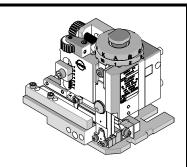


# **Mini-Mac Applicator Application Tooling Specification Mechanical Feed-Metal Strip** Order No. 63881-2200



#### **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® Female expanded flare - Oval barrel FIQD Terminals 10-12 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<br>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                  |

<sup>\*&</sup>lt;u>UL - 486 A</u> - Terminals (Copper conductors only)

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

<sup>\*</sup>UL - 310 - Quick Disconnects, Flag and Couplers

<sup>\*</sup>Military Class 2- Military Approved Terminals only as listed

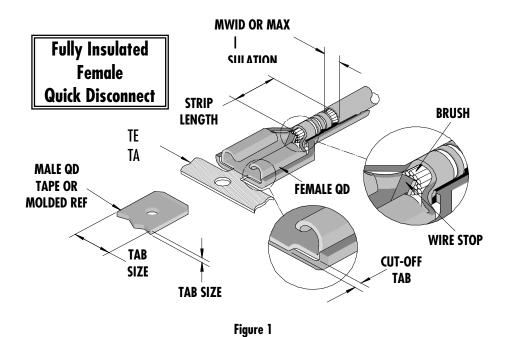
#### **Product List**

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 <a href="https://www.molex.com">www.molex.com</a>.

| Terminal No. | Terminal Eng. No. | Wire Size |           | Insulation Di | Strip Length |      |      |
|--------------|-------------------|-----------|-----------|---------------|--------------|------|------|
|              |                   | AWG       | mm²       | mm            | ln.          | mm   | ln.  |
| 19002-0046   | C-5265Z           | 12-10     | 3.30-5.25 | 6.22          | .245         | 7.92 | .312 |

#### **DEFINITION OF TERMS**

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



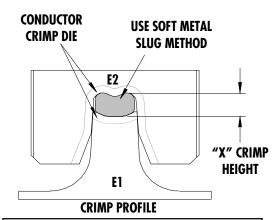
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#### **Tool Calibration**

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

- The Mini-Mac applicator must be properly installed in the press.
- 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 0.51mm (.020") larger than the "X" No Go dimension before crimping.
- 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       | mm²  | Mean                          |      | Go   |      | No Go |      | I h a           | N     |  |
|           |      | In                            | mm   | In   | mm   | In    | mm   | Lbs             | N     |  |
| 12        | 3.30 | .123                          | 3.12 | .120 | 3.05 | .127  | 3.23 | 70.0            | 311.4 |  |
| 10        | 5.25 | .123                          | 3.12 | .120 | 3.05 | .127  | 3.23 | 80.0            | 355.9 |  |

| Terminal Series No. | Cut-off Tab Max. |      |  |
|---------------------|------------------|------|--|
| Terminur Series No. | mm               | ln.  |  |
| 19002-0046          | 0.38             | .015 |  |

