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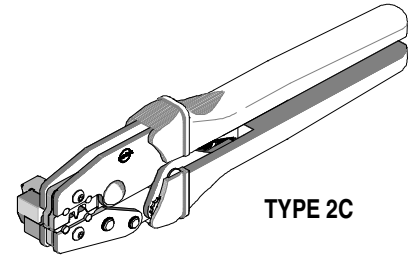[Molex Connector Corporation](#)
[0638116500](#)

For any questions, you can email us directly:
sales@integrated-circuit.com

Hand Crimp Tool for SPOX™ Terminals

HAND CRIMP TOOL
SPECIFICATION SHEET
Order No. 63811-6500

TYPE 2C

FEATURES

- A full cycle ratcheting hand tool ensures complete crimps
- Ergonomic soft grip handles for comfortable crimping
- A precision user-friendly terminal locator wire stop holds terminals in the proper crimping position
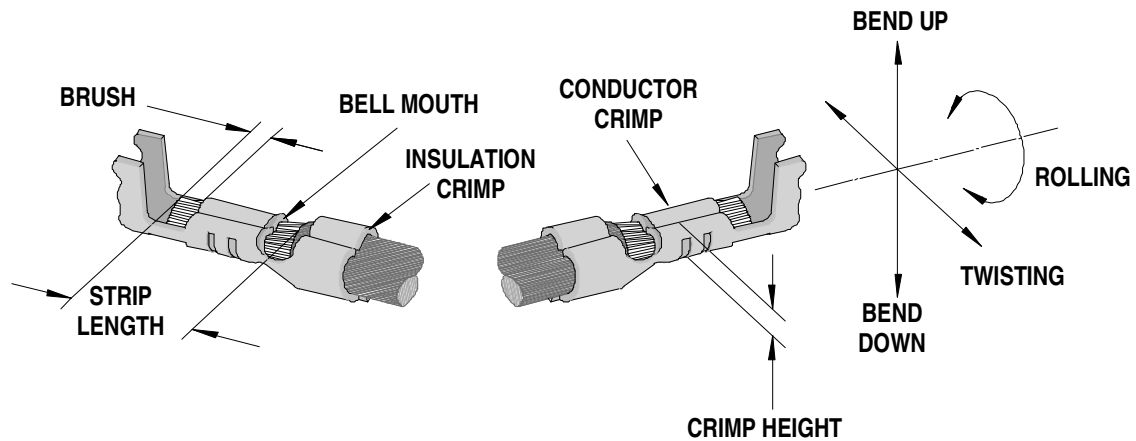- This tool is WHMA-IPCA620 Class 2 and RoHS compliant

SCOPE

Products: SPOX™ Crimp Terminal, 18-24 AWG.

Terminal Series No.	Terminal Order No.				Wire Size		✳Insulation Diameter		Strip Length	
	Loose Piece		✳Reel		AWG	mm²	mm	In.	mm	In.
5194	08-70-1030	39-00-0022	08-70-1031	39-00-0409	18 - 24	0.80-0.20	1.30-3.00	.051-.118	3.00-3.50	.118-.138
			39-00-0021	39-00-0416						
✳Customer to cut off terminal from reel: 0.40mm (.016") maximum Cut-off Tab. ✳See Conditions on page 2.										

DEFINITION OF TERMS

BRUSH

BELL MOUTH

CONDUCTOR CRIMP

INSULATION CRIMP

BEND UP

ROLLING

TWISTING

STRIP LENGTH

BEND DOWN

CRIMP HEIGHT

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

Distributor of Molex Connector Corporation: Excellent Integrated System Limited
Datasheet of 0638116500 - TOOL HAND CRIMP 18-24AWG
Contact us: sales@integrated-circuit.com Website: www.integrated-circuit.com

Hand Crimp Tool for SPOX™ Terminals

CONDITIONS:

After crimping, the conductor profiles should measure the following (see notes on page 5).

| Terminal Series No | Wire Size | | Conductor Crimp | | | | Insulation Crimp | | | | Pull Force Minimum | | Profile | |
| | AWG | mm² | Height (Ref.) | | Width (Ref.) | | Height (Ref.) | | Width (Ref.) | | N | Lb. | A | B |
			mm	In.	mm	In.	mm	In.	mm	In.				
5194	18	0.80	1.16-1.26	.046-.050	1.70	.067	2.90	.114	2.70	.106	89.0	20.00	X	
5194	20	0.50	0.97-1.07	.038-.042	1.70	.067	2.14	.084	2.70	.106	57.8	13.00		X
5194	22	0.35	0.97-1.07	.038-.042	1.70	.067	2.09	.082	2.70	.106	40.0	9.00		X
5194	24	0.20	0.97-1.07	.038-.042	1.70	.067	2.07	.081	2.70	.106	28.5	6.40		X
To Achieve IPC-A-620 Class 2 Crimps, the following over-all wire insulation diameter ranges are recommended: Profile A: 2.00-3.00mm (.079-.118 inch) Profile B: 1.30-2.50mm (.051-.098 inch)														

OPERATION

CAUTION: Install only Molex terminals listed above with this tool. Do not crimp hardened objects as damage can occur to the tool or die.

Open the tool by squeezing the handles together, at the end of the closing stroke, the ratchet mechanism will release the handles, and the hand tool will spring open.

Crimping Terminals

1. Select the desired terminal listed in the preceding charts.
2. Swing the terminal locator away from the crimp tool shown in Figure 2. Some terminals with large insulation grips may interfere with the crimp tooling when swinging the locator into position. The terminal must then be loaded into the locator in the closed/crimp position.
3. When using the locator, press down on the wire stop on the locator as shown in Figure 2. Insert the proper terminal into the proper nest opening. Make sure when choosing the nest opening, it will correspond with the A or B profile on the hand tool.
4. Return the locator to its original position.
5. Insert the proper wire over the terminal. Some large O.D. wires may need to be placed into the terminal before closing the tool. Gently touch the wire stop with the end of the wire. See Figure 3.
6. Compress the terminal by squeezing the tool handles until the ratchet mechanism cycle has been completed. Release handles to open the jaws.
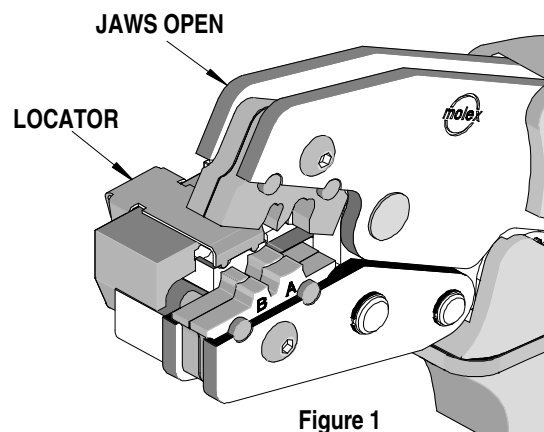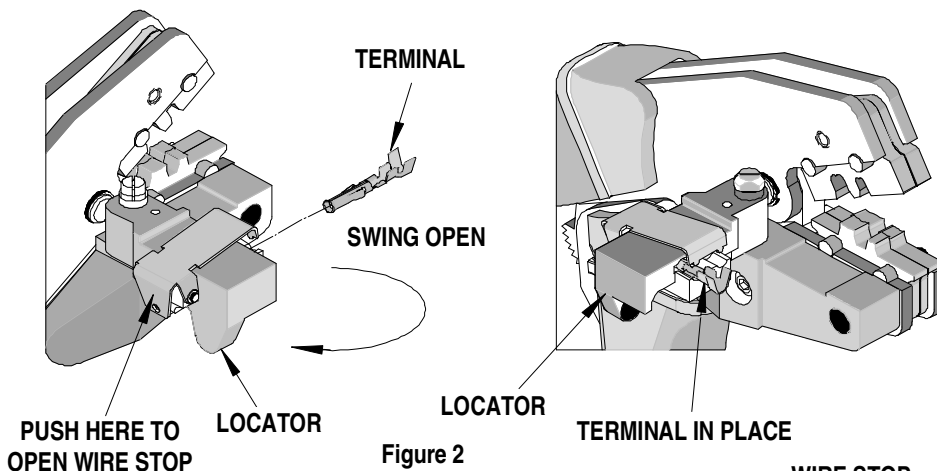

Figure 1

Hand Crimp Tool for SPOX™ Terminals

TERMINAL

SWING OPEN

PUSH HERE TO
OPEN WIRE STOP

LOCATOR

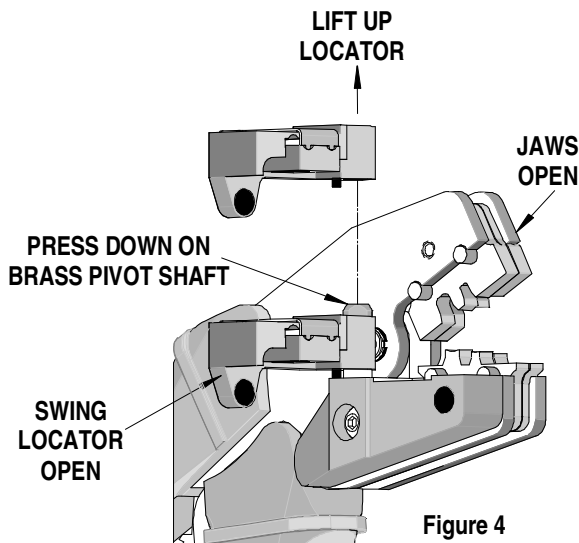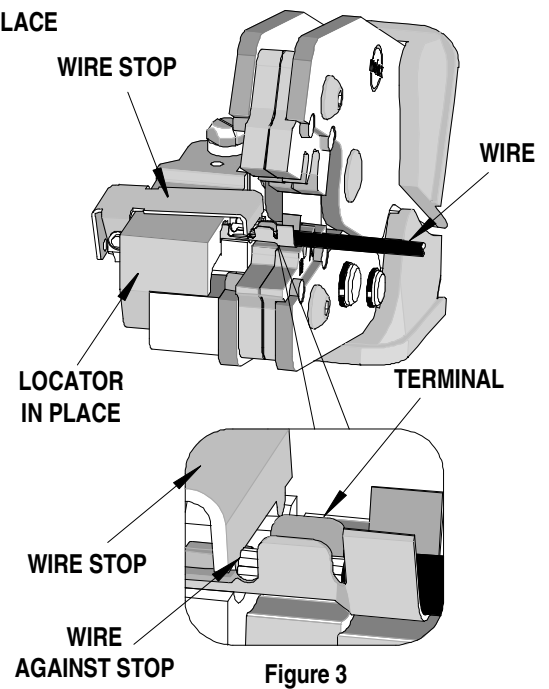LOCATOR

TERMINAL IN PLACE

Figure 2

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

7. Remove the crimped terminal from the terminal locator by pressing down on the wire stop and gently pulling on the wire. The terminal locator can be in either position.
8. Visually inspect the crimped terminal for proper crimp location.

Note:
A crimp height chart is provided with this manual as Reference Only. Due to the wide range of wires, strands, insulation diameters, and durometers, actual crimp height measurements may very slightly. An occasional, destructive, pull force test should be preformed to check hand tool crimp. Pull Force value Must exceed the Minimum pull force specifications listed on page 2.

WIRE STOP

WIRE

LOCATOR
IN PLACE

TERMINAL

WIRE STOP

WIRE
AGAINST STOP

Figure 3

LIFT UP
LOCATOR

JAWS
OPEN

PRESS DOWN ON
BRASS PIVOT SHAFT

SWING
LOCATOR
OPEN

Figure 4

Locator Replacement

See the parts list on the last page of this document for the proper locator order number. Follow the steps below to replace the locator.

1. Open the crimp hand tool.
2. Swing the existing locator open and away from the hand tool.
3. Firmly press down on the brass pivot shaft with your thumb, while pulling the locator up. Slip the locator off the top of the brass pivot shaft. See Figure 4.
4. Replace it with the proper locator by putting over the brass pivot shaft and snapping it into place.

Hand Crimp Tool for SPOX™ Terminals

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. The 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. Light oil such as 30 weight automotive oil used at the oil points, every 5,000 crimps or 3 months, shown in Figure 6 will significantly enhance the tool life.
4. Wipe excess oil from hand tool, particularly from crimping area. Oil transferred from the crimping area onto certain terminations may affect the electrical characteristics of an application.
5. 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.
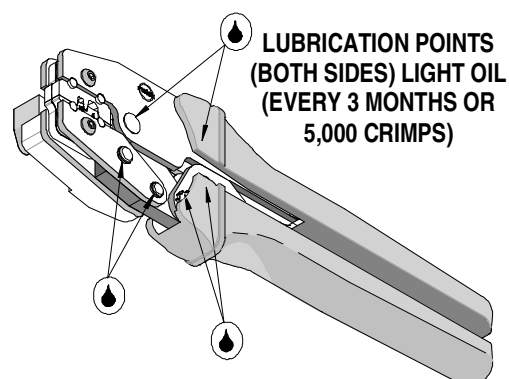

LUBRICATION POINTS (BOTH SIDES) LIGHT OIL (EVERY 3 MONTHS OR 5,000 CRIMPS)

Figure 5

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 6.

How to Adjust Tool Preload
(See Figure 6)

This hand tool is factory preset to 25-45 LBS. preload. It may be necessary over the life of the tool 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:

PRELOAD CHECK POINT 25.4MM

SETTING WHEEL

ECCENTRIC AXLE

HANDLE GRIP REMOVED

WRENCH SET (SOLD SEPERATELY)

LOCKING SCREW

HANDLE GRIP

RATCHET RELEASE LEVER

Figure 6

1. Remove or fold back the handle grip from the handle to expose the eccentric axle and setting wheel.
2. Remove the locking screw with a 2mm hex wrench. The wrench set (63810-0101), is not supplied. It is sold separately from the hand tool.
3. Turn the eccentric axle and setting wheel with the wrench or pliers Counter-clockwise (CCW) to increase handle force.
4. Replace the locking screw, aligning the nearest notch in the setting wheel to locking screw.
5. Replace the handle grip.
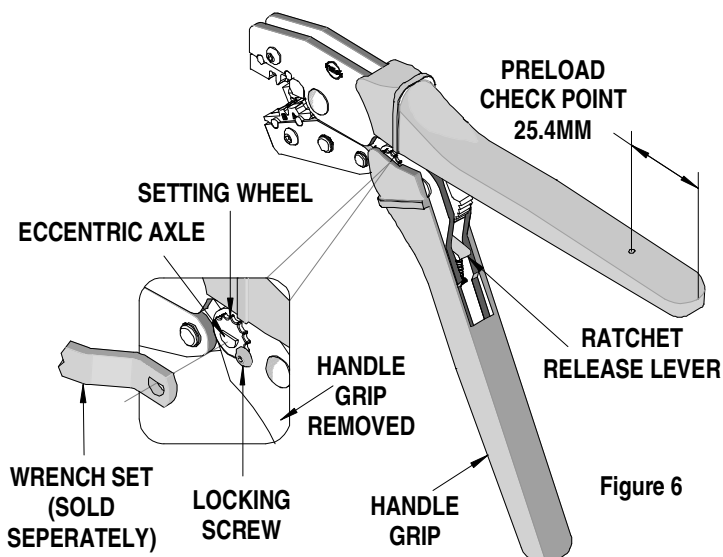6. Check the crimp specifications or conduct a pull test after tool handle preload force is adjusted.

Hand Crimp Tool for SPOX™ Terminals

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**: Molex crimp specifications are valid only when used with Molex terminals and tooling.

CAUTIONS

1. Manually powered hand tools are intended for low volume or field repair. This tool is NOT intended for production use. Repetitive use of this tool should be avoided.
2. Insulated rubber handles are not protection against electrical shock.
3. Wear eye protection at all times.
4. Use only the Molex terminals specified for crimping with this tool.

Certification

Molex does not certify or re-certify commercial grade hand tools but rather supplies the following guidelines for customers to re-certify hand tools.

% This tool is qualified to pull force only. To re-certify, crimp a terminal to a wire, which has been stripped 12.7mm (1/2") long, so there is no crimping of the insulation. Pull the terminal and wire at a rate no faster than 25mm (1.00") per minute. See the Molex web site for the Quality Crimp Handbook for more information on pull testing.

% If the tool does not meet minimum pull force values, handle preload should be increased and the pull test rerun, (See How To Adjust Preload).

% When the hand tool is no longer capable of achieving minimum pull force, it should be taken out of service and replaced.

Hand Crimp Tool for SPOX™ Terminals

PARTS LIST

Item Number	Order Number	Description	Quantity
REF	**63811-6500**	**Hand Crimp Tool**	**Figure 7**
1	63810-0101	Wrench Set (Not included)	0
2	63810-0102	Locator Base Assembly	1
3	63810-0103	Repair Kit (Not included)	0
4	63811-6575	Locator	1

M4 X 5LG
BHCS

RATCHET
RELEASE LEVER

Figure 7