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sales@integrated-circuit.com

RHT-5771 Hand Crimp Tool

| | | |
|---|---|---|
| **Perma-Seal™ Hand Crimp Tool** | **molex®**<br><br>**Application Tooling Specification Sheet** | **Order No. 64001-4500 Engineering. No. RHT-5771** |

## FEATURES

- A full cycle ratcheting hand tool ensures complete crimps
- An economical tool for portable crimping and field repair
- Multi-nested tool eliminates the need for additional tools

## SCOPE

Products: Perma-Seal™ FIQD Couplers Male and Female for 14-22 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 specifications for various wire sizes. The tensile strength is shown in pounds, and it indicates the minimum acceptable force to break or separate the terminal from the conductor.

| Wire Size (AWG) | UL – 486 A* | UL – 486 C** | UL*310*** |
|---|---|---|---|
| | Minimum Pull | | |
| 22 | 8 | 8 | 8 |
| 20 | 13 | 10 | 13 |
| 18 | 20 | 10 | 20 |
| 16 | 30 | 15 | 30 |
| 14 | 50 | 25 | 50 |

*UL - 486 A - Terminals (copper conductors only).
**UL - 486 C - Butt Splices
***UL – 310 – Couplers

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.

| Wire Size: 18 – 22 AWG 0.80 – 0.35mm² | | | | | |
|---|---|---|---|---|---|
| Terminal No. | Terminal Engineering No. (REF) | Wire Strip Length | | Insulation Diameter Maximum | |
| | | In | mm | In | mm |
| 19164-0015 | SAA-9260 | .313 | 7.94 | .145 | 3.68 |
| 19164-0017 | SAA-9261 | .313 | 7.94 | .165 | 4.19 |

| Wire Size: 14 – 16 AWG 2.00 –1.30mm² | | | | | |
|---|---|---|---|---|---|
| Terminal No. | Terminal Engineering No. (REF) | Wire Strip Length | | Insulation Diameter Maximum | |
| | | In | mm | In | mm |
| 19164-0048 | SBB-9262 | .313 | 7.94 | .170 | 4.32 |
| 19164-0050 | SBB-9263 | .313 | 7.94 | .170 | 4.32 |

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## OPERATION

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

1. Adjust the locator up or down until the terminal being crimped, sits flat and straight in the tool.
2. Position the locator for the proper color-coded nest by removing the #4-40 by 3/8" long BHCS under the bracket of the locator. Place it in the desired position that corresponds with the color-coded nest being used. Tighten the BHCS.
3. Place the terminal into the locator and push until the terminal is flush against the locator face shown in Figure 1.
4. Partially close the hand tool jaws until the connector is held snug in place, See Figure 2.
5. Insert the properly stripped wire into the terminal barrel. See Figure 2 and 3.



**Figure 1**



**Figure 2**



**Figure 3**
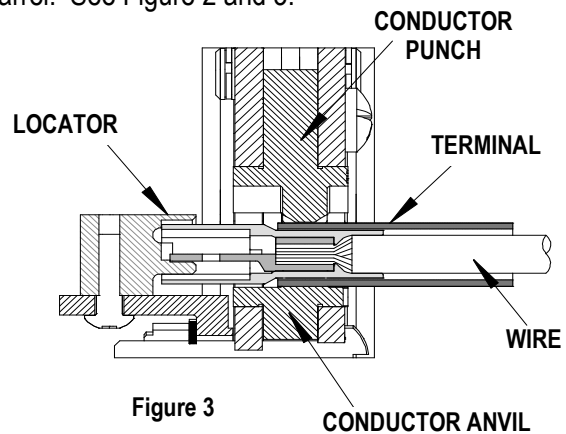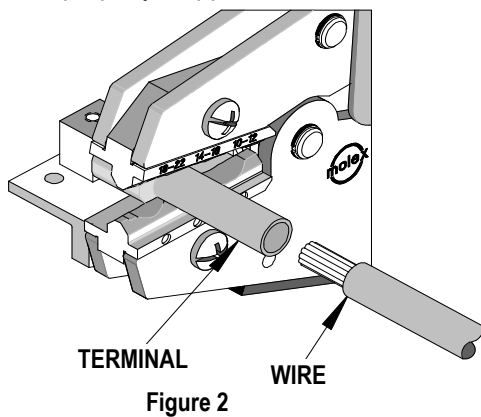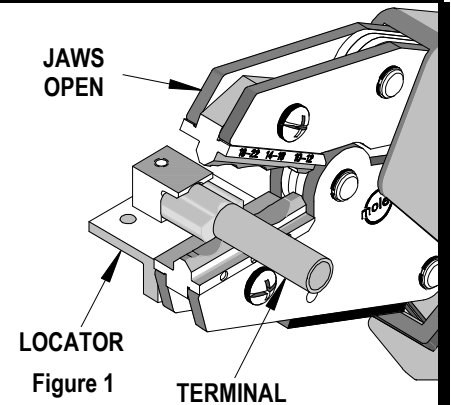
6. Complete the crimp by closing the hand tool handles until they release.

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

7. Remove the crimp and inspect for proper crimp. Molex offers a Crimp Inspection Handbook for closed barrel industrial product. See our website or contact your sales engineer.

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



**Figure 4**

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.
4. 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.
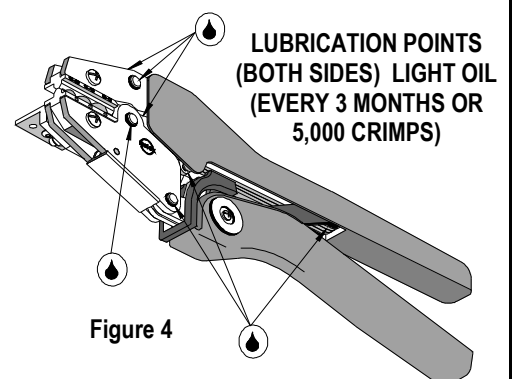
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## Miscrimps or Jams

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:

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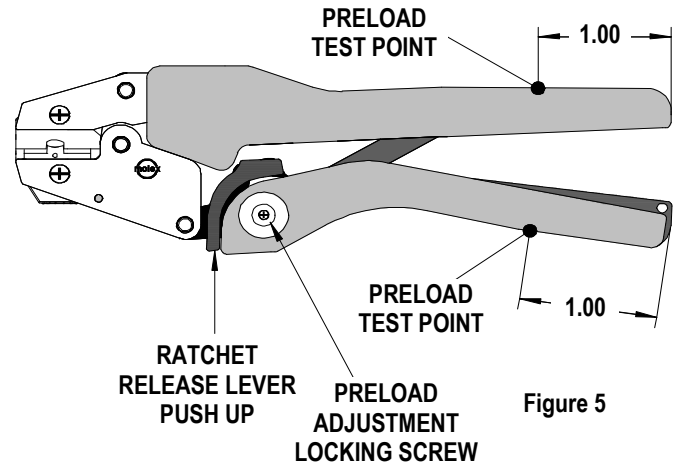6. Check the crimp specifications after tool crimp force is adjusted.

**PRELOAD TEST POINT** — 1.00

**PRELOAD TEST POINT** — 1.00

**RATCHET RELEASE LEVER PUSH UP**

**PRELOAD ADJUSTMENT LOCKING SCREW**

**Figure 5**

## 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 before 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.

**PIN GAUGE IN CONDUCTOR CRIMP**

" X "

" Confining " Crimp
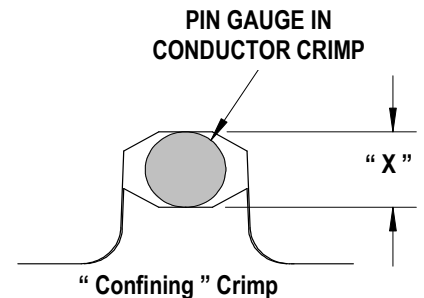
| Nest Color Code | Wire Range | | "X" Dimension Conductor Crimp | | | Crimp Inspection Marking |
|---|---|---|---|---|---|---|
| | AWG | mm² | Mean | Go | No Go | |
| Red | 18 - 22 | 0.35 - 0.80 | .094 | .090 | .098 | --- |
| Blue | 14 - 16 | 1.30 - 2.00 | .115 | .110 | .119 | --- |
| Yellow (not used) | N/A | N/A | N/A | N/A | N/A | --- |

## Warranty

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.

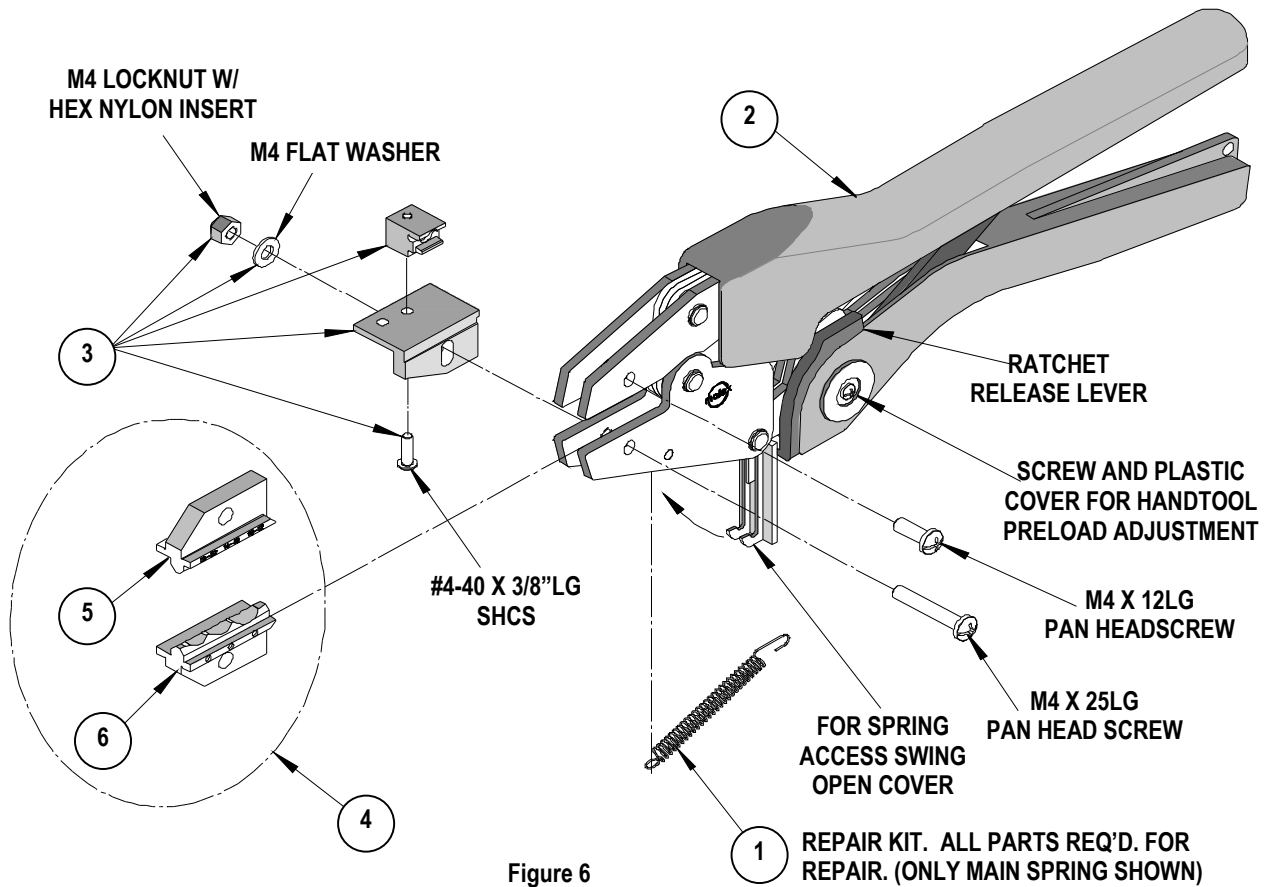**Caution:** Repetitive use of this tool should be avoided.

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.

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## PARTS LIST

| Item | Order No | Description | Quantity |
|------|----------|-------------|----------|
| | **64001-4500** | **Hand Crimp Tool** | **Figure 6** |
| 1 | 64000-0076 | Repair Kit (Springs, Pins and E-Rings) | 1 |
| 2 | 63810-0000 | Handle | 1 |
| 3 | 64001-4575 | Locator Assembly | 1 |
| 4 | 64001-4570 | Tooling Kit | 1 |
| | | **Tooling Kit Only** | |
| 5 | 64001-4502 | Conductor Punch | 1 |
| 6 | 64001-4501 | Conductor Anvil | 1 |

M4 LOCKNUT W/
HEX NYLON INSERT

M4 FLAT WASHER

2

RATCHET
RELEASE LEVER

3

SCREW AND PLASTIC
COVER FOR HANDTOOL
PRELOAD ADJUSTMENT

5

#4-40 X 3/8"LG
SHCS

M4 X 12LG
PAN HEADSCREW

M4 X 25LG
PAN HEAD SCREW

6

FOR SPRING
ACCESS SWING
OPEN COVER

4

1    REPAIR KIT.  ALL PARTS REQ'D. FOR
     REPAIR. (ONLY MAIN SPRING SHOWN)

**Figure 6**

RHT-5771 Hand Crimp Tool

| Perma-Seal™ Hand Crimp Tool | **molex**® <br><br> **Application Tooling Specification Sheet** |  <br><br> **Order No. 64001-4500** <br> **Engineering. No. RHT-5771** |
| --- | --- | --- |

## Certificate of Calibration

Tool Order Number _____

Tool Eng. Number_____

Tool Revision_____

Serial Number_____

Date of Manufacture_____

Handle Load Range at 1 inch from the Tips =_____

Actual  =_____

Pin Gage 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 =_____

Range Conductor Nest # 3 =_____Actual =_____

Technician_____

Date of Calibration _____

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

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