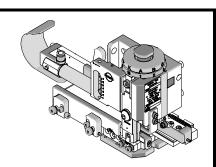


# **Mini-Mac Applicator Application Tooling Specification** Air Feed-Mylar Tape Order No. 63885-2100



#### **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® low profile 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<br>(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>UL - 486 A - 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

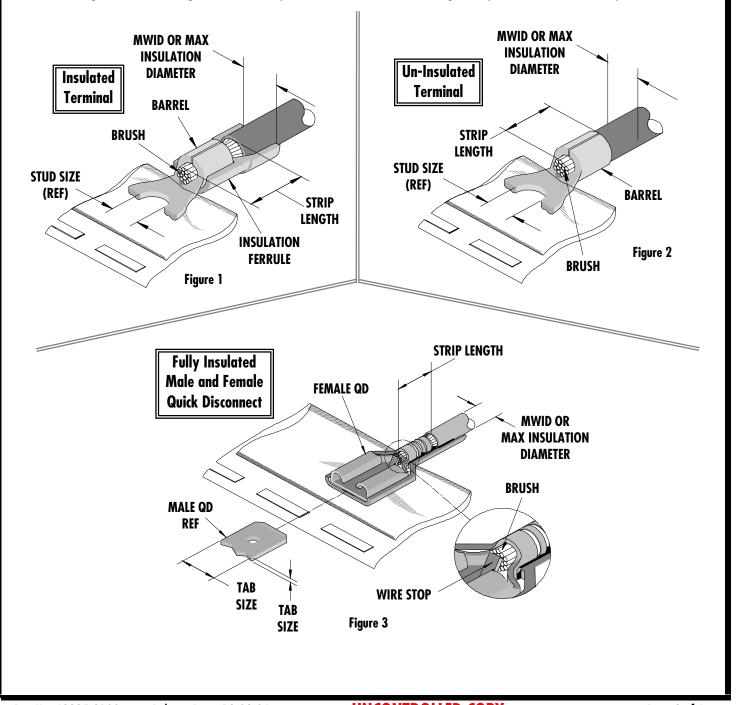
#### **Product List**

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 www.molex.com.

| ľ   | Terminal No. | Terminal   | Wi    | re Size   | Insulation Di | ameter Max. | Strip Length |      |  |
|-----|--------------|------------|-------|-----------|---------------|-------------|--------------|------|--|
| Ien | reminu No.   | Eng. No.   | AWG   | mm²       | mm            | ln.         | mm           | ln.  |  |
|     | 19606-0006   | 19606-0006 | 10-12 | 3.30-5.25 | 5.84          | .230        | .344         | 8.73 |  |

# **DEFINITION OF TERMS**

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



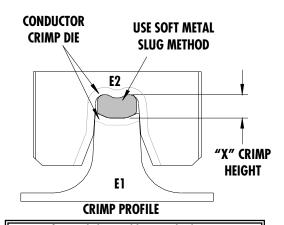
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#### **Tool Calibration**

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 4).
- 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" Dim | ension | Conduc | tor Crin | 1p   | Pull Force Min. |       |  |  |
|-----------|------|------|--------|--------|--------|----------|------|-----------------|-------|--|--|
| AWG       | mm²  | Mean |        | G      | io No  |          | Go   | Lbs             | N     |  |  |
| AWG       |      | In   | mm     | ln     | mm     | ln       | mm   | rn2             | N     |  |  |
| 10        | 5.25 | .114 | 2.90   | .111   | 2.82   | .117     | 2.97 | 80.0            | 355.9 |  |  |
| 12        | 3.30 | .114 | 2.90   | .111   | 2.82   | .117     | 2.97 | 70.0            | 311.4 |  |  |

