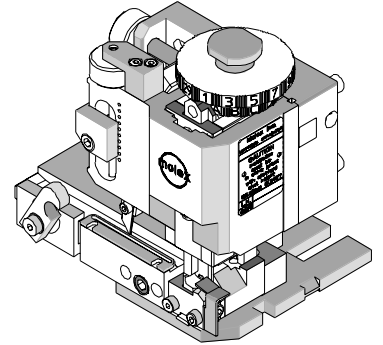




## FineAdjust Applicator Specification Sheet Part No. 63868-2100



### FEATURES

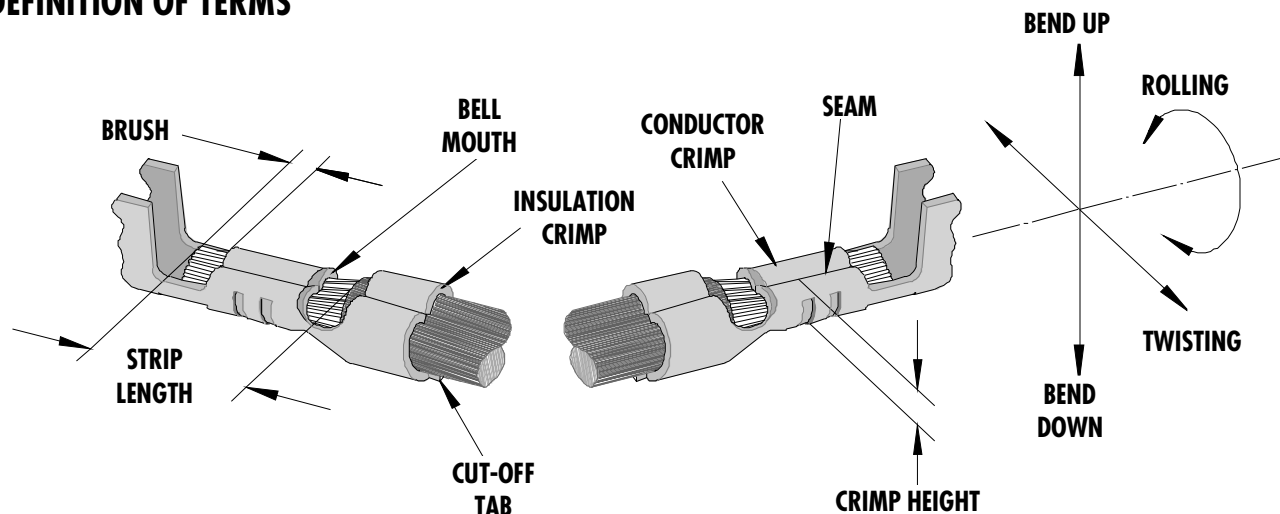
- Quick punch removal with the push of a button for fast and easy tooling change
- Applicator designed to industry standard mounting and shut height 135.80mm (5.346")
- Quick set-up time; plus the crimp height, track and feed adjustments can be set without removing the applicator from the press
- Fine adjustment allows users to achieve target with little effort by adjusting in increments of .015mm (.0006") for conductor crimp height and .063mm (.0025") for insulation height
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Directly adapts to most automatic wire processing machines

### SCOPE

Products: MX150™ Receptacle Terminals 1.00 metric and 18 AWG.

| Terminal Order No.                                                                                              | Terminal Series No. |            | Wire Size   |                 | Insulation Diameter |           | Strip Length |           |
|-----------------------------------------------------------------------------------------------------------------|---------------------|------------|-------------|-----------------|---------------------|-----------|--------------|-----------|
|                                                                                                                 |                     |            | AWG         | mm <sup>2</sup> | mm                  | In.       | mm           | In.       |
| 33001                                                                                                           | 33001-3004          | 33001-3022 | 18          | 0.83            | 1.91-2.06           | .075-.081 | 4.70-5.60    | .185-.220 |
|                                                                                                                 | 33001-3004          | 33001-3022 | Metric Only | 1.00            | 1.90-2.10           | .075-.083 | 4.70-5.60    | .185-.220 |
| 33012                                                                                                           | 33012-3002          | 33012-3022 | 18          | 0.83            | 1.91-2.06           | .075-.081 | 4.70-5.60    | .185-.220 |
|                                                                                                                 | 33012-3002          | 33012-3022 | Metric Only | 1.00            | 1.90-2.10           | .075-.083 | 4.70-5.60    | .185-.220 |
| Terminal is designed for thin wall insulation per Ford's specification M1L135-A1, M1L123-A, and M1L126-A1/A2/A3 |                     |            |             |                 |                     |           |              |           |

### DEFINITION OF TERMS



The above terminal drawing is a generic terminal representation. It is not an image of any terminal listed in the scope.

