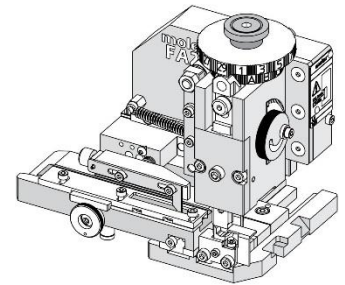


**Order Number**  
**63808-2900**

**molex**<sup>®</sup>

## Application Tooling Specification



### FEATURES

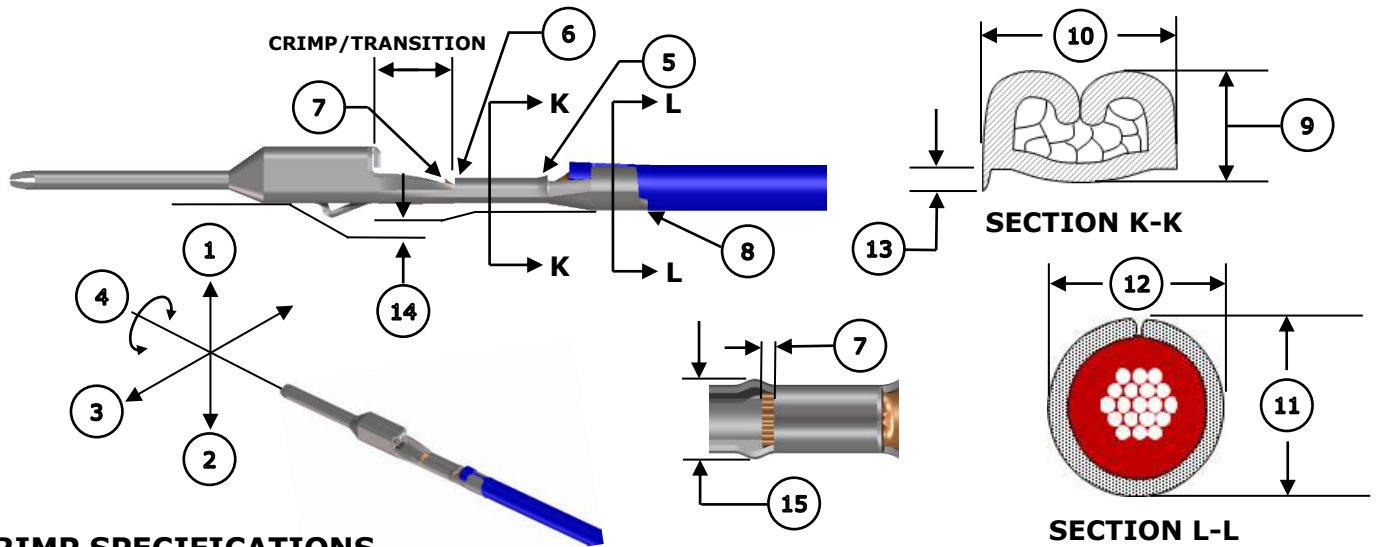
- Applicator designed to industry-standard mounting and 135.80mm (5.346") shut height
- Quick setup time; plus, the crimp height, track and feed adjustments can be set without removing the applicator from the press
- Fine adjustment allows users to achieve target with little effort by adjusting in increments 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

### SCOPE

**Products:** MX150 18 Grip Blade Terminals: 18 AWG, 0.75mm<sup>2</sup> and 1.00mm<sup>2</sup> wire.

Terminal Series No.	Terminal Order No.	Wire		Insulation Diameter		Strip Length	
		Wire Type	Wire Size	mm	In.	mm	In.
33000 33011 34782	33000-1002 33011-0004 33011-3002 34782-1002	GXL	18 AWG	1.60-2.54	.063-.100	4.70-5.60	.185-.220
		TXL	18 AWG				
		ISO	1.0 mm <sup>2</sup>				
		PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>				
		FLR91X-A-XLPO	1.0 mm <sup>2</sup>				
		PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>				
		ISO	0.75 mm <sup>2</sup>				
		FLR91X-A-XLPO	0.75 mm <sup>2</sup>				