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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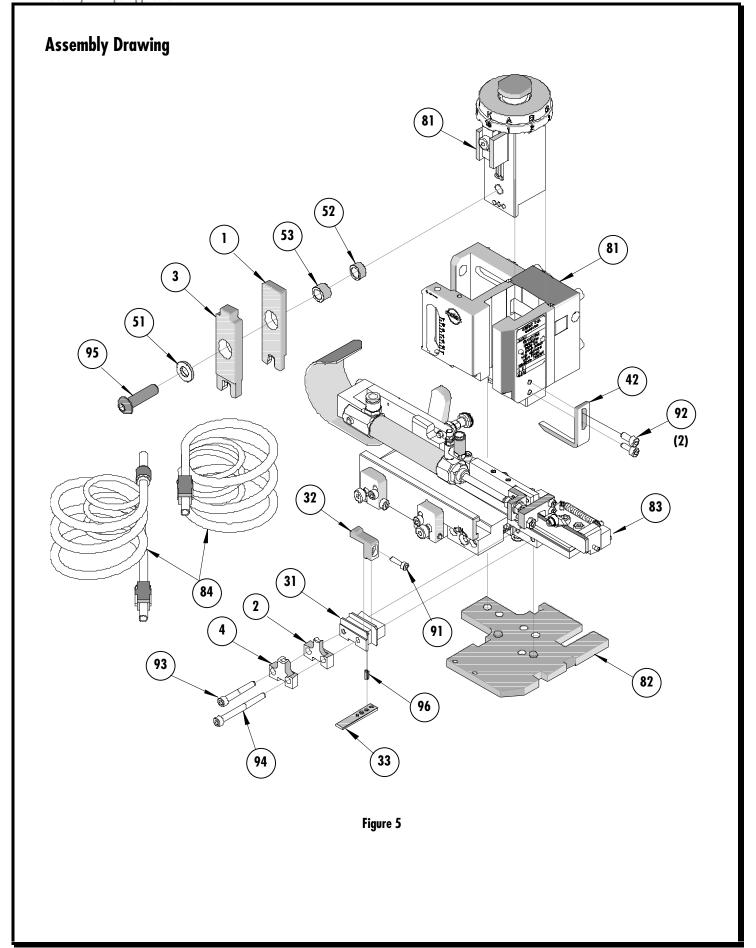
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# **PARTS LIST**

| Mini-Mac Applicator 63885-2100   |            |                 |                                |          |  |  |  |  |  |
|--|------------|-----------------|--------------------------------|----------|--|--|--|--|--|
| Item   | Order No   | Engineering No. | Description                    | Quantity |  |  |  |  |  |
| Perishable Tooling   |            |                 |                                |          |  |  |  |  |  |
|  | 63885-2170 | 63885-2170      | Tool Kit (All "Y" Items)       | REF      |  |  |  |  |  |
| 1  | 63465-0023 | 63465-0023      | Conductor Punch                | 1 Y      |  |  |  |  |  |
| 2  | 63464-0022 | 63464-0022      | Conductor Anvil                | 1 Y      |  |  |  |  |  |
| 3  | 63463-0022 | 63463-0022      | Insulation Punch               | 1 Y      |  |  |  |  |  |
| 4  | 63462-0024 | 63462-0024      | Insulation Anvil               | 1 Y      |  |  |  |  |  |
| Other Components (Ref. 50050)  |            |                 |                                |          |  |  |  |  |  |
| 31   | 63466-0912 | 63466-0912      | Anvil Mount                    | 1        |  |  |  |  |  |
| 32   | 63466-0913 | 63466-0913      | Terminal Support               | 1        |  |  |  |  |  |
| 33   | 63443-0021 | 63443-0021      | Lower Tooling Key              | 1        |  |  |  |  |  |
| 42   | 63466-0921 | 63466-0921      | Terminal Stripping Blade       | 1        |  |  |  |  |  |
| 51   | 63600-1290 | 63600-1290      | Washer                         | 1        |  |  |  |  |  |
| 52   | 63890-0866 | 63890-0866      | Collar-6.4mm Lg.               | 1        |  |  |  |  |  |
| 53   | 63890-0867 | 63890-0867      | Collar-7.7mm Lg.               | 1        |  |  |  |  |  |
|  |            | Fr              | ame                            |          |  |  |  |  |  |
| 81   | 63801-3301 | 63801-3301      | Air Feed Applicator Frame Head | REF      |  |  |  |  |  |
| 82   | 63801-3281 | 63801-3281      | Base                           | REF      |  |  |  |  |  |
| 83   | 63801-5850 | 63801-5850      | Track Assembly                 | REF      |  |  |  |  |  |
| 84   | 63801-3390 | 63801-3390      | Air Kit                        | REF      |  |  |  |  |  |
|  |            | Har             | dware                          |          |  |  |  |  |  |
| 91   | N/A        | N/A             | M3 by 12 Lg SHCS               | 1**      |  |  |  |  |  |
| 92   | N/A        | N/A             | M4 by 10 Lg SHCS               | 2**      |  |  |  |  |  |
| 93   | N/A        | N/A             | M4 by 16 Lg. SHCS              | ]**      |  |  |  |  |  |
| 94   | N/A        | N/A             | M4 by 45 Lg. SHCS              | ]**      |  |  |  |  |  |
| 95   | N/A        | N/A             | M8 by 30 Lg. BHCS              | ]**      |  |  |  |  |  |
| 96   | 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 63885-2100 are equivalent to 19027-0019 (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
- Slugs, terminals, dirt, and oil should be kept clear of work area. 3.
- 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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Visit our Web site at http://www.molex.com

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