

Operating Instructions

BATTERY-POWERED CRIMPING TOOL

Catalog Number: BAT22-6NV2

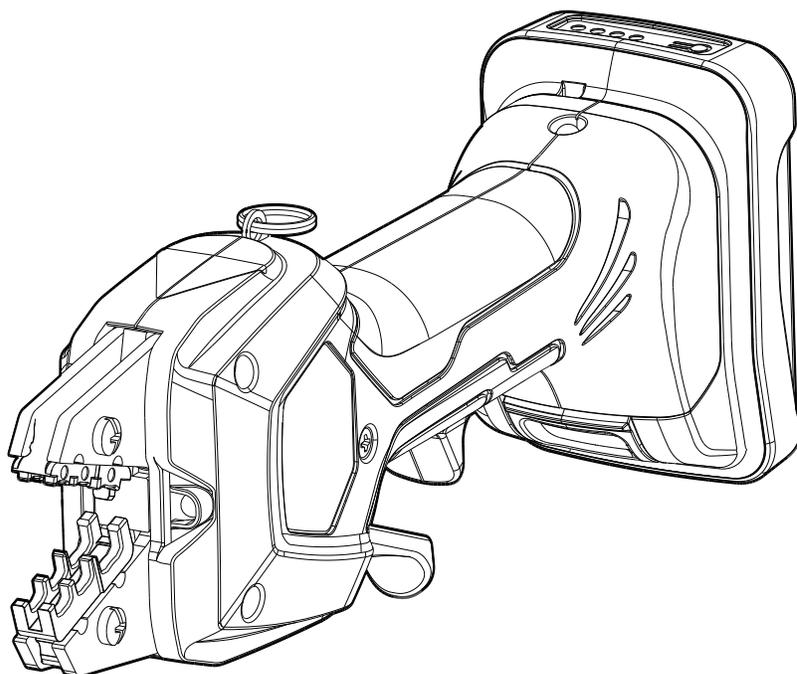


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Thomas & Betts

A Member of the ABB Group



IMPORTANT: Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

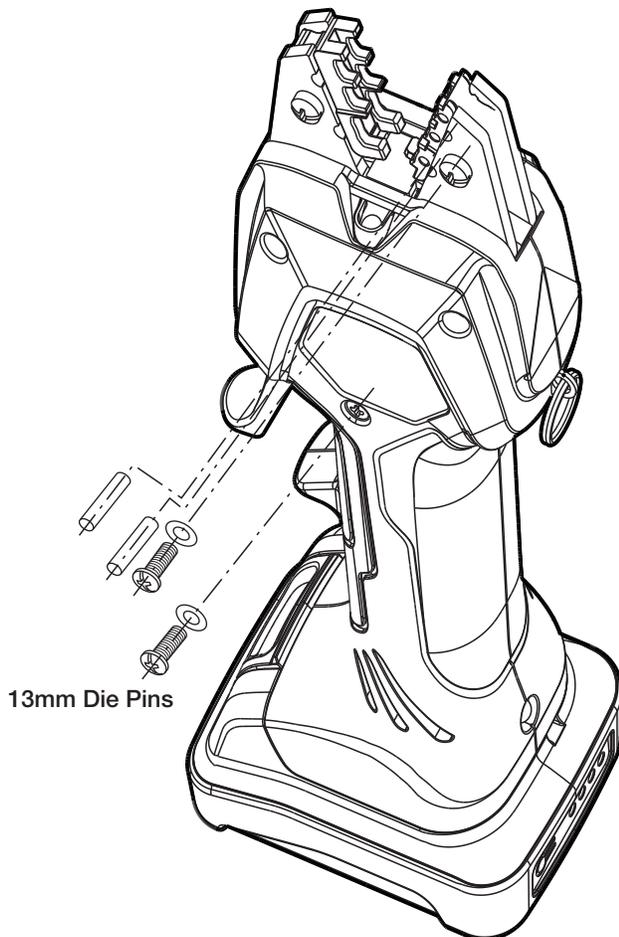
1.0

GENERAL INFORMATION

1.1

DESCRIPTION

The BAT22-6NV2 Battery-powered Crimping Tool is a hand-held, self-contained crimping tool intended to crimp terminals, splices, and disconnects on 22 AWG through 6 AWG wires using appropriate dies.



13mm Die Pins

1.2

SAFETY

Safety is essential in the use and maintenance of THOMAS & BETTS tools and equipment. This manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of this tool. Observe all of the safety information provided.

1.3

PURPOSE OF THIS MANUAL

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following THOMAS & BETTS tool:

BAT22-6NV2 Battery-powered Crimping Tool

Keep this manual available to all personnel. Replacement manuals are available upon request at no charge.

All specifications are nominal and may change as design improvements occur. THOMAS & BETTS shall not be liable for damages resulting from misapplication or misuse of its products.

CrimpALL and Kwik Cycle are registered trademarks of Textron Innovations Inc.

Teflon is a registered trademark of Dupont.



SAFETY ALERT SYMBOL

This symbol is used to call your attention to hazards or unsafe practices which could result in an injury or property damage. The signal word, defined below, indicates the severity of the hazard. The message after the signal word provides information for preventing or avoiding the hazard.

⚠ DANGER

Immediate hazards which, if not avoided, WILL result in severe injury or death.

⚠ WARNING

Hazards which, if not avoided, COULD result in severe injury or death.

⚠ CAUTION

Hazards or unsafe practices which, if not avoided, MAY result in injury or property damage.



⚠ WARNING

Wear eye protection when operating or servicing this tool. Failure to wear eye protection could result in serious eye injury from flying debris.



⚠ WARNING

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

⚠ WARNING

An incomplete crimp can cause a fire. Use proper die, connector, and cable combinations. Improper combinations can result in an incomplete crimp. Failure to observe this warning could result in severe injury or death.



⚠ WARNING

Read and understand all of the instructions and safety information in this manual before operating or servicing this tool. Failure to observe this warning could result in severe injury or death.



⚠ WARNING

Pinch points:

- Remove battery before changing dies, adapters, or jaws.
- Keep hands away from the crimping tool head when crimping.

Failure to observe these warnings could result in severe injury or death.



⚠ WARNING

Electric shock hazard: This tool is not insulated. When using this unit on or near energized electrical lines, use proper personal protective equipment. Failure to observe this warning could result in severe injury or death.

⚠ WARNING

Do not dispose of batteries in a fire. Failure to observe this warning could result in severe injury from harmful fumes or burns from flying debris.

⚠ WARNING

Inspect tool and dies before 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

- Allow approximately 3 to 5 minutes of time to cool down as tool automatically switches off when it gets too hot.
- Do not secure this tool in a vise. This tool is designed for hand-held operation.
- This tool may be used in damp or wet environments; however, air-drying is recommended before use if the tool becomes soaked. Damage may result when the tool is operated prior to thorough drying when electrical components are soaked.
- Use this tool for the manufacturer's intended purpose only.

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 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 122 °F (50 °C) or less than -4 °F (-20 °C). Damage to the battery can result.
- Do not use another manufacturer's charger. Other manufacturers' chargers may overcharge and damage the battery.
- 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

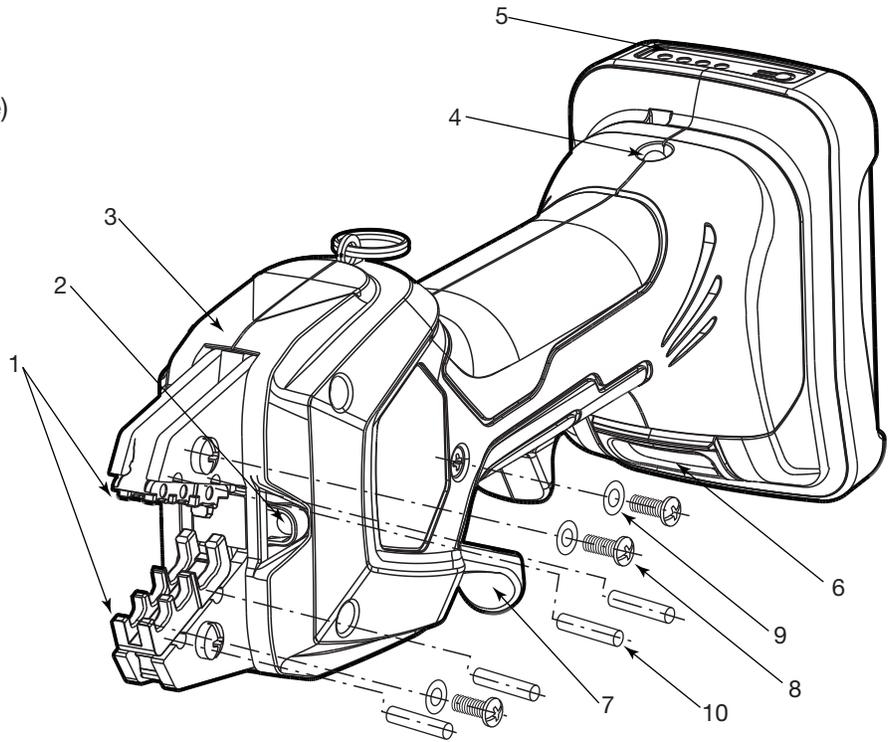
Do not perform any service or maintenance other than as described in this manual. Injury or damage to the tool may result.

Failure to observe this precaution may result in injury and property damage.

Note: Keep all decals clean and legible, and replace when necessary.

IDENTIFICATION

- 1. Crimping Dies
- 2. LED Work Light (white)
- 3. Crimping Head
- 4. LED Indicator (red)
- 5. Battery Cartridge
- 6. Battery Lock
- 7. Trigger
- 8. Screws
- 9. Washers
- 10. 13 mm Pins



SPECIFICATIONS

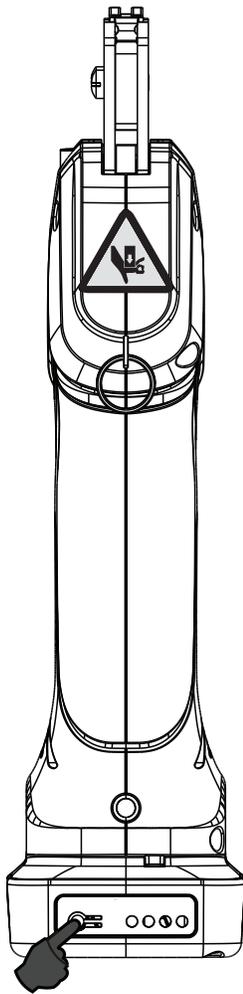
Crimping Tool

- Length (with battery)9.93" (252.22 mm)
- Width2.5" (63.5 mm)
- Depth3.6" (91.44 mm)
- Weight2.18 lb (0.98 kg)
- Crimping Force1.53 tons (15 kN)
- Recommended Operating Temperature Range14 °F to 104 °F (-10 °C to 40 °C)

Battery

- Charging Time40 min

52068605	Battery, 10.8V 1.5 Ah li-ion (16.2 Wh)
52068603	Charger, 10.8V li-ion batteries, 110V
52068604	Charger, 10.8V li-ion batteries, 230V

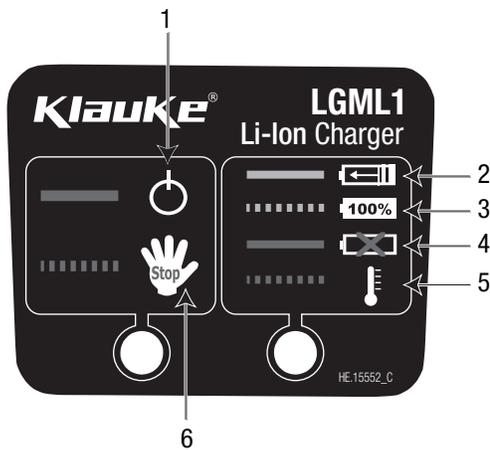


⚠ CAUTION

Remove battery only after unplugging charger from socket.
Failure to observe this precaution may result in injury or property damage.

% Charge Remaining

100%	
75%	
50%	
25%	
0%	



1. Charger is plugged into socket.
2. Battery is charging.
3. Battery is fully charged.
4. Battery is defective.
5. Battery is too hot or too cold.
6. Charger is defective.

⚠