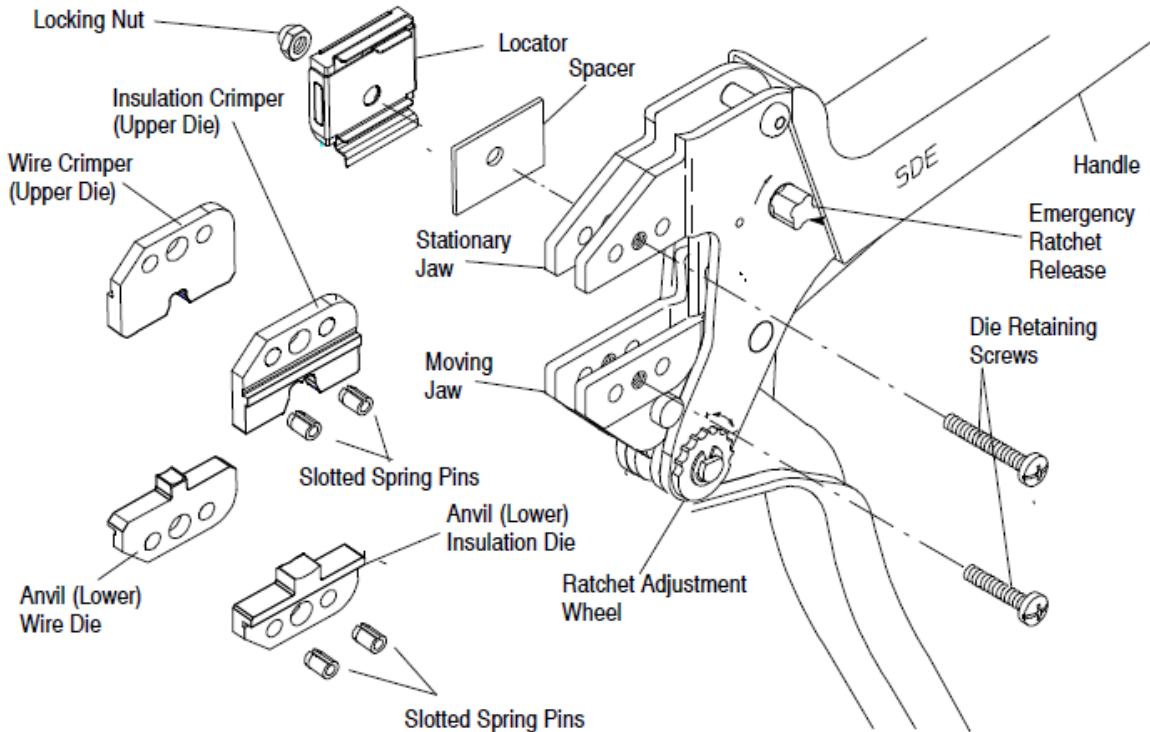


**PROPER USE GUIDELINES**

Cumulative Trauma Disorders can result from the prolonged use of manually powered hand tools. Hand tools are intended for occasional use and low volume applications. A wide selection of powered application equipment for extended-use, production operations is available.

**Die Set PN 2119156-2**



TE Crimp Tooling		UTILUX* Connector	Cable			Wire Insulation	
SDE-SA Tool	Die Assembly		Qty.	Cable Type mm [inch]	Conductor Size	Diameter mm [inch]	Strip Length mm [inch]
2119156-1	2119156-2	1-1659268-0 (H2698)	1	Advance Railway Cable <sup>1</sup> SDI.75 24/0 .20	.75mm <sup>2</sup> [18]	3.0 [.118]	5.0 [.197]

Figure 1

**1. INTRODUCTION**

SDE-SA Commercial Hand Tool Assembly for the UTILUX connector consists of the tool and die set shown in Figure 1. The tool utilizes the SDE-SA Frame Assembly 9-1478240-0 (Instruction Sheet 408-8851) and is used to crimp the terminal PN listed in Figure 1.

**i NOTE**  
 Read these instructions thoroughly before using the hand tool.

**i NOTE**  
 Dimensions in this instruction sheet are in millimeters [with inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 9, REVISION SUMMARY.

<sup>1</sup> Advance Wire and Cable Pty Ltd

## 2. DESCRIPTION

The die set consists of an indenter (upper die) and an anvil (lower die). The tool frame holds a die assembly with one crimping chamber. See Figure 1. Die retaining screws are used to secure the dies in the tool frame.

The tool frame features two jaws, a handle, a ratchet, a ratchet adjustment wheel with a range of settings, and an emergency ratchet release. The ratchet ensures that the tool has completed the cycle and will not release until the handles have been FULLY closed, unless the emergency ratchet release is rotated to manually release the ratchet. The adjustment wheel controls the amount of handle pressure exerted on the dies during the crimping procedure.



### CAUTION

*The dies bottom before the ratchet releases. This feature ensures maximum tensile performance of the crimp. DO NOT re-adjust the ratchet.*

## 3. INSTALLATION AND REMOVAL OF DIE SET AND LOCATOR ASSEMBLY (FIGURE 1)

1. Open the tool handles and remove the two die retaining screws from the tool jaws.
2. Place the wire anvil so that the chamfered side and the marked surfaces face outward, when mounted in the moving jaw of the tool frame.
3. Insert the die retaining screw through the jaw and through the anvil die, and tighten the screw just enough to hold the die in place. DO NOT tighten the screw completely at this time.
4. Place the wire crimper so that the chamfered side and the marked surface face outward, when mounted in the stationary jaw of the tool frame.
5. Insert the die retaining screw through the jaw and through the crimper die, and tighten the screw just enough to hold the die in place. DO NOT tighten the screw completely at this time.
6. Carefully close the tool handles, making sure that the anvil and crimper align properly. Continue closing the tool handles until the ratchet in the tool frame has engaged sufficiently to hold the anvil and crimper in place, then tighten both die retaining screws.
7. Place the nut onto the end of the long screw and tighten the nut enough to hold the locator assembly in place.
8. To disassemble, close the tool handles until the ratchet releases, remove the nut, the locator assembly, the four die retaining screws, and slide the anvil and crimper out of the tool jaws.



### NOTE

*The ratchet has detents with audible “clicks” as the handles are closed. The ratchet releases on the sixth “click”.*

## 4. CRIMPING PROCEDURE



### NOTE

*This tool is provided with a crimp adjustment feature. Initially, the crimp height should be verified as specified in Figure 3. Refer to Section 5, CRIMP HEIGHT INSPECTION, and Section 6, RATCHET (CRIMP HEIGHT) ADJUSTMENT to verify crimp height before using the tool to crimp desired contacts and wire sizes.*

Referencing the table in Figure 1, select wire of the specified size and insulation diameter. Strip the wire to the length indicated. **DO NOT nick or cut wire strands.** Select an applicable contact and identify the appropriate crimp section according to the wire size markings on the tool. Refer to Figure 2 and proceed as follows:

1. Hold the tool so the back (wire side) is facing you. Squeeze tool handles together and allow them to open fully.
2. Holding the contact by the mating end, insert the contact through the front of the tool and into the appropriate crimp section.
3. Position the contact so the open “U” of the wire barrel faces the top of the tool. Place the contact up into the nest so the front of the wire barrel is against the spring loaded locator.



### CAUTION

*Make sure both sides of the Wire Barrel are started evenly in the crimping section. DO NOT attempt to crimp an improperly positioned contact.*

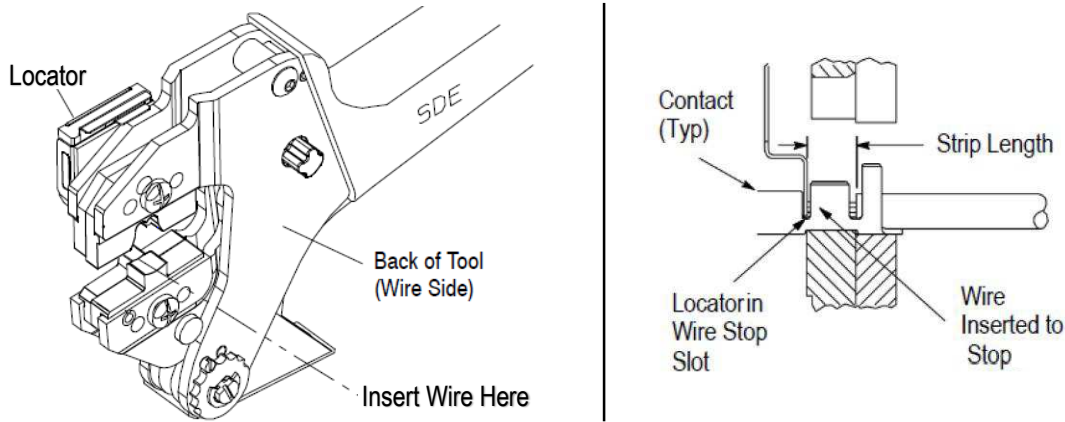


Figure 2

4. Position the contact so the open “U” of the wire barrel faces the top of the tool. Place the contact up into the nest so the front of the wire barrel is against the spring loaded locator.



**CAUTION**

Make sure both sides of the Wire Barrel are started evenly in the crimping section. DO NOT attempt to crimp an improperly positioned contact.

5. Close the handles of the tool until the lightly held by the die set but is not deformed to the point where the wire may not enter freely.
6. Insert the wire into the crimp barrel of the contact until it butts against the spring loaded locator.
7. While holding the wire in place, fully cycle the tool until the ratchet releases and allows the handle to swing open.

**5. CRIMP HEIGHT INSPECTION**

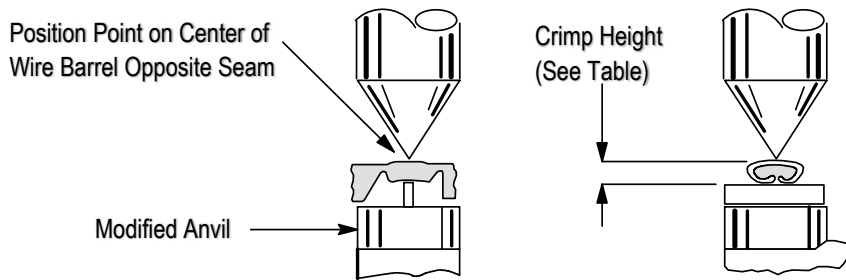
Crimp height inspection is performed through the use of a micrometer with a modified anvil, commonly referred to as a crimp-height comparator. TE Connectivity does not manufacture or market crimp height comparators. Detailed information on obtaining and using crimp-height comparators can be found in Instruction Sheet [408-7424](#). Proceed as follows:

1. Refer to Figure 1 and select a wire (maximum size) for each crimp section listed.
2. Refer to Section 4, CRIMPING PROCEDURE, and crimp the contacts accordingly.
3. Using a crimp height comparator, measure the wire barrel crimp height listed in Figure 3. If the crimp height conforms to that shown in the table, the tool is considered dimensionally correct. If not, the tool must be adjusted. Refer to Section 6, RATCHET (CRIMP HEIGHT) ADJUSTMENT.



**CAUTION**

Damaged product should not be used. If a damaged contact is evident, it should be replaced. Contacts must not be re-terminated.



TE Tooling	Maximum Wire Size (mm <sup>2</sup> ) [AWG]	Crimp Section (Wire Size Markings)	Crimp Height and Tolerance
2119156-[-]	0.75 [18]	0.75	1.45 ±0.05 [.057 ±.002]

Figure 3

## 6. RATCHET (CRIMP HEIGHT) ADJUSTMENT

Although the ratchet is preset prior to shipment, it is important to verify the crimp height using a micrometer or caliper. General use and subsequent wear may cause the tool to go out of adjustment. It is recommended that crimp height be inspected, and the ratchet be adjusted, if necessary, on a regular basis (see Figure 4), and proceed as follows:

1. If the crimp height is larger than recommended, remove the ratchet wheel adjustment screw and rotate the adjustment wheel counterclockwise (+) to a higher setting. Reinstall the screw. Repeat as required.
2. If the crimp height is smaller than recommended, remove the ratchet wheel adjustment screw and rotate the adjustment wheel clockwise (-) to a lower setting. Reinstall the screw. Repeat as required.
3. If the crimp cannot be made to conform to the recommended crimp height, the tool or die set must be replaced. See Section 8, REPLACEMENT.

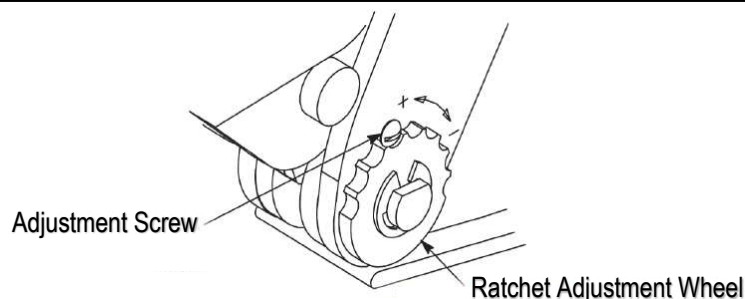


Figure 4

## 7. MAINTENANCE AND INSPECTION

### 7.1. Daily Maintenance

1. Remove dust, moisture, and other contaminants with a clean, soft brush, or a clean, soft, lint-free cloth. DO NOT use any objects that could damage the dies or tool.
2. Make sure the proper die retaining screws are properly secured.
3. When the tool is not in use, keep the handles closed to prevent objects from becoming lodged in the dies. Store the tool in a clean, dry area.
4. Remove all lubrication and accumulated film from the dies by immersing the dies in a suitable commercial degreaser.

### 7.2. Periodic Inspection

Close the tool handles until the ratchet releases, and then allow them to quickly open freely. If they do not open quickly and fully, the spring is defective. See Section 8, REPLACEMENT.

## 8. REPLACEMENT

Order replacement parts through your TE Representative, or call 1-800-526-5142, or send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
 TE CONNECTIVITY CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

## 9. REVISION SUMMARY

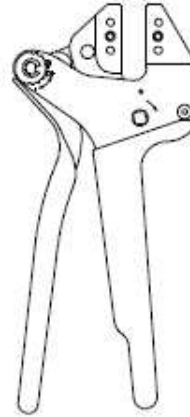
- ◆ Corrected metric tolerance in Figure 3
- ◆ Revised Section 4, Crimping Procedure
- ◆ Revised Figure 2

**Die Set 2119156-[ ] Can be Used in the Tools Shown Below:**

*PRO-CRIMPER III Hand Tool 354940-1  
(Instruction Sheet 408-9930)*



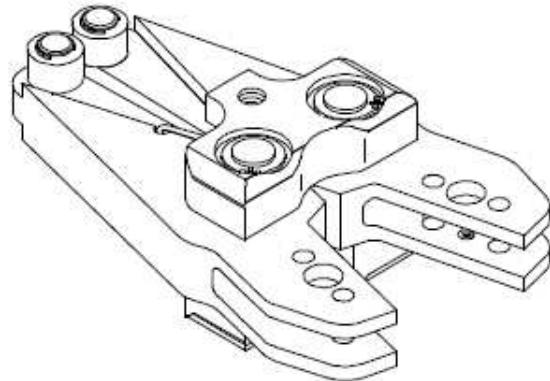
*SDE-SA Hand Tool 9-1478240-0  
(Instruction Sheet 408-8851)*



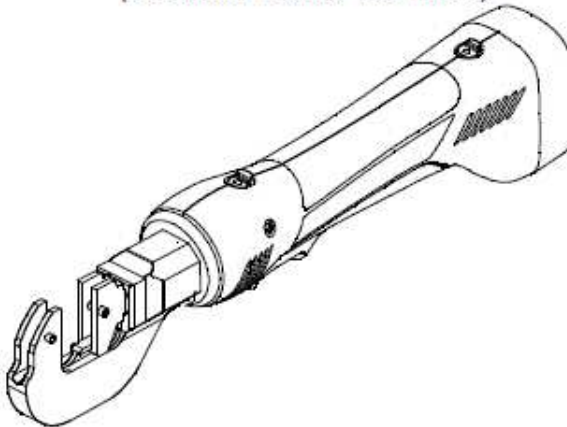
*SDE Bench Terminator 1490076-2  
(Customer Manual 409-10052)*



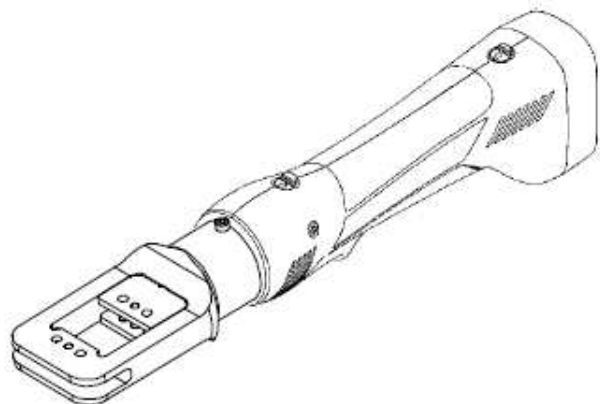
*626 Adapter 679304-1  
(Instruction Sheet 408-4070)*



*Battery Tool (Shouldered Die) 1725837-1, -2  
(Customer Manual 409-10053)*



*Battery Tool (Pin Die) 1213890-1, -2  
(Customer Manual 409-10065)*



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