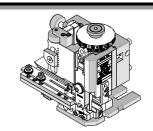
# **Mini-Mac Applicator Mechanical Feed Continuous Molded Strip**



# **Application Tooling Specification Sheet**



Order No. 63883-7000

### **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 cut-off tooling 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: InsulKrimp™ Fully Insulated Quick Disconnect Male and Female Terminals Continuous Molded Strip for 18-22 AWG.

### **Testing**

#### Mechanical

The tensile test, or pull test, is a means of evaluating the mechanical properties of the crimped connections. The following charts show the UL and government specifications (MIL-T-7928) for various wire sizes. The tensile strength is shown in pounds. It 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               |

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

Release Date: 12-07-04 **UNCONTROLLED COPY** Doc No: ATS-638837000 Page 1 of 6 Revision Date: 05-15-12

Revision: D

<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

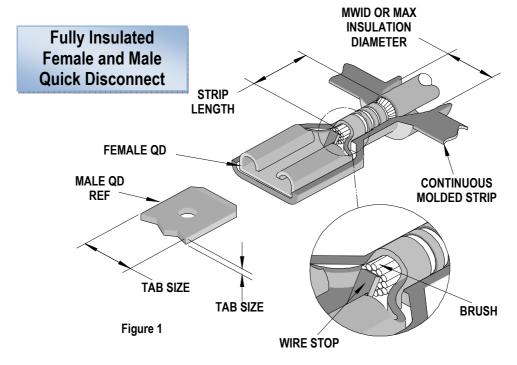
### **Product List**

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. | Tarminal Fran No. | Wire Size |           | Insulation Diameter Maximum |      | Strip Length |      |
|--------------|-------------------|-----------|-----------|-----------------------------|------|--------------|------|
| Terminal No. | Terminal Eng. No. | AWG       | mm²       | mm                          | ln.  | mm           | ln.  |
| 19003-0097   | AA-2204C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0098   | AA-2205C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0105   | AA-2201C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0107   | AA-2202C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0108   | AA-2203C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0109   | AA-2213C          | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0110   | AA-2214C          | 22-18     | 0.35080   | 3.43                        | .135 | 6.35         | .250 |
| 19003-0111   | AA-2201VNC        | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0128   | AA-2202VC         | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19003-0131   | AA-2203VC         | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19023-0052   | 19023-0052        | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19023-0061   | 19023-0061        | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |
| 19276-0001   | AA-2201C-LIF      | 22-18     | 0.35-0.80 | 3.43                        | .135 | 6.35         | .250 |

# **DEFINITION OF TERMS**

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

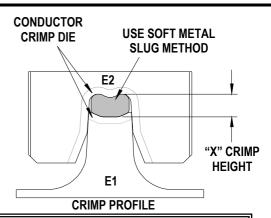


Doc No: ATS-638837000 Revision: D Release Date: 12-07-04 Revision Date: 05-15-12

## **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
- 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 0.51mm (.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").



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

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.

### CRIMP SPECIFICATIONS

| Wire Size |      | "X" Dimension Conductor Crimp |      |      |       |      |      | Pull Force Minimum |      |
|-----------|------|-------------------------------|------|------|-------|------|------|--------------------|------|
| AWG       | mm²  | Mean Go                       |      | iO   | No Go |      | Lbs  | N                  |      |
|           |      | ln                            | mm   | ln   | mm    | ln   | mm   | LDS                | IN   |
| 22        | 0.35 | .098                          | 2.45 | .095 | 2.41  | .103 | 2.62 | 8.0                | 35.6 |
| 20        | 0.50 | .098                          | 2.45 | .095 | 2.41  | .103 | 2.62 | 13.0               | 57.8 |
| 18        | 0.80 | .098                          | 2.45 | .095 | 2.41  | .103 | 2.62 | 20.0               | 90.0 |

### **Tool Qualification Notes:**

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

Release Date: 12-07-04 **UNCONTROLLED COPY** Doc No: ATS-638837000 Page 3 of 6 Revision: D