**CRIMP SPECIFICATION**

| Terminal Series No. | Bell mouth |           | Cut-off Tab Max. |      | Conductor Brush |           |
|---------------------|------------|-----------|------------------|------|-----------------|-----------|
|                     | mm         | In.       | mm               | In.  | mm              | In.       |
| 33001               | 0.25-1.25  | .010-.049 | 0.50             | .020 | 0.15-0.40       | .006-.016 |
| 33012               | 0.25-1.25  | .010-.049 | 0.50             | .020 | 0.15-0.40       | .006-.016 |

Wire brush to be below top of Conductor Crimp.

| Terminal Series No. | Bend up    Bend down                                                                                                           |  | Twist    Roll | Punch Width (Ref) |      |            |      | Seam<br>Seam shall not be open and no wire allowed out of the crimping area |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------|--|---------------|-------------------|------|------------|------|-----------------------------------------------------------------------------|
|                     | Degree                                                                                                                         |  |               | Conductor         |      | Insulation |      |                                                                             |
|                     |                                                                                                                                |  | mm            | In                | mm   | In         |      |                                                                             |
| 33001               | Crimped terminals and up to 5mm of wire past the insulator cutoff tab must freely fit in the Checking Aid, Part No. 63868-2008 |  |               | 2.10              | .083 | 2.26       | .089 |                                                                             |
| 33012               |                                                                                                                                |  |               | 2.10              | .083 | 2.26       | .089 |                                                                             |

Order Separately

After crimping, the crimp profiles should measure the following:

| Terminal<br>Series No. | Wire Size   |                 | Conductor    |           |             |           | Insulation   |           |             |           | Pull Force<br>Min. |      |
|------------------------|-------------|-----------------|--------------|-----------|-------------|-----------|--------------|-----------|-------------|-----------|--------------------|------|
|                        |             |                 | Crimp Height |           | Crimp Width |           | Crimp Height |           | Crimp Width |           |                    |      |
|                        | AWG         | mm <sup>2</sup> | mm           | In.       | mm          | In.       | mm           | In.       | mm          | In.       | N                  | Lb.  |
| 33001                  | 18          | 0.83            | 1.20-1.30    | .047-.051 | 2.05-2.25   | .081-.089 | 1.90-2.10    | .075-.083 | 2.20-2.40   | .086-.094 | 89.9               | 20.2 |
| 33001                  | Metric Only | 1.00            | 1.25-1.35    | .049-.053 | 2.05-2.25   | .081-.089 | 1.90-2.10    | .075-.083 | 2.20-2.40   | .086-.094 | 121.1              | 27.0 |
|                        |             |                 |              |           |             |           |              |           |             |           |                    |      |
| 33012                  | 18          | 0.83            | 1.20-1.30    | .047-.051 | 2.05-2.25   | .081-.089 | 1.90-2.10    | .075-.083 | 2.20-2.40   | .086-.094 | 89.9               | 20.2 |
| 33012                  | Metric Only | 1.00            | 1.25-1.35    | .049-.053 | 2.05-2.25   | .081-.089 | 1.90-2.10    | .075-.083 | 2.20-2.40   | .086-.094 | 121.1              | 27.0 |

\* **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.

**Adjusting the Wire Bend Angle (See Item 17 in parts list and assembly drawing.)**

**Note:** If the Wire Bend is present after crimping use the following method to remove the bend. This tooling may not be necessary for all wire gauges.

1. The screw is provided for wire straightening. See Figure 1.
2. Loosen the (2) M3 x 5mm long setscrews; see Figure 1, before turning the screw.
3. Start by adjusting the screw so it just touches the insulation outside diameter of the wire being crimped. If wire Bend Up exists, turn the screw a quarter turn clockwise (CW) to lengthen it.
4. Continue to adjust the length of the screw until the wire appears to be straight after crimping. If wire Bend Down exists, turn the screw a quarter turn counter clockwise (CCW) to shorten it. Continue to adjust the length of the screw until the wire appears to be straight after crimping.
5. Tighten the M3 x 5mm long setscrews, when finished adjusting the screw. Two M3 x 5mm long setscrews are provided; the top setscrew is to lock the screw after adjustments. The M3 x 5mm long setscrew on the side of plunger striker is used when making adjustments.

