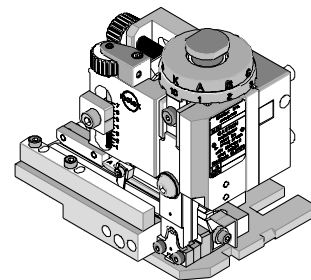




## Mini-Mac Applicator Application Tooling Specification Mechanical Feed-Metal Strip Order No. 63881-0200



### FEATURES

- Directly adapts to most crimp presses and automatic wire processors
- Applicator designed to industry-standard mounting and shut height of 135.80mm (5.346")
- Conductor and insulation rings allow quick adjustment for conductor and insulation crimp height change
- Quick set-up time; plus the crimp height, track and feed adjustments can be set without removing the applicator from the crimp press

### SCOPE

Products: Avikrimp®.250, .205, and .187 Tab FIQD Terminals 14-16 AWG

#### Testing

##### Mechanical

The tensile test, or pull test, is a means of evaluating the mechanical properties of the crimped connections. The following chart shows the UL and government specifications (MIL-T-7928) for various wire sizes. The tensile strength is shown in pounds and indicates the minimum acceptable force to break or separate the terminal from the conductor.

Color Code	Wire Size (AWG)	*UL - 486 A	*UL - 486 C	*UL - 310	*Military Class 2
Yellow	26	3	N/A	N/A	7
Yellow	24	5	N/A	N/A	10
Red	22	8	8	8	15
Red	20	13	10	13	19
Red	18	20	10	20	38
Blue	16	30	15	30	50
Blue	14	50	25	50	70
Yellow	12	70	35	70	110
Yellow	10	80	40	80	150
Red	8	90	45	N/A	225
Blue	6	100	50	N/A	300

\*UL - 486 A - Terminals (Copper conductors only)

\*UL - 486 C - Butt Splices, Parallel Splices, Closed End Connectors, and Wire Nuts

\*UL - 310 - Quick Disconnects, Flag and Couplers

\*Military Class 2- Military Approved Terminals only as listed

## Product List

The following is a partial list of the product order numbers and their specifications that this tool is designed to run. Updates to this list are available on [www.molex.com](http://www.molex.com).

Terminal No.	Terminal Eng. No.	Wire Size		Insulation Diameter Max.		Strip Length	
		AWG	mm <sup>2</sup>	mm	In.	mm	In.
19002-0030	BB-5269Z	14-16	2.00-1.30	3.94	.155	6.35	.250
19002-0033	BB-5273Z	14-16	2.00-1.30	3.94	.155	6.35	.250
19002-0041	BB-5287Z	14-16	2.00-1.30	3.94	.155	6.35	.250
19002-0061	BB-5289Z	14-16	2.00-1.30	3.94	.155	6.35	.250

Note: To process these terminals, assemble spacers with cutoff tooling as shown in Figure 1.  
See also parts list and assembly drawing.

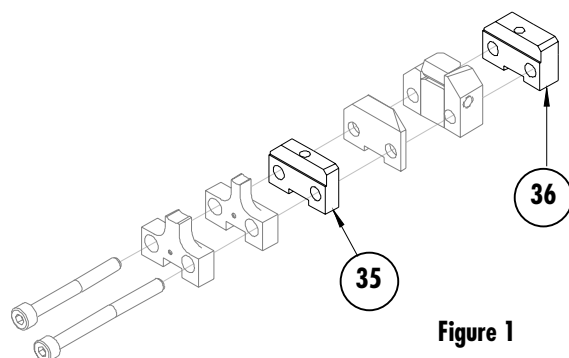


Figure 1

Terminal No.	Terminal Eng. No.	Wire Size		Insulation Diameter Max.		Strip Length	
		AWG	mm <sup>2</sup>	mm	In.	mm	In.
19002-0027	BB-5263Z	14-16	2.00-1.30	3.94	.155	6.35	.250

Note: To process this terminal, assemble spacers with cutoff tooling as shown in Figure 2.  
See also parts list and assembly drawing.

