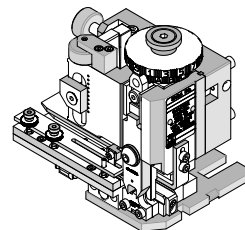


**Mini-Mac Applicator  
Mechanical Feed  
Continuous Molded Strip**

**molex**

**Application Tooling  
Specification Sheet**



**Order No. 63883-4200**

## 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™ Quick Disconnect, (FIQD's) Male and Female Terminals Continuous Molded Strip for 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 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               |

\*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

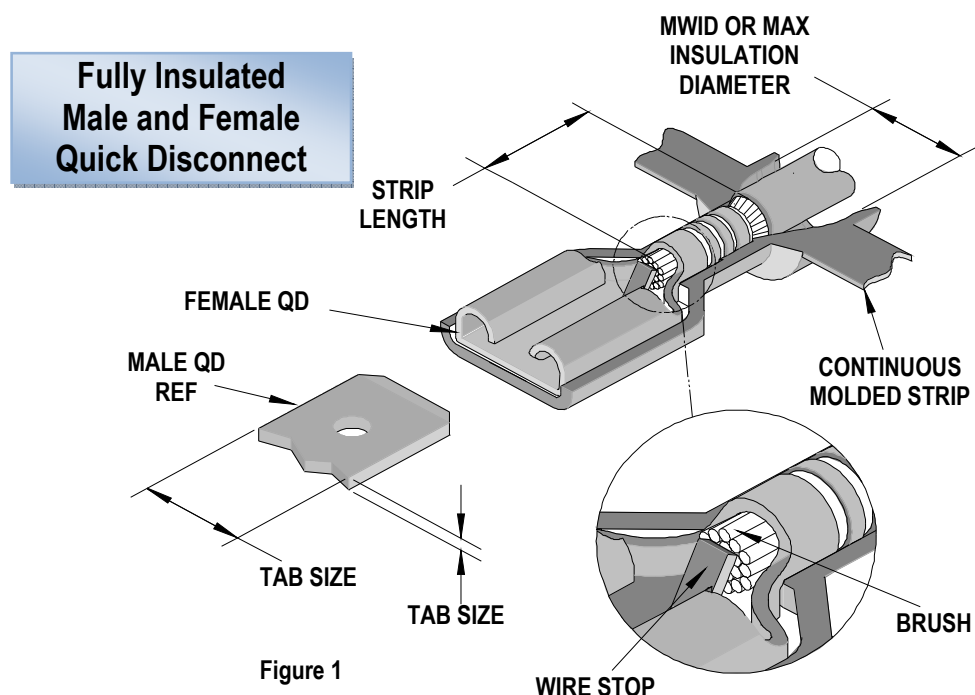
## Product List

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 Maximum |      | Strip Length |      |
|--------------|-------------------|-----------|-----------------|-----------------------------|------|--------------|------|
|              |                   | AWG       | mm <sup>2</sup> | mm                          | In.  | mm           | In.  |
| 19003-0041   | BB-2206C          | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0045   | BB-2206VBC        | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0051   | BB-2207C          | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0057   | BB-2208C          | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0085   | BB-2215C          | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0086   | BB-2216C          | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0134   | BB-2207VC         | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19003-0137   | BB-2208VC         | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19023-0055   | 19023-0055        | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19023-0064   | 19023-0064        | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |
| 19276-0004   | BB-2206C-LIF      | 16-14     | 1.30-2.00       | 4.06                        | .160 | 6.35         | .250 |

## DEFINITION OF TERMS

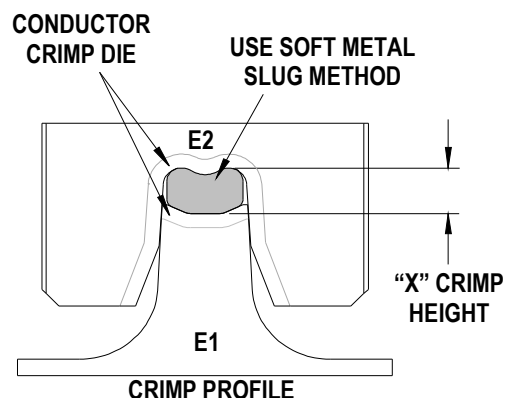
The following illustration is a generic terminal representation and not an exact image of any terminal listed in the scope.



## 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 0.51mm (.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").
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.



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

**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       | mm <sup>2</sup> | Mean                          |      | Go   |      | No Go |      | Lbs                | N     |
|           |                 | In                            | mm   | In   | mm   | In    | mm   |                    |       |
| 16        | 1.30            | .098                          | 2.45 | .095 | 2.41 | .103  | 2.62 | 30.0               | 133.5 |
| 14        | 2.00            | .098                          | 2.45 | .095 | 2.41 | .103  | 2.62 | 50.0               | 222.4 |

The above specifications are guidelines to an optimum crimp.

