ServiceGrade™ Hand Crimp Tool

molex

Application Tooling Specification Sheet



Order No. 64016-0035

FEATURES

- A full cycle ratcheting hand tool ensures complete crimps
- Ergonomic soft grip handles for comfortable crimping
- For crimps conforming to industry standards such as UL, USCAR21, and WHMA-IPCA620 Class 2, please use the 63811-4400 Premium Grade™ hand tool for the Molex terminal

SCOPE

Products: MX150L™ Crimp Terminals, 14-22 AWG.

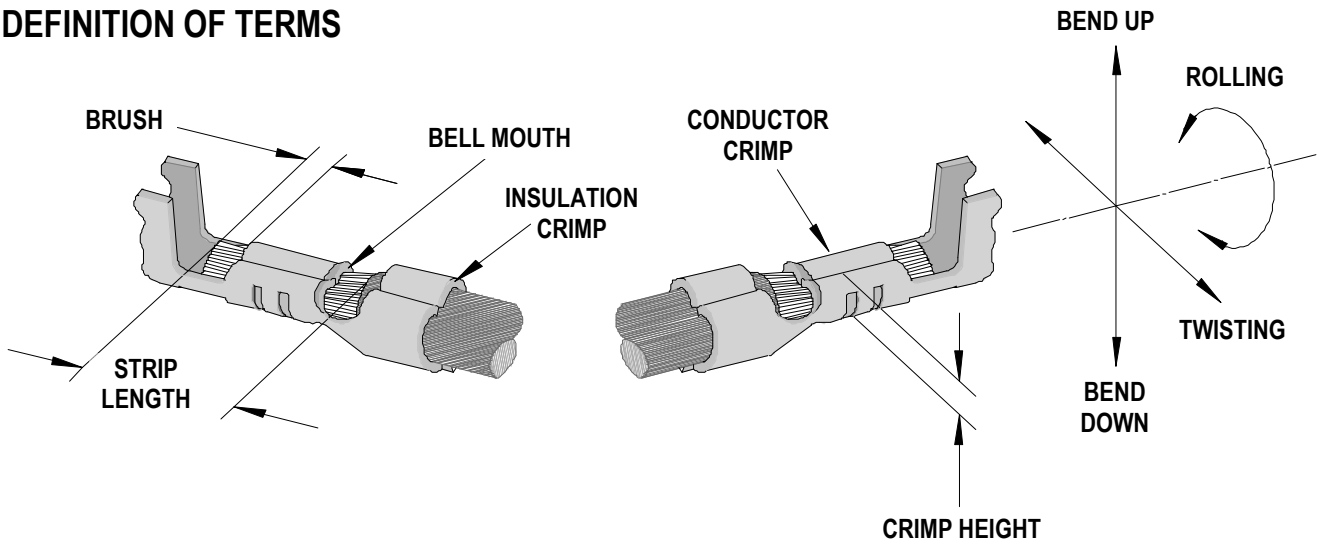
Crimping Information:

Crimp the terminal and appropriate gauge wire in the specified profile.

Terminal Series No	Wire Size		Pull Force Minimum ▼		Tool Crimp Profile AWG	
	AWG	mm²	N	Lb.	18-22	14-16
19417	14	2.00	222.6	50.00		X
	16	1.27	133.5	30.00		X
	18	0.83	89.0	20.00	X	
	20	0.83	57.9	13.00	X	
	22	0.83	35.6	8.00	X	
19420	14	2.00	222.6	50.00		X
	16	1.27	133.5	30.00		X
	18	0.83	89.0	20.00	X	
	20	0.58	57.9	13.00	X	
	22	0.36	35.6	8.00	X	
▼ Pull force test samples should not have the wire insulation crimped.						

Note:
An occasional, destructive, pull force test with the terminal and wire crimped should be performed to check hand tool crimp. The pull force value must exceed the terminal's minimum pull force specifications listed above. If values do not exceed the minimum pull force when all instructions are followed then a new tool is required.

DEFINITION OF TERMS



The illustration above is a generic representation of crimp attributes and not an exact image of a particular terminal.

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.

WARNING: Make sure that the wire is ***DISCONNECTED*** from any power supply

Always wear proper eye protection when operating this hand tool.

Open the hand tool by squeezing the handles together; at the end of the closing stroke the anti-backup ratchet will release. Release the handles and the hand tool will open.

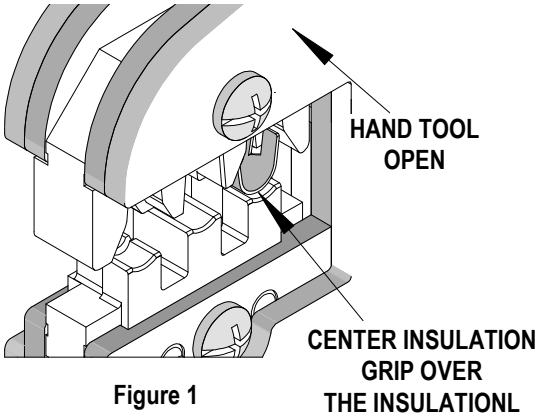


Figure 1

Crimping Terminals

1. Select the desired terminal listed in the preceding charts.
2. Holding the terminal at the contact end, place the terminal on the appropriate anvil. See Figure 1.

Note: some terminals may have a large insulation or conductor grip; the grip may need to be slightly closed (by hand) so it will fit between the open jaws.

3. Slowly close the handles of the tool until the terminal is held in place. If the handles are closed too far the terminal will begin to crimp.
4. Place a pre-stripped wire into the terminal (see Scope chart for recommended strip lengths). Position the wire so the conductor lies in the conductor grip. See Figure 2.
5. While holding the wire in place, slowly close the handles of the tool. If a jam occurs, stop closing the tool and release the anti-backup ratchet located on the top of the tool. Pushing it forward will release the jaws. See Figure 4.

Note: The illustration is a general representation. Some of the terminals may look different and be held in a different area of the terminal.

6. Continue to close the tool handles until the anti-backup ratchet releases. Allow the handles to open.
7. Remove the crimped terminal from the tool.
8. Inspect the crimp for loose wire strands, missing crimp, or other damage. Any minor terminal bending may be straightened by hand.

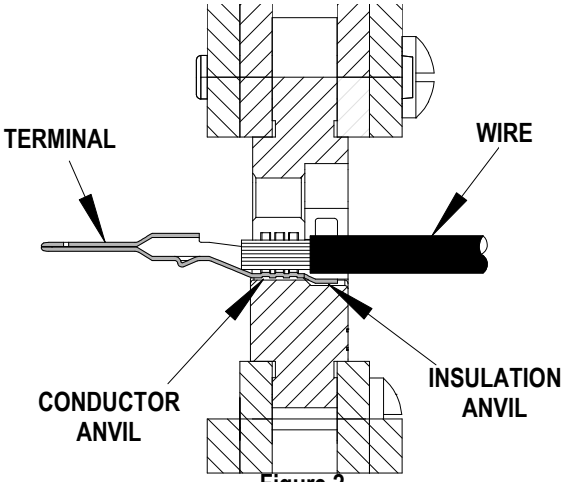
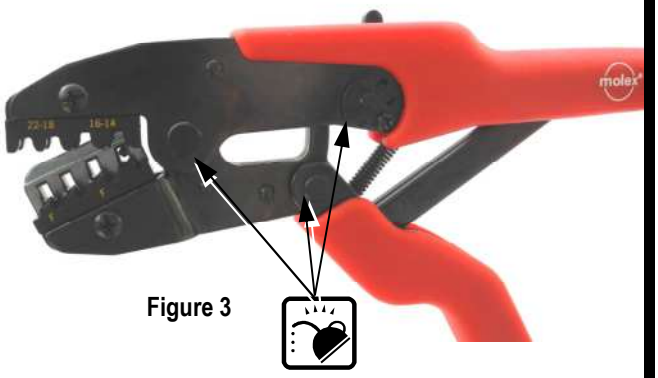


Figure 2

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. Light oil (such as SAE30W oil) applied at the oil points, shown in Figure 3, every 5,000 crimps or 3 months, is recommended.
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.


Figure 3

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.

Miscrimps or Jams

If the tool ever becomes jammed in a partially closed position, **DO NOT** force the handles open or closed. The tool will open by lifting the ratchet release lever. See Figure 4.

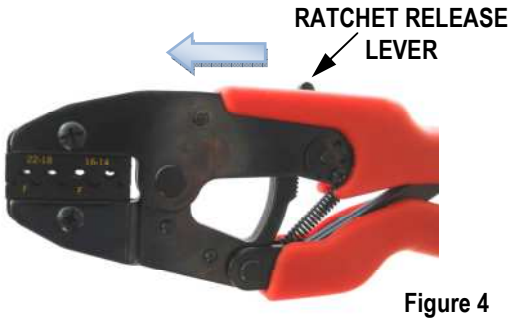


Figure 4

Tool Handle Preload

Tool handle preload should not require adjustment upon receipt of tool.

This hand tool is set from the factory to a preload that will fully close the tool jaws without excessive force from the operator. Over the life of the tool the tool linkage can wear and handle preload force may decrease and preload can be adjusted. It is the operator's responsibility to periodically perform a tensile pull test on the crimped wire. If the pull test value falls below the specification, the preload should be adjusted. If after adjustment, the crimp does not meet the pull test value, then the tool should be replaced.

Warranty

This tool is for electrical terminal crimping purposes only. All tools are warranted to be free of manufacturing defects for a period of 30 days. Should such a defect occur, the tool will be repaired or exchanged free of charge. This 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.

ServiceGrade™ crimp hand tools are low cost tools used in field repair for a limited number of terminations. If a high quality tool is required or a higher volume of terminations required, please purchase the corresponding PremiumGrade™ crimp hand tool. A ServiceGrade™ crimp tool may or may not have a terminal locator and in some case may need the locator removed to operate properly.



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. **NEVER** perform crimps on active electrical circuits.
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 ServiceGrade™ hand tools but rather supplies the following guidelines for customers to maintain their 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.
- When the hand tool is no longer capable of achieving minimum pull force, it should be replaced.

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