



ServiceGrade™ Hand Crimp Tool Specification Sheet Order No. 64016-0170



FEATURES

- A full cycle ratcheting hand tool ensures complete crimps
- Ergonomic soft grip handles for comfortable crimping
- For crimps conforming to WHMA-IPCA620 Class 2, use hand crimp tools 63811-1100, 63811-5300, 63811-5400, 63811-1500, or 63811-1600 (see scope for specific tools).

SCOPE

Products: HCS-125 12-14 AWG, MX150L™ 8-12 AWG, and Mini-Fit Sr.™ 8-12 AWG terminals.

HCS-125 (WHMA-IPCA620 equivalent hand tool: 63811-1100)								
Terminal Series No.	Terminal Order No.		Wire Size		Insulation Diameter		Strip Length	
	Loose Piece	Reel	AWG	mm ²	mm	In.	mm	In.
1900	18-12-2602	18-12-2601	12-14	3.31-2.00	3.56-4.57	.140-.180	4.06-5.59	0.160-0.220
1901	18-12-1602	18-12-1601	12-14	3.31-2.00	3.56-4.57	.140-.180	4.06-5.59	0.160-0.220
42547	18-12-1604	18-12-1603	12-14	3.31-2.00	3.56-4.57	.140-.180	4.06-5.59	0.160-0.220

Note: for 10AWG crimps use tool 63811-1100

MX150L™ (WHMA-IPCA620 equivalent hand tools: 63811-5300 and 63811-5400)								
Terminal Series No.	Terminal Order No.		Wire Size		Insulation Diameter		Strip Length	
	Loose Piece	Reel	AWG	mm ²	mm	In.	mm	In.
19431	19431-0017	19431-0015	8	8.37	6.30-6.70	0.248-0.264	8.90-9.40	0.350-0.370
19434	19434-0004	19434-0002						
19431	19431-0016	19431-0001	10-12	5.26-3.31	3.90-4.85	0.153-0.191	5.50-6.20	0.217-0.244
19434	19434-0003	19434-0001						

Mini-Fit Sr.™ (WHMA-IPCA620 equivalent hand tools: 63811-1500 and 63811-1600)										
Terminal Series No	Terminal Order No				Wire Size		Insulation Diameter		Strip Length	
	Loose Piece		Reel		AWG	mm²	mm	In.	mm	In.
42815			42815-0030	42815-0032	8	8.50	5.00-6.75	.197-.266	9.00-10.00	0.354-0.394
			42815-0031	42815-0038						
42817			42817-0030	42817-0130	8	8.50	5.00-6.75	.197-.266	9.00-10.00	0.354-0.394
			42817-0031	42817-0131						
			42817-0032	42817-0132						
			42817-0038							
42815			42815-0010	42815-0012	10-12	5.00-3.30	3.50-5.30	.138-.209	7.49-8.51	.295-.335
			42815-0011	42815-0018						
42817			42817-0010	42817-0110	10-12	5.00-3.30	3.50-5.30	.138-.209	7.49-8.51	.295-.335
			42817-0011	42817-0111						
			42817-0012	42817-0112						
			42817-0018	42817-0019						

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	mm ²	N	Lb.	A	B	C
1900, 1901, 42547	12	3.30	311	70			
	14	2.00	222	50			
19431, 19434	8	8.50	400	90			
	10	5.00	355	80			
	12	3.30	311	70			
42815, 42817	8	8.50	400	90			
	10	5.00	355	80			
	12	3.30	311	70			

▼ Pull force test samples should not have the wire insulation crimped.

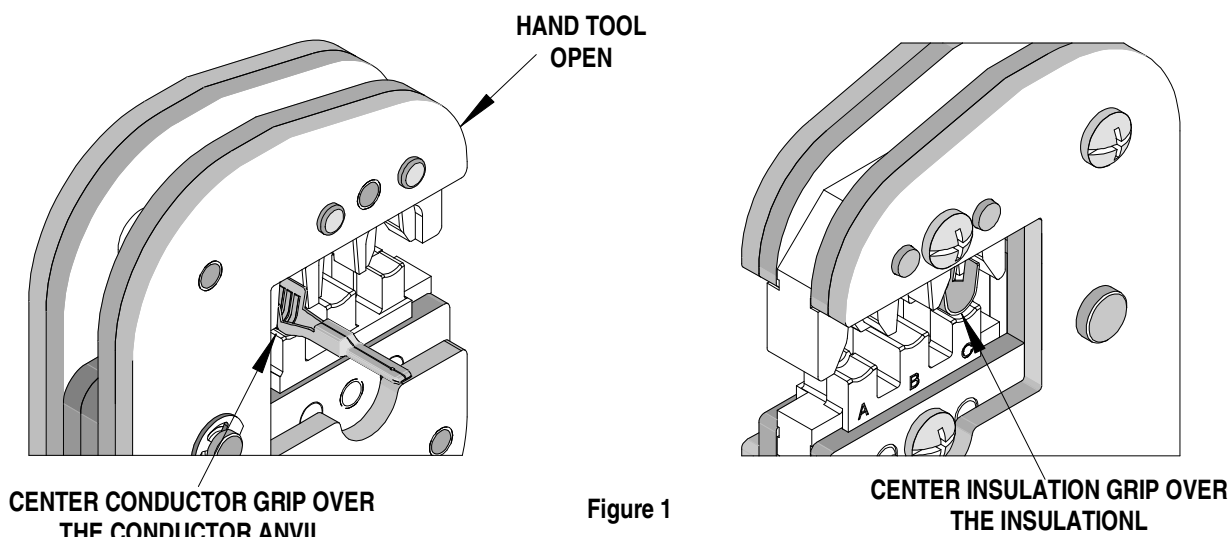
OPERATION

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 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.

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 by lifting up the lever near the top of the moving handle. See Figure 3.

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.

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 on page 2. If values do not exceed the minimum pull force when all instructions are followed then a new tool is required.

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.
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.

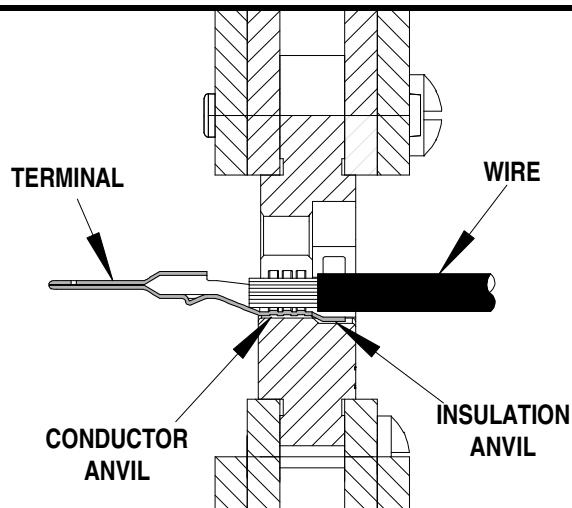


Figure 2

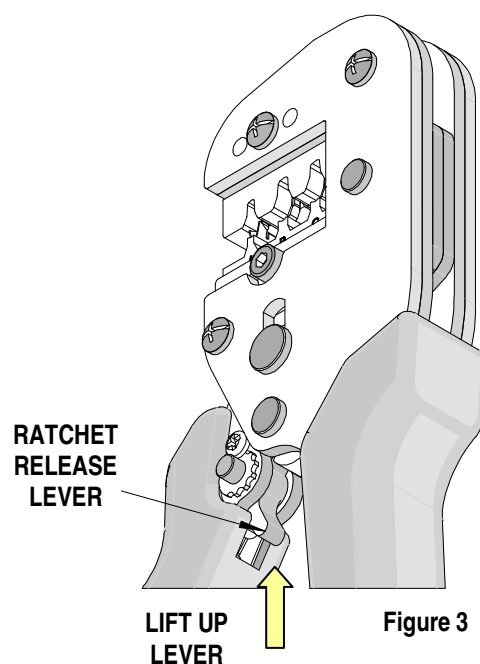


Figure 3

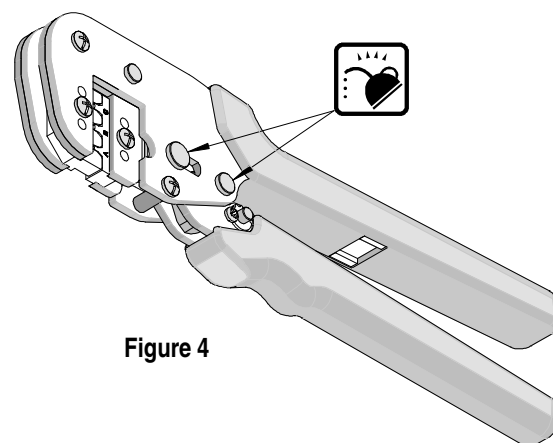


Figure 4

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 2.

Tool Handle Preload

Tool handle preload cannot be adjusted.

This hand tool is set 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. It is the operator's responsibility to periodically perform a tensile pull test on the crimped wire. If the pull test value falls below specification, 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 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.

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.

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