

# customer manual

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## SAFETY PRECAUTIONS — 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

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.*



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



*Electrical shock hazard.*



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

## TOOLING ASSISTANCE CENTER

**CALL TOLL FREE 1-800-722-1111 (CONTINENTAL UNITED STATES AND PUERTO RICO ONLY)**

The **Tooling Assistance 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 TOOLING ASSISTANCE CENTER

When calling the Tooling Assistance 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 Tooling Assistance Center, be ready with the following information:

- Customer name
- Customer address
- Person to contact (name, title, telephone number, and extension)
- Person calling
- Equipment number (and serial number if applicable)
- Product part number (and serial number if applicable)
- Urgency of request
- Nature of problem
- Description of inoperative component(s)
- Additional information/comments that may be helpful

Figure 1: Battery powered crimp tool



- |                               |                               |
|-------------------------------|-------------------------------|
| 1 Yoke                        | 5 Battery powered crimp tool  |
| 2 Latch head adapter assembly | 6 Indicator light             |
| 3 Trigger                     | 7 Battery lock                |
| 4 Release switch              | 8 Battery cartridge 2280309-1 |

Table 1: Specifications of crimping tool with battery installed

<b>Length</b>	412 mm [16.2 inches]
<b>Width</b>	75 mm [2.95 inches]
<b>Depth</b>	319 mm [12.6 inches]
<b>Mass weight</b>	6.8 kg [15.0 lbs]
<b>Sound level</b>	75 dBA at 1 meter
<b>Vibration</b>	< 2.5 m/s <sup>2</sup>
<b>Recommended hydraulic oil</b>	Shell Tellus T 15™ or RIVOLTA S.B.H 11
<b>Maximum crimping force</b>	106.6 kN [12 tons]
<b>Average crimping time</b>	10 seconds to 15 seconds (depending on connector size)
<b>Average crimps per charge</b>	Approximately 110 (depending on connector size)
<b>Charging voltage</b>	18 V
<b>Charging time</b>	22 minutes



**NOTE**

Dimensions in this customer manual are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

## 1. INTRODUCTION

12 Ton Pistol Grip Battery Powered Crimp Tool Kit 2280308-[ ] consists of the Latch Head Battery Powered Crimp Tool (with the Latch Head Assembly installed), as well as two rechargeable battery cartridges (2280309-1) to power the tool. See Figure 1.

- Kits 2280308-1 includes a 110V battery charger (2217331-1).
- Kit 2280308-2 includes a 220v battery charger (2217331-2).
- Kits 2280308-1 and -2 have a release switch to retract the ram.

This powered crimp tool is designed to accept interchangeable u-die assemblies for crimping various types of connectors.

When reading this manual, pay particular attention to DANGER, CAUTION, and NOTE statements.



### **DANGER**

*Denotes an imminent hazard that can result in moderate or severe injury.*



### **CAUTION**

*Denotes a condition that can result in product or equipment damage.*



### **NOTE**

*Highlights special or important information.*

## 2. RECEIVING INSPECTION

The 12 Ton Pistol Grip Battery Powered Crimp Tool Kit 2280308-[ ] is thoroughly inspected during and after assembly. Prior to packaging and shipping, a final series of tests and inspections is made to ensure proper functioning of the tool. When the tool arrives at your location, inspect it immediately for problems generated in transit.

1. In a well-lighted area, carefully uncrate the tool.
2. Inspect each component as it is removed from the crate.
3. Thoroughly examine each component for evidence of damage suffered during transit. If any of the components are damaged, file a claim against the carrier and notify TE Connectivity immediately.
4. Keep this manual and all drawings and product samples with the tool for the benefit of operation and maintenance personnel.



### 3. INSTALLING AND REMOVING THE DIE ASSEMBLIES


**CAUTION**

*Do not operate the tool without the latch head installed. Damage to the ram or seals can result.*


**CAUTION**

*Do not operate the tool without the die assemblies. Damage to the crimp head can result.*

The 12 Ton Battery Powered Crimp Tool 2280308-[ ] comes with the crimp head already installed on the battery-powered hand tool. The only installation required is the installation of the die assemblies.


**DANGER**

*To avoid personal injury, exercise extreme caution when handling the crimp tool. Avoid accidentally depressing the trigger control when installing or removing crimp dies.*

#### 3.1. Installing the die assemblies


**CAUTION**

*These instructions are specific to the use of TE die assemblies. Be sure to use only TE die assemblies.*

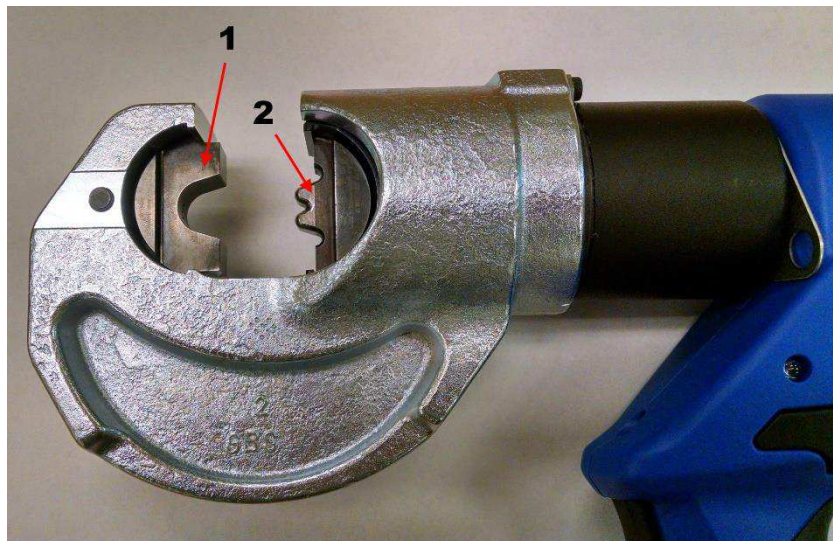
1. Remove the battery (Figure 1) from the tool.
2. Press the button and insert the moving die into the ram (Figure 2). The die clicks into position.
3. Press the button and insert the stationary die into the yoke. The die clicks into position.


**CAUTION**

*To avoid damage to the dies, be sure that the moving and stationary dies are properly oriented.*

4. Replace the battery.

Figure 2: Die assemblies



- 1 Stationary die
- 2 Moving die

### 3.2. Removing the die assemblies



#### **DANGER**

To avoid personal injury, do not accidentally depress the trigger while removing the dies.

1. Remove the battery from the tool.
2. Press button and remove the stationary die (Figure 2).
3. Press button and remove the moving die.

## 4. PRE-OPERATION TESTING

### 4.1. Light Emitting Diode (LED) indicators

#### A. White LED work light

This LED automatically turns on when the trigger is pulled. The indicator remains lit for ten seconds after the trigger is released.

#### B. Red LED indicator

The tool is equipped with a special circuit board incorporating several important features. These features inform the user of the current status of the unit. Table 2 explains the meaning of each red LED signal.

Table 2: Red LED signals

What happens	What it means
Red LED flashes for two seconds.	The battery has been inserted in the tool.
Red LED is lit constantly for 20 seconds at the end of the cycle.	Battery charge is below 17 volts at the beginning of the cycle.
Tool does not start. Red LED light remains lit for 20 seconds after trigger is released.	Battery charge is below 16 volts at the beginning of the cycle.
Tool stops. Red LED light remains lit for 20 seconds after the trigger is released.	Battery voltage drops below 13 volts during the cycle.
Tool stops. The LED flashes for 20 seconds after the trigger is released.	Motor current exceeds 20A during the cycle.
	Circuit has become hot.

### 4.2. Pressure sensor

The tool is equipped with a pressure sensor that alerts the user of an incomplete crimp.

- If the tool is manually retracted before completion of a crimp, the red LED will flash one time and an audible alarm will sound for two seconds.
- If the tool is unable to reach the required crimp force, the red LED will flash three times and an audible alarm will sound until after the trigger is released.



#### **NOTE**

The tool has an on-board memory of previous crimp cycles and the cycle count. This information can be accessed and downloaded onto a computer using USB Adapter Module 2217896-1.

## 5. OPERATION



### CAUTION

Do **not** operate the tool without dies.

### 5.1. Installing and removing the battery



### NOTE

The Batteries [Directive 2006/66/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.

To install the battery, slide the battery into the bottom of the crimp tool (Figure 1) until it can go no farther. The battery lock clicks to indicate that the battery has been properly installed.

To remove the battery, disengage the battery lock by applying pressure on the lock toward the bottom of the tool and slide the battery away from the tool.



### 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.

### 5.2. Crimping

The following procedure provides only general information concerning crimping. Refer to the instructions packaged with the dies for detailed information, including wire stripping dimensions and instructions for positioning terminals and splices in the die assemblies. Tool 2280308-[ ] crimps the following terminals and splices:

- SOLISTRAND™ 8, 6, 4, 2, 1/0, 2/0, 3/0, and 4/0 AWG only
- STRATO-THERM™ 8, 6, 4, 2, and 1/0 only per TE instruction sheet [408-8691](#) (Ring Tongue Terminals, Butt Splices, Parallel Splice)
- SOLISTRAND Flag terminals 8, 6, 4, 2, and 1/0 only
- AMPOWER™ Ring Tongue Terminals 8, 6, 4, 2, 1/0, and 2/0 only

To operate the tool, complete the following steps.



### DANGER

Avoid personal injury. When operating toll or power unit, exercise caution while holding terminals or wire near the crimping area.

1. Strip the wire to the dimensions provided for the terminals in TE instruction sheet [408-8691](#) (SOLISTRAND terminals and splices). Do not nick or cut the wire strands.
2. Select the proper color-coded terminal for the wire size. The wire size stamped on the terminal tongue and on the crimping die must match the wire size selected.
3. Insert stripped wire fully into the terminal wire barrel.



### CAUTION

Do **not** turn or twist the wire or terminal during insertion.

4. Place the terminal in the stationary die.
5. Holding the wires in place, activate the tool to complete the crimp.
6. When the crimp is completed, remove the terminal.



### NOTE

If the terminal sticks in the die after crimping, apply a rocking action to the terminal to remove it from the die. Wipe light oil on the dies to prevent sticking, or use spray dry lubricant.




**NOTE**

If it is necessary to retract the ram before a crimping cycle is completed, push the release switch. Pushing the release switch results in the complete retraction of the ram.


**CAUTION**

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

7. Inspect the crimp according to the crimping procedures for the terminals described in the appropriate TE instruction sheet (Table 3).

Table 3: Terminals and instruction sheets

Terminal	Instruction sheet
SOLISTRAND	<a href="#">408-8691</a>
AMPOWER	<a href="#">408-8703</a>

## 6. PREVENTATIVE MAINTENANCE

### 6.1. Daily maintenance

Make each operator of the power unit aware of, and responsible for, the following daily maintenance requirements:

- Remove dust, moisture, and other contaminants with a clean, soft brush or soft, lint-free cloth. **Do not** use objects that could damage the dies.
- Inspect the tool for damage or leaks. If damage is detected, return the tool to TE for repair. Refer to section 9, REPLACEMENT AND REPAIR.
- Inspect the crimp area for flattened, chipped, cracked, worn, or broken areas. If damage or abnormal wear is evident, replace the dies. Refer to section 9, REPLACEMENT AND REPAIR.
- When the dies are not in use, store them in a clean, dry area.

### 6.2. Periodic inspection

Regular inspections should be performed by quality control personnel. A record of scheduled inspections should remain with the dies or be supplied to personnel responsible for the dies. At a minimum, inspect the tool after every 40 hours of use. Base your inspection frequency on the amount of use, the type and size of product being crimped, ambient working conditions, operator training and skill, and established company standards.

#### Annual maintenance

Once a year, or every 10,000 cycles (whichever comes first), return the tool to TE for inspection.

## 7. TROUBLESHOOTING

1. Be sure that the battery is charged. Recheck the battery after several minutes to ensure that the battery is holding its charge.
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 again.
4. If the battery is operational, use Table 4 to troubleshoot the problem.

Table 4: Troubleshooting

Problem	Probable cause	Remedy
<b>Tool is inoperative</b>	Dirt, contaminants, etc., in ram area of tool.	Clean the tool.
	Crimp tool battery contacts damaged.	Reform the contacts.
	Tool components worn or damaged.	Return tool to TE.
<b>Dies stop during operation</b>	Oil level is low.	Return tool to TE.
	Air is in the hydraulic system.	Pull the trigger and hold the retract button simultaneously. Hold for about 10 seconds.
<b>Crimp tool loses oil</b>	There is damage to the internal seal.	Return tool to TE.

## 8. DECOMMISSIONING

In compliance with the regulations in force in the country where the tool is used, the user must make sure that waste produced during operation is correctly disposed. Disposal of lubricants and parts removed must be carried out in compliance with the standards in force in the country where the tool is used.

## 9. REPLACEMENT AND REPAIR

Table 5 lists the part numbers of replaceable parts.

Table 5: Spare parts

Component	Part number
Battery	2280309-1
Charger	2217331-1 (120 V, US) 2217331-2 (220 V EU)

Order replacement parts through your TE representative. You can also order parts by any of the following methods:

- Go to [TE.com](http://TE.com) and click the **Shop TE** link at the top of the page.
- Call 800-522-6752.
- Write to:

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

For customer repair services, call 800-522-6752.

## 10. RoHS INFORMATION

For information on the occurrence and location of all substances subject to the Restriction of Hazardous Substances (RoHS) Directive, refer to the TE Connectivity [Product Environmental Compliance](#) page.

Enter part numbers in the **Search by part # or keyword** field at the top of the page.

## 11. REVISION SUMMARY

- Updated document format to current standard.