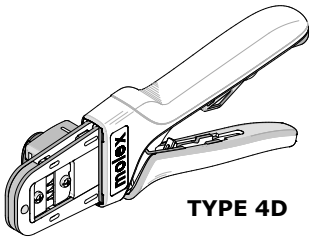
Order Number
200218-2500

molex®

Application Tooling Specification



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
- Right- and left-handed applications
- Dies and locator from this tool can be used in the Battery Powered Tool Order No. 63816-0270 (110 V) or 63816-0280 (220 V), with the use of the 63816-0800 Crimp Head
- Many different tool kits can be used with a single Battery Powered Crimp Tool
- This tool is IPC/WHMA A-620 Class 2 compliant
- This tool is RoHS compliant; however, RoHS compliance is not required

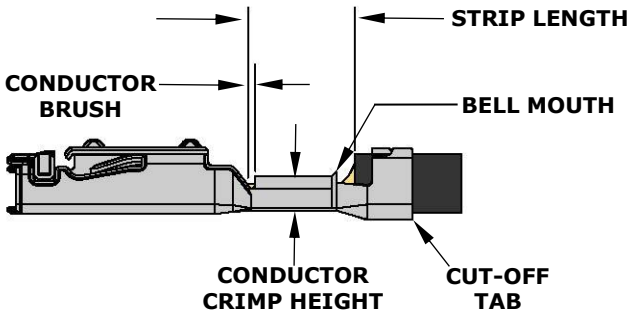
SCOPE

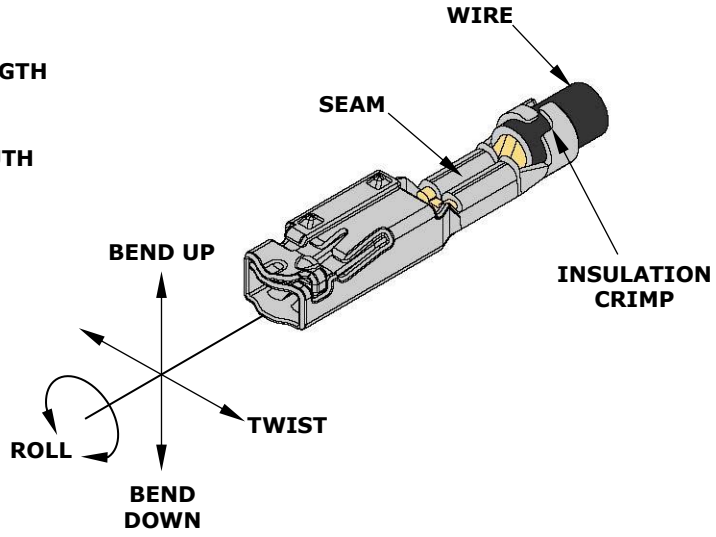
Products: CTX-J 280 Receptacle Terminal Sealed, 2.0mm^2 wire.

Terminal Series No.	Terminal Order No.	Wire		Insulation Diameter (2)		Strip Length	
	Reel (1)	Wire Type	Wire Size	mm	In.	mm	In.
560122	560122-0102	AVSS AVSSH AESSX	2.0mm^2	2.60-2.70	.102-.106	4.80-5.20	.189-.205

1. Customer to cut off terminal from reel: 0.15mm (.006”) maximum cut-off tab.
2. Insulation crimp to meet IPC/WHMA A-620 Class 2 compliance.

DEFINITION OF TERMS





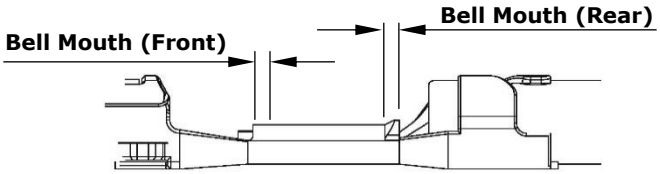
CRIMP SPECIFICATIONS

After crimping, the conductor profiles should measure the following:

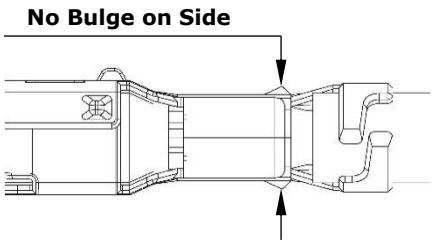
Terminal Series No.	Bell Mouth		Conductor Brush		Bend Up	Bend Down	Twist	Roll
	mm	In.	mm	In.	Degree		Degree	
560122	0.30-0.85	.012-.033	0.10-0.80	.004-.031	2	1	4	6

