

**Hand Crimp Tool
Krimptite™**

**Application Tooling
Specification Sheet**

**Order No. 64001-0600
Engineering No. RHT 7000**

FEATURES

- % A full cycle ratcheting hand tool ensures complete crimps
- % Long handles for comfortable crimping with reduced crimping force
- % A precision user-friendly terminal locator wire stop holds terminals in the proper crimping position for each of the nests
- % 2-nested tool eliminates the need for additional tools

SCOPE

Products: Nylon closed end connectors 10–22 AWG (2 Nests 14 - 22 and 10 - 16).

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 specifications 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.

| Wire Size (AWG) | UL – 486 C |
|-----------------|------------|
| 22 | 8 |
| 20 | 10 |
| 18 | 10 |
| 16 | 15 |
| 14 | 25 |
| 12 | 35 |
| 10 | 40 |

* UL – 486 C – Closed end connectors and Wire Nuts.

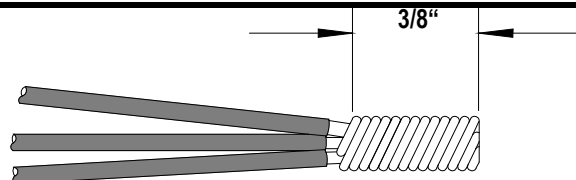
The following is a partial list of the product part numbers and their specifications that this tool is designed to run. We will be adding to this list and an up to date copy is available on www.molex.com.

| Terminal Order No. | Terminal Eng No. (REF) | Wire Size | | Wire Combinations |
|--------------------|------------------------|-----------|-----------------|-------------------|
| | | AWG | mm ² | |
| 19160-0002 | NC-1610 | 10-16 | 5.00-1.30 | See Chart 1 |
| 19160-0003 | NC-1610-BA | 10-16 | 5.00-1.30 | See Chart 1 |
| 19160-0004 | NC-1610-L | 10-16 | 5.00-1.30 | See Chart 1 |
| 19160-0006 | NC-1610-Y | 10-16 | 5.00-1.30 | See Chart 1 |
| 19160-0030 | NC-S1610 | 10-16 | 5.00-1.30 | See Chart 1 |
| 19160-0012 | NC-2214 | 14-22 | 2.00-0.35 | See Chart 2 |
| 19160-0013 | NC-2214-BA | 14-22 | 2.00-0.35 | See Chart 2 |
| 19160-0015 | NC-2214-L | 14-22 | 2.00-0.35 | See Chart 2 |
| 19160-0016 | NC-2214-R | 14-22 | 2.00-0.35 | See Chart 2 |

OPERATION

Wire Preparation

Pre-twisted wire not required for OEM applications. For Solid Wire strip leads to 3/8 of an inch. Insert into connector and crimp (OEM only).



For stranded wire strip leads to approximately 3/4 of an inch. Twist the wire combination even and tight. Trim stripped pre-twisted area to 3/8 of an inch and insert into connector and crimp. For more information follow the Quality Crimping Handbook.

CHART 1

| Wire Type | Wire Gauge (AWG) | | | | | | Rating |
|-------------------|------------------|----|----|----|----|----|----------|
| | 12 | 14 | 16 | 17 | 18 | 20 | |
| Stranded or Solid | 1 | | 1 | | | | UL & CSA |
| Stranded or Solid | 1 | | | | 1 | | UL & CSA |
| Stranded or Solid | 1 | | | | 2 | | UL & CSA |
| Stranded or Solid | | 2 | | | | | UL & CSA |
| Stranded or Solid | | 1 | 2 | | | | UL & CSA |
| Stranded or Solid | | 1 | 1 | | | | UL & CSA |
| Stranded or Solid | | 1 | 1 | | 1 | | UL & CSA |
| Stranded or Solid | | 1 | | | 3 | | UL & CSA |
| Stranded or Solid | | 1 | | | 2 | | UL & CSA |
| Stranded or Solid | | 1 | | | 1 | | UL & CSA |
| Stranded or Solid | | | 3 | | 1 | | UL & CSA |
| Stranded or Solid | | | 3 | | | | UL & CSA |
| Stranded or Solid | | | 2 | | 3 | | UL & CSA |
| Stranded or Solid | | | 2 | | 2 | | UL & CSA |
| Stranded or Solid | | | 2 | | 1 | | UL & CSA |
| Stranded or Solid | | | 2 | | | | UL & CSA |
| Stranded or Solid | | | 1 | | 4 | | UL & CSA |
| Stranded or Solid | | | 1 | | 3 | | UL & CSA |
| Stranded or Solid | | | 1 | | 2 | | UL & CSA |
| Stranded or Solid | | | 1 | | 1 | | UL & CSA |
| Stranded or Solid | | | | | 6 | | UL & CSA |
| Stranded or Solid | | | | | 5 | | UL & CSA |
| Stranded or Solid | | | | | 4 | | UL & CSA |
| Stranded or Solid | | | | | 3 | | UL & CSA |

Additional UL Listed Wire Combinations

- (2) 17 AWG Solid with (1) 18 AWG Stranded.
- (3) 17 AWG Solid with (2) 18 AWG Stranded.
- (3) 14 AWG Solid or Stranded Wire.