**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. 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") Max Not to extend above conductor crimp/transition height																																																
<b>8. Cut-Off Tab</b>	0.50mm (.020") Max																																																
<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>18 AWG</td> <td>1.20-1.30mm</td> <td>.047-.051 in.</td> <td rowspan="8">2.05-2.25mm</td> <td rowspan="8">.081-.089 in.</td> </tr> <tr> <td>TXL</td> <td>18 AWG</td> <td>1.20-1.30mm</td> <td>.047-.051 in.</td> </tr> <tr> <td>ISO</td> <td>1.0 mm<sup>2</sup></td> <td>1.25-1.35mm</td> <td>.049-.053 in.</td> </tr> <tr> <td>PSA FTP 00949_10_00769</td> <td>1.0 mm<sup>2</sup></td> <td>1.30-1.40mm</td> <td>.051-.055 in.</td> </tr> <tr> <td>FLR91X-A-XLPO</td> <td>1.0 mm<sup>2</sup></td> <td>1.30-1.40mm</td> <td>.051-.055 in.</td> </tr> <tr> <td>PSA FTP 00949_10_00769</td> <td>0.75 mm<sup>2</sup></td> <td>1.25-1.35mm</td> <td>.049-.053 in.</td> </tr> <tr> <td>ISO</td> <td>0.75 mm<sup>2</sup></td> <td>1.20-1.30mm</td> <td>.047-.051 in.</td> </tr> <tr> <td>FLR91X-A-XLPO</td> <td>0.75 mm<sup>2</sup></td> <td>1.20-1.30mm</td> <td>.047-.051 in.</td> </tr> </tbody> </table>	Wire Type	Wire Size	9. Crimp Height		10. Crimp Width		GXL	18 AWG	1.20-1.30mm	.047-.051 in.	2.05-2.25mm	.081-.089 in.	TXL	18 AWG	1.20-1.30mm	.047-.051 in.	ISO	1.0 mm <sup>2</sup>	1.25-1.35mm	.049-.053 in.	PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>	1.30-1.40mm	.051-.055 in.	FLR91X-A-XLPO	1.0 mm <sup>2</sup>	1.30-1.40mm	.051-.055 in.	PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>	1.25-1.35mm	.049-.053 in.	ISO	0.75 mm <sup>2</sup>	1.20-1.30mm	.047-.051 in.	FLR91X-A-XLPO	0.75 mm <sup>2</sup>	1.20-1.30mm	.047-.051 in.								
	Wire Type	Wire Size	9. Crimp Height		10. Crimp Width																																												
	GXL	18 AWG	1.20-1.30mm	.047-.051 in.	2.05-2.25mm	.081-.089 in.																																											
	TXL	18 AWG	1.20-1.30mm	.047-.051 in.																																													
	ISO	1.0 mm <sup>2</sup>	1.25-1.35mm	.049-.053 in.																																													
	PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>	1.30-1.40mm	.051-.055 in.																																													
	FLR91X-A-XLPO	1.0 mm <sup>2</sup>	1.30-1.40mm	.051-.055 in.																																													
	PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>	1.25-1.35mm	.049-.053 in.																																													
ISO	0.75 mm <sup>2</sup>	1.20-1.30mm	.047-.051 in.																																														
FLR91X-A-XLPO	0.75 mm <sup>2</sup>	1.20-1.30mm	.047-.051 in.																																														