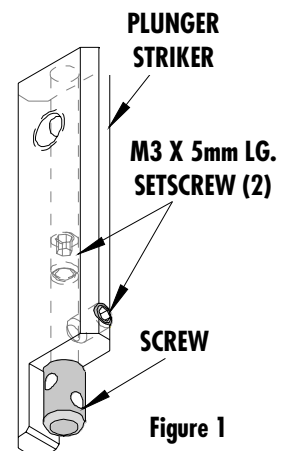


Figure 1

**PARTS LIST**

| <b>FineAdjust Applicator 63868-2100</b>                                      |                 |                        |                              |                 |
|------------------------------------------------------------------------------|-----------------|------------------------|------------------------------|-----------------|
| <b>Item</b>                                                                  | <b>Order No</b> | <b>Engineering No.</b> | <b>Description</b>           | <b>Quantity</b> |
| <b>Perishable Tooling</b>                                                    |                 |                        |                              |                 |
|                                                                              | 63868-2170      | 63868-2170             | Tool Kit (All "Y" Items)     | REF             |
| 1                                                                            | 63457-0030      | 63457-0030             | Conductor Punch              | 1 Y             |
| 2                                                                            | 63455-0034      | 63455-0034             | Conductor Anvil              | 1 Y             |
| 3                                                                            | 63454-0048      | 63454-0048             | Insulation Punch             | 1 Y             |
| 4                                                                            | 63456-0034      | 63456-0034             | Insulation Anvil             | 1 Y             |
| 5                                                                            | 63461-0001      | 63461-0001             | Cut-Off Plunger Front        | 1 Y             |
| 6                                                                            | 63443-0036      | 63443-0036             | Plunger Retainer Front       | 1 Y             |
| <b>Other Components</b>                                                      |                 |                        |                              |                 |
| 7                                                                            | 11-17-0022      | 1739-21                | Compression Spring           | 1               |
| 8                                                                            | 11-18-4094      | 60709-A111             | Front Cover                  | 1               |
| 9                                                                            | 11-24-1149      | 4996-37                | Shank                        | 1               |
| 10                                                                           | 63443-0009      | 63443-0009             | Scrap Chute Front            | 1               |
| 11                                                                           | 63443-0021      | 63443-0021             | Lower Tooling Key            | 1               |
| 12                                                                           | 11-18-4080      | 60707-5                | Wire Stop                    | 1               |
| 13                                                                           | 63443-0069      | 63443-0069             | Terminal Hold Down           | 1               |
| 14                                                                           | 63443-2506      | 63443-2506             | Anvil Mount                  | 1               |
| 15                                                                           | 63443-6013      | 63443-6013             | Rear Cover                   | 1               |
| 16                                                                           | 63700-0539      | 63700-0539             | Cut-off Plunger Spring       | 1               |
| 17                                                                           | 63443-0082      | 63443-0082             | Plunger Striker Front        | 1               |
| 18                                                                           | 63443-0083      | 63443-0083             | Striker Screw                | 1               |
| 19                                                                           | 63868-2008      | 63868-2008             | Checking Aid                 | REF             |
| <b>Frame</b>                                                                 |                 |                        |                              |                 |
| 20                                                                           | 63801-3100      | 63801-3100             | Wide Track Fine Adjust Frame | 1               |
| 21                                                                           | 63459-0001      | 63459-0001             | Wide Terminal Track          | 1               |
| <b>Hardware</b>                                                              |                 |                        |                              |                 |
| 22                                                                           | N/A             | N/A                    | M3 by 5Lg. SHSS-Brass Tip    | 2**             |
| 23                                                                           | N/A             | N/A                    | M3 by 6Lg. SHCS              | 2**             |
| 24                                                                           | N/A             | N/A                    | M3 by 8Lg. SHCS              | 1**             |
| 25                                                                           | N/A             | N/A                    | M4 by 6Lg. SHCS              | 1**             |
| 26                                                                           | N/A             | N/A                    | M4 by 12Lg. BHCS             | 2**             |
| 27                                                                           | N/A             | N/A                    | M4 by 50Lg. SHCS             | 2**             |
| 28                                                                           | N/A             | N/A                    | M5 by 12Lg. SHCS             | 1**             |
| 29                                                                           | N/A             | N/A                    | 3MM by 6Lg. Roll Pin         | 1**             |
| 30                                                                           | N/A             | N/A                    | #10-32 by 1/4"Lg. BHCS       | 1**             |
| ** Available from an industrial supply company such as MSC (1-800-645-7270). |                 |                        |                              |                 |

