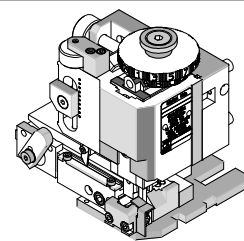


FineAdjust  
Applicator**molex**Application Tooling  
Specification Sheet

Order No. 63904-4600

## 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: 3.96mm (.156") Pitch SPOX Crimp Terminal, 18-24 AWG, UL1007 wires.

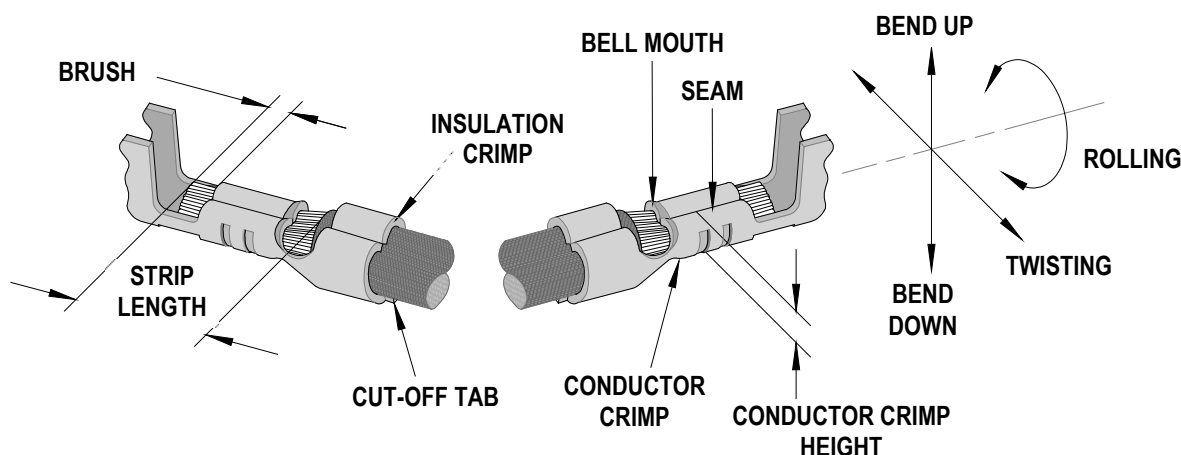
| Terminal Series No. | Terminal Order No. |            | Wire Size |                 | Insulation Diameter |           |              |           | Strip Length |           |
|---------------------|--------------------|------------|-----------|-----------------|---------------------|-----------|--------------|-----------|--------------|-----------|
|                     |                    |            |           |                 | IPC/WHMA-A620 (1)   |           | Terminal (2) |           |              |           |
|                     |                    |            | AWG       | mm <sup>2</sup> | mm                  | In.       | mm           | In.       | mm           | In.       |
| 5194                | 08-70-1031         | 39-00-0416 | 18-24     | N/A             | 1.70-2.10           | .067-.083 | 1.30-3.00    | .051-.118 | 3.00-3.50    | .118-.138 |
|                     | 39-00-0409         | 39-00-0021 |           |                 |                     |           |              |           |              |           |

(1) To achieve optimum IPC-A620 insulations crimps, use this insulation OD range.

(2) Overall insulation OD specification for terminal.

(3) Other applicators may be available for insulation diameters outside the optimum range (1) described above. Enter the Terminal Order Number on the Molex website for the latest applicator information.

## DEFINITION OF TERMS



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

**CRIMP SPECIFICATION**

| Terminal Series No. | Bell Mouth |           | Cut-Off Tab Maximum |      | Conductor Brush |           |
|---------------------|------------|-----------|---------------------|------|-----------------|-----------|
|                     | mm         | In.       | mm                  | In.  | mm              | In.       |
| 5194                | 0.20-0.70  | .008-.028 | 0.40                | .016 | 0.00-1.00       | .000-.039 |

| Terminal Series No. | Bend Up | Bend Down | Twist  | Roll | Punch Width mm (Ref) |      |            |      | Seam                                                                |
|---------------------|---------|-----------|--------|------|----------------------|------|------------|------|---------------------------------------------------------------------|
|                     | Degree  |           | Degree |      | Conductor            |      | Insulation |      |                                                                     |
|                     |         |           |        |      | mm                   | In   | mm         | In   |                                                                     |
| 5194                | 6       | 0         | 3      | 8    | 1.60                 | .063 | 2.50       | .098 | Seam shall not be open and no wire allowed out of the crimping area |

After crimping, the conductor profile should measure the following:

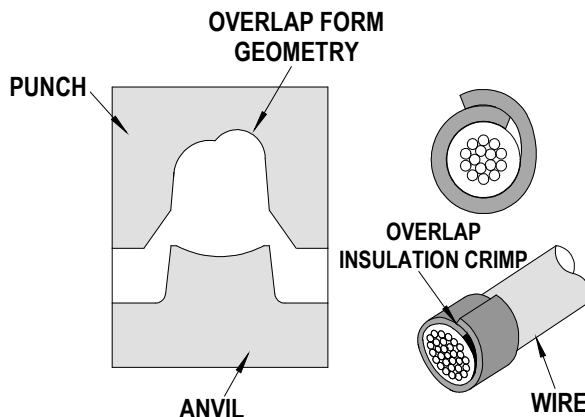
| Terminal<br>Series No. | Wire Size |                 | Conductor Crimp |           |              |      | Pull Force<br>Minimum |       |
|------------------------|-----------|-----------------|-----------------|-----------|--------------|------|-----------------------|-------|
|                        |           |                 | Height          |           | Width (Ref.) |      |                       |       |
|                        | AWG       | mm <sup>2</sup> | mm              | In.       | mm           | In.  | N                     | Lb.   |
| 5194                   | 18        | N/A             | 1.10-1.20       | .043-.047 | 1.60         | .063 | 88.1                  | 19.80 |
|                        | 20        | N/A             | 1.07-1.17       | .042-.046 | 1.60         | .063 | 58.7                  | 13.20 |
|                        | 22        | N/A             | 0.96-1.06       | .038-.042 | 1.60         | .063 | 39.1                  | 8.80  |
|                        | 24        | N/A             | 0.90-1.00       | .035-.039 | 1.60         | .063 | 29.4                  | 6.60  |

**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.
3. Insulation crimp heights (Ref.) can be adjusted accordingly based on the actual wire OD used to achieve optimum IPC-A620 insulation crimps.

**Insulation Crimp Note:**

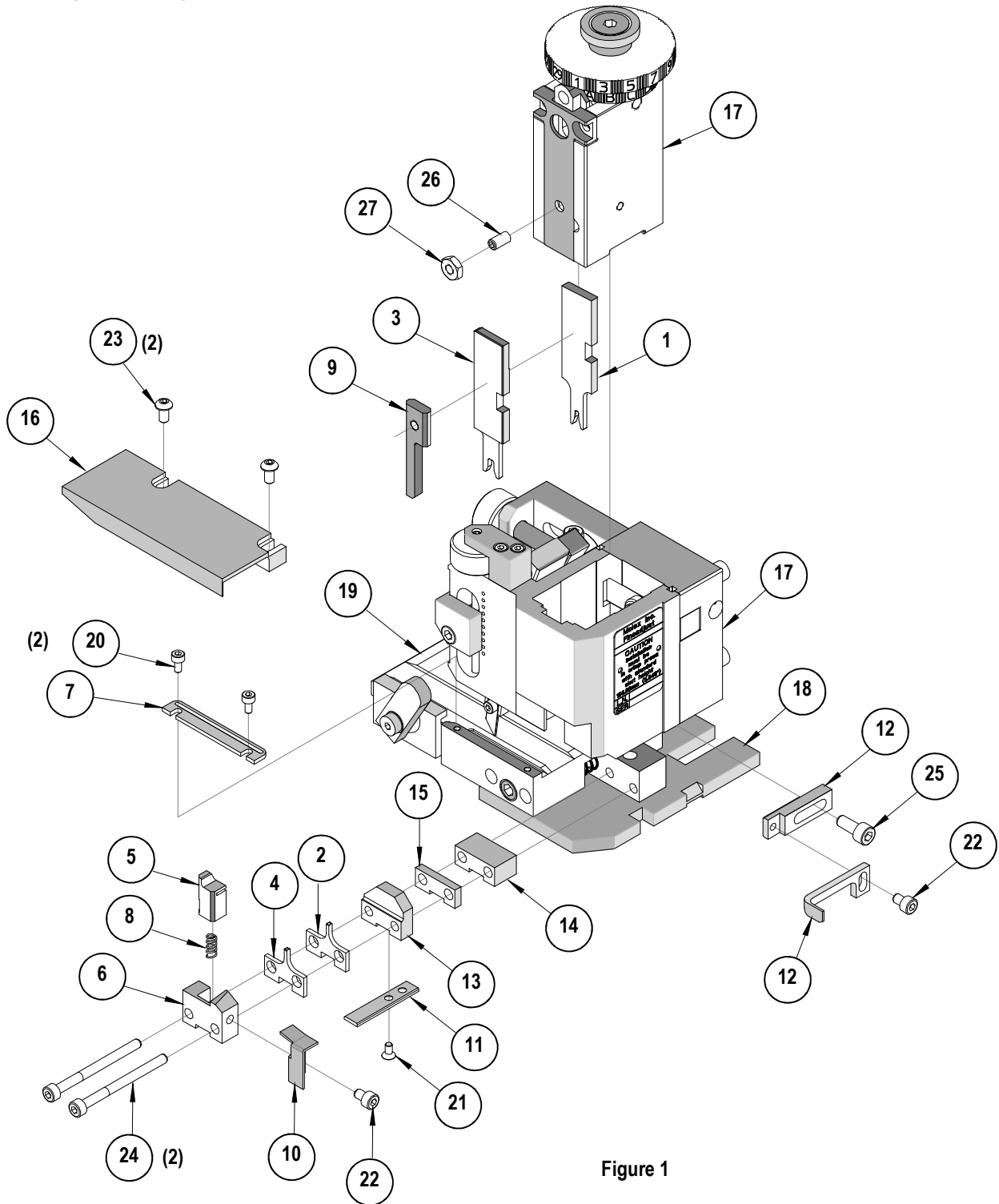
Due to the terminal's insulation grip design and/or insulation diameter range, this applicator uses "overlap" form geometry in the insulation punch. This produces an overlap insulation crimp (A620-compliant). While the insulation punch profile may appear "lopsided," this is a normal condition. See figure to the right.



**PARTS LIST**

| <b>FineAdjust Applicator 63904-4600</b>                                      |                  |                        |                                    |                 |
|------------------------------------------------------------------------------|------------------|------------------------|------------------------------------|-----------------|
| <b>Item</b>                                                                  | <b>Order No.</b> | <b>Engineering No.</b> | <b>Description</b>                 | <b>Quantity</b> |
| <b>Perishable Tooling</b>                                                    |                  |                        |                                    |                 |
|                                                                              | 63904-4670       | 63904-4670             | Tool Kit (All "Y" Items)           | REF             |
| 1                                                                            | 63444-1605       | 63444-1605             | Conductor Punch                    | 1 Y             |
| 2                                                                            | 63445-1641       | 63445-1641             | Conductor Anvil                    | 1 Y             |
| 3                                                                            | 63454-2507       | 63454-2507             | Insulation Punch                   | 1 Y             |
| 4                                                                            | 63456-2503       | 63456-2503             | Insulation Anvil                   | 1 Y             |
| 5                                                                            | 63443-0005       | 63443-0005             | Front Cut-Off Plunger              | 1 Y             |
| 6                                                                            | 63443-0012       | 63443-0012             | Front Plunger Retainer             | 1 Y             |
| <b>Other Components</b>                                                      |                  |                        |                                    |                 |
| 7                                                                            | 11-18-4083       | 60707-8                | Feed Guide                         | 1               |
| 8                                                                            | 11-24-1067       | 4996-4                 | Cut-Off Plunger Spring             | 1               |
| 9                                                                            | 11-40-4039       | 8302-5                 | Plunger Striker                    | 1               |
| 10                                                                           | 63443-0009       | 63443-0009             | Front Scrap Chute                  | 1               |
| 11                                                                           | 63443-0024       | 63443-0024             | Key                                | 1               |
| 12                                                                           | 63443-0090       | 63443-0090             | Wire Stop                          | 1               |
| 13                                                                           | 63443-1719       | 63443-1719             | 18.90mm Height Spacer              | 1               |
| 14                                                                           | 63443-2216       | 63443-2216             | 16.00mm Coarse Spacer              | 1               |
| 15                                                                           | 63443-2302       | 63443-2302             | 3.10mm Fine Spacer                 | 1               |
| 16                                                                           | 63443-6111       | 63443-6111             | Rear Cover                         | 1               |
| <b>Frame</b>                                                                 |                  |                        |                                    |                 |
| 17                                                                           | 63800-4901       | 63800-4901             | Top                                | 1               |
| 18                                                                           | 63801-3281       | 63801-3281             | Base                               | 1               |
| 19                                                                           | 63801-4650       | 63801-4650             | Track                              | 1               |
| <b>Hardware</b>                                                              |                  |                        |                                    |                 |
| 20                                                                           | N/A              | N/A                    | M3 by 6 Long SHCS                  | 2**             |
| 21                                                                           | N/A              | N/A                    | M3 by 6 Long FHCS                  | 1**             |
| 22                                                                           | N/A              | N/A                    | M4 by 6 Long SHCS                  | 2**             |
| 23                                                                           | N/A              | N/A                    | M4 by 12 Long BHCS                 | 2**             |
| 24                                                                           | N/A              | N/A                    | M4 by 50 Long SHCS                 | 2**             |
| 25                                                                           | N/A              | N/A                    | M5 by 12 Long SHCS                 | 1**             |
| 26                                                                           | N/A              | N/A                    | #10-32 by 3/8" Long Flat Point SSS | 1**             |
| 27                                                                           | N/A              | N/A                    | #10-32 Hex Jam Nut                 | 1**             |
| ** Available from an industrial supply company such as MSC (1-800-645-7270). |                  |                        |                                    |                 |

## Assembly Drawing



## NOTES

1. Molex recommends that 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 the 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.

### Application Tooling Support

**Phone:** +1-402-458-TOOL (8665)

**E-Mail:** [applicationtooling@molex.com](mailto:applicationtooling@molex.com)

**Website:** [www.molex.com/applicationtooling](http://www.molex.com/applicationtooling)

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