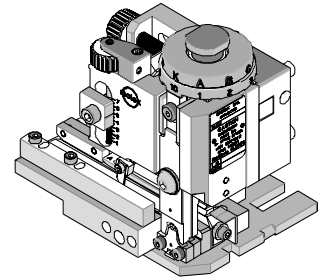




## Mini-Mac Applicator Application Tooling Specification Mechanical Feed-Metal Strip Order No. 63881-5600



### 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: Metal strip, open barrel Star Ring and Ring Tongue Terminals 12-18 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.  |
| 19084-0001   | SRZ-0129-06       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0002   | SRZ-0129-08       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0003   | SRZ-0129-10       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0004   | SRZ-4129-06       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0005   | SRZ-4129-08       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0006   | SRZ-4129-10       | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0007   | SRZ-S-4129-06     | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0008   | SRZ-S-4129-08     | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19084-0009   | SRZ-S-4129-10     | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0001   | RZ-0129-06        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0002   | RZ-0129-08        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0003   | RZ-0129-10        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0004   | RZ-4129-06        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0005   | RZ-4129-08        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0006   | RZ-4129-10        | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0007   | RZ-S-4129-06      | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0008   | RZ-S-4129-08      | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |
| 19085-0009   | RZ-S-4129-10      | 14-18     | 2.00-0.80       |                          |     | 6.35         | .250 |

Note: 14-18 AWG terminals also accept 12 AWG.

## DEFINITION OF TERMS

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

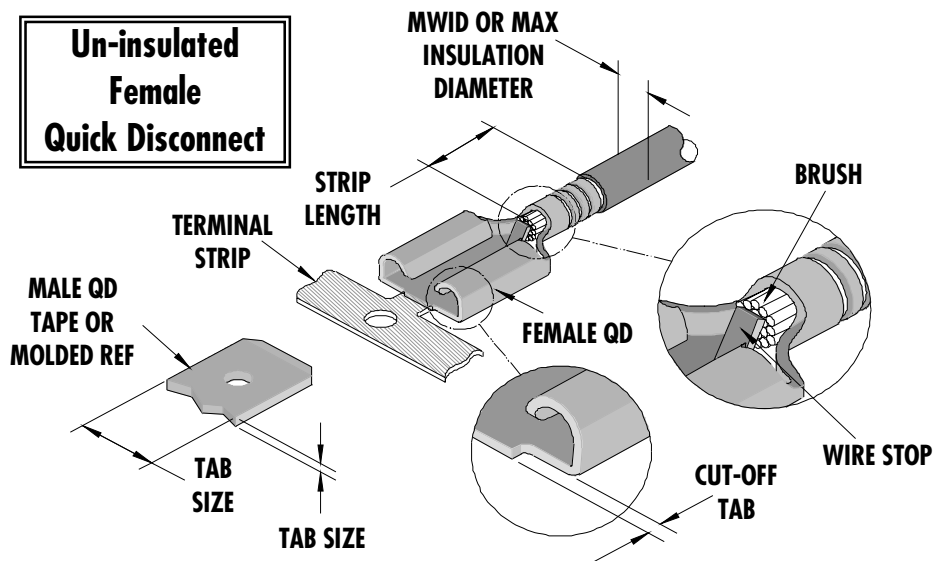


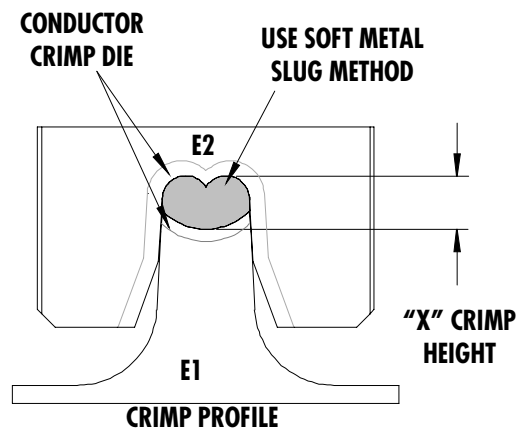
Figure 1

## 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 2).
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 2

## 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   |                 |       |
| 12        | 3.30            | .085                          | 2.16 | .083 | 2.10 | .088  | 2.23 | 70.0            | 311.4 |
| 14        | 2.00            | .085                          | 2.16 | .083 | 2.10 | .088  | 2.23 | 50.0            | 222.4 |
| 16        | 1.30            | .085                          | 2.16 | .083 | 2.10 | .088  | 2.23 | 30.0            | 133.4 |
| 18        | 0.80            | .085                          | 2.16 | .083 | 2.10 | .088  | 2.23 | 20.0            | 89.0  |

| Terminal Series No. | Cut-off Tab Max. |      |
|---------------------|------------------|------|
|                     | mm               | In.  |
| 19084-00**          | 0.50             | .020 |
| 19085-00**          | 0.50             | .020 |