### 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.

**PARTS LIST**

| Mini-Mac Applicator 63883-4200                                               |                   |                   |                                 |            |
|------------------------------------------------------------------------------|-------------------|-------------------|---------------------------------|------------|
| Item                                                                         | Order No          | Engineering No.   | Description                     | Quantity   |
| <b>Perishable Tooling</b>                                                    |                   |                   |                                 |            |
|                                                                              | <b>63883-4270</b> | <b>63883-4270</b> | <b>Tool Kit (All "Y" Items)</b> | <b>REF</b> |
| 1                                                                            | 63465-0004        | 63465-0004        | Conductor Punch                 | 1 Y        |
| 2                                                                            | 63464-0004        | 63464-0004        | Conductor Anvil                 | 1 Y        |
| 3                                                                            | 63469-0001        | 63469-0001        | Cut-off Punch                   | 1 Y        |
| 4                                                                            | 63462-0041        | 63462-0041        | Cut-off Anvil                   | 1 Y        |
| <b>Other Components</b>                                                      |                   |                   |                                 |            |
| 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          |
| <b>Frame</b>                                                                 |                   |                   |                                 |            |
| 13                                                                           | 63801-3201        | 63801-3201        | Top                             | 1          |
| 14                                                                           | 63801-3281        | 63801-3281        | Base                            | 1          |
| 15                                                                           | 63801-4450        | 63801-4450        | Track                           | 1          |
| <b>Hardware</b>                                                              |                   |                   |                                 |            |
| 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**        |
| ** Available from an industrial supply company such as MSC (1-800-645-7270). |                   |                   |                                 |            |

**Note:** Crimp profiles used in 63883-4200 are equivalent to 19030-0074/MMC-BB-206 (UL file number E79133).

## Assembly Drawing

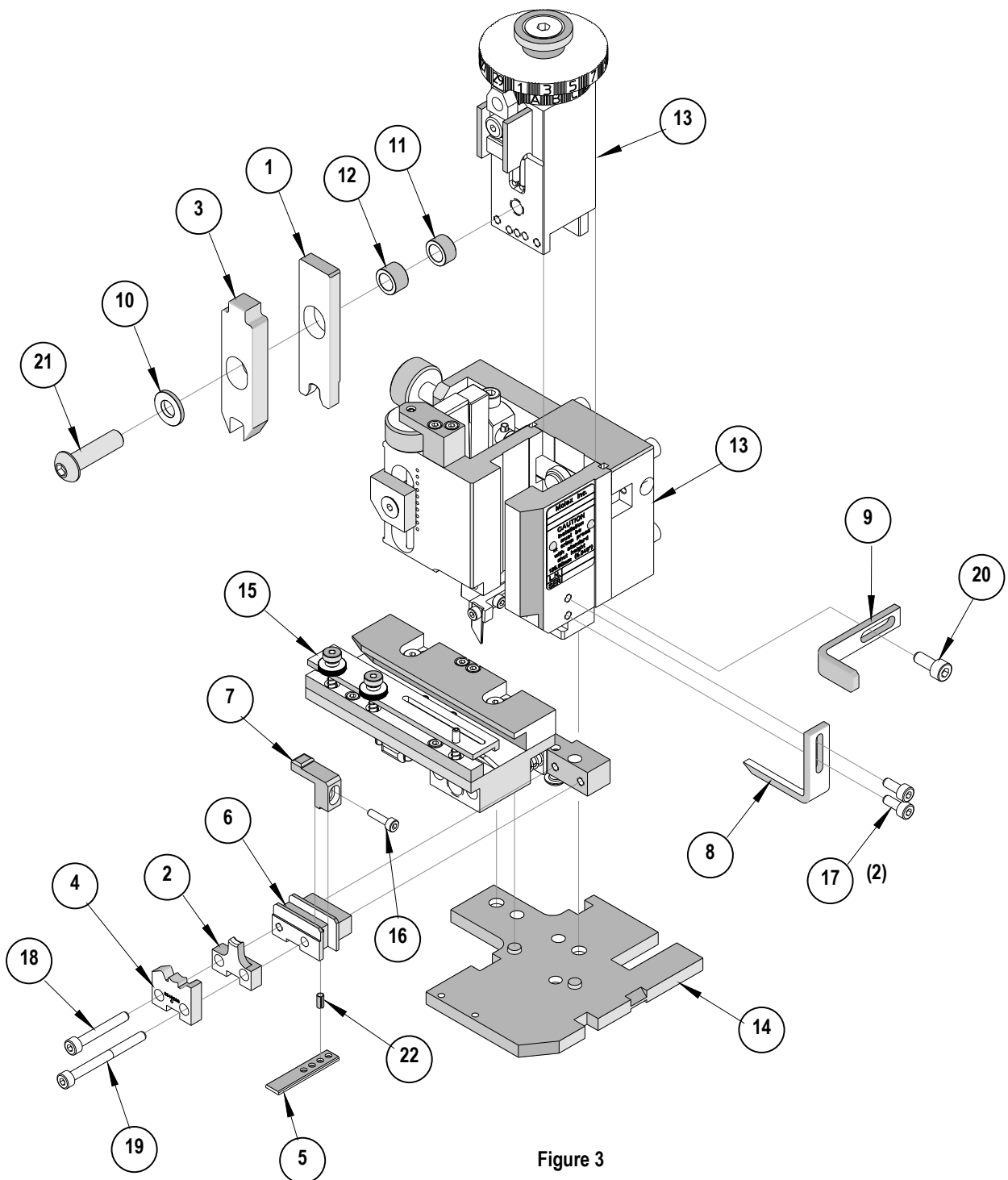


Figure 3

## 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 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>

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