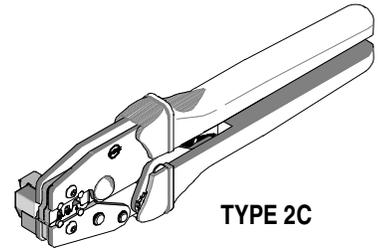




# HAND CRIMP TOOL SPECIFICATION SHEET Order No. 63811-7100



## 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 IPC/WHMA-A-620 Class 2 and RoHS compliant

## SCOPE

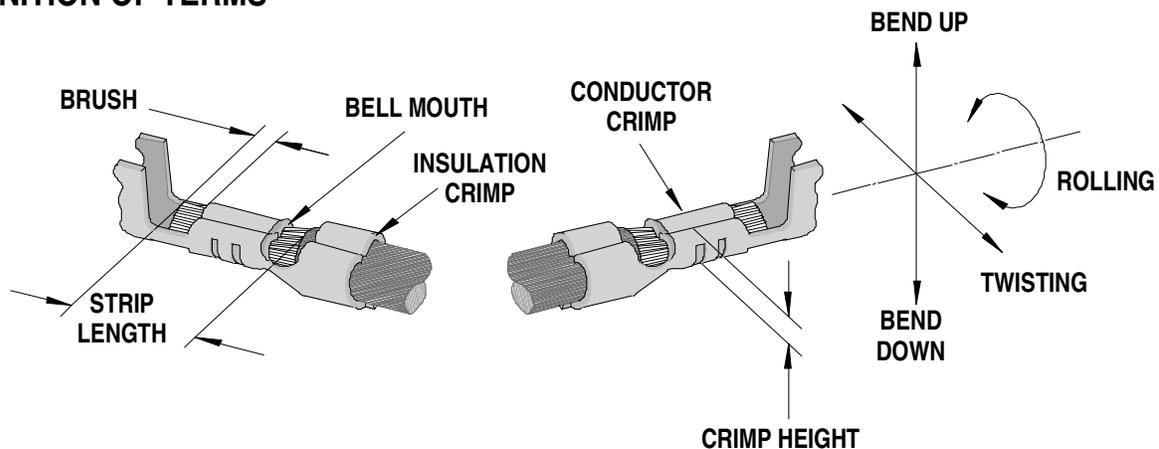
Products: .093" Pin and Socket 14-18 AWG and 24-30 AWG and Claspcron™ Crimp Terminal Socket 24-30 AWG

Terminal Series No.	Terminal Order No.				Wire Size		◆ Insulation Diameter		Strip Length	
	Loose Piece		* Reel		AWG	mm <sup>2</sup>	mm	In.	mm	In.
1433	02-09-1141	39-00-0318	02-09-1142	39-00-0317	24-30	0.20-0.05	0.76-1.52	.030-.060	3.96-5.53	.156-.218
	02-09-1144	39-00-0320	02-09-5146	39-00-0319						
	02-09-5147	39-00-0322	39-00-0315	39-00-0321						
	39-00-0316									
1434	02-09-2143	39-00-0324	02-09-2141	39-00-0325	24-30	0.20-0.05	0.76-1.52	.030-.060	3.96-5.53	.156-.218
	02-09-6145	39-00-0326	02-09-2149	39-00-0323						
			02-09-6144							
1881-3	02-08-1104		02-08-1103		24-30	0.20-0.05	0.76-1.52	.030-.060	3.96-5.53	.156-.218
42477			02-09-1615		14-18	2.00-0.80	2.36-3.55	.093-.140	3.96-5.53	.156-.218
42478	02-09-2612		02-09-2611		14-18	2.00-0.80	2.36-3.55	.093-.140	3.96-5.53	.156-.218

\* Follow the Cut-Off Tab specifications on Applicator specification sheets. These Terminals in the 1433, 1434, and 1881 series cannot be removed from the reel by manual cutting. An applicator must be used or the terminals will not function properly.

◆ See Conditions on page 2.

## DEFINITION OF TERMS



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

**CONDITIONS:**

After crimping, the conductor profiles should measure the following (see Note).

Terminal Series No.	Wire Size		Conductor Crimp				Insulation Crimp				Pull Force Minimum		◆ Profile		
			Height (Ref)		Width (Ref)		Height (Ref) Maximum		Width (Ref)						
	AWG	mm <sub>2</sub>	mm	In.	mm	In.	mm	In.	mm	In.	N	Lb.	A	B	C
1433	24	0.20	0.86-0.94	.034-.037	1.60	.063	1.35	.053	1.90	.075	33.5	10.00	X		
	26	0.12	0.86-0.94	.034-.037	1.60	.063	1.32	.051	1.90	.075	20.1	6.00	X		
	28	0.08	0.86-0.94	.034-.037	1.60	.063	1.28	.050	1.90	.075	13.3	3.00	X		
	30	0.05	0.84-0.91	.033-.036	1.60	.063	1.28	.050	1.90	.075	6.7	1.50	X		
1434	24	0.20	0.86-0.94	.034-.037	1.60	.063	1.35	.053	1.90	.075	33.5	10.00	X		
	26	0.12	0.86-0.94	.034-.037	1.60	.063	1.32	.051	1.90	.075	20.1	6.00	X		
	28	0.08	0.86-0.94	.034-.037	1.60	.063	1.28	.050	1.90	.075	13.3	3.00	X		
	30	0.05	0.84-0.91	.033-.036	1.60	.063	1.28	.050	1.90	.075	6.7	1.50	X		
1881-3	24	0.20	0.86-0.94	.034-.037	1.60	.063	1.35	.053	1.90	.075	33.5	10.00	X		
	26	0.12	0.86-0.94	.034-.037	1.60	.063	1.32	.051	1.90	.075	20.1	6.00	X		
	28	0.08	0.86-0.94	.034-.037	1.60	.063	1.28	.050	1.90	.075	13.3	3.00	X		
	30	0.05	0.84-0.91	.033-.036	1.60	.063	1.28	.050	1.90	.075	6.7	1.50	X		
42477	14	2.00	1.85-1.96	.073-.077	2.49	.098	3.28	.129	4.85	.191	222.6	50.00		X	
	16	1.30	1.40-1.50	.055-.059	2.75	.108	3.80	.150	3.70	.146	133.5	30.00			X
	18	0.80	1.30-1.40	.051-.055	2.75	.108	3.75	.148	3.70	.146	89.0	20.00			X
42478	14	2.00	1.85-1.96	.073-.077	2.49	.098	3.28	.129	4.60	.181	222.6	50.00		X	
	16	1.30	1.40-1.50	.055-.059	2.75	.108	3.80	.150	3.70	.146	133.5	30.00			X
	18	0.80	1.30-1.40	.051-.055	2.75	.108	3.75	.148	3.70	.146	89.0	20.00			X

◆ To Achieve IPC-A-620 Class 2 Crimps, the following over-all wire insulation diameter ranges are recommended:

1. Profile A: 0.76-1.52mm (.030-.060 inch)
2. Profile B: 2.79-3.55mm (.110-.140 inch)
3. Profile C: 2.36-3.14mm (.093-.124 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.

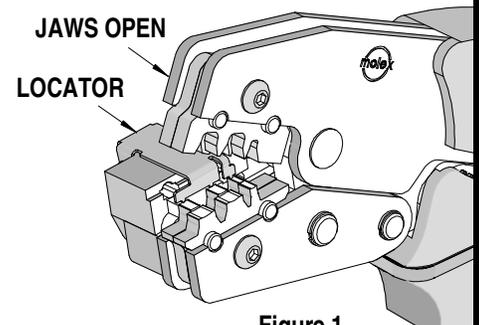


Figure 1

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, B, or C profile on the hand tool.
4. Return the locator to its original position. 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.
5. Compress the terminal by squeezing the tool handles until the ratchet mechanism cycle has been completed. Release handles to open the jaws.

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

6. 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.
7. Visually inspect the crimped terminal for proper crimp location.

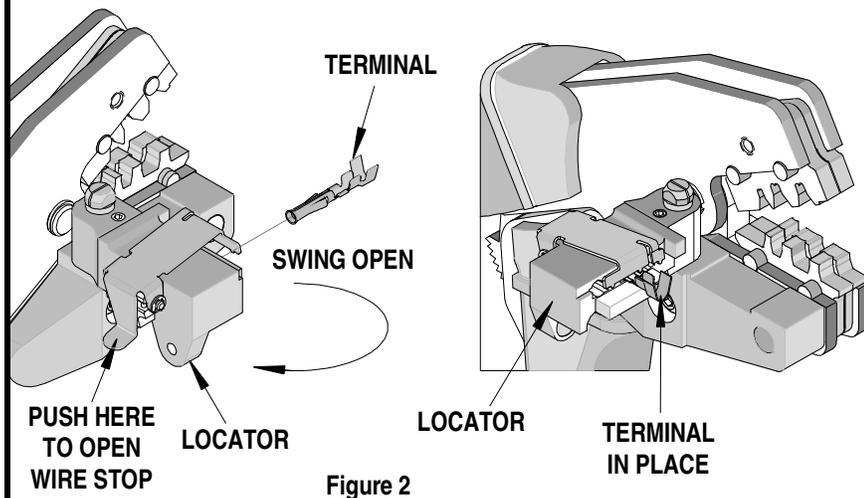


Figure 2

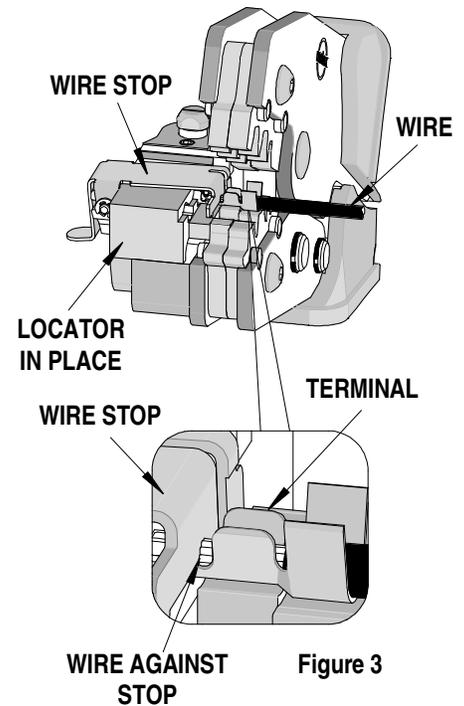


Figure 3

**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 vary slightly. An occasional, destructive, pull force test should be performed to check hand tool crimp. Pull Force value Must exceed the Minimum pull force specifications listed under Conditions.

**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 new locator by putting over the brass pivot shaft and snapping it into place.

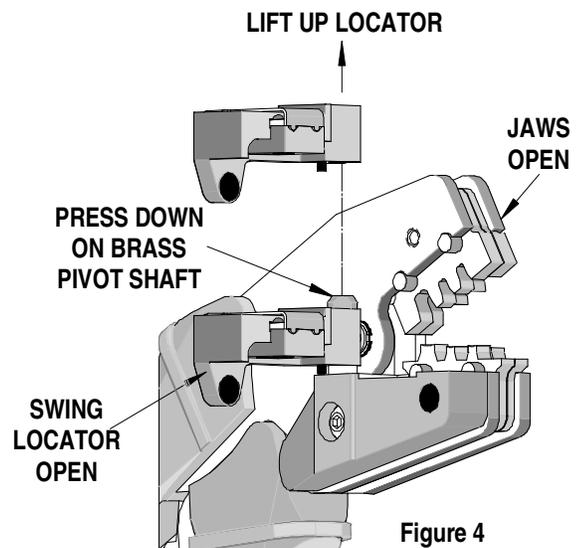


Figure 4

## 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. Use light oil, such as 30 weight automotive oil, at the oil points. Every 5,000 crimps, or 3 months, to significantly enhance the tool life. See Figure 6.
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.

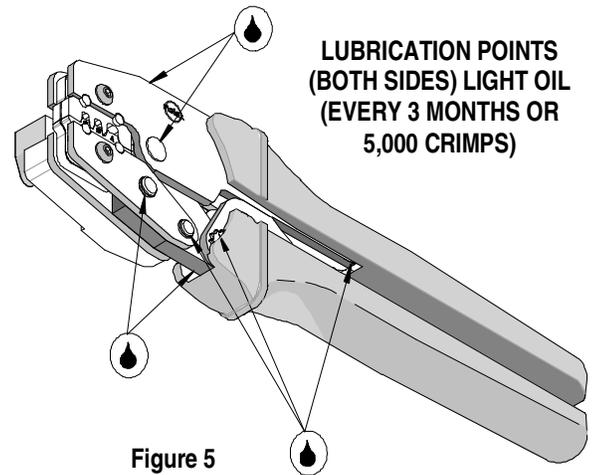


Figure 5

## 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:

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.

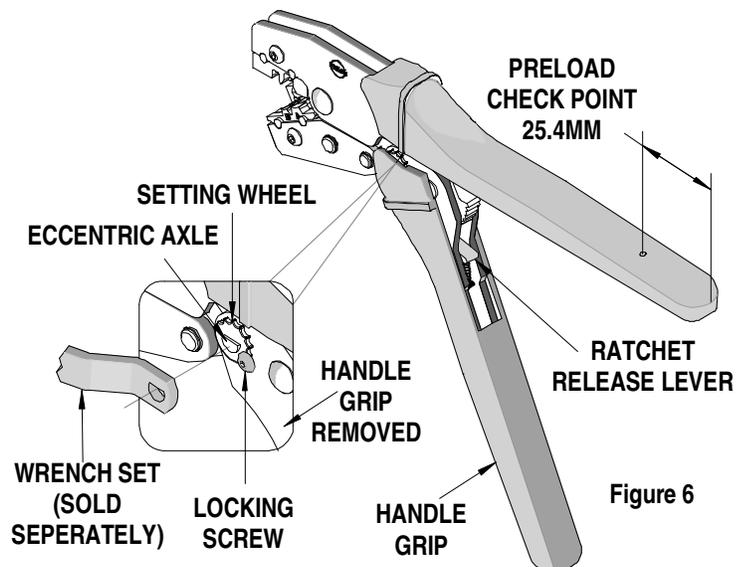


Figure 6

## 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.

### PARTS LIST

Item Number	Order Number	Description	Quantity
REF	63811-7100	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	63811-7175	Locator	1

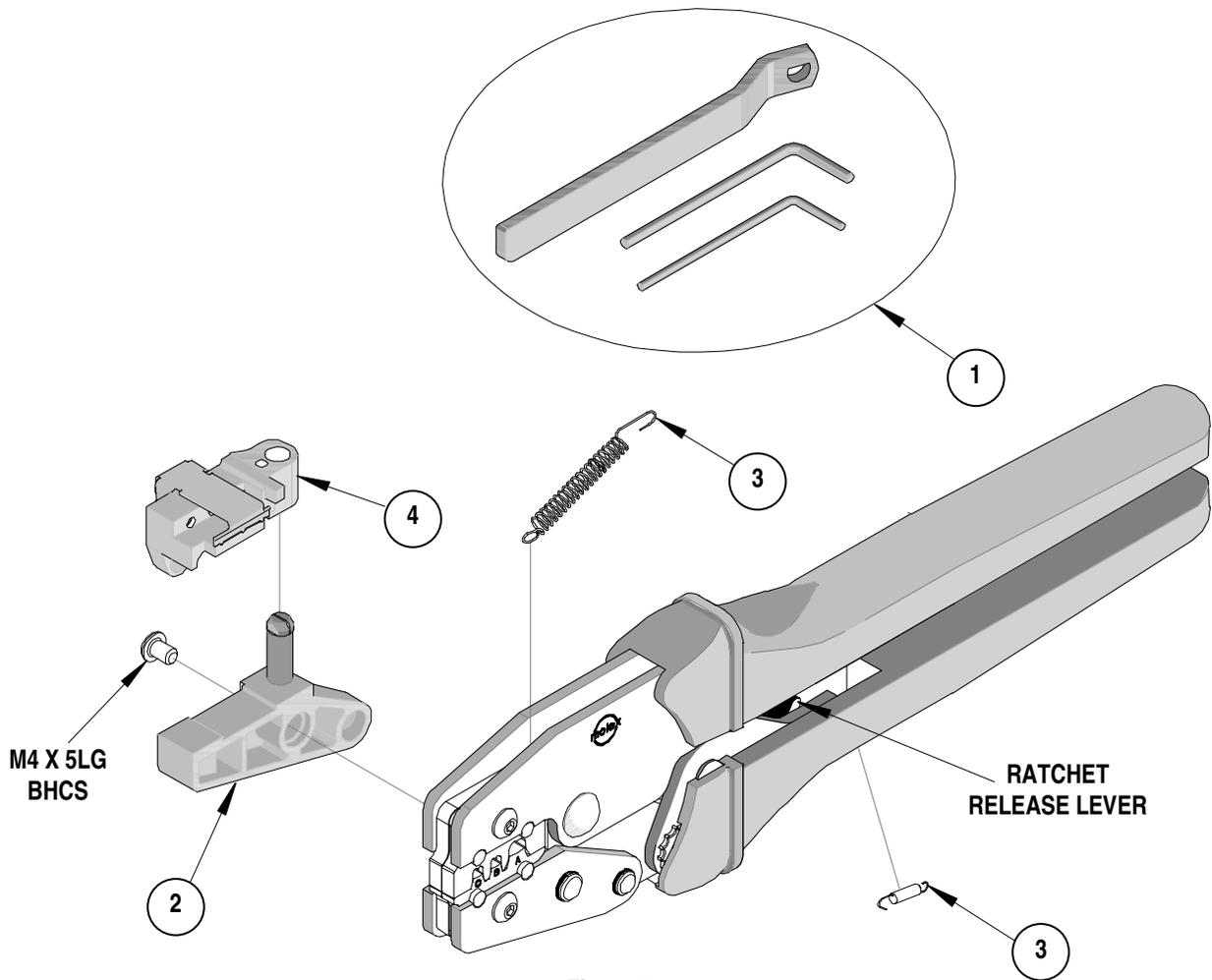


Figure 7

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