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

**PARTS LIST**

| <b>Mini-Mac Applicator 63881-5600</b>  |                   |                        |                                       |                 |
|--|-------------------|------------------------|---------------------------------------|-----------------|
| <b>Item</b>  | <b>Order No</b>   | <b>Engineering No.</b> | <b>Description</b>                    | <b>Quantity</b> |
| <b>Perishable Tooling</b>  |                   |                        |                                       |                 |
|  | <b>63881-5670</b> | <b>63881-5670</b>      | <b>Tool Kit (All "Y" Items)</b>       | <b>REF</b>      |
| 1  | 63468-0017        | 63468-0017             | Conductor Punch                       | 1 Y             |
| 2  | 63464-0017        | 63464-0017             | Conductor Anvil                       | 1 Y             |
| 3  | 63463-0017        | 63463-0017             | Insulation Punch                      | 1 Y             |
| 4  | 63462-0017        | 63462-0017             | 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 15550)</b>  |                   |                        |                                       |                 |
| 22   | 63466-0404        | 63466-0404             | Cut-off Plunger Striker (Rear)        | 1               |
| 24   | 63466-0101        | 63466-0101             | Scrape Chute                          | 1               |
| 25   | 63700-0539        | 63700-0539             | Cut-Off Plunger Spring                | 1               |
| 33   | 63443-0021        | 63443-0021             | Lower Tooling Key                     | 1               |
| 35   | 63466-1040        | 63466-1040             | Spacer                                | 1               |
| 36   | 63466-1089        | 63466-1089             | Spacer                                | 1               |
| 45   | 11-18-4080        | 60707-5                | Wire Stop                             | 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               |
| 95   | 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 12 Lg SHCS                      | 1**             |
| 92   | N/A               | N/A                    | M4 by 20 Lg SHCS                      | 4**             |
| 93   | N/A               | N/A                    | M4 by 45 Lg. SHCS                     | 1**             |
| 94   | N/A               | N/A                    | M4 by 50 Lg. SHCS                     | 1**             |
| 96   | N/A               | N/A                    | M5 by 14 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). |                   |                        |                                       |                 |

**Note:** Crimp profiles used in 63881-5600 are equivalent to 19031-0069/MMZ-Z-410 and 19029-0053/ASP-Z-410 (UL file number E32244).

### Assembly Drawing

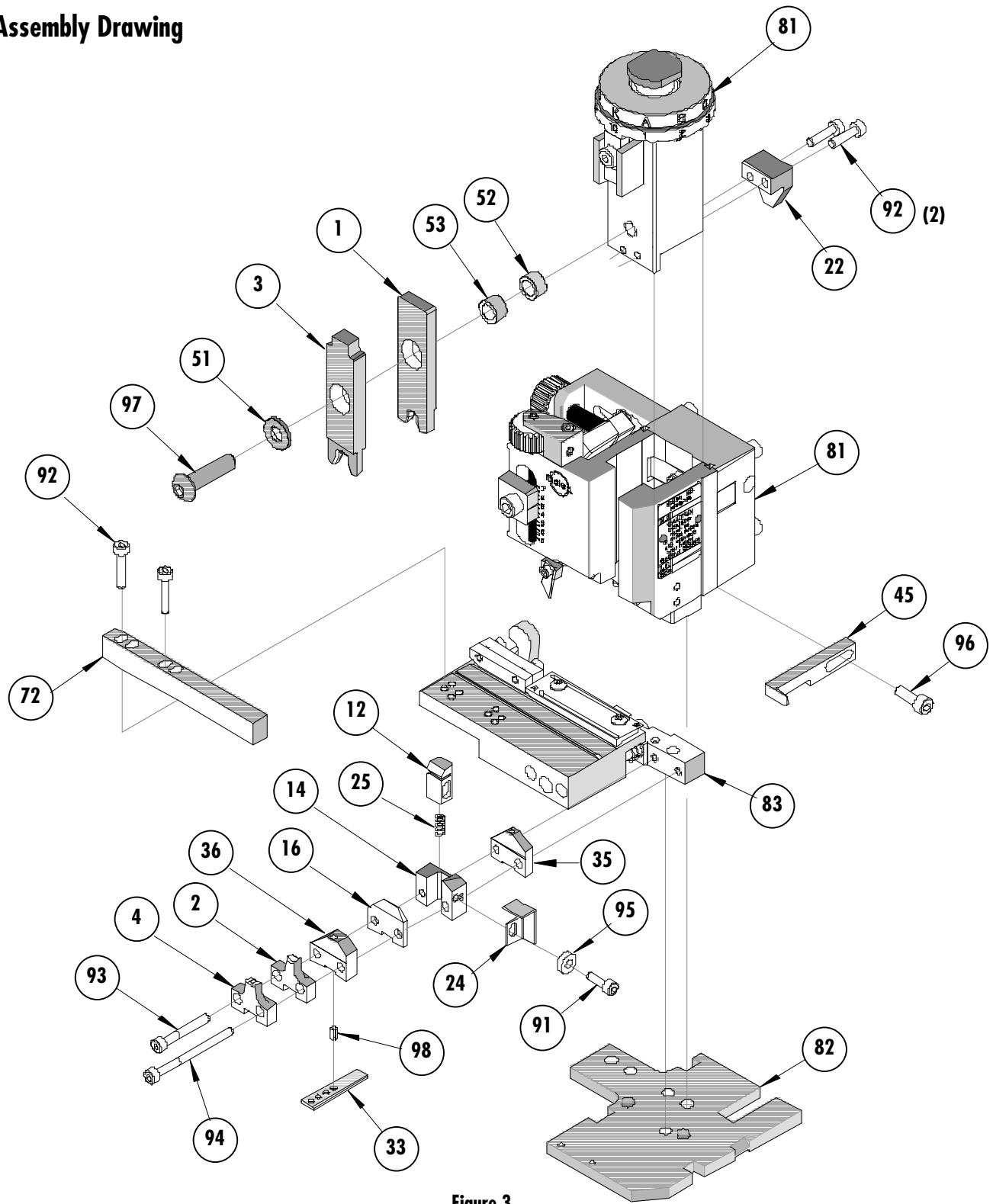


Figure 3

## 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

1150 E. Diehl Road  
Naperville, IL 60563  
Tel: (630) 969-4550  
Fax: (630) 505-0049

Visit our Web site at <http://www.molex.com>