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

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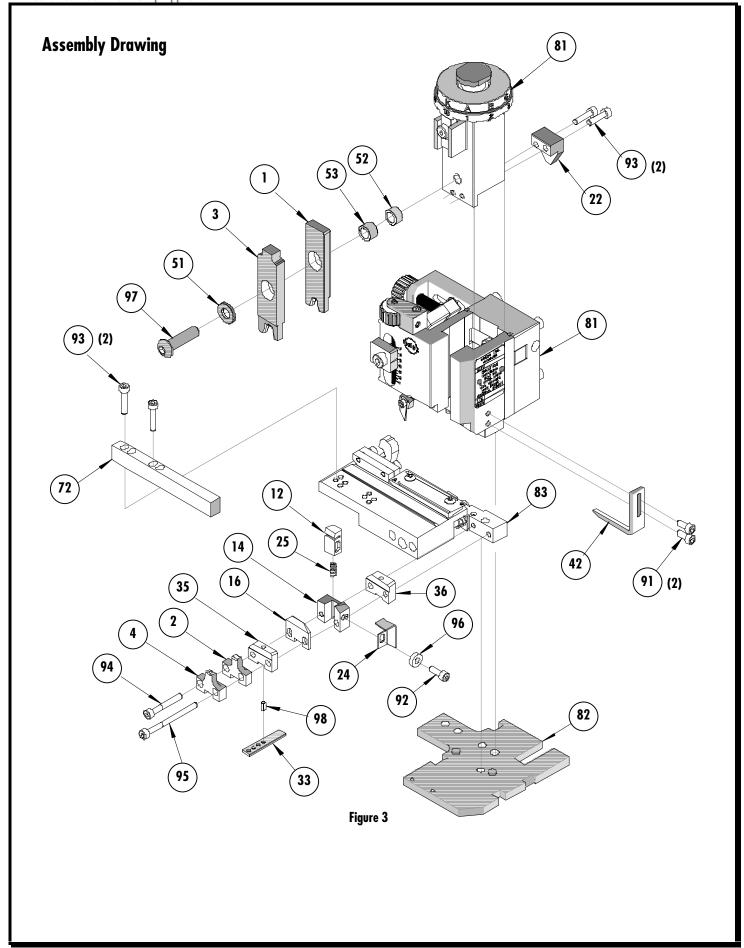
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## **PARTS LIST**

| Mini-Mac Applicator 63881-2200   |                               |                 |                                       |          |  |  |  |  |
|--|-------------------------------|-----------------|---------------------------------------|----------|--|--|--|--|
| ltem   | Order No                      | Engineering No. | Description                           | Quantity |  |  |  |  |
| Perishable Tooling   |                               |                 |                                       |          |  |  |  |  |
|  | 63881-2270                    | 63881-2270      | Tool Kit (All "Y" Items)              | REF      |  |  |  |  |
| 1  | 63465-0022                    | 63465-0022      | Conductor Punch                       | 1 Y      |  |  |  |  |
| 2  | 63464-0021                    | 63464-0021      | Conductor Anvil                       | 1 Y      |  |  |  |  |
| 3  | 63463-0021                    | 63463-0021      | Insulation Punch                      | 1 Y      |  |  |  |  |
| 4  | 63462-0023                    | 63462-0023      | 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      |  |  |  |  |
|  | Other Components (Ref. 12150) |                 |                                       |          |  |  |  |  |
| 22   | 63466-0404                    | 63466-0404      | 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   | 63466-1040                    | 63466-1089      | Spacer                                | 1        |  |  |  |  |
| 36   | 63466-1089                    | 63466-1040      | Spacer                                | 1        |  |  |  |  |
| 42   | 63466-0921                    | 63466-0921      | Terminal Stripping Blade              | 1        |  |  |  |  |
| 51   | 63600-1290                    | 63600-1290      | Washer                                | 1        |  |  |  |  |
| 52   | 63890-0866                    | 63890-0866      | Collar-6.40mm Lg.                     | 1        |  |  |  |  |
| 53   | 63890-0867                    | 63890-0867      | Collar-7.70mm Lg.                     | 1        |  |  |  |  |
| 72   | 63801-4510                    | 63801-4510      | Terminal Guide Front                  | 1        |  |  |  |  |
| 96   | 63600-0110                    | 63600-0110      | M4 Washer, 3mm Thick                  | 1        |  |  |  |  |
|  |                               |                 | Frame                                 |          |  |  |  |  |
| 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      |  |  |  |  |
|  | Hardware                      |                 |                                       |          |  |  |  |  |
| 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 45 Lg. SHCS                     | 1**      |  |  |  |  |
| 95   | N/A                           | N/A             | M4 by 50Lg. 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 63881-2200 are equivalent to 19807-2002 (UL file number E79133).

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#### **NOTES**

- Molex recommends an extra perishable tooling kit be maintained at your facility.
- Verify tooling alignment by manually cycling the press with applicator before crimping under power. Check that all screws are tight.
- 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

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