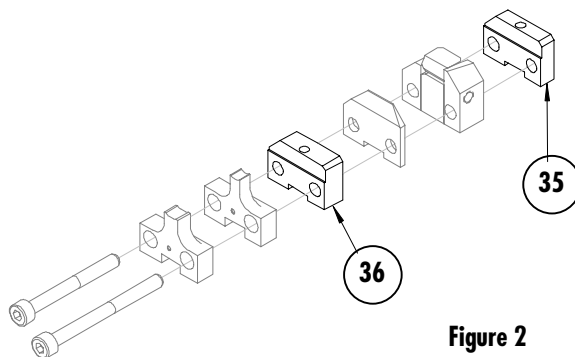


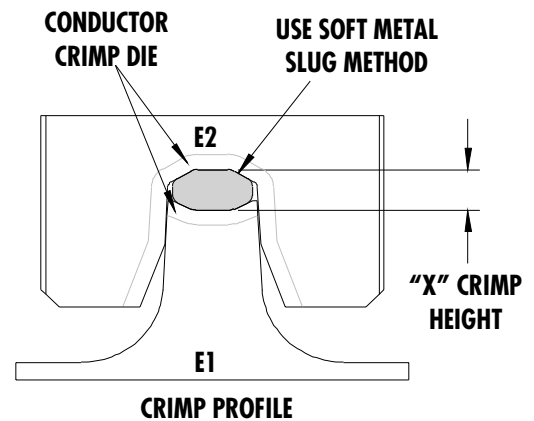
Figure 2

## Tool Calibration

To recalibrate this applicator, make sure the power is completely shut off on the press.

1. The Mini-Mac applicator must be properly installed in the press.
2. Crimping dies must be properly installed in the Mini-Mac applicator.
3. The recommended method of measuring the crimp height of the conductor dies is the soft metal slug method, (See Figure 3).
4. The slug must have a diameter 0.51 mm (.020") larger than the "X" No Go dimension before crimping.
5. Place the soft metal slug (solder) into the nest of the bottom die and crimp (by hand cycling the press) similar to a terminal. The crimp height can be measured with a blade type micrometer or dial caliper, (Dimension "X").
6. Adjustment of the crimp height can be accomplished by indexing the conductor cam. The letter "A" gives the loosest position and "K" gives the tightest position. A total adjustment of 0.50mm (.020") can be achieved by adjusting the conductor cam.

Note: If the crimp height is too tight on the setting "A", check the shut height of the press. See the Industrial Mini-Mac Applicator Manual Section 2.1 for adjustments.



Use soft metal slug (solder) method to measure the "X" dimension. Verify tooling crimp height calibration by referring to the Go/No Go dimensions shown in the chart below.

Figure 3

## CRIMP SPECIFICATIONS

Wire Size		"X" Dimension Conductor Crimp						Pull Force Min.	
AWG	mm <sup>2</sup>	Mean		Go		No Go		Lbs	N
		In	mm	In	mm	In	mm		
16	1.30	.116	2.95	.113	2.87	.120	3.05	30.0	133.5
14	2.00	.116	2.95	.113	2.87	.120	3.05	50.0	222.6

Terminal Series No.	Cut-off Tab Max.	
	mm	In.
19002-00**	0.38	.015

Pull Force should be measured with no influence from the insulation crimp. The above specifications are guidelines to an optimum crimp.

## DEFINITION OF TERMS

The following illustrations are a generic terminal representation and not an exact image of any terminal listed in the scope.

