















# customer manual

SAFETY PRECAUTIONS — <b>IMPORTANT SAFETY INFO</b> — READ THIS FIRST! .....	2
SAFETY PRECAUTIONS — <b>AVOID INJURY</b> — READ THIS FIRST!.....	3
<b>1. INTRODUCTION</b> .....	4
<b>2. RECEIVING/INSPECTION</b> .....	5
<b>3. NEST SELECTION</b> .....	5
<b>4. USER INTERFACE INFORMATION (Pre-Operation Testing)</b> .....	6
4.1. Light Emitting Diode (LED) Indicators .....	6
4.2. Pressure Sensor .....	6
<b>5. OPERATION</b> .....	6
5.1. Battery Installation and Removal .....	6
5.2. Wire Stripping.....	7
5.3. Crimping Procedure .....	7
<b>6. INSPECTION/MAINTENANCE</b> .....	9
6.1. Cleaning .....	9
6.2. Visual Inspection .....	9
6.3. Die Closure Inspection .....	10
6.4. Crimping Head Check-Out Procedure .....	11
6.5. Daily Maintenance.....	11
6.6. Yearly Maintenance .....	11
<b>7. SPARE PARTS</b> .....	11
<b>8. TROUBLESHOOTING</b> .....	11
<b>9. DECOMMISSIONING</b> .....	12
<b>10. REPLACEMENT AND REPAIR</b> .....	12
<b>11. RESTRICTION ON HAZARDOUS SUBSTANCES (RoHS) INFORMATION</b> .....	12
<b>12. REVISION SUMMARY</b> .....	12

ORIGINAL INSTRUCTIONS

**SAFETY PRECAUTIONS — IMPORTANT SAFETY INFORMATION — READ THIS FIRST!**

<p> <b>NOTE</b> Keep all decals clean and legible, and replace them when necessary.</p>	<p> <b>DANGER FIRE HAZARD</b> 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.</p> <p></p>
<p> <b>DANGER</b> 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.</p> <p>Failure to observe this warning can result in severe injury or death.</p>	<p> <b>CAUTION</b> — Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>
<p> <b>DANGER ELECTRIC SHOCK HAZARD</b> This tool is not insulated. When using this unit near energized electrical lines, use proper personal protective equipment.</p> <p></p> <p>Failure to observe this warning could result in severe injury or death.</p>	<p> <b>CAUTION</b> — 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.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>
<p> <b>DANGER SKIN INJECTION HAZARD</b> 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.</p> <p></p>	<p> <b>DANGER FIRE HAZARD</b> 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.</p> <p></p> <p>Failure to heed these warnings could result in severe injury from harmful fumes or burns from flying debris.</p>
<p> <b>CAUTION</b> — Do not store the battery at more than 60 °C [140 °F]. Damage to the battery can result.</p> <p>— Do not use another manufacturer's charger. — Do not attempt to open the battery. It contains no user-serviceable parts.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>	<p> <b>CAUTION</b> — 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.</p> <p>— Do not place a battery on moist ground or grass. Moisture may create a short circuit and damage the battery.</p> <p>Failure to observe these precautions may result in injury or property damage.</p>

## 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.*



*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.*

## 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:

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. Customer Name</li> <li>2. Customer Address</li> <li>3. Person to contact (name, title, telephone number, and extension)</li> <li>4. Person Calling</li> <li>5. Equipment number (and serial number if applicable)</li> </ol> | <ol style="list-style-type: none"> <li>6. Product part number (and serial number if applicable)</li> <li>7. Urgency of request</li> <li>8. Nature of problem</li> <li>9. Description of inoperative component(s)</li> <li>10. Additional information/comments that may be helpful</li> </ol> |
|--|--|

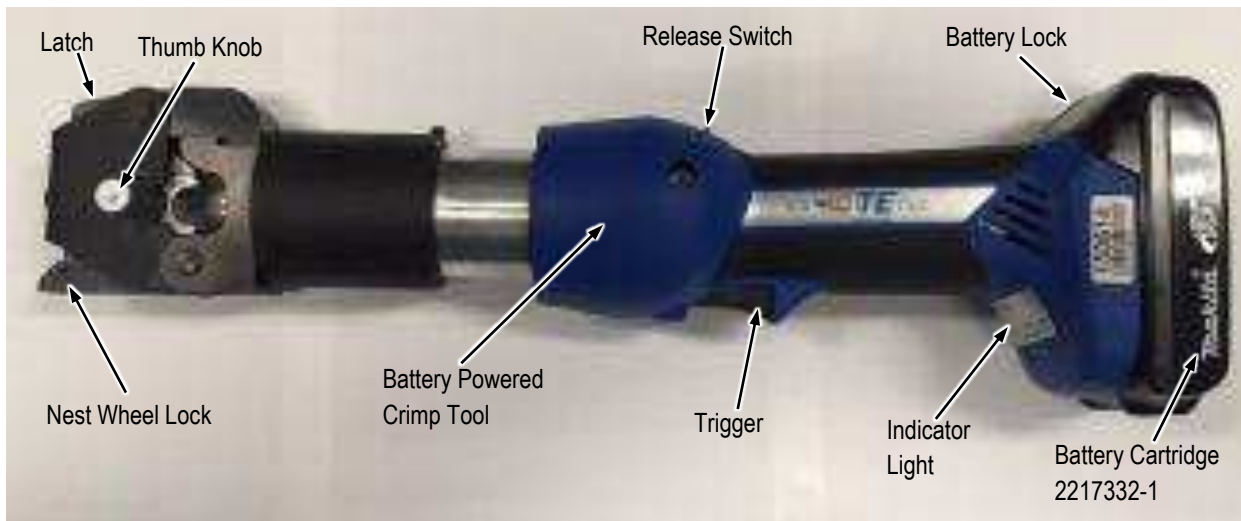


Figure 1

<b>CRIMPING TOOL (With Battery Installed)</b>	
Length	400 mm [15.75 in.]
Width	75 mm [2.95 in.]
Depth	116 mm [4.56 in.]
Mass Weight (with Battery)	2.85 kg [6.3 lbs.]
Sound Level	75 dBA at 1 Meter
Vibration	< 2.5 m/s <sup>2</sup>
Recommended Hydraulic Oil	Shell Tellus T 15 or RIVOLTA S.B.H 11
<b>CRIMPING CAPACITIES</b>	
Maximum Crimping Force	60 kN (6 Metric Tons) [13,500 lbs.]
Average Crimping Time	2 seconds to 5 seconds▲
Average Crimps per Charge	Approximately 100-300▲
<b>BATTERY</b>	
Charging Voltage	18 V
Charging Time	22 minutes

▲ Depending on connector size

Table 1

## 1. INTRODUCTION

The 6-Ton Inline Battery Powered Crimp Tool Kit 2844090-[ ] consists of the Indexing Crimp Head Battery Powered Crimp Tool (with the Indexing Head Assembly installed), as well as two rechargeable battery cartridges (2217332-1) to power the tool. See Figure 1. Kits 2844090-1 includes a 110V battery charger (2217331-1); Kit 2844090-2 includes a 220V battery charger (2217331-2. Kits 2844090-1 and -2 have a release switch to retract the ram. See Section 5.2 for TE Connectivity (TE) terminal types and wire sizes approved to be crimped with this tool.

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



**DANGER**

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



**CAUTION**

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



**NOTE**

Highlights special or important information.



**NOTE**

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

## 2. RECEIVING/INSPECTION

The 6-Ton Inline Battery Powered Crimp Tool Kit 2844090-[ ] 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. 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 crate.
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 immediately.
3. Keep this manual and all drawings and product samples with the tool for the benefit of operation and maintenance personnel.

The crimp 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. At a minimum, the tool should be inspected after every 40 hours of use.

## 3. NEST SELECTION



### CAUTION

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



### DANGER

*To avoid personal injury, remove battery from power unit before selecting crimp nest.*



### DANGER

*To avoid personal injury, be sure to exercise extreme caution when handling the crimp tool. Avoid accidentally depressing the trigger control while selecting desired nest.*

*To Open Head, Depress Latch*

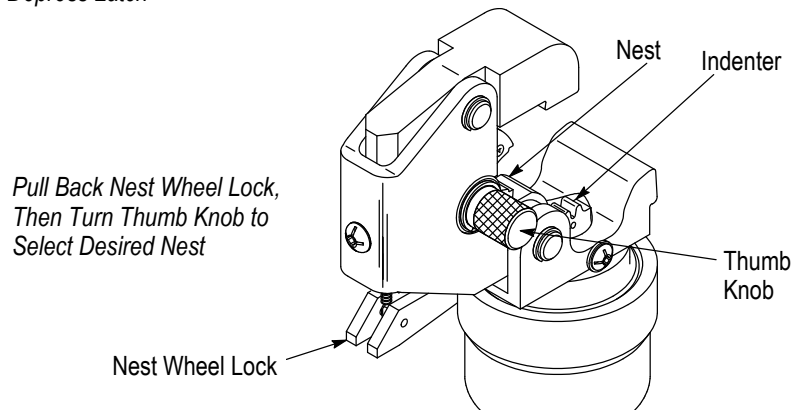


Figure 2

1. Depress the latch and open the crimping head as shown in Figure 2.
2. While the head is open, pull back the nest wheel lock and turn the thumb knob until the desired nest appears. Wire size numbers appear at each nest.
3. Rotate the thumb knob left or right until the nest wheel locks into place. If the nest wheel is not properly locked, the head cannot be closed.

## 4. USER INTERFACE INFORMATION (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. The red LED signals in the following cases shown in Figure 3:

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 will 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 will stop. Red LED light remains lit for 20 seconds after the trigger is released	Battery voltage drops below 13 volts during the cycle.
Tool will stop. The LED will flash for 20 seconds after the trigger is released.	Motor current exceeds 20A during the cycle.
	Circuit has become hot.

Figure 3

### 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 tool without dies.

### 5.1. Battery Installation and Removal

Refer to Figure 1/Table 1.



#### 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 until it can go no further. There will be an audible “click” of the battery lock 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 discharged. Contact your local authority for details of battery recycling locations in your area.

**5.2. Wire Stripping**

Strip wires to the dimensions listed in Figure 4.

WIRE SIZE	WIRE STRIP LENGTH			
	TERMINALS		BUTT AND PARALLEL SPLICES	
	MIN.	MAX.	MIN.	MAX.
8	8.38 [.330]	9.14 [.360]	10.41 [.410]	11.18 [.440]
6	9.91 [.390]	10.67 [.420]	11.94 [.470]	12.70 [.500]
4	11.43 [.450]	12.19 [.480]	13.46 [.530]	14.22 [.560]
2	13.21 [.520]	14.0 [.550]	14.99 [.590]	15.75 [.620]

Figure 4



**CAUTION**

Do not use wires with nicked or missing conductor strands.

**5.3. Crimping Procedure**

Tool 2844090-[ ] crimps: SOLISTRAND\* electrical terminals and connectors 8, 6, 4, 2 AWG wire only; STRATO-THERM\* electrical terminals and connectors 8, 6, 4, 2, AWG wire only.

Operation of the Battery Powered Crimp Tool 2844090-[ ] consists of:



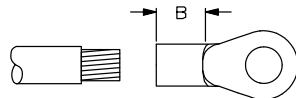
**DANGER**

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

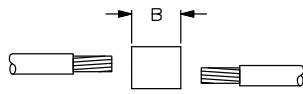
1. Center the terminal or splice wire barrel in the nest as shown in Figure 5. For best results, position the brazed seam on the terminal or splice toward the indenter.

"B" Equals Wire Barrel

**Terminal**



**Parallel Splice**



**Butt Splice**

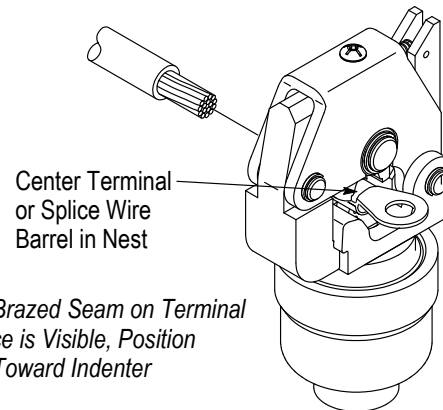
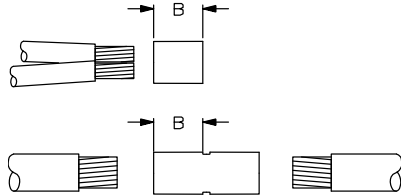


Figure 5



**NOTE**

Wire size stamped on the terminal or splice must correspond to the wire size stamped in the nest.



**CAUTION**

Do NOT turn or twist the wire or terminal during insertion.

2. Activate the power unit to advance the indenter and hold the terminal or splice in place. Do not deform the wire barrel of the terminal or splice.



**i** **NOTE**  
If SOLISTRAND terminal or splice sticks in the die after crimping, apply a rocking motion to remove it.

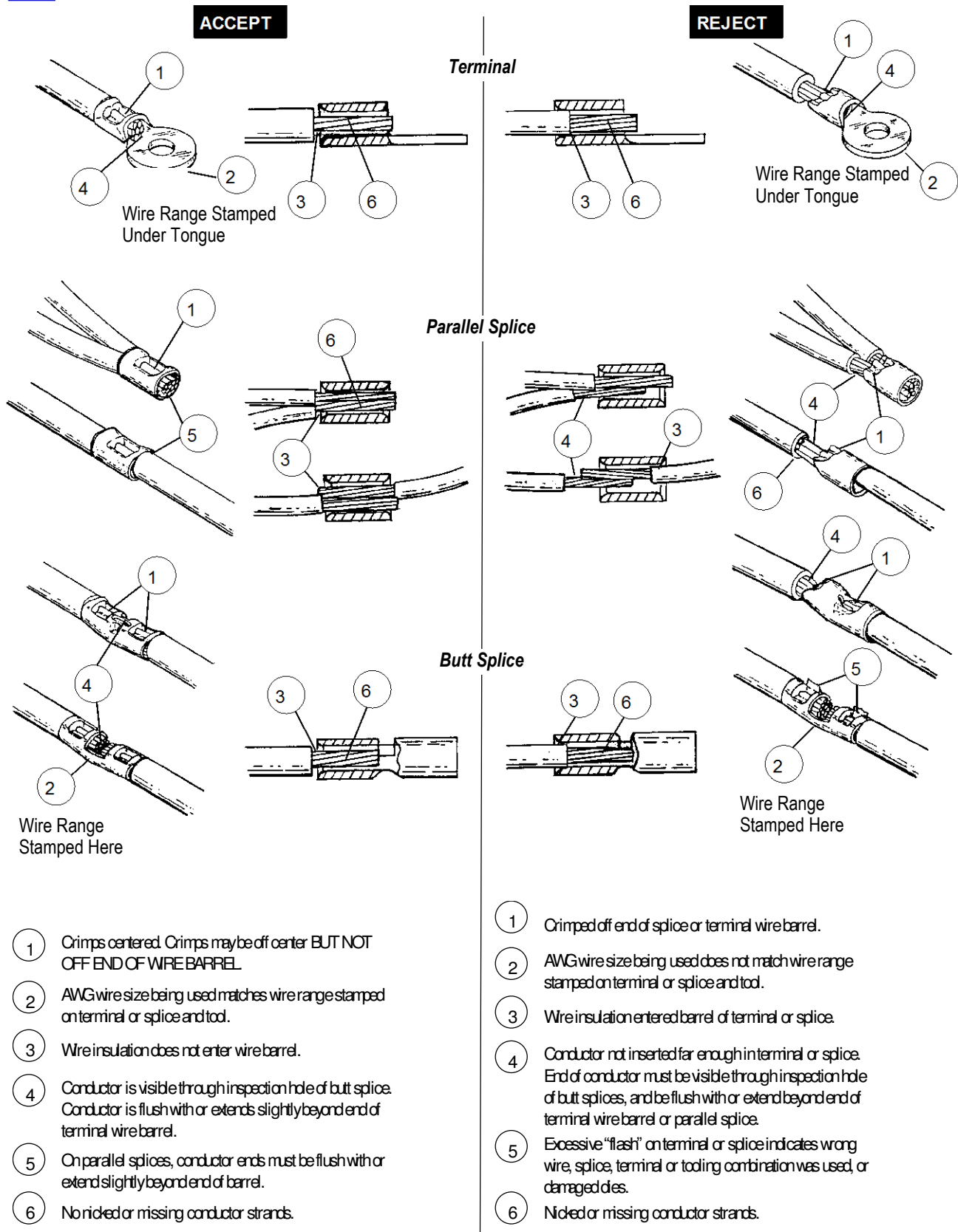


Figure 6



3. Insert the stripped wire into the wire barrel of terminal or splice. When crimping terminals and parallel splices, the end of the wire must be flush with or extend slightly beyond the end of the wire barrel. When crimping butt splices, wire must be visible through the inspection hole.
4. Activate the power unit to complete the crimp.
5. To complete the other half of the butt splice, remove and reposition un-crimped half of the splice in the nest. Insert wire and then activate the power unit to crimp the splice. The completed terminal or splice should be as shown in Figure 5.



**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 will result 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.*

**6. INSPECTION/MAINTENANCE**



**DANGER**

*Make sure hydraulic pressure is released and power supply is disconnected before following inspection and maintenance procedures, unless otherwise specified in the procedure.*

Each crimping head is assembled and inspected before shipment. It is recommended that the crimping head be inspected immediately upon its arrival at your facility, and at regularly scheduled intervals, to ensure that the crimping head has not been damaged during handling. Frequency of inspection depends upon the following: care, amount of use, and handling of the head; type and size of products crimped; degree of operator skill; and environmental conditions.

**6.1. Cleaning**

Remove accumulations of dirt and grease on the crimping head, especially in areas where dies are installed and terminals are crimped. Clean the entire head frequently with a clean, lint-free cloth.

**6.2. Visual Inspection**

Refer to Figure 7 and proceed as follows:

1. Visually inspect die closure surfaces for chipped, pitted, or flattened areas.

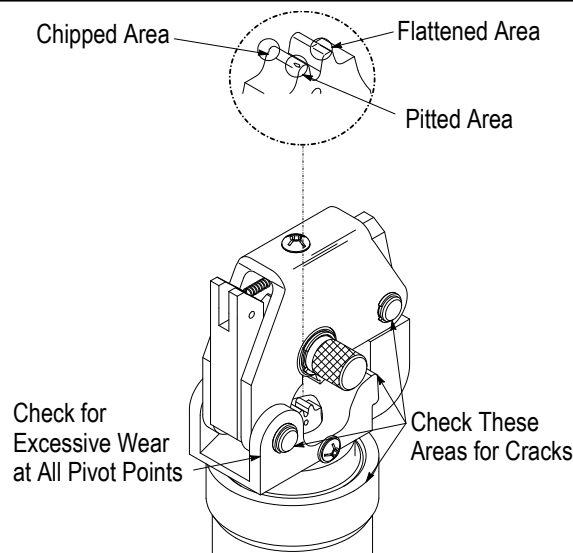


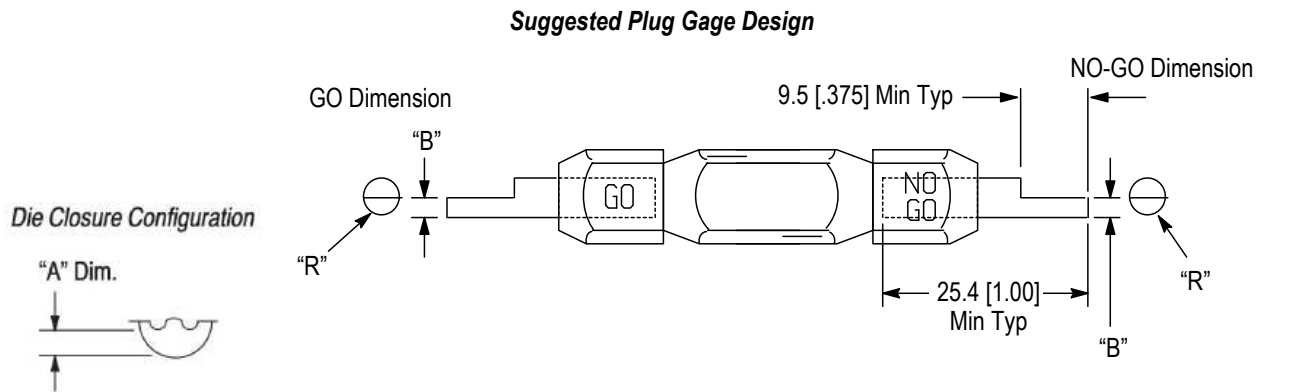
Figure 7

2. With hydraulic pressure released, inspect the assembled head for nicks, scratches, and cracks. Inspect for cracks especially at the corners of the yoke and around the top of the cylinder.
3. Inspect pivot pin holes and latch pin holes for wear. Replace parts, as needed.
4. Activate power unit. Raise ram to UP position. Inspect flat and round surfaces of ram for galling (fretting or wear by friction), cracks, or oil leakage. Release pressure and make sure that ram retracts smoothly.
5. If head shows evidence of galling, cracks, oil leakage, or rough cycling, return the crimping head to TE for repairs (reference Section 10, REPLACEMENT AND REPAIR).

### 6.3. Die Closure Inspection

Every crimping head die set is inspected for proper die closure before shipment. However, the dies should be inspected for excessive wear periodically. Die closure is accomplished using GO/NO-GO plug gages. Suggested plug gage design and GO/NO-GO dimensions are shown in Figure 8.

**i** **NOTE**  
TE does not manufacture or sell plug gages.



DIE SIZE	BARREL CRIMP DIMENSIONS "A"		GAGE MEMBER DIMENSIONS "B"		RADIUS "R"
	GO	NO-GO	GO	NO-GO	
8	2.11 [.083]	2.54 [.100]	2.11-2.12 [.0830-.0833]	2.51-2.54 [.0990-.1000]	3.58 [.141]
6	3.12 [.123]	3.48 [.137]	3.12-3.13 [.1230-.1233]	3.477-3.479 [.1369-.1370]	3.96 [.156]
4	4.04 [.159]	4.39 [.173]	4.04-4.05 [.1590-.1593]	4.391-4.394 [.1729-.1730]	5.56 [.219]
2	4.83 [.190]	5.18 [.204]	4.83-4.84 [.1900-.1903]	5.17-5.18 [.2039-.2040]	6.35 [.250]

Figure 8

1. Clean the oil and dirt from the closure surfaces, and plug gage members.
2. Lock the desired nest in the crimp position and raise the indenter to the full UP position, as shown in Figure 9, Detail A.
3. With the indenter positioned at the full UP position, inspect the die closure using the appropriate plug gage. Hold the gage in alignment with die closure and carefully insert, without forcing, the GO member. See Figure 9. The GO member must pass completely through the die closure as shown in Figure 9, Detail B.
4. Try to insert the NO-GO member. The NO-GO member may enter partially, but must NOT pass completely through the die closure. See Figure 9, Detail B.
5. If the die closure meets the GO/NO-GO gage conditions, the die closure is considered dimensionally correct. If the die closure does *not* conform to the GO/NO-GO gage conditions, contact your local TE Representative.

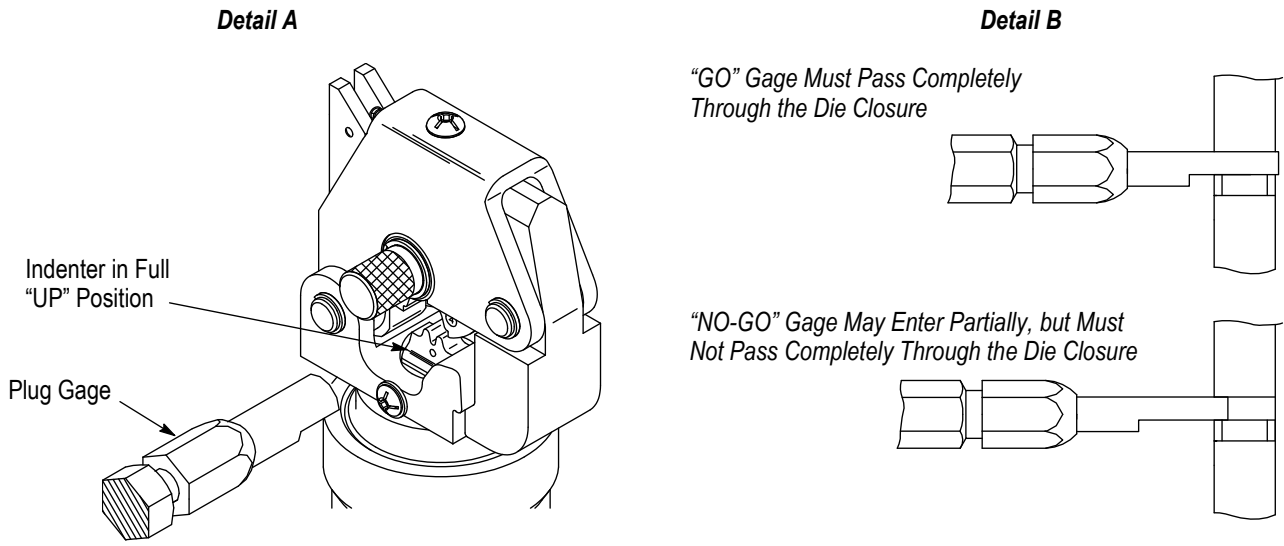


Figure 9

#### 6.4. Crimping Head Check-Out Procedure

If the ram fails to return to the DOWN position after completion of a crimping cycle, the cause may be in the crimping head. To determine whether or not the trouble is in the crimping head, release pressure in the power unit. If the ram retracts, the trouble is not in the crimping head. If the ram does not retract, return the crimping head to TE for repair.

#### 6.5. 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.

#### 6.6. Yearly Maintenance

Once a year, or every 10,000 cycles (whichever comes first), the Latch Head Battery Powered Crimp Tool should be returned to TE for inspection.

### 7. SPARE PARTS

- Battery: PN 2217332-1
- Charger: PN 2217331-1 (120V, US), PN 2217331-2 (220V, EU)

### 8. TROUBLESHOOTING

See Table 2.

Prior to beginning troubleshooting procedures, be sure the battery is operational, as follows:

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.

PROBLEM	PROBABLE CAUSE	REMEDY
Tool is inoperative	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
Dies stop during operation	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
Crimp tool loses oil	There is damage to the internal seal	Return tool to TE

Table 2

**9. 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.

**10. REPLACEMENT AND REPAIR**

Order replacement parts through your TE Representative, or for customer repair service. Call 1-800-522-6752, send a facsimile of your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
 TYCO ELECTRONICS CORPORATION  
 PO BOX 3608  
 HARRISBURG PA 17105-3608

**11. RESTRICTION ON HAZARDOUS SUBSTANCES (RoHS) INFORMATION**

Information on the presence and location of any substances subject to RoHS can be found at <http://www.te.com/customersupport/rohssupportcenter>.

**12. REVISION SUMMARY**

Initial release of customer manual