\* The Checking Aid 63868-2008 to be ordered separately if required.  
 (This item is not included with the Applicator and is shown for Reference purpose only)

# Assembly Drawing

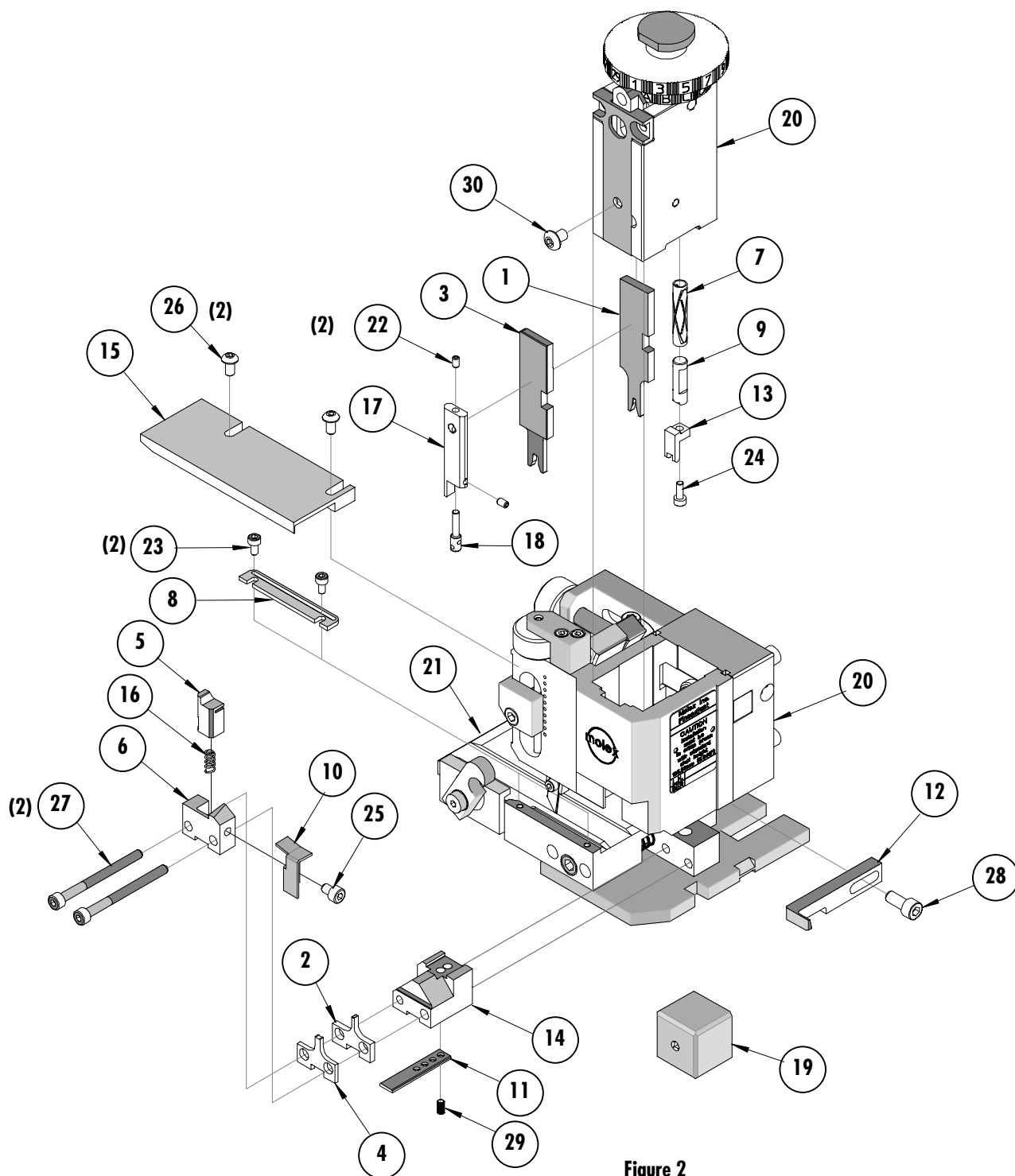


Figure 2

## NOTES

1. Molex recommends an extra perishable tooling kit be maintained at your facility.
2. Verify tooling alignment by manually cycling the press and 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 FineAdjust Manual.

**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.

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