Additional CSA Certified Wire Combinations

- (3) 16 AWG Stranded with (1) 12 AWG Solid.

CHART 2

| Wire Type | Wire Gauge (AWG) | | | | | Rating |
|---------------|------------------|----|----|----|----|---------|
| | 14 | 16 | 18 | 20 | 22 | |
| Stranded only | | 1 | 1 | | | UL only |

Wire Combinations for Nylon- Insulated Closed End Connectors
Part No. 19160-0012 (NC-2214)

| Wire Type | Wire Gauge (AWG) | | | | | Rating |
|----------------------|------------------|----|----|----|----|----------|
| | 14 | 16 | 18 | 20 | 22 | |
| Stranded only | | 1 | 1 | 1 | 1 | UL only |
| Stranded only | | 1 | | 2 | | UL only |
| Stranded only | | 1 | | 1 | | UL only |
| Stranded only | | 1 | | | 3 | UL only |
| Stranded only | | 1 | | | 2 | UL only |
| Stranded only | | 1 | | | 1 | UL only |
| Stranded only | | | 3 | | | UL only |
| Stranded only | | | 2 | 1 | | UL only |
| Stranded only | | | 2 | | 2 | UL only |
| Stranded only | | | 2 | | 1 | UL only |
| Stranded only | | | 1 | 3 | | UL only |
| Stranded only | | | 1 | 2 | | UL only |
| Stranded only | | | 1 | 2 | 1 | UL only |
| Stranded only | | | 1 | 1 | 3 | UL only |
| Stranded only | | | 1 | 1 | 2 | UL only |
| Stranded only | | | 2 | | | UL only |
| Stranded only | | | 1 | 1 | 1 | UL only |
| Stranded only | | | 1 | | 5 | UL only |
| Stranded only | | | 1 | | 4 | UL only |
| Stranded only | | | 1 | | 3 | UL only |
| Stranded only | | | | 4 | 1 | UL only |
| Stranded only | | | | 4 | | UL only |
| Stranded only | | | | 3 | 2 | UL only |
| Stranded only | | | | 3 | 1 | UL only |
| Stranded only | | | | 2 | 4 | UL only |
| Stranded only | | | | 2 | 3 | UL only |
| Stranded only | | | | 2 | 2 | UL only |
| Stranded only | | | | 1 | 6 | UL only |
| Stranded only | | | | 1 | 5 | UL only |
| Stranded only | | | | 1 | 4 | UL only |
| Stranded only | | | | | 7 | UL only |
| Stranded only | | | | | 6 | UL only |
| Solid only | | | 3 | | | UL only |
| Solid only | | | 2 | | | UL only |
| Stranded only | | | | | 7 | CSA only |
| Stranded only | | | | 2 | 4 | CSA only |
| Stranded only | | 1 | | 2 | | CSA only |
| Stranded only | | | 2 | 1 | | CSA only |
| Copper Stranded only | | | 3 | | | CSA only |

Crimping Terminals

Open the tool by first closing the jaws sufficiently for the ratchet mechanism to release.

1. Hold hand tool with the locator facing up. Insert the closed end connector in the correct slot (14-22 or 10-16). Make sure that the shoulder of the connector is resting on the locator plate. See Figure 1.

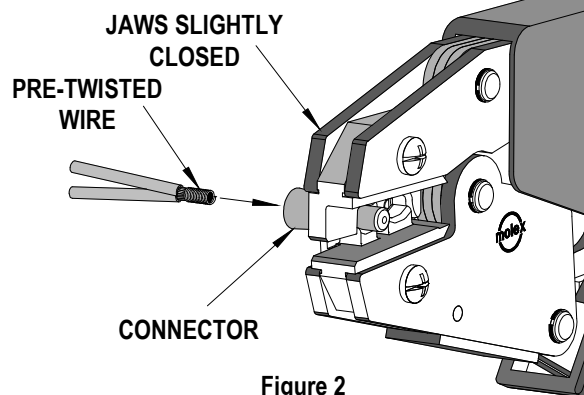


Figure 2

Note: The tamper proof ratchet action will not release the tool until it has been fully closed.