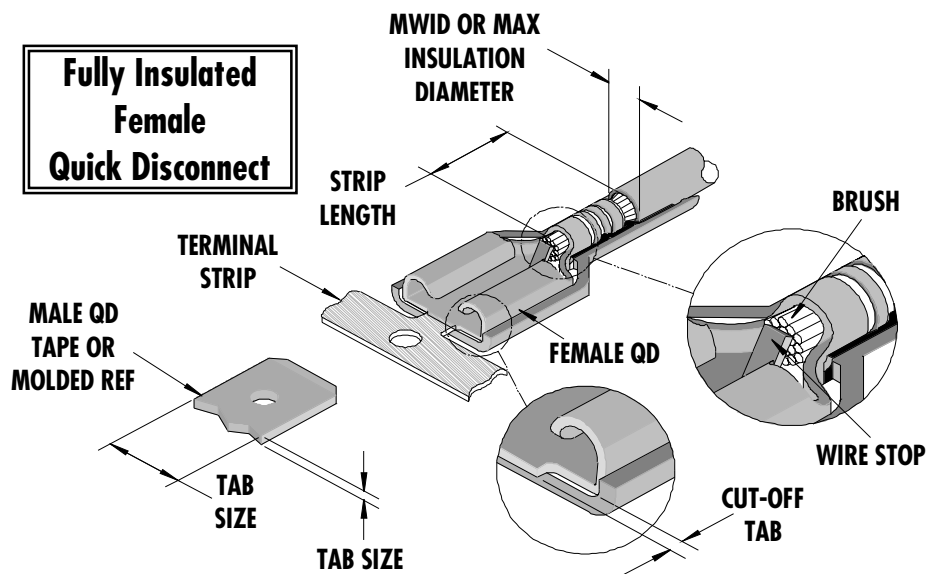


Figure 4

## PARTS LIST

Mini-Mac Applicator 63881-0200				
Item	Order No	Engineering No.	Description	Quantity
<b>Perishable Tooling</b>				
	<b>63881-0270</b>	<b>63881-0270</b>	<b>Tool Kit (All "Y" Items)</b>	<b>REF</b>
1	63465-0008	63465-0008	Conductor Punch	1 Y
2	63464-0008	63464-0008	Conductor Anvil	1 Y
3	63463-0004	63463-0004	Insulation Punch	1 Y
4	63462-0005	63462-0005	Insulation Anvil	1 Y
12	63466-0201	63466-0201	Cut-off Plunger Rear	1 Y
14	63466-0301	63466-0301	Rear Plunger Retainer	1 Y
16	63466-0002	63466-0002	Cut-Off Blade	1 Y
<b>Other Components (REF 10250)</b>				
22	63466-0403	63466-0403	Cut-off Plunger Striker (Rear)	1
24	63466-0101	63466-0101	Scrap Chute	1
25	63700-0539	63700-0539	Cut-Off Plunger Spring	1
33	63443-0021	63443-0021	Lower Tooling Key	1
* 35	63466-1054	63466-1054	Spacer	1
* 36	63466-1075	63466-1075	Spacer	1
42	63466-0921	63466-0921	Terminal Stripping Blade	1
51	63600-1290	63600-1290	Washer	1
52	63890-0866	63890-0866	Collar-6.40 Lg.	1
53	63890-0867	63890-0867	Collar-7.70 Lg.	1
72	63801-4510	63801-4510	Terminal Guide Front	1
96	63600-0110	63600-0110	M4 Washer, 3mm Thick	1
<b>Frame</b>				
81	63801-3201	63801-3201	Mechanical Feed Applicator Frame Head	REF
82	63801-3281	63801-3281	Base	REF
83	63801-4550	63801-4550	Track Assembly	REF
<b>Hardware</b>				
91	N/A	N/A	M4 by 10 Lg SHCS	2**
92	N/A	N/A	M4 by 12 Lg SHCS	1**
93	N/A	N/A	M4 by 20 Lg SHCS	4**
94	N/A	N/A	M4 by 40 Lg. SHCS	1**
95	N/A	N/A	M4 by 45 Lg. SHCS	1**
97	N/A	N/A	M8 by 30 Lg. BHCS	1**
98	N/A	N/A	3mm by 6 Lg. Roll Pin	1**

\*\* Available from an industrial supply company such as MSC (1-800-645-7270).

\* See spacer assembly notes on page 2.

**Note:** Crimp profiles used in 63881-0200 are equivalent to, 19292-0003/MMZ-BB-522, 19807-2001, 19287-0063/ASP-BB-5221087, and 19287-0068/ASP-BB-522250 (UL file number E79133).