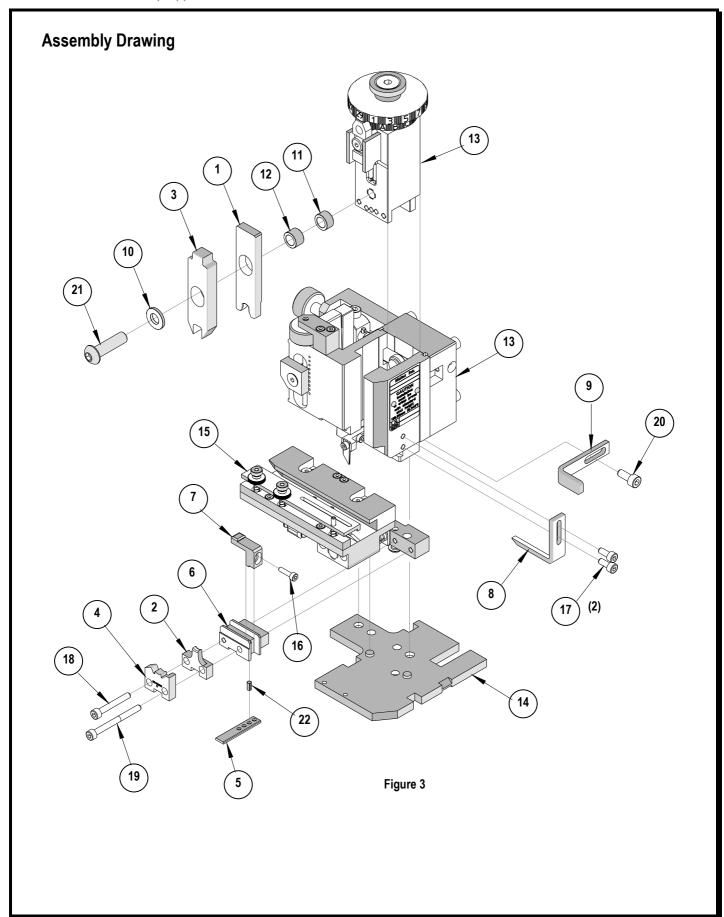
Revision Date: 05-15-12

# **PARTS LIST**

| Mini-Mac Applicator 63883-7000  |  |                 |                            |     |  |  |  |  |  |
|---|--|-----------------|----------------------------|-----|--|--|--|--|--|
| Item  | Order No   | Engineering No. | ngineering No. Description |     |  |  |  |  |  |
| Item Order No Engineering No. Description Quantity   Perishable Tooling |  |                 |                            |     |  |  |  |  |  |
|   | 63883-7070   | 63883-7070      | Tool Kit (All "Y" Items)   | REF |  |  |  |  |  |
| 1   | 63465-0002   | 63465-0002      | Conductor Punch            | 1 Y |  |  |  |  |  |
| 2   | 63464-0002   | 63464-0002      | Conductor Anvil            | 1 Y |  |  |  |  |  |
| 3   | 63469-0001   | 63469-0001      | Cut-off Punch              | 1 Y |  |  |  |  |  |
| 4   | 63462-0041   | 63462-0041      | Cut-off Anvil              | 1 Y |  |  |  |  |  |
|   | Other Components   |                 |                            |     |  |  |  |  |  |
| 5   | 63443-0021   | 63443-0021      | Lower Tooling Key          | 1   |  |  |  |  |  |
| 6   | 63466-0912   | 63466-0912      | Anvil Mount                | 1   |  |  |  |  |  |
| 7   | 63466-0913   | 63466-0913      | Terminal Support           | 1   |  |  |  |  |  |
| 8   | 63466-0921   | 63466-0921      | Terminal Stripping Blade   | 1   |  |  |  |  |  |
| 9   | 63466-0931   | 63466-0931      | Terminal Nose Support      | 1   |  |  |  |  |  |
| 10  | 63600-1290   | 63600-1290      | Washer                     | 1   |  |  |  |  |  |
| 11  | 63890-0866   | 63890-0866      | Collar-6.4 Long            | 1   |  |  |  |  |  |
| 12  | 63890-0868   | 63890-0868      | Collar-9.5 Long            | 1   |  |  |  |  |  |
|   |  | Fran            | ne                         |     |  |  |  |  |  |
| 13  | 63801-3201   | 63801-3201      | Тор                        | 1   |  |  |  |  |  |
| 14  | 63801-3281   | 63801-3281      | Base                       | 1   |  |  |  |  |  |
| 15  | 63801-4450   | 63801-4450      | Track                      | 1   |  |  |  |  |  |
| Hardware  |  |                 |                            |     |  |  |  |  |  |
| 16  | N/A  | N/A             | M3 by 12 Long SHCS         | 1** |  |  |  |  |  |
| 17  | N/A  | N/A             | M4 by 10 Long SHCS         | 2** |  |  |  |  |  |
| 18  | N/A  | N/A             | M4 by 20 Long SHCS         | 1** |  |  |  |  |  |
| 19  | N/A  | N/A             | M4 by 45 Long SHCS         | 1** |  |  |  |  |  |
| 20  | N/A  | N/A             | M5 by 12 Long SHCS         | 1** |  |  |  |  |  |
| 21  | N/A  | N/A             | M8 by 30 Long BHCS         | 1** |  |  |  |  |  |
| 22  | N/A  | N/A             | 3mm by 6 Long Roll Pin     | 1** |  |  |  |  |  |
| ** Ava  | ** Available from an industrial supply company such as MSC (1-800-645-7270). |                 |                            |     |  |  |  |  |  |

**Note:** Crimp profiles used in 63883-7000 are equivalent to 19030-0156, 19030-0051 / MMC-AA-595, 19030-0159, 19030-0043 / MMC-M-212, 19030-0044 / MMC-M-595, 19028-0059/ACP-M-596, and 19028-0098 (UL file number E79133).

Doc No: ATS-638837000 Release Date: 12-07-04 **UNCONTROLLED COPY** Page 4 of 6 Revision: D Revision Date: 05-15-12



Doc No: ATS-638837000 Revision: D Release Date: 12-07-04 Revision Date: 05-15-12 **UNCONTROLLED COPY** 

### 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 wireprocessing machine in place. Reference the press or wire process 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.

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

Doc No: ATS-638837000 Release Date: 12-07-04 Page 6 of 6

Revision Date: 05-15-12