

customer manual

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ORIGINAL INSTRUCTIONS

SAFETY PRECAUTIONS — READ THIS FIRST!

IMPORTANT SAFETY INFORMATION

**NOTE**

Keep all decals clean and legible, and replace them when necessary.

**DANGER
ELECTRIC SHOCK HAZARD**

This tool is not insulated. When using this unit near energized electrical lines, use proper personal protective equipment.



Failure to observe this warning could result in severe injury or death.

**DANGER
SKIN INJECTION HAZARD**

Do not use hands to check for oil leaks. Highly pressurized oil will puncture the skin causing serious injury, gangrene, or death. If injured, seek medical help immediately to remove the oil.

**DANGER
FIRE HAZARD**

Do not use solvents or flammable liquids to clean the crimping tool. Solvents or flammable liquids could ignite and cause serious injury or property damage.



Failure to heed these warnings could result in severe injury from harmful fumes or burns from flying debris.

**DANGER
FIRE HAZARD**

Do not dispose of batteries in a fire. They will vent fumes and will explode. Instead, dispose of batteries in an environmentally responsible manner or send the battery back to TE.

**DANGER**

Inspect the tool and jaws/dies before each use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.

Failure to observe this warning could result in severe injury or death.

**CAUTION**

— Do not place the tool in a vise. The crimping tool is designed for hand-held operation.

— Protect the crimping tool from rain and moisture. Water will damage the crimping tool and battery.

Failure to observe these precautions may result in injury or property damage.

**CAUTION**

— Do not allow anything to contact the battery terminals.

— Do not immerse the batteries in liquid. Liquid may create a short circuit and damage the battery. If the batteries are immersed, contact your service center for proper handling.

— Do not place the battery into a pocket, tool pouch, or tool box with conductive objects. Conductive objects may create a short circuit and damage the battery.

— Do not place a battery on moist ground or grass. Moisture may create a short circuit and damage the battery.

Failure to observe these precautions may result in injury or property damage.

**CAUTION**

— Do not store the battery at more than 60°C [140°F]. Damage to the battery can result.

— Do not use another manufacturer's charger.

— Do not attempt to open the battery. It contains no user-serviceable parts.

Failure to observe these precautions may result in injury or property damage.

**CAUTION**

— Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

Failure to observe these precautions may result in injury or property damage.

SAFETY PRECAUTIONS — AVOID INJURY — READ THIS FIRST!

Safeguards are designed into this application equipment to protect operators and maintenance personnel from most hazards during equipment operation. However, certain safety precautions must be taken by the operator and repair personnel to avoid personal injury, as well as damage to the equipment. For best results, application equipment must be operated in a dry, dust-free environment. Do not operate equipment in a gaseous or hazardous environment.

Carefully observe the following safety precautions before and during operation of the equipment:



Always wear approved eye protection while operating equipment.



Always wear appropriate ear protection while using equipment.



Wear foot protection.



Wear nitrile gloves.



Moving parts can crush and cut. Always keep guard(s) in place during normal operation.



Always insert power plug into a grounded receptacle to avoid electrical shock.



Electrical shock hazard.



Observe main electric on/off switch.



Always turn off the main power switch and disconnect the electrical cord from the power source when performing repair or maintenance on the equipment.



Ensure that guards are in place and secure to equipment.



Do not operate the equipment without guards in place.



Observe lift point for equipment.



Always disconnect air supply and then exhaust system air pressure before performing maintenance or repair on the equipment.



Always disconnect the air and lockout the tool when not in use or when head or tool holder is detached.



Use caution when working with this equipment.



Never insert hands into installed equipment. Never wear loose clothing or jewelry that may catch in moving parts of the equipment.



Never alter, modify, or misuse the equipment.



Never enter the electrical enclosure immediately after turning off the machine power switch and disconnecting the electrical cord from the power source. High residual voltages may be present in the electrical enclosure. Read the warning label on the electrical enclosure lid before entering the enclosure.



Never stare at the bright light used for machine lighting. Bright light can damage the eye.



Never use the machine for other than what it is designed, which is crimping terminals to wire. Do not use the machine for crushing any items.

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SUPPORT CENTER

CALL TOLL FREE 1-800-522-6752 (CONTINENTAL UNITED STATES AND PUERTO RICO ONLY)

The **Support Center** offers a means of providing technical assistance when required.

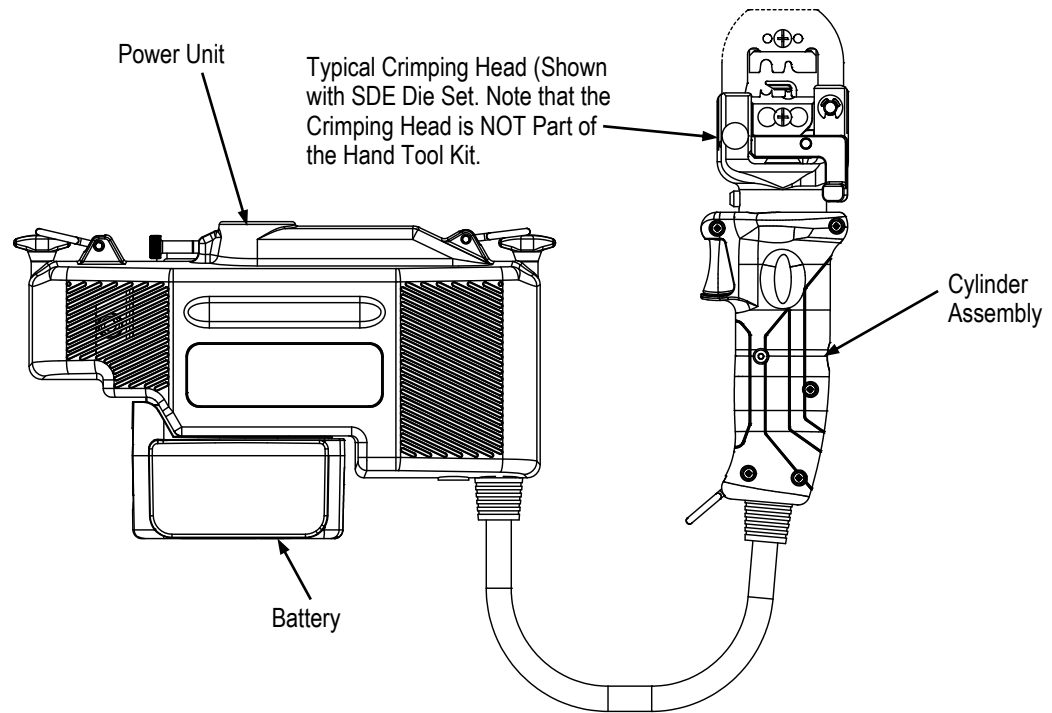
In addition, Field Service Specialists are available to provide assistance in the adjustment or repair of the application equipment when problems arise which your maintenance personnel are unable to correct.

INFORMATION REQUIRED WHEN CONTACTING THE SUPPORT CENTER

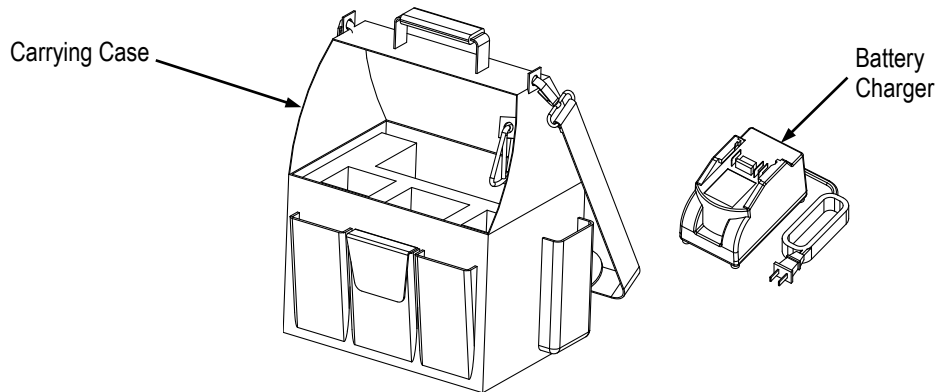
When calling the Support Center regarding service to equipment, it is suggested that a person familiar with the device be present with a copy of the manual (and drawings) to receive instructions. Many difficulties can be avoided in this manner.

When calling the Support Center, be ready with the following information:

1. Customer name
2. Customer address
3. Person to contact (name, title, telephone number, and extension)
4. Person calling
5. Equipment number (and serial number if applicable)
6. Product part number (and serial number if applicable)
7. Urgency of request
8. Nature of problem
9. Description of inoperative component(s)
10. Additional information/comments that may be helpful



The Kit Also Contains a Carrying Case and a Battery Charger.



ELECTRO-HYDRAULIC HAND TOOL KIT	BATTERY CHARGER (INCLUDED)	OPTIONAL AC TO DC POWER ADAPTER	BATTERY CHARGER AND OPTIONAL POWER ADAPTER VOLTAGE	PLUG TYPE	REGION OF USE
2031400-1 2031400-5	2063870-1	2063874-1	110 VAC	NEMA 1-15	N. AMERICA
2-2031400-1 2-2031400-5	2063870-2	2063874-2	220 VAC	CEE 7/17	EU
1-2031400-1 1-2031400-5	2063870-4	2063874-4	110 VAC	JIS-C-8303	JAPAN
3-2031400-1 3-2031400-5	2063870-3	2063874-3	220 VAC	BS-1363	UK
4-2031400-1 4-2031400-5	2063870-5	2063874-5	220 VAC	AS/NZS 3112	AUS/CHINA
2031400-4	2280961-1	2063874-1	110 VAC	NEMA 1-15	N. AMERICA

Figure 1

1. INTRODUCTION

The Electro-Hydraulic Hand Tool kit 2031400-[] consists of the Electro-Hydraulic Hand Tool, one rechargeable battery cartridge (2031440-[]), a battery charger (2031441-[]), and a carrying case. To use the tool without a battery, an optional AC to DC power adapter (2031443-[]) is available. These assemblies are listed in the table in Figure 1.

The Electro-Hydraulic Hand Tool is designed to accept interchangeable head assemblies which accept interchangeable SDE die sets used for crimping various types of electrical wire connectors. Head assemblies and die sets are not included in this kit and must be ordered separately.

**NOTE**

The tool should ONLY be used by trained, competent operators.

This manual contains NOTE, CAUTION, and DANGER, and WARNING statements.

**NOTE**

Highlights special or important information.

**CAUTION**

Denotes a condition which may result in product or equipment damage.

**DANGER**

“Dangers” and “Warnings” denote an imminent hazard which may result in moderate or severe injury.

Refer to the 124 series document ([124-1002](#)) for General Power Tool Safety Warnings.

**NOTE**

Dimensions in these instructions are in millimeters [with inch equivalents provided in brackets.] Figures are for reference only and are not drawn to scale.

For tooling assistance (or service information),
call the PRODUCT INFORMATION number at: 1.800.522-6752.

2. SPECIFICATIONS

CRIMPING CAPACITIES		
PART NUMBER	2031400-1, -4, -11, -21, -31, -41	2031400-5, -15, -25, -35, -45
Rated Crimping Force	15.6 kN [3500 lb] Max	8.5 kN [1900 lb] Max
Oil Pressure	276 bar [4000 psi]	247 bar [3600 psi] Max
Crimping Time	4 Seconds Approx.	3 Seconds Approx.
Crimps per Charge	250 Approx.	250 Approx.
CRIMPING TOOL		
Length†	240 mm [9.4 in.]	240 mm [9.4 in.]
Width†	59 mm [2.3 in.]	59 mm [2.3 in.]
Depth†	48 mm [1.9 in.]	48 mm [1.9 in.]
Weight†	0.6 kg [1.4 lb]	0.6 kg [1.4 lb]
Vibration†	<2.5 m/s ²	<2.5 m/s ²
POWER UNIT (With Battery Installed)		
Length	248 mm [9.8 in.]	248 mm [9.8 in.]
Width	80 mm [3.1 in.]	80 mm [3.1 in.]
Depth	142 mm [5.6 in.]	142 mm [5.6 in.]
Weight	2.0 kg [4.3 lb]	2.0 kg [4.3 lb]
Sound Level	72 dBA	72 dBA
Hydraulic Oil (Petro-Canada Hydrex MV Arctic 15)	48 g [1.7 oz]	48 g [1.7 oz]
Battery Voltage (Lithium Ion)	10.8 VDC	10.8 VDC
Charging Time	25 Minutes Approx.	25 Minutes Approx.
OPTIONAL ACCESSORIES	PART NUMBER	
4-Point Harness (Requires Padded Belt)	2063864-1	2063864-1
Padded Belt	2063863-1	2063863-1
Li-ion Battery (Included in Kit)	2031440-1	2031440-1
Bench Mount Assembly	2031403-1	2031403-1
Carrying Case with Shoulder Strap (Included in Kit)	2031489-1	2031489-1

†Depends on the specific crimp tooling head installed.

3. RECEIVING/INSPECTION

The Electro-Hydraulic Hand Tool Kit 2031400-[] is thoroughly inspected during and after assembly. Prior to packaging and shipping, a final series of tests and inspections is made to ensure proper function of the tool. The following inspection should be performed as a safeguard against potential problems generated in transit.

1. In a well-lighted area, carefully uncrate the tool and inspect each component as it is removed from the packaging.
2. Thoroughly inspect each component for evidence of damage that may have occurred in transit. If any of the components are damaged, file a claim against the carrier and notify TE Connectivity immediately.
3. Keep this manual and all drawings with the tool for the benefit of operation and maintenance personnel.

The Electro-Hydraulic tool should be inspected at regularly scheduled intervals, depending on care, degree of operator skill, the type and size of product being crimped, and environmental conditions.

4. INSTALLATION/REMOVAL OF CRIMP TOOLING

**CAUTION**

Do not operate the tool without the crimp head installed. Repeated operation in this manner will result in damage to the cylinder.

**CAUTION**

Do not operate the tool without the dies. Damage to the crimp head can result.

**CAUTION**

Do not operate the tool with the TE label facing down. Operating the tool in this orientation could cause slow operation of the tool.

**DANGER**

To avoid personal injury, be sure to exercise extreme caution when handling the crimp tool. Remove the power source (and release hydraulic pressure, if applicable) before installing or removing crimp tooling.

**NOTE**

For additional information on the crimping heads, refer to the instructions packaged with the crimping heads.

4.1. Installation/Removal of CERTI-CRIMP II Tool Adapters

The adapters (CERTI-CRIMP II tools only) have the same interface as the crimping heads. The installation and removal procedures for the adapters are identical to the installation/removal procedures for the crimping heads.

4.2. Installation/ Removal of Crimping Head

A. Installation

To install a crimp head assembly, first be sure the power source is removed from the tool. Second, loosen the head retaining screw with a 2.5 mm hex wrench. Next, carefully engage the threads with the cylinder assembly and tighten into place. Fully tighten the head, and then rotate in the loosening direction one half of a revolution. Tighten the head retaining screw and check for proper installation. If the head is installed properly, the head will not be able to rotate more than one full revolution. If the head can rotate more than one full revolution after installation, do not use the tool until installation is correct.

**NOTE**

The most likely cause of an improperly retained head assembly is a missing or misadjusted head retaining screw. See Figure 2.

**CAUTION**

Do not reconnect the power to the tool until a crimping die is installed.

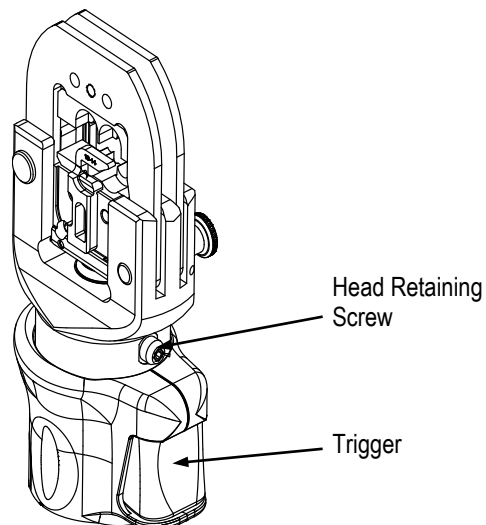


Figure 2

B. Removal

To remove a crimp head assembly, release the lower jaw from the cylinder by pressing the terminal grip thumb button (see Figure 3). Then, using a 2.5 mm hex wrench, loosen the head retaining screw until it allows the assembly to rotate more than one revolution. Refer to Figure 2. Continue rotating the head until it is no longer engaged with the cylinder assembly.



NOTE

The cylinder head assembly has a right hand thread.

4.3. Battery or AC Adapter Installation and Removal



NOTE

The Batteries Directive 2006/EC introduces new requirements from September 2008 on removability of batteries from waste equipment in EU Member States. To comply with this Directive, this device is designed to allow the rechargeable battery pack to be easily removed by the end-user when it needs to be replaced.

A. Installation

To install the battery or AC adapter, slide the battery from the side of the power unit opposite the hose toward the side of the power unit with the hose. When the battery or AC adapter is fully installed, there will be an audible click of the battery retention feature.

B. Removal

To remove the battery or AC adapter, slide the battery retention feature away from the body of the power unit and slide the battery or AC adapter away from the hose.



DANGER

Always dispose of the old battery pack in an environmentally-responsible way, in accordance with local waste regulations. Where possible, please recycle the battery cartridge. Contact your local authority for details of battery recycling locations in your area.

5. OPERATION

The following procedure provides only general information concerning crimping. Refer to the instructions packaged with the crimp heads and dies, for detailed information, including wire stripping dimensions and instructions for positioning terminals and splices in the dies.

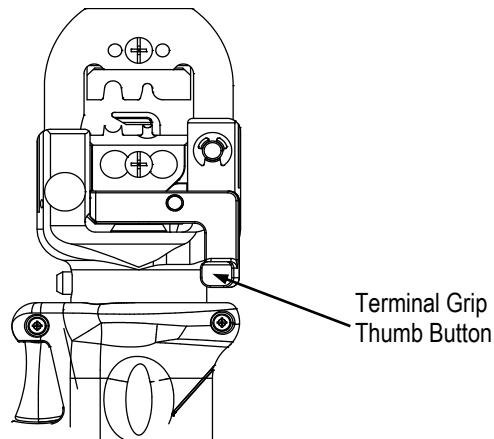


Figure 3

To operate the Electro-Hydraulic Hand Tool Kit:



DANGER

To avoid personal injury, keep fingers clear of the crimping area.

1. Insert the contact into the appropriate die cavity.

2. Advance the moving jaw by pressing the terminal grip thumb button (Figure 3) in order to hold the connector in place. Do NOT deform the terminal body.
3. Place a pre-stripped wire in the barrel of the terminal.
4. Squeeze the tool trigger until the jaws release. When the jaws release, the crimp is complete.



NOTE

It is not necessary to continue to hold the trigger to retract the tooling. The tooling will retract automatically.



CAUTION

An incomplete crimp can result if the tool is not allowed to fully cycle and retract automatically. Discard any incomplete crimps and do not attempt to re-crimp the same terminal.

5. Remove the terminated wire.



NOTE

To abort a crimp, press the pressure release device on the power tool. Information on the pressure release device is contained in Section 6, PRESSURE RELEASE/RESET TOOL.



CAUTION

This tool is not designed for continuous operation. After 100 continuous cycles, allow the crimp tool to cool for 15 minutes.

6. PRESSURE RELEASE/RESET TOOL

The hydraulic pressure is released when a crimp is completed.

Alternately, the power unit has a red pressure release button (see Figure 4). Pushing this button will immediately open the crimp tooling (for maintenance or to abort a crimp) regardless of whether the motor is still pumping fluid. Once this button has been pushed, a special tool is required to reset the unit before it can be returned to service.

To reset the unit, install the reset tool (if necessary) and pull the knurled knob out to the position shown in Figure 3.

At the owner's discretion the reset tool may remain installed in the power unit, or be stored separately in a secure location.

To install or remove the reset tool twist the knurled knob. The reset tool has a left-hand thread.

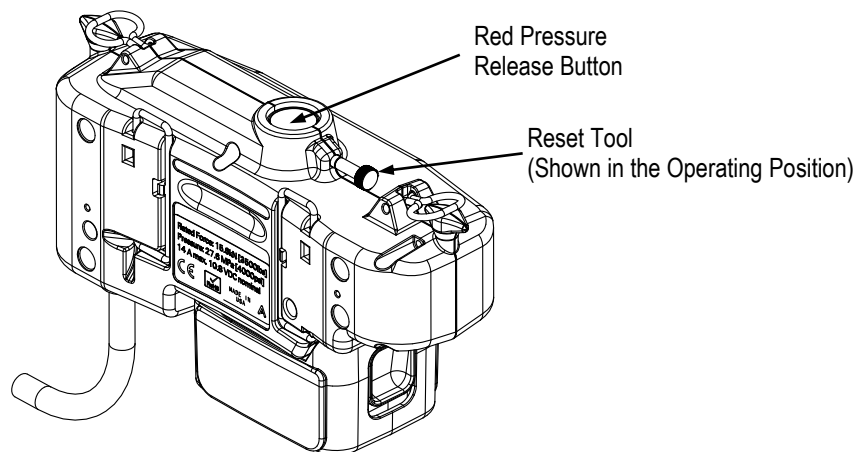


Figure 4

7. PREVENTIVE MAINTENANCE



DANGER

To avoid personal injury, be sure to exercise extreme caution when handling the crimp tool. Remove the power source (and release hydraulic pressure, if applicable) before performing maintenance.

7.1. Daily Maintenance

Perform the following maintenance on a daily basis:

1. Inspect the dies for wear or damage such as cracks, gouges, or chips.
2. Inspect the tool for damage or leaks. If damage is detected, return the tool to TE for repair.
3. Clean the tool, removing accumulations of dirt and grease on the head, particularly in areas where dies are installed and terminals are crimped. Wipe the entire tool frequently with a clean, lint-free cloth.
4. Inspect the hydraulic hose and protective braided cover for signs of damage. If either appears loose, worn, cut, cracked, kinked, indented, pinched, pierced, burnt, partially dissolved, leaking or any other signs of damage are found **DO NOT USE** the tool. Serious injury to the user from oil injection may result. Remove the battery and return the unit to TE for service.



NOTE

BE SURE to return the tool to TE prior to the date indicated on the hose assembly for compulsory replacement of the hydraulic hose per CE requirements. Refer to the information provided in Section 9 to arrange the return of the tool.

5. Inspect the battery for signs of damage. If found damaged or leaking **DO NOT USE**. Properly dispose of the battery. If liquid from the battery comes in contact with a user, flush with water and seek medical attention as appropriate.
6. If the optional AC power adapter is used, inspect the adapter power cord. If damaged, replace the adapter.

7.2. Yearly Maintenance

Once a year, or every 10,000 cycles (whichever comes first) The Electro-Hydraulic Hand Tool should be returned to TE for inspection. Refer to Section 8 for the return address.

7.3. General Notes



NOTE

The tool is factory calibrated for the output force.



NOTE

The tool is NOT intended to be field serviceable. Return the tool to TE for service.



NOTE

The tool contains a "voltage cut-off." That is, the tool will not slow down like similar battery powered tools when the battery charge gets low. Instead, when the battery reaches a pre-determined threshold value, the tool will shut down, indicating the battery needs to be charged.

8. RETURN/REPAIR

Order replacement parts through your TE Representative, or call 1.800.522.6752; or write to:

CUSTOMER SERVICE (38-35)
 TYCO ELECTRONICS CORPORATION
 PO BOX 3608
 HARRISBURG PA 17105-3608

For a list of recommended spares, refer to Figure 5.

TE PART NUMBER	DESCRIPTION
2031495-1	Reset Tool
2031440-1	Rechargeable Battery

Figure 5

9. TROUBLESHOOTING

Prior to beginning troubleshooting procedures, be sure the power source is operational.

1. Be sure that the power source (battery) is charged.
2. Use a nonflammable contact cleaner or pencil eraser to clean the electrical contacts on the battery and crimp tool.
3. Reinstall the battery and check the crimp tool.

PROBLEM	PROBABLE CAUSE	REMEDY
Tool is inoperative.	Must be determined by a TE Technician.	Return the tool to TE.
Dies stop during operation.	Oil level is low.	Return the tool to TE.
	Air in the hydraulic system.	Return the tool to TE.
Slow operation.	Contaminated oil.	Return the tool to TE.
	Low oil or air in the oil.	Activate the pressure release button and hold the tool such that the TE label is vertical with the hose at the top. Run the tool for one minute. Reset the pressure release button and attempt another cycle. If the tool continues to run slowly, return the tool to TE.
Lower jaw will not actuate.	Emergency release is actuated.	Reset using the reset tool.
Tool will not complete a crimp or shuts off after one second.	Battery voltage cut off is reached.	Charge battery.
Battery will not charge.	Battery is overheated.	Allow to cool 15 minutes and retry.
Crimp tool loses oil.	Damaged internal seal.	Return the tool to TE.

Figure 6

10. REVISION SUMMARY

- Updated document to corporate requirements
- Added new information to table in Figure 1
- Added new (-4) part number to table in Section 2, SPECIFICATIONS
- Switched Sections 8 and 9