# Assembly Drawing

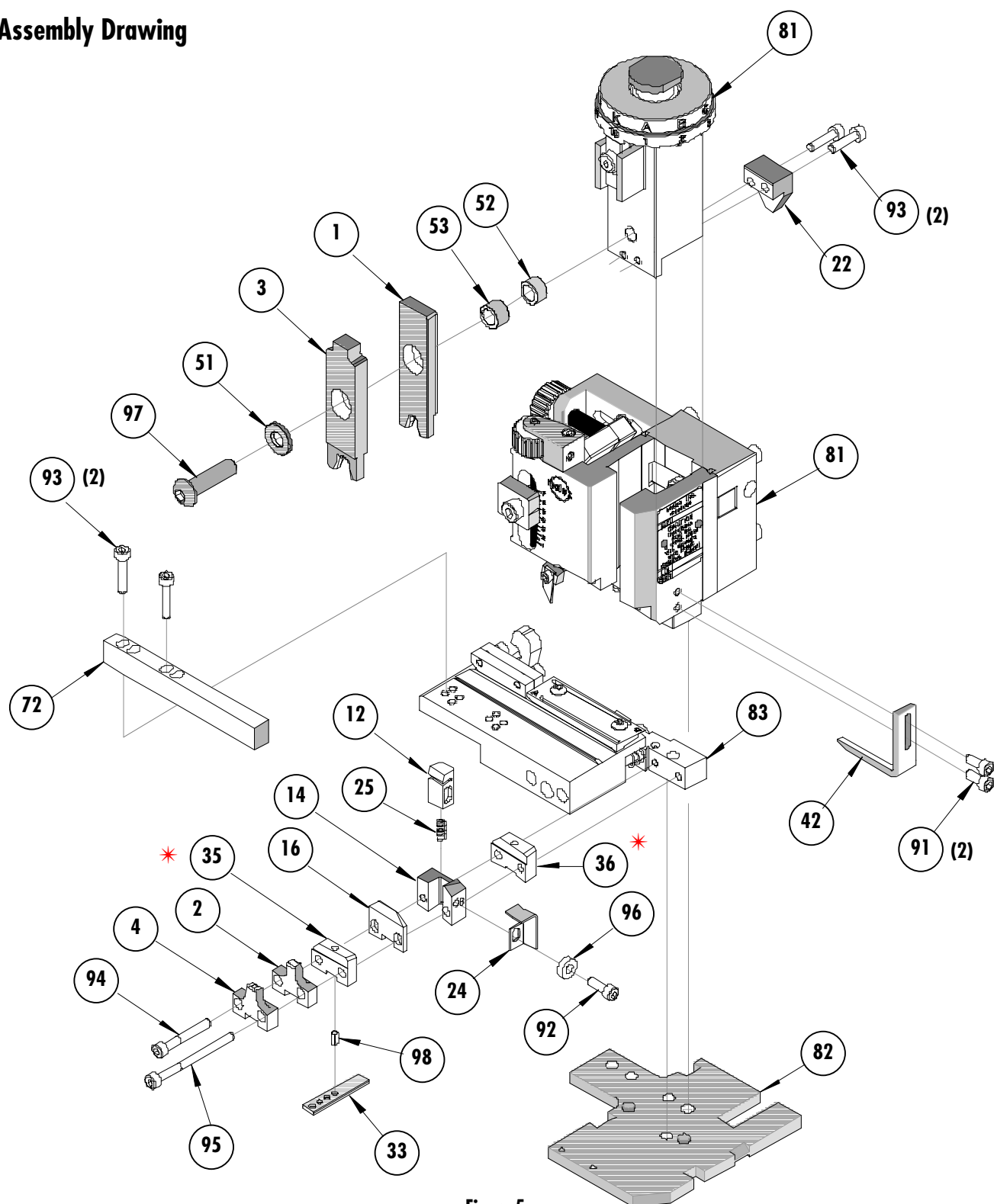


Figure 5

\* See spacer assembly notes on page 2.

## NOTES

1. Molex recommends an extra perishable tooling kit be maintained at your facility.
2. Verify tooling alignment by manually cycling the press with applicator before crimping under power. Check that all screws are tight.
3. Slugs, terminals, dirt, and oil should be kept clear of work area.
4. Wear safety glasses at all times.
5. For recommended maintenance refer to the Mini-Mac Applicator Manual (Document no. 63880-0000).

**CAUTION:** This applicator should only be used in a press with a shut height of 135.80 mm (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 crimp specifications are valid only when used with Molex terminals, applicators and tooling.

## Contact Information

For more information on Molex application tooling please contact Molex at 1-800-786-6539.

### **Molex Application Tooling Group**

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