<b>Insulation Crimp</b>	<table border="1"> <thead> <tr> <th>Wire Type</th> <th>Wire Size</th> <th colspan="2">11. Crimp Height</th> <th colspan="2">12. Crimp Width</th> </tr> </thead> <tbody> <tr> <td>GXL</td> <td>18 AWG</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> <td>2.50-2.70mm</td> <td>.098-.106 in.</td> </tr> <tr> <td>TXL</td> <td>18 AWG</td> <td>1.90-2.10mm</td> <td>.075-.083 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> <tr> <td>ISO</td> <td>1.0 mm<sup>2</sup></td> <td>2.30-2.40mm</td> <td>.091-.094 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> <tr> <td>PSA FTP 00949_10_00769</td> <td>1.0 mm<sup>2</sup></td> <td>2.10-2.30mm</td> <td>.083-.091 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> <tr> <td>FLR91X-A-XLPO</td> <td>1.0 mm<sup>2</sup></td> <td>2.30-2.40mm</td> <td>.091-.094 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> <tr> <td>PSA FTP 00949_10_00769</td> <td>0.75 mm<sup>2</sup></td> <td>2.25-2.35mm</td> <td>.089-.093 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> <tr> <td>ISO</td> <td>0.75 mm<sup>2</sup></td> <td>2.25-2.35mm</td> <td>.089-.093 in.</td> <td>2.20-2.40mm</td> <td>.087-.094 in.</td> </tr> </tbody> </table>	Wire Type	Wire Size	11. Crimp Height		12. Crimp Width		GXL	18 AWG	2.20-2.40mm	.087-.094 in.	2.50-2.70mm	.098-.106 in.	TXL	18 AWG	1.90-2.10mm	.075-.083 in.	2.20-2.40mm	.087-.094 in.	ISO	1.0 mm <sup>2</sup>	2.30-2.40mm	.091-.094 in.	2.20-2.40mm	.087-.094 in.	PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>	2.10-2.30mm	.083-.091 in.	2.20-2.40mm	.087-.094 in.	FLR91X-A-XLPO	1.0 mm <sup>2</sup>	2.30-2.40mm	.091-.094 in.	2.20-2.40mm	.087-.094 in.	PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>	2.25-2.35mm	.089-.093 in.	2.20-2.40mm	.087-.094 in.	ISO	0.75 mm <sup>2</sup>	2.25-2.35mm	.089-.093 in.	2.20-2.40mm	.087-.094 in.
	Wire Type	Wire Size	11. Crimp Height		12. Crimp Width																																												
	GXL	18 AWG	2.20-2.40mm	.087-.094 in.	2.50-2.70mm	.098-.106 in.																																											
	TXL	18 AWG	1.90-2.10mm	.075-.083 in.	2.20-2.40mm	.087-.094 in.																																											
	ISO	1.0 mm <sup>2</sup>	2.30-2.40mm	.091-.094 in.	2.20-2.40mm	.087-.094 in.																																											
	PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>	2.10-2.30mm	.083-.091 in.	2.20-2.40mm	.087-.094 in.																																											
	FLR91X-A-XLPO	1.0 mm <sup>2</sup>	2.30-2.40mm	.091-.094 in.	2.20-2.40mm	.087-.094 in.																																											
	PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>	2.25-2.35mm	.089-.093 in.	2.20-2.40mm	.087-.094 in.																																											
ISO	0.75 mm <sup>2</sup>	2.25-2.35mm	.089-.093 in.	2.20-2.40mm	.087-.094 in.																																												
<b>Pull Force</b>	<table border="1"> <thead> <tr> <th>Wire Type</th> <th>Wire Size</th> <th colspan="2">Minimum Force</th> </tr> </thead> <tbody> <tr> <td>GXL</td> <td>18 AWG</td> <td>90 N</td> <td>20.3 lb.</td> </tr> </tbody> </table>	Wire Type	Wire Size	Minimum Force		GXL	18 AWG	90 N	20.3 lb.																																								
	Wire Type	Wire Size	Minimum Force																																														
GXL	18 AWG	90 N	20.3 lb.																																														

