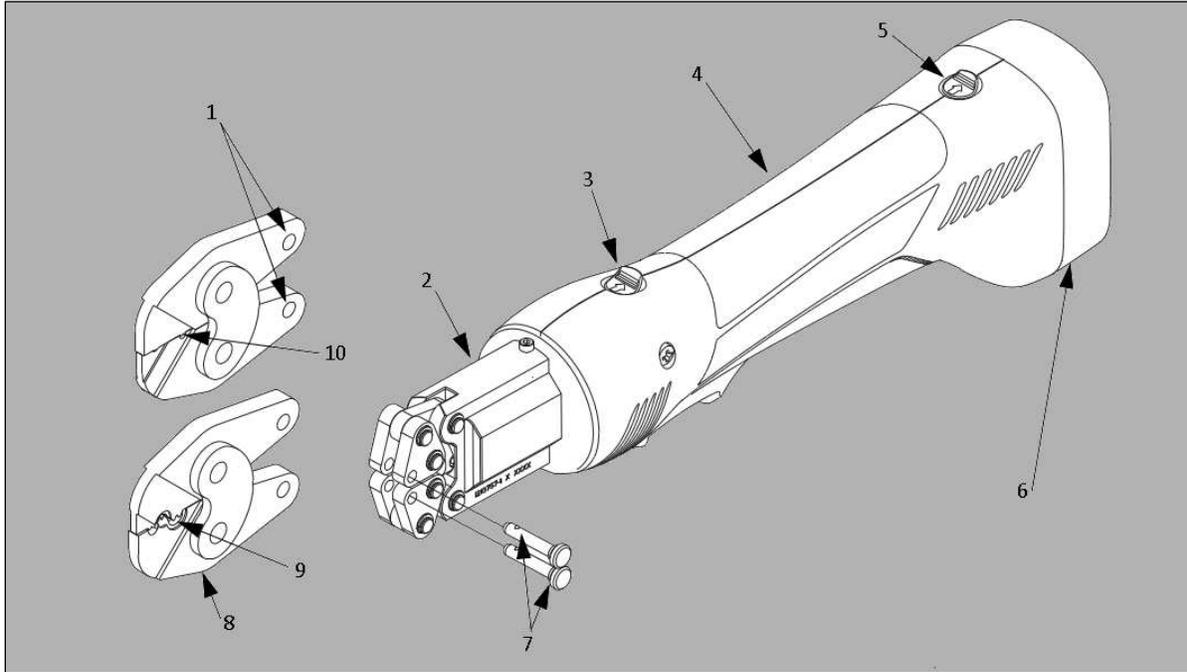


Figure 1: Double Action Battery Powered Hand Tool Kits Assembly 2217483



- | | | | |
|----------|----------------------------|-----------|-------------------------------|
| 1 | Crimp Head Mounting Holes | 6 | Battery Cartridge 17258391-1 |
| 2 | DAHT Adapter Assembly | 7 | Quick-Release Pins |
| 3 | Retract Button | 8 | Typical DAHT Crimp Head (Ref) |
| 4 | Battery Powered Crimp Tool | 9 | 3-Crimping Chambers |
| 5 | Battery Lock | 10 | 2-Crimping Chambers |

1 Introduction

Crimping Heads 1-69363-0 and 1-49935-0 are designed to crimp SOLISTRAND Terminals & Splices and Crimping Head 1-46447-0 is used to crimp STRATO-THERM terminals & splices, onto solid or stranded copper wire size 26-10 AWG. Refer to Table 1. The crimping heads are used with Double Action Battery Powered Hand Tool Kits 2217483-1,-2,-7.

This instruction sheet provides recommended procedures for wire preparation, crimping head installation, crimping, and maintenance and inspection. For information concerning tool setup and operation, refer to Customer Manual [409-10056](#) packaged with the battery tool kit.



NOTE

Dimensions are in metric units with [inches in brackets]. Figures and illustrations are for reference only and are not drawn to scale.



NOTE

The crimping heads can also be used with the 626 Double Action Pneumatic Tool Adapter 1213563-1.

2 Description

The crimping head consists of integral jaws which close in an arc-like motion. After an operator locates the terminal or splice between the crimping jaws and inserts the stripped wire, the tool is activated to crimp the terminal or splice to the wire.