2. Close the hand tool jaws until the connector is held snug in place. Load the connector with the desired wire combination. See Figure 2 and 3. Complete the crimp by closing the hand tool handles until they release.

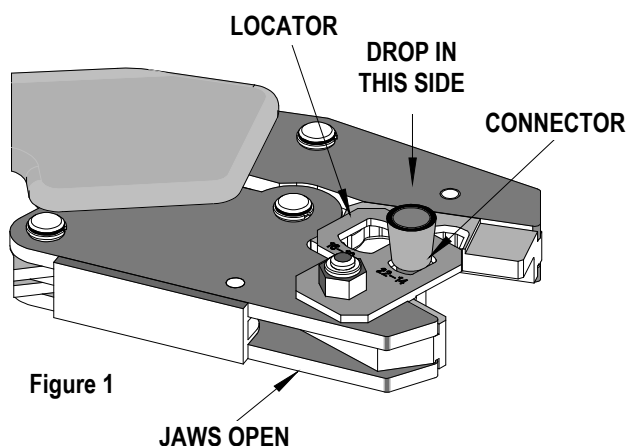


Figure 1

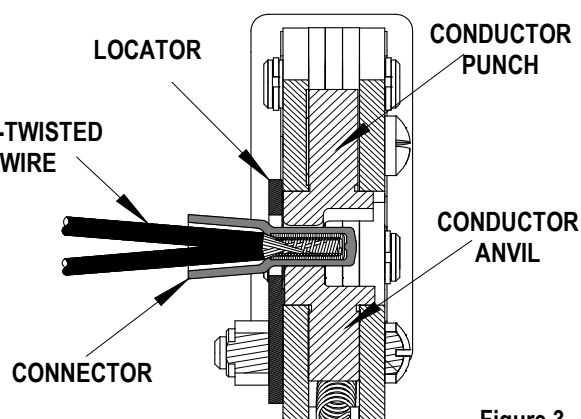


Figure 3

3. Remove the crimp and inspect for proper crimp location, and check for insulation closure. Molex offers a Crimp Inspection Handbook for closed barrel industrial product. See our website or contact your sales engineer.

Note: Whenever crimping without the locator, make sure the seam of the terminal is oriented up or down in the tool if using unbrazed product, as this will provide higher pull force values.

Maintenance

It is recommended that each operator of the tool be made aware of, and responsible for, the following maintenance steps:

1. Remove dust, moisture and other contaminants with a clean brush, or soft, lint-free cloth.
2. Do not use any abrasive materials that could damage the tool.
3. Make certain all pins; pivot points and bearing surfaces are protected with a thin coat of high quality machine oil. Do not oil excessively. This tool was engineered for durability, but like any fine piece of equipment it needs cleaning and lubrication for a maximum service life of trouble-free crimping. A light oil, such as 30 weight automotive oil used at the oil points shown in Figure 4, every 5,000 crimps or 3 months will significantly enhance the tool life and ensure a stable calibration.

- When tool is not in use, keep the handles closed to prevent objects from becoming lodged in the crimping dies, and store the tool in a clean, dry area.

Miscrimps or Jams

Should this tool ever become stuck or jammed in a partially closed position, **Do Not force the handles open or closed**. The tool will open easily by pressing the ratchet release lever. See Figure 5.

How to Adjust Tool Preload (See Figure 5)

Over the life of the tool, it may be necessary to adjust tool handle preload force. Listed below are the steps required to adjust the crimping force of the hand tool to obtain proper crimp conditions:

- Remove the screw and plastic cover washer. Note the setting wheel position.
- Lift the setting wheel off the axle. Turn the eccentric axle with a screwdriver.
- Turning the eccentric axle counter-clockwise (CCW) will increase handle force.
- Replace the setting wheel to the axle, aligning the nearest notch in the setting wheel to the dowel pin.
- Replace the plastic cover washer and screw.
- Check the crimp specifications after tool handle preload force is adjusted.

Tool Calibration

A Certificate of Calibration (see last page) was supplied with the tool. To recalibrate this tool, pin gauge measurements should be taken in each conductor nest and compared to this chart. The tool should be lubricated prior to recalibration to ensure consistent measurements. Handle preload is factory set to 25-45 LBS. See How to Adjust Tool Preload (See Figure 5) to recalibrate.

LUBRICATION POINTS (BOTH SIDES)
LIGHT OIL (EVERY 3 MONTHS OR
5,000 CRIMPS)

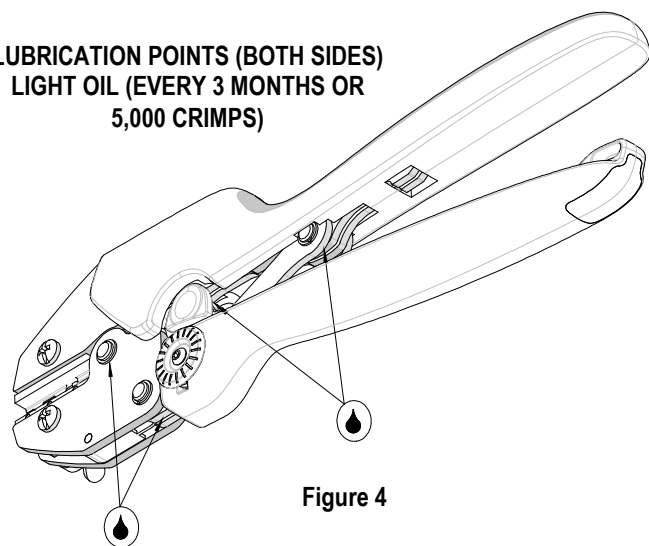


Figure 4

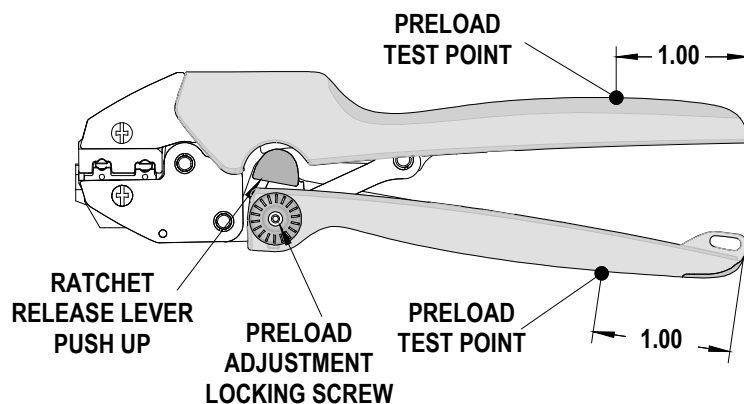
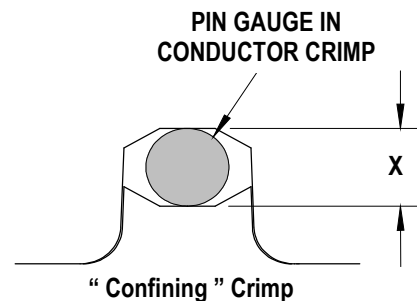


Figure 5



| Wire Range | | "X" Dimension Conductor Crimp | | |
|------------|-----------------|-------------------------------|------|-------|
| Awg | mm ² | Mean | Go | No Go |
| 14 - 22 | 0.35 - 2.00 | .100 | .096 | .104 |
| 10 - 16 | 1.30 - 5.00 | .120 | .116 | .128 |

Warranty

Caution: Repetitive use of this tool should be avoided.

This tool is for electrical terminal crimping purposes only. This tool is made of the best quality materials. All vital components are long life tested. All tools are warranted to be free of manufacturing defects for a period of **30 days**. Should such a defect occur, we will repair or exchange the tool free of charge. This repair or exchange will not be applicable to altered, misused or damaged tools. This tool is designed for hand use only. Any clamping, fixturing, or use of handle extensions voids this warranty.

Hand held crimping tools are intended for low volume, prototyping, or repair requirements only.

CAUTION: Molex crimp specifications are valid only when used with Molex terminals, applicators and tooling.

Application Tooling Support

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PARTS LIST

| Item | Order No | Description | Quantity |
|-------------------------|-------------------|--|-----------------|
| | 64001-0600 | Hand Crimp Tool | Figure 6 |
| 1 | 64000-0076 | Repair Kit (Springs, Pins and E-Rings) | 1 |
| 2 | 63810-0000 | Handle | 1 |
| 3 | 64001-0675 | Locator Assembly | 1 |
| 4 | 64001-0670 | Tooling Kit | 1 |
| Tooling Kit Only | | | |
| 5 | 64001-0601 | Conductor Punch | 1 |
| 6 | 64001-0602 | Conductor Anvil | 1 |

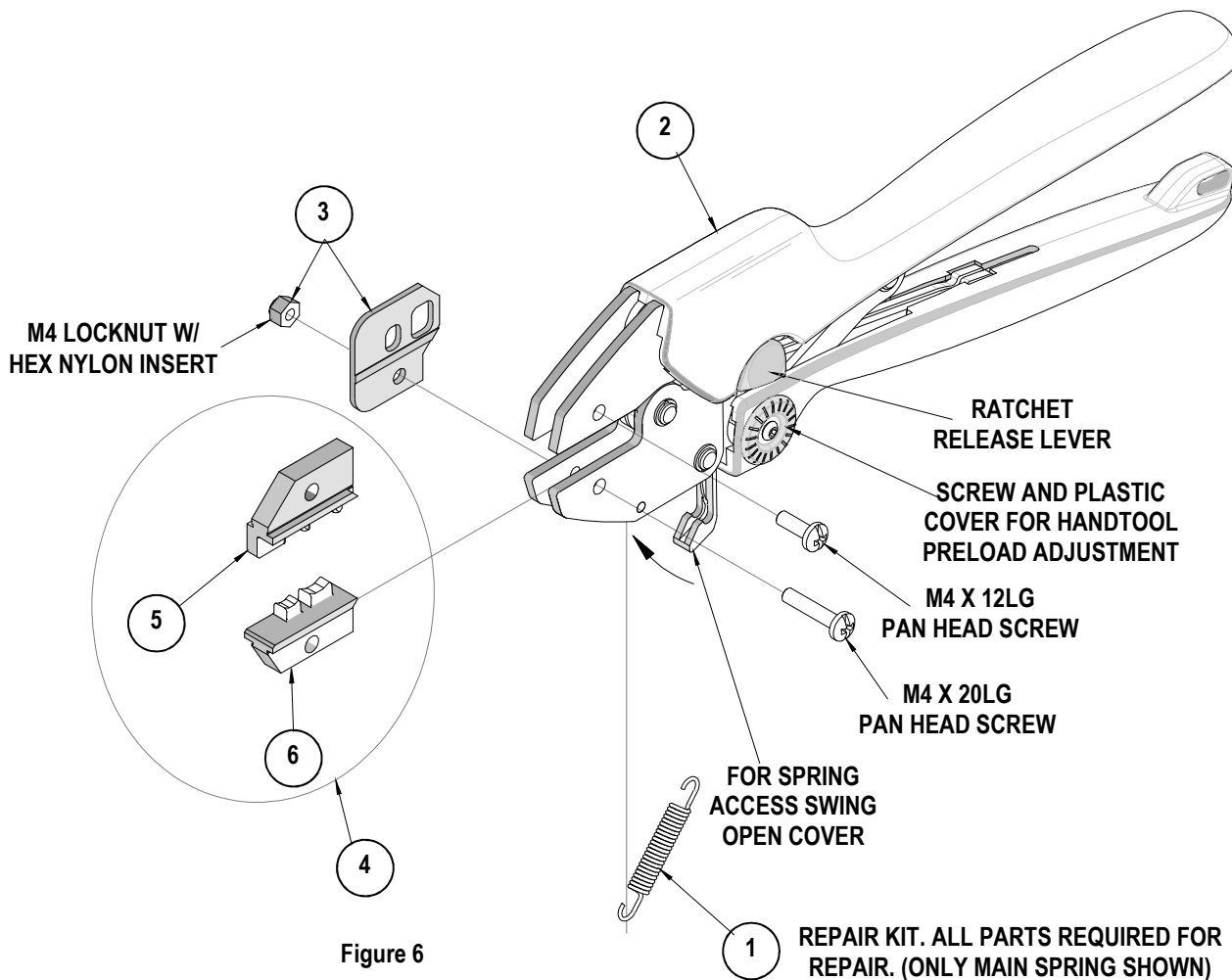
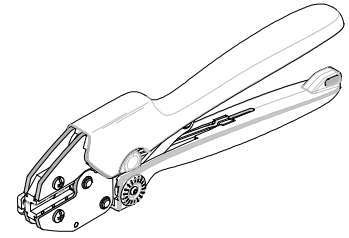


Figure 6



**Hand Crimp Tool
Krimptite™**

Certificate of Calibration

**Order No. 64001-0600
Engineering No. RHT 7000**

Tool Order Number _____

Tool Eng. Number _____

Tool Revision _____

Serial Number _____

Date of Manufacture _____

Handle Load Range at 1 inch from the Tips = _____

Actual = _____

Pin Gauge of Conductor Nest/Nests or Slug height if the nest is the "F" Crimp style.

Range Conductor Nest # 1 = _____ Actual = _____

Range Conductor Nest # 2 = _____ Actual = _____

Technician _____

Date of Calibration _____

Calibration should be done every 5,000 cycles or 3 months.
Tools should be lubricated during this operation.

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