## FA2 Crimp Applicator for MX150 18 Grip Blade Terminals

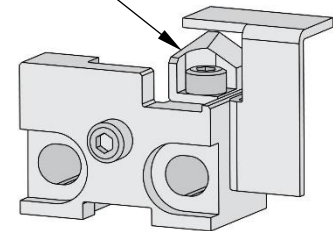
	TXL	18 AWG	90 N	20.3 lb.	To be measured with no influence from the insulation crimp.
	ISO	1.0 mm <sup>2</sup>	90 N	20.3 lb.	
	PSA FTP 00949_10_00769	1.0 mm <sup>2</sup>	90 N	20.3 lb.	
	FLR91X-A-XLPO	1.0 mm <sup>2</sup>	120 N	27.0 lb.	
	PSA FTP 00949_10_00769	0.75 mm <sup>2</sup>	115 N	25.9 lb.	
	ISO	0.75 mm <sup>2</sup>	120 N	27.0 lb.	
	FLR91X-A-XLPO	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>	0.20-0.30mm (.008-.012")				
<b>15. Crimp Bulge</b>	2.65mm (.104") 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.

### 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.

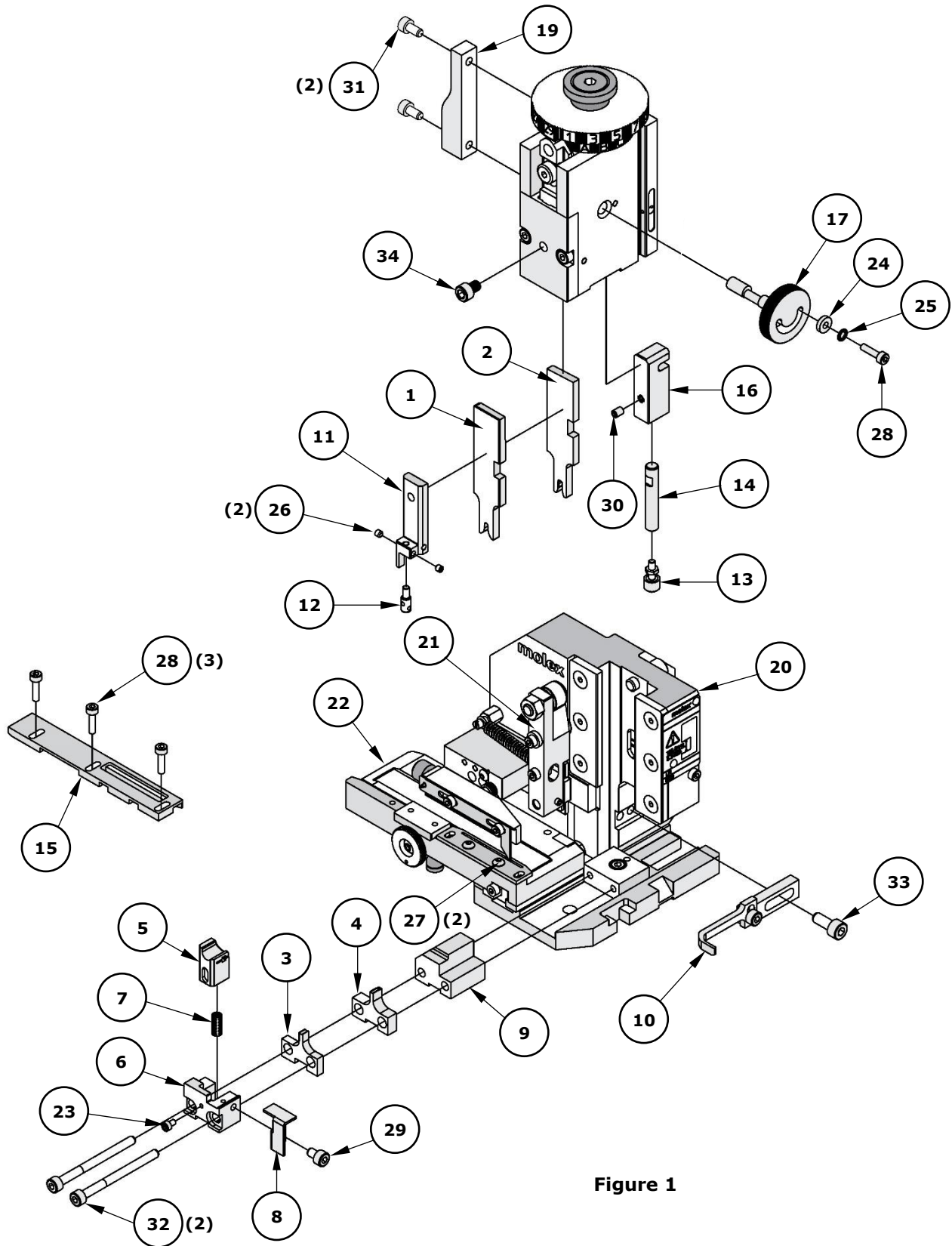
**CAUTION:** To prevent injury, never operate this applicator without the guards supplied with the press or wire-processing machine in place. Reference the press or wire processing manufacturer's instruction manual.

**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>Applicator 63808-2900</b>				
<b>Item</b>	<b>Order No.</b>	<b>Engineering No.</b>	<b>Description</b>	<b>Quantity</b>
<b>Perishable Tooling</b>				
	63808-2970	63808-2970	Tool Kit (All "Y" Items)	Ref
1	63454-0048	63454-0048	Insulation Punch	1 Y
2	63457-0117	63457-0117	Conductor Punch	1 Y
3	63456-0124	63456-0124	Insulation Anvil	1 Y
4	63455-0145	63455-0145	Conductor Anvil	1 Y
5	63443-0034	63443-0034	Cut-Off 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 Chute	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	63443-7403	63443-7403	Hold Down Block	1
17	63808-0229	63808-0229	Bend Adjust Dial	1
18				
19	63808-0297	63808-0297	Feed Cam	1
<b>Frame</b>				
20	63808-0200	63808-0200	Applicator Core	1
21	63808-0197	63808-0197	Mechanical Feed	1
22	63808-0190	63808-0190	Track	1
<b>Hardware</b>				
23	—	—	M2.5 x 4 SHCS	1*
24	—	—	M3 Flat Washer Hard	1*
25	—	—	M3 Inner Tooth Lock Washer	1*
26	—	—	M3 x 3 SSS	2*
27	—	—	M3 x 6 BHCS	2*
28	—	—	M3 x 12 SHCS	4*
29	—	—	M4 x 6 SHCS	1*
30	—	—	M4 x 6 SSS	1*
31	—	—	M4 x 8 SHCS	2*
32	—	—	M4 x 50 SHCS	2*
33	—	—	M5 x 12 SHCS	2*
34	—	—	#10-32UNF x .25" SHCS	1*
*Fastener parts can be purchased through most industrial suppliers by using the description in the table above.				

**ASSEMBLY DRAWING**



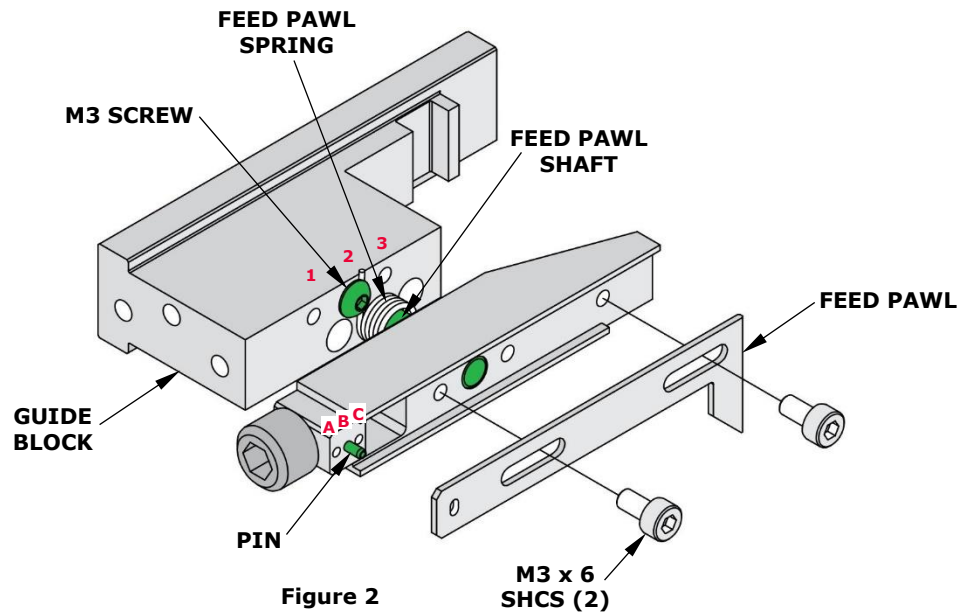
**Figure 1**

## FACTORY SETTINGS

### Feed Pawl Assembly

The FA2 applicator number 63808-2900 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 2.
- The pin is in position B.

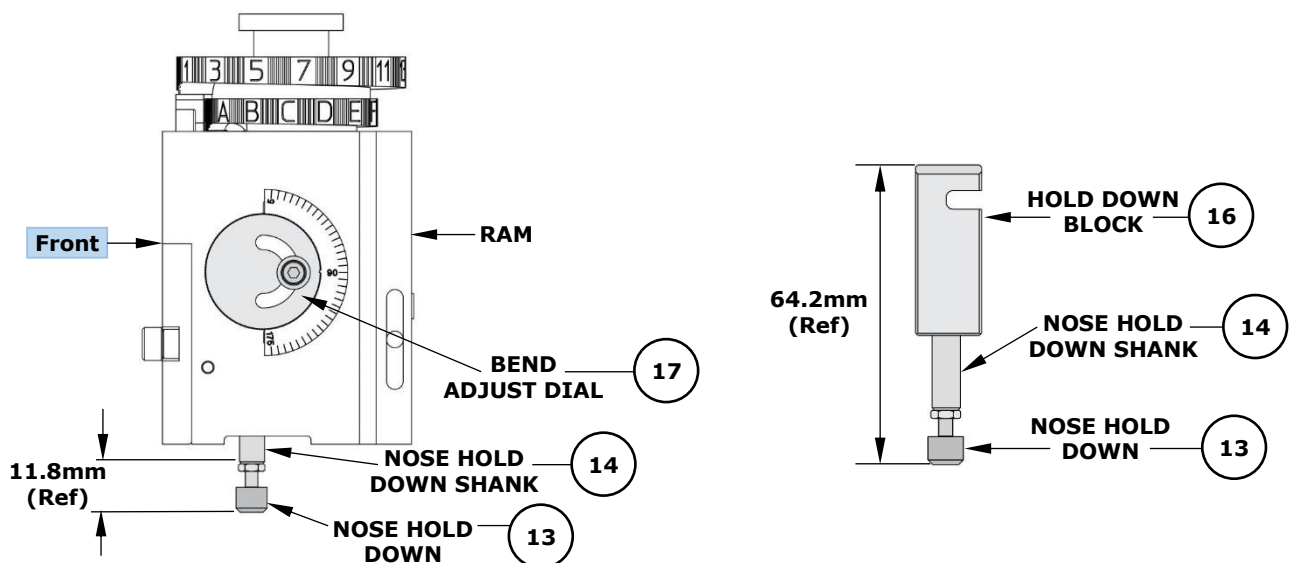


#### Note

This information is included as a reference only. 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



**Application Tooling Support**

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

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

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

Molex is a registered trademark of Molex, LLC in the United States of America and may be registered in other countries; all other trademarks listed herein belong to their respective owners.