3 Head installation and removal

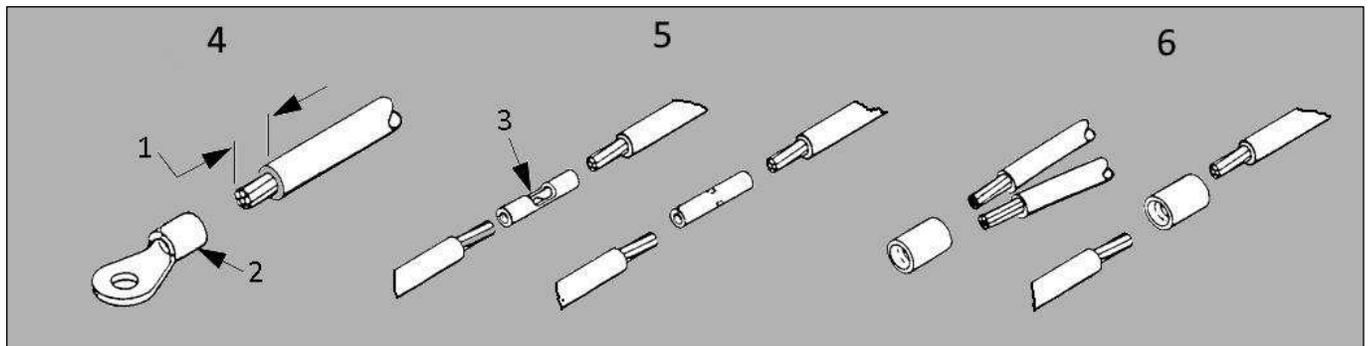


NOTE

Crimping heads are coated with a preservative to prevent rust and corrosion. Wipe this preservative from the head, particularly from the crimping surfaces.

3.1 Installation

Figure 2: Inserting stripped wire in wire barrel (not to scale)



- 1** Wire Strip Length
- 2** Wire Barrel
- 3** Strap Type
- 4** Terminal
- 5** Butt Splice
- 6** Parallel Splice

Table 1: Crimping Specification

Crimping Head	Wire Size (AWG) Range (and Terminal Size)	Use Tool Crimping Chamber Marked	WIRE STRIP LENGTH				Terminals & Splices Type.
			Terminal (Standard)	Terminal (Long Barrel)	Butt Splice	Parallel Splice	
1-46447-0	22-16	22-16	4.37-5.16	--	6.35-7.14 [.250-.281]	7.94-8.73 [.313-.344]	STRATO-THERM
	16-14	16-14	[.172-.203]				
	12-10	12-10	6.35-7.14 [.250-.281]				
1-49935-0	22-16	22-16	4.37-5.16	6.35-7.14	6.35-7.14 [.250-.281]	7.94-8.73 [.313-.344]	SOLISTRAND
	16-14	16-14	[.172-.203]	[.250-.281]			
	12-10	12-10	6.35-7.14 [.250-.281]	--			
1-69363-0	26-24	26-24	3.17-3.97 [.125-.156]	--	3.57-4.37 [.141-.172]	--	SOLISTRAND
	22-20	22-20	4.37-5.16 [.172-.203]	--	5.16-5.95 [.203-.234]		
	24-20	22-20	--	--	4.37-5.16 [.172-.203]		

1. Remove quick pins from the adapter assembly. Refer to Figure 1.
2. Insert crimping head into the adapter assembly.
3. After the crimping head is properly aligned, insert the quick pins through the two holes in the adapter and through the holes in the crimp head.

**DANGER**

To avoid personal injury, be sure to exercise extreme caution when handling the crimp tool. Avoid accidentally depressing the trigger control when installing or removing crimp heads.

**DANGER**

DO NOT operate the battery tool without the proper crimping head installed. After crimping head is installed, make sure that the quick pins are properly inserted to avoid personal injury and damage to the tool.

**NOTE**

The quick pins will “snap” into position when they are properly inserted.

3.2 Removal

Remove the quick pins from the crimping head; then remove the crimping head from the tool holder.

**DANGER**

To avoid personal injury, ALWAYS disconnect the battery from the tool before removing crimping head.

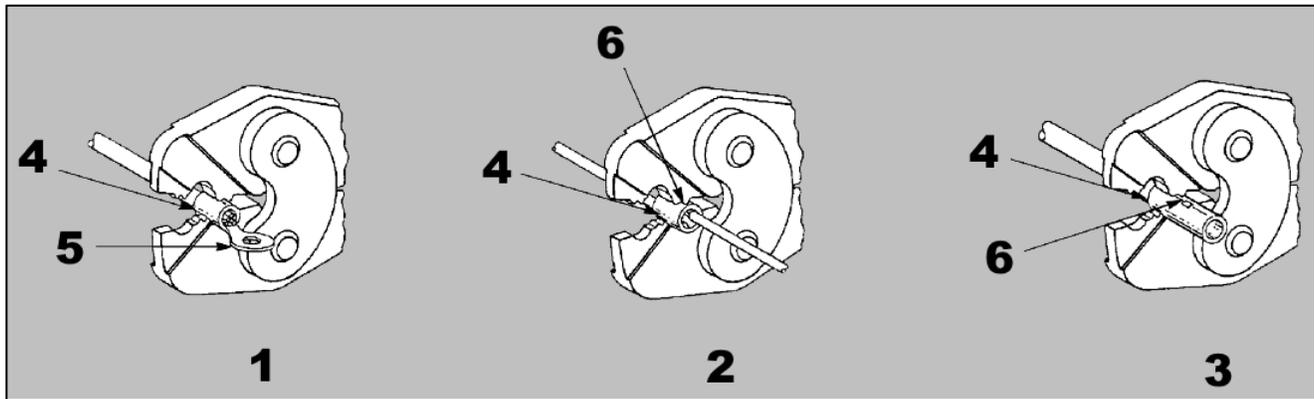
4 Crimping Procedures

1. Strip wire to dimensions shown in Table 1. DO NOT nick wire strand or use wires with nicked or missing conductor strands.
2. Center the terminal or splice wire barrel in the appropriate crimp chamber. For terminals, make sure that the flat side of the tongue faces the anvil. For splices, make sure that the brazed seam, (when visible), is towards the indenter. See Figure 3.
3. Depress the trigger to advance the moving ram. This closes the crimp jaws in order to hold the terminal in place. DO NOT deform the wire barrel.
4. Insert stripped wire into terminal or splice making sure the wire insulation does not enter the wire barrel.
5. Activate the tool to complete the crimp. The crimp tool automatically returns to the first position of the cycle when the crimp is complete.
6. To crimp the other half of the butt splice, position the uncrimped wire barrel into the crimping chamber, and repeat the crimping procedure. If the splice cannot be turned for crimping the other half, rotate the crimping head.
7. Refer to Section 5 and Figure 4, Figure 5 for crimp inspection.

**DANGER**

To avoid personal injury, ALWAYS keep fingers clear of crimping jaws when operating the tool. Never place anything within the crimping jaws except Tyco Electronics terminals or splices.

Figure 3: Centering the wire barrel in the crimping chamber



- | | |
|--------------------------|----------------------------------------------------|
| 1 Terminal | 4 Wire barrel centered in crimping chamber |
| 2 Parallel Splice | 5 Flat side of terminal tongue facing anvil |
| 3 Butt Splice | 6 Brazed seam on splice toward indenter |

5 Crimp inspection

Inspect crimped terminals and splices by checking the features described in Figure 4 & Figure 5. Use only terminals or splices that meet the conditions shown in the “Figure 4. “REJECT” terminations can be avoided through careful use of instructions in Section 4, and by performing regular head maintenance, as described in Section 6.

6 Maintenance and inspection

Tyco Electronics recommends that a maintenance and inspection program be performed periodically to ensure dependable and uniform terminations. The crimping head should be inspected once a month. Frequency of inspection should be adjusted to suit your requirements through experience. Frequency of inspection depends on:

1. The care, amount of use, and handling of the crimping head.
2. The type and size of the product crimped.
3. The degree of operator skill.
4. The presence of abnormal amounts of dust and dirt.
5. Your own established standards.

Each crimping head is thoroughly inspected before packaging. Since there is the possibility of crimping head damage during shipment, new crimping heads should be inspected immediately upon arrival at your facility.



DANGER

To avoid personal injury, ALWAYS disconnect the battery from the tool before performing maintenance or inspection.

6.1 Daily maintenance

Tyco Electronics recommends that each operator be responsible for the following steps of daily maintenance:

1. Remove dust, moisture, and other contaminants with a clean, soft brush, or a lint-free cloth. Do NOT use objects that could damage the head.
2. Make sure that all pins, rings, and other components are in place and secure.
3. Make certain all surfaces are protected with a thin coat of any good SAE 20 motor oil. Do NOT oil excessively.
4. When the head assembly is not in use, store it in a clean dry, area.



DANGER

To avoid personal injury and damage to the tool make sure quick pins are properly inserted.

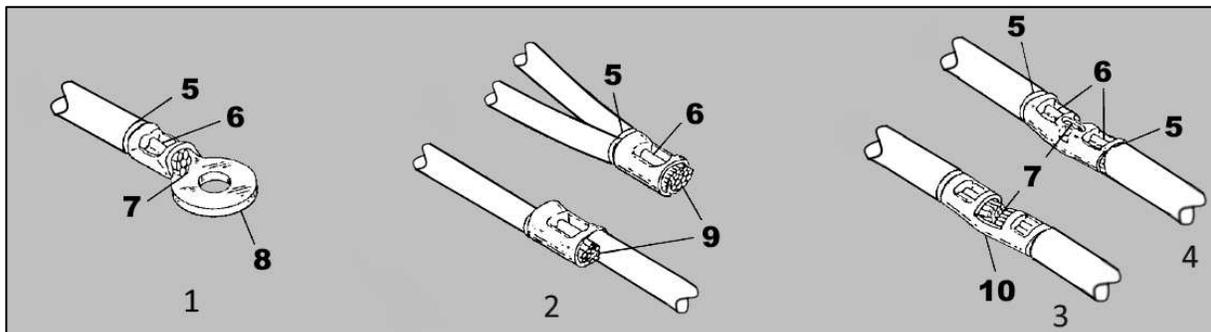
6.2 Periodic inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the crimping heads or be supplied to supervisory personnel responsible for the crimping heads. Though recommendations call for at least one inspection a month, the frequency should be based on amount of use, working conditions, operator training and skill, and your established company policies. These inspections should include a visual inspection (Section 6.3) and a crimping chamber inspection (Section 6.5).

6.3 Visual inspection

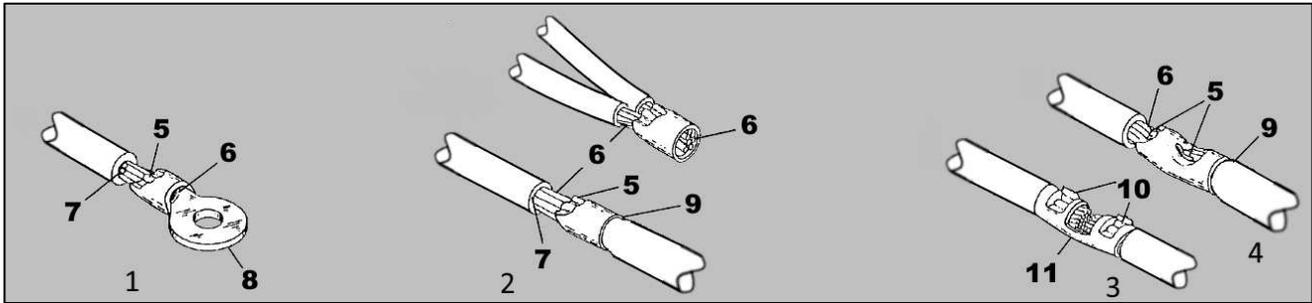
1. Remove all lubrication and accumulated film by immersing the crimping head in a suitable commercial degreaser that will not affect paint or plastic.
2. Make certain all components are in place.
3. Check all bearing surfaces for wear.
4. Inspect crimp area for flattened, chipped, or broken areas. Replace worn or damaged parts.

Figure 4: Features of a good crimp



- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Terminal</p> <p>2 Parallel splice</p> <p>3 Butt splice (strap type)</p> <p>4 Butt splice (sight hole or stranded type)</p> <p>5 Wire insulation does not enter wire barrel</p> | <p>6 Crimp is centered. Crimp can be off center, but not off end of wire barrel.</p> <p>7 Wire is visible through inspection hole. Wire is flush with or extends slightly beyond end of wire barrel.</p> <p>8 Wire size matches wire range or size stamped on terminal or splice and tool. (Wire range stamped under tongue).</p> <p>9 On parallel splices, bare wire ends must be flush with or extended slightly beyond end of wire barrel. Wire size matches wire range or size stamped on terminal or splice and tool. (Wire range stamped Here).</p> <p>10</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 5: Features of a poor crimp



- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Terminal</p> <p>2 Parallel splice</p> <p>3 Butt splice (strap type)</p> <p>4 Butt splice (sight hole or stranded type)</p> <p>5 Crimped off end of splice or terminal wire barrel.</p> <p>6 Wire not inserted far enough in terminal or splice. End of wire must be visible through inspection hole of butt splices and be flush with or extends lightly beyond end of wire barrel.</p> | <p>7 Nicked or missing strands</p> <p>8 Wire size does not match wire range or size stamped on terminal or splice and tool. (Wire range stamped under tongue).</p> <p>9 Wire insulation enters wire barrel of terminal or splice. Check for incorrect strip length.</p> <p>10 Excess "flash" on terminal or splice indicates damaged jaws or use of wrong wire, splice, or tooling combination was used.</p> <p>11 Wire size does not match wire range or size stamped on terminal or splice and tool. (Wire range stamped Here).</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6.4 Lubrication

Lubricate all pins, pivot points, and bearing surfaces with a high-quality grease. Tyco Electronics recommends the use of Molykote grease, which is a commercially available lubricant. Lubricate according to the following schedule:

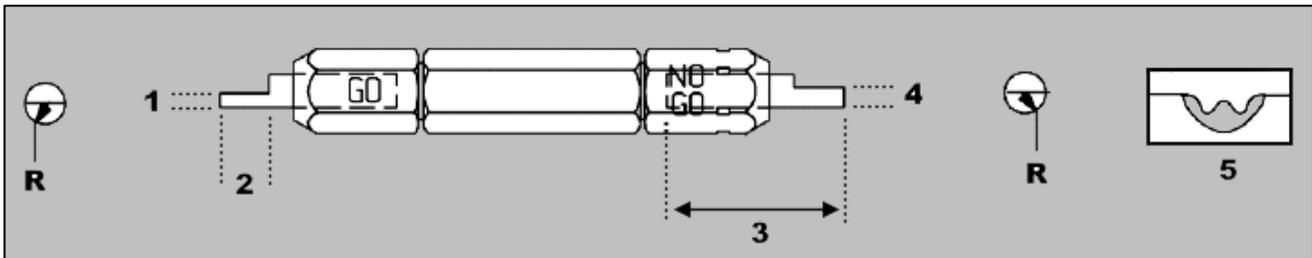
1. Head used in daily production - lubricate daily.
2. Head used daily (occasional) - lubricate weekly.
3. Head used weekly - lubricate monthly.

Wipe excess grease from crimping head, particularly from jaw closure areas. Grease transferred from jaw closure area onto certain terminations may affect the electrical characteristics of an application.

6.5 Gaging the Crimping Chamber

This inspection requires the use of plug gages conforming to the dimensions Refer Figure 6 & Table 2. Tyco Electronics does not manufacture or market these gages.

Figure 6: Recommended plug gage design

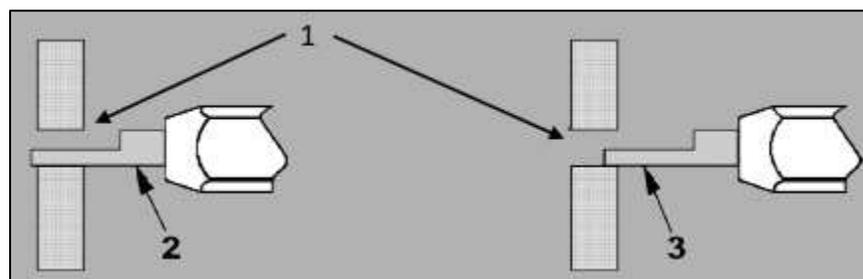


- 1 GO dimension
- 2 12.7 [.50] minimum (typical)
- 3 50.8 [2.00] minimum (typical)
- 4 NO-GO dimension
- 5 Jaw closure configuration

Table 2: Plug gage dimensions.

Hand tool	Crimping chamber marking	Gage element dimensions mm [in.]		
		GO	NO-GO	R
1-46447-0	22-16	1.295-1.303 [.0510-.0513]	1.445-1.447 [.0569-.0570]	1.57 [.062]
	16-14	1.498-1.506 [.0590-.0593]	1.648-1.651 [.0649-.0650]	1.57 [.062]
	12-10	2.108-2.116 [.0830-.0833]	2.258-2.260 [.0889-.0890]	2.36 [.093]
1-49935-0	22-16	1.168-1.176 [.0460-.0463]	1.318-1.320 [.0519-.0520]	1.57 [.062]
	16-14	1.371-1.379 [.0540-.0543]	1.521-1.524 [.0599-.0600]	1.98 [.078]
	12-10	1.930-1.938 [.0760-.0763]	2.080-2.082 [.0819-.0820]	2.76 [.109]
1-69363-0	26-24	0.660-0.668 [.026-.0263]	.0810-0.812 [.0319-.032]	1.003 [.0395]
	22-20	0.939-0.947 [.037-.0373]	1.089-1.092 [.0429-.043]	1.19 [.047]

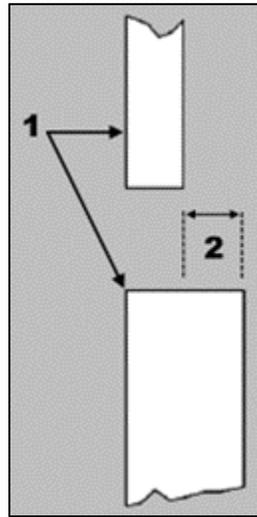
Figure 7: Gaging with GO and NO-GO elements



- 1 Crimping chamber
- 2 GO element must pass completely through crimping chamber.
- 3 NO-GO element may enter partially but must not pass completely through the crimping chamber.

1. Remove oil and dirt from the jaw bottoming surfaces and plug gage element surfaces.
2. Close wire barrel crimping jaws until they are bottomed, but not under pressure.
3. Align GO element with wire barrel crimping section. Push element straight into crimping chamber without using force. The GO element must pass completely through the chamber as shown in Figure 7.
4. Align the NO-GO element and try to insert it into the chamber. The element may start entry, but it must not pass completely through the crimping chamber.

Figure 8: Symmetry Requirements for Tool 1-49935-0



- 1 Jaws
- 2 0.254 mm [.010 in.] minimum (typical)

If the crimping chamber passes the gage inspection, the crimping head is considered dimensionally correct and should be lubricated with a THIN coat of any good SAE 20 motor oil. If the crimping chamber does not conform to the plug gage conditions, contact your local Tyco Electronics Field Representative, or refer to Section 7, REPLACEMENT AND REPAIR.

For additional information about the use of a plug gage, see Instruction Sheet [408-7424](#).



DANGER

Disconnect the battery and remove crimping head from tool before inspecting crimping chambers.



NOTE

The jaws in tool 1-49935-0 are not symmetrically located; make sure that the tool conforms to the symmetry requirements shown in Figure 8.

7 Replacement and repair

Customer-replaceable parts are listed in the product drawing. Stock and control a complete inventory to prevent lost time when replacement of parts is necessary. Parts other than those listed should be replaced by TE Connectivity to ensure quality and reliability. Order replacement dies through your TE representative or go to TE.com and click the **Shop TE Store** link at the top of the web page.

For field service, go to the [Service and Repair](#) page on the TE website, or send an e-mail to the address for your region in Table 3.

Figure 9: Service and repair



Table 3: Field service e-mail addresses

Region	Address
Asia	Tefe1ap@te.com
EMEA (including India)	Tefe1@te.com
North America	Fieldservicesnorthamerica@te.com
South America	FSE@te.com

8 Revision summary

Since the last revision of this document, the following changes were made:

- Updated Hand Tool Kit PN from 1213804 to 2217483-1,-2,-7.