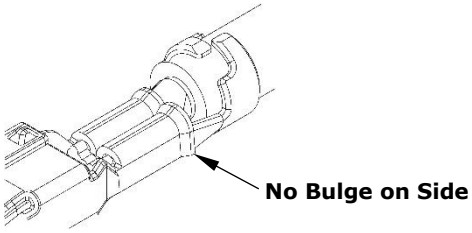
Terminal Series No.	Wire Size	Conductor Crimp				Insulation Crimp				Pull Force Minimum
		Height		Width (Ref.)		Height (Ref.)		Width (Ref.)		
	mm^2	mm	In.	mm	In.	mm	In.	mm	In.	N
560122	2.0	1.42-1.52	.056-.060	2.96	.117	3.20	.126	3.55	.140	270.0

Bell Mouth

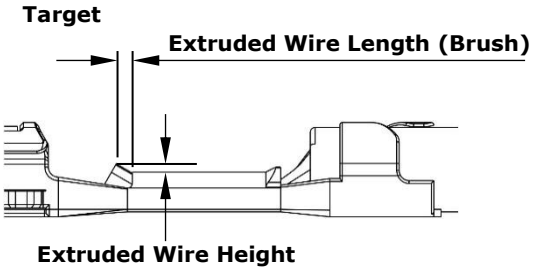


Front	0.05 Max
Rear	0.30-0.85mm (Ref)
Side	No Bulge



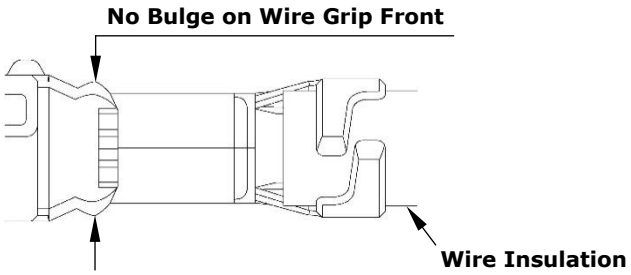


Conductor Brush Length and Height



Extruded Wire Length	0.1-0.8mm
Extruded Wire Height	0.10mm Max

Bulge After Crimping



Tool Qualification Notes

1. (Ref) means the dimension provided is approximate due to the wide range of wires, conductor stranding, insulation diameter, and insulation hardness.
2. An occasional pull force test should be performed. It must exceed the minimum pull force specification.
3. Pull force should be measured with no influence from the insulation crimp. To ensure this, strip the wire long enough so the terminal insulation grips do not contact the wire insulation.

OPERATION

CAUTION: Crimp only the Molex terminals listed in the scope for this tool. Do not crimp hardened objects as damage can occur to the tool frame or crimp dies.

CAUTION: This hand tool was designed to produce the proper conductor crimp height by releasing the movable handle after the last ratchet. Fully squeezing the movable handle past the last ratchet to the hard stop will produce conductor crimp heights lower than the minimum conductor crimp height specification.

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. See Figure 1.

Crimping Terminals

1. Select the desired terminal listed from the preceding charts. Then, install the proper locator (See chart above, and see the *Locator Installation* section).
2. Make sure the center of the locator is in the down position. With the locator attached, push the locator button on the back of the hand tool to bring the locator forward through the tooling. See Figure 2.
3. While holding in the locator button, load the terminal into the proper nest opening in the locator based on the wire gauge or terminal type markings on the hand tooling. See Figure 3.

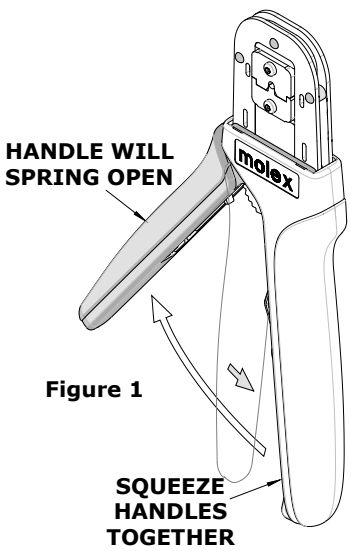


Figure 1

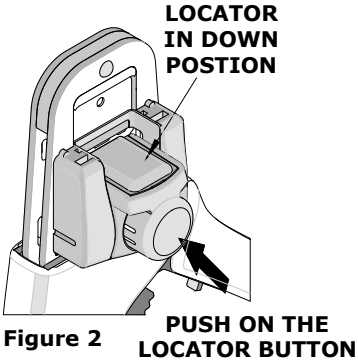


Figure 2

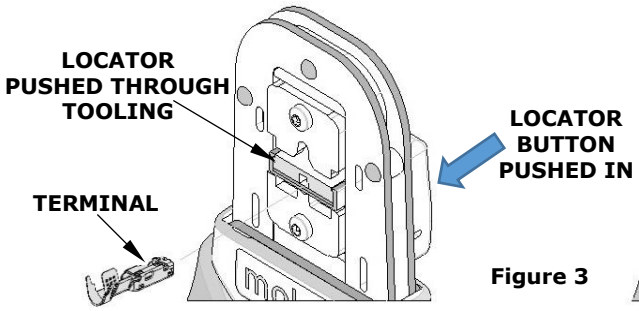


Figure 3

4. Release the locator button, allowing the locator to return to the crimping position.
5. Close the tool handle until the first ratchet position engages. See Figure 4.

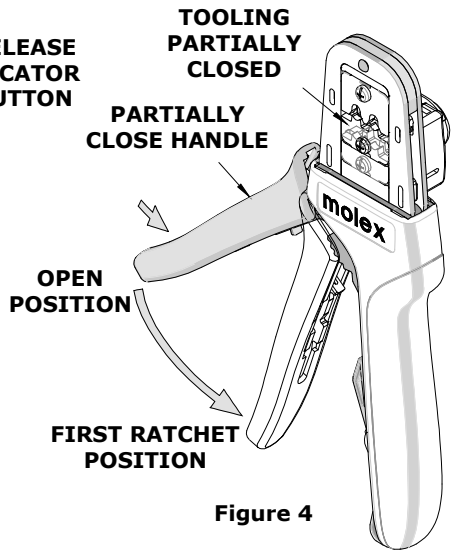


Figure 4

6. Insert the properly stripped wire through the terminal and against the wire stop. See Figure 5.
7. Crimp the terminal by squeezing the tool handles until the ratchet mechanism cycle has been completed. Release the handles to open the jaws.

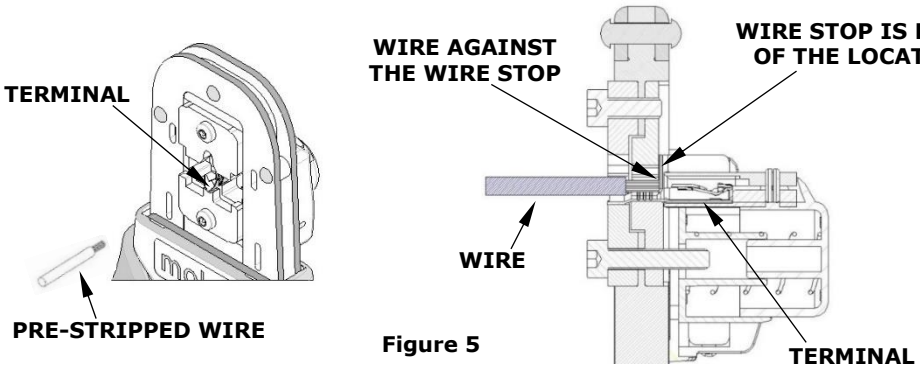


Figure 5

Note:

- To achieve proper extruded wire length and height, the wire can only lightly touch the wire stop when crimping. If the wire is pushed hard against the wire stop, the wire extrusion length and height may be out of specification.
- To achieve the proper conductor crimp height, the movable crimp handle must be released after the last ratchet. If the movable handle is squeezed past the last ratchet and to the hard stop, conductor crimp heights lower than the minimum conductor crimp height specification will be achieved.
- The tamper-proof ratchet action will not release the tool until it has been fully closed.

8. Remove the crimped terminal from the terminal locator by pulling on the wire.
9. Visually inspect the crimped terminal for proper crimp location.
10. On some large O.D. wires, it may not be possible to insert the wire with the tool partially closed. Those wires should be inserted with the hand tool in the open position. Insert the wire above the terminal in the punch and against the wire stop, and then close the tool. See Figure 6.

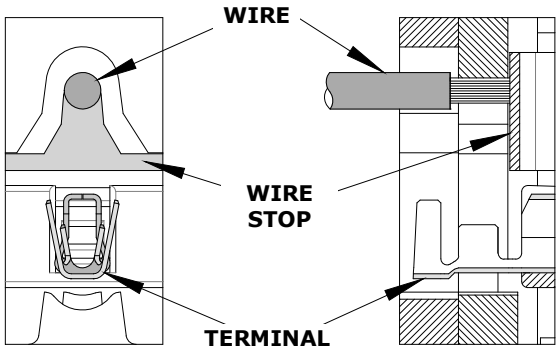


Figure 6

Locator Installation

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 hand crimp tool.
2. Squeeze gently on the lower area shown in Figure 7A with your thumb and index finger. The lower tabs of the locator should disengage from the hand tool.
3. Lift and pull away from the hand tool. The top locator hooks should slip out of the top slots easily. See Figure 7A.
4. To reinstall the new locator, make sure the hand tool is in the open position.
5. Press the center of the locator down as far as it will go, as shown in Figure 7B.
6. Holding onto the lower part of the locator with your thumb and index finger, insert the locator top hooks into the hand tool top slots.

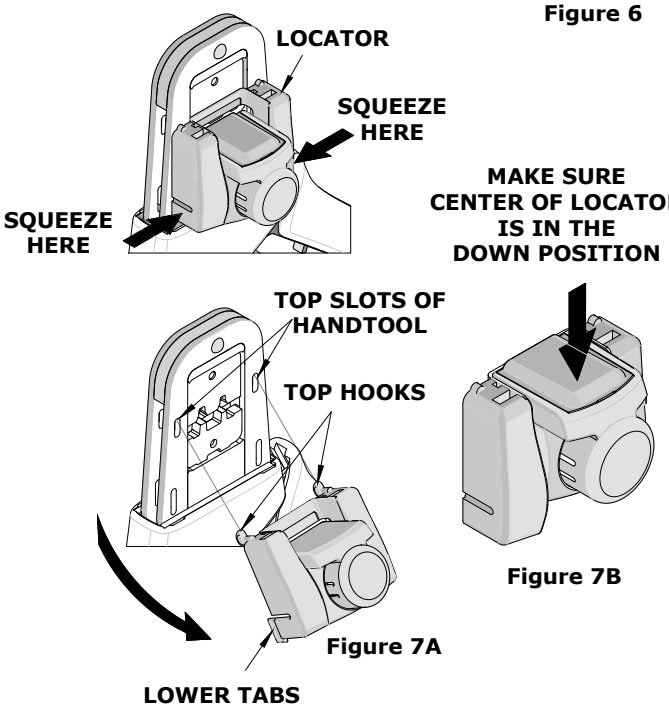


Figure 7B

Figure 7A

7. Rotate the locator down, and press the lower tabs into the two bottom slots of the hand tool. To secure the locator into place, the lower tabs must snap into place on the hand tool frame.

Right- or Left-Handed Operation

This hand tool can be converted from a right-handed application to a left-handed application. It is necessary to reverse the tooling along with the locator if using the left-handed application. Follow the steps below:

1. The locator must be removed before reversing the tooling.
2. Remove the M3 BHCS which is holding the upper tooling.
3. Flip the upper tooling to the opposite side, and replace the M3 BHCS. Make sure the small markings on the front and back of the hand tool frame match up and are on the outside of the hand tool frame. See Figures 8 and 9.
4. Do the same thing with the lower tooling and tighten the M3 screws. Be sure the small markings line up.
5. Reinstall the locator by following the instructions in the locator replacement section.

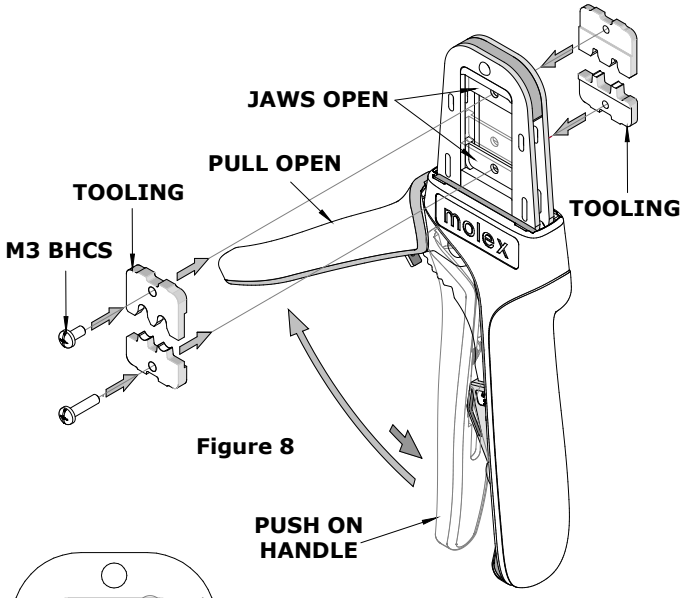


Figure 8

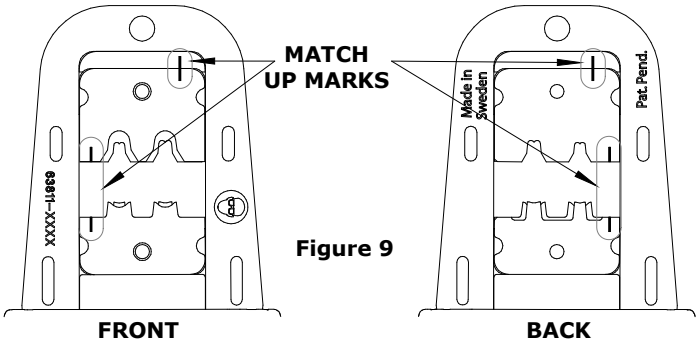


Figure 9

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 a 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 other 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 every 3 months 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.

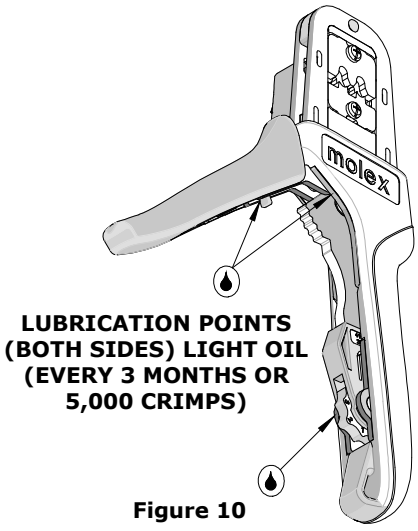


Figure 10

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 up on the ratchet release lever in the movable handle. See Figure 11.

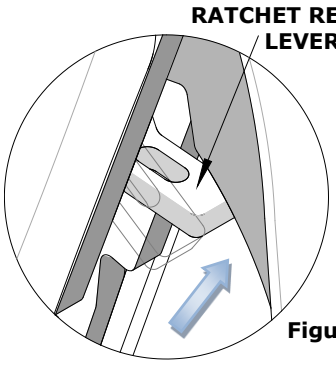


Figure 11

How to Adjust Tool Preload (See Figure 12)

Hand tool frame preload is factory preset to ensure crimp quality. 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. Open the hand tool.
2. Close the handle 2 ratchet clicks.
3. Hold the hand tool in the palm of your hand as shown in Figure 12. Using your index finger, squeeze the link toward the top of the hand tool frame. This will release the preload adjustment wheel.
4. Rotate the setting wheel counterclockwise (CCW) to increase handle force. The numbers will display higher. To decrease handle force, rotate the setting wheel clockwise (CW).
5. Release the link to lock the setting wheel in place.
6. Check the crimp specifications or conduct a pull test after tool handle preload force is adjusted.

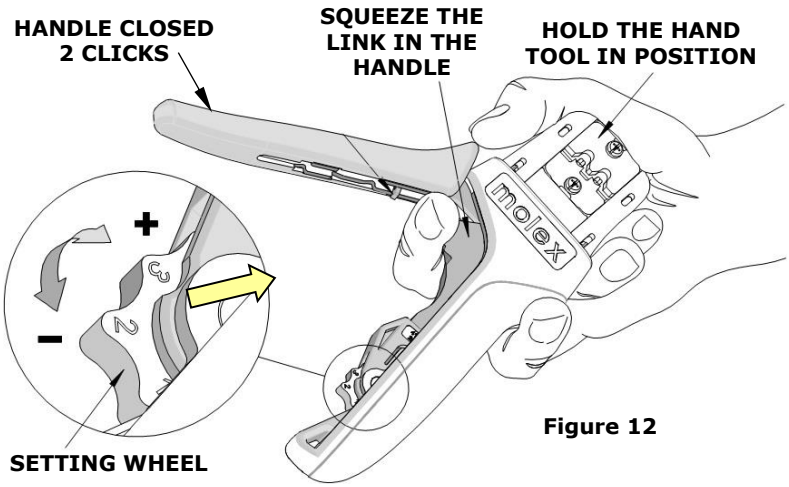


Figure 12

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, Molex 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 use 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 hand tools but rather supplies the following guidelines for customers to re-certify hand tools:

- This tool is qualified to pull force only. See the Molex website 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	2002182500	Hand Crimp Tool	Figure 13
1	2002182575	Locator Assembly	1
2	63810-0104	Spring, Return	1
3	63810-0105	Spring, Ratchet	1

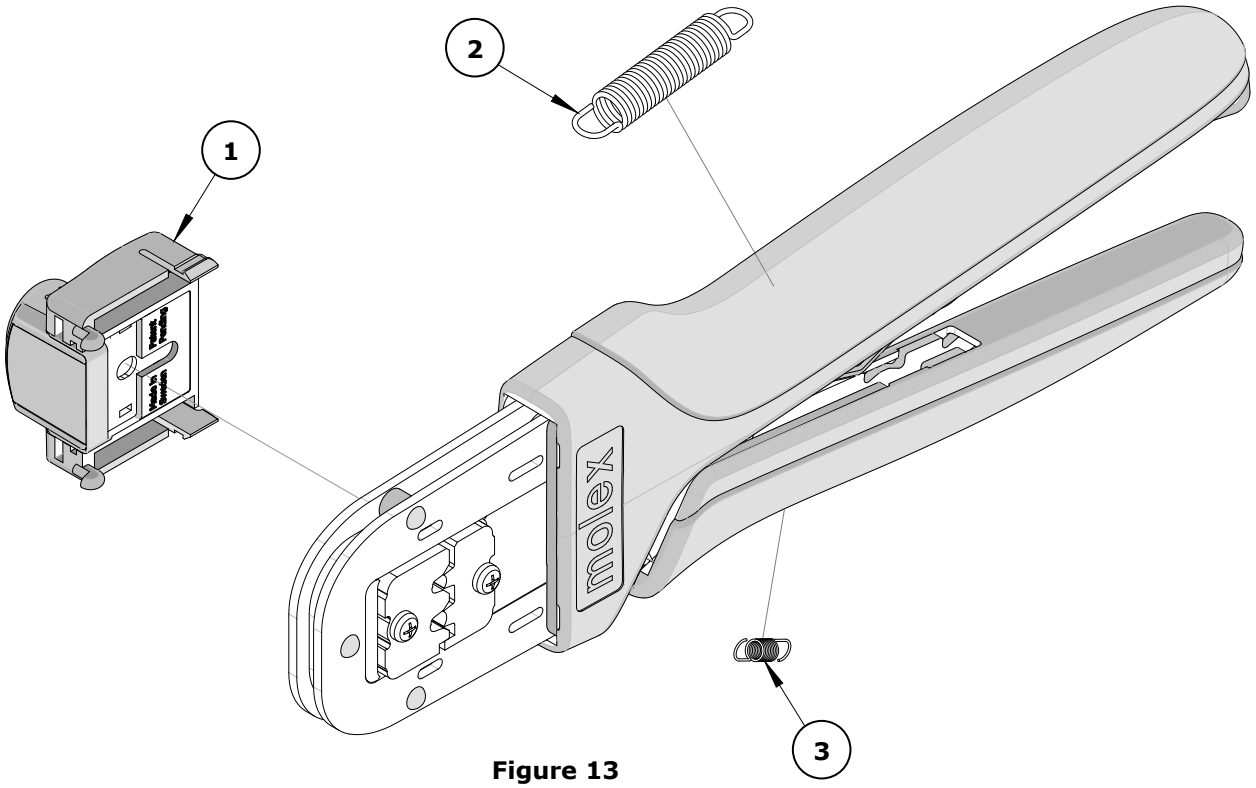


Figure 13

Application Tooling Support

Phone: (402) 458-TOOL (8665)
E-Mail: applicationtooling@molex.com
Website: www.molex.com/applicationtooling