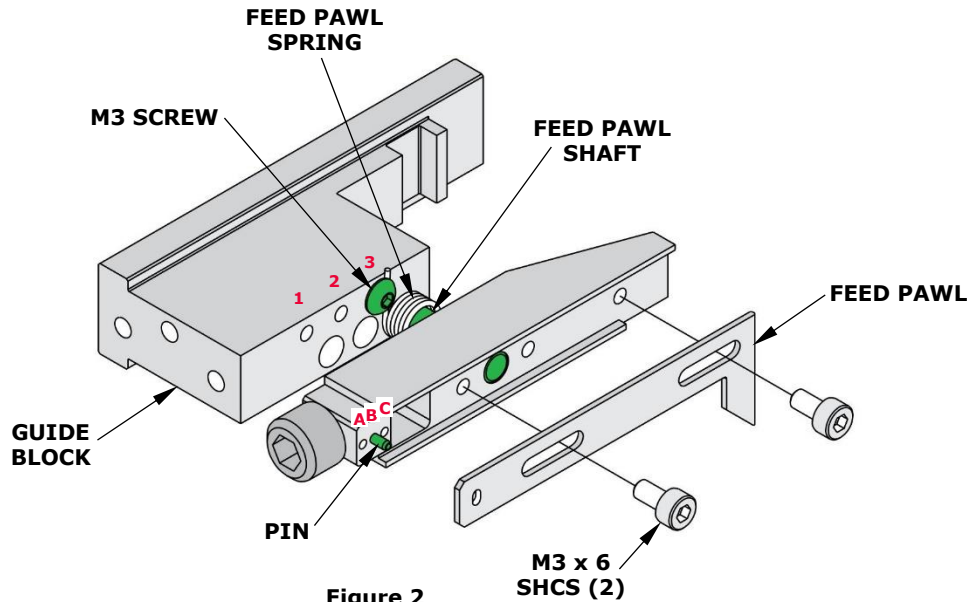


Figure 2

**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

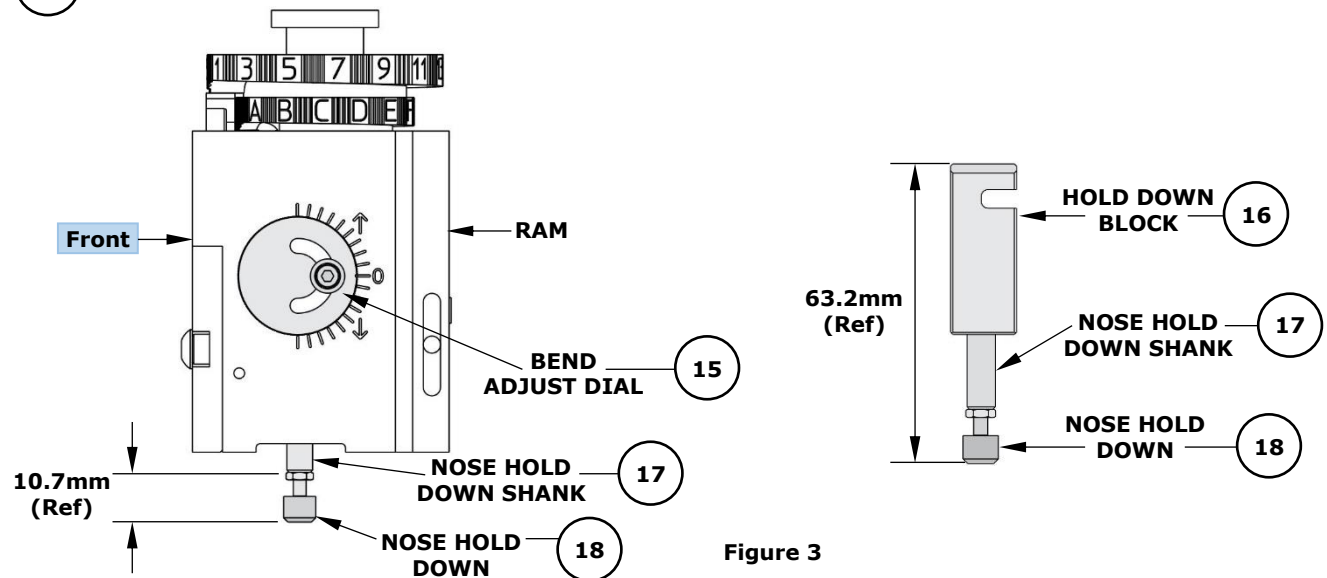


Figure 3

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

### 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.

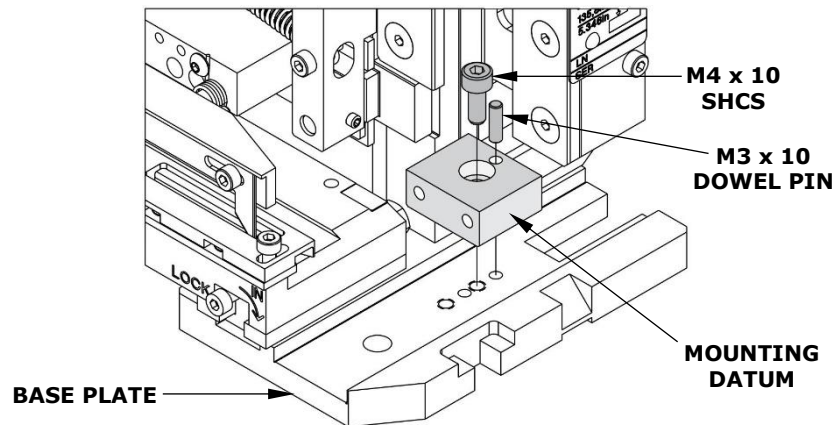


Figure 4

### 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.

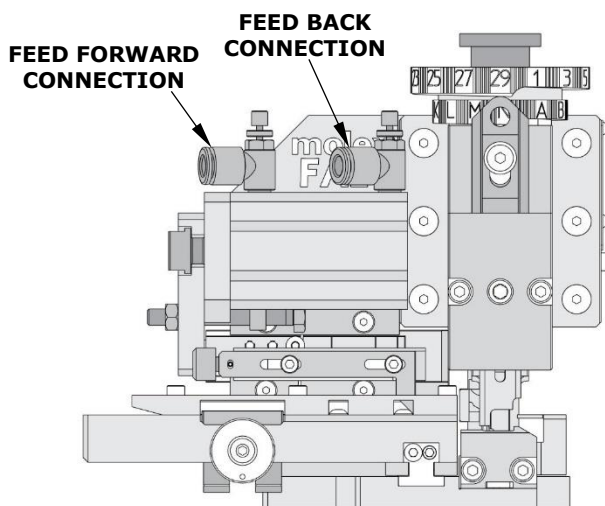


Figure 5

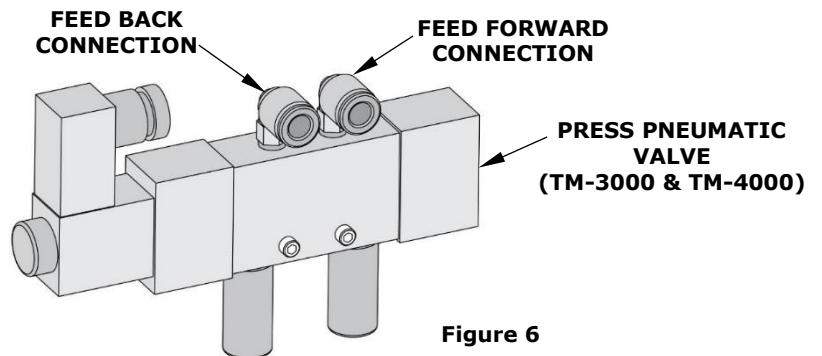


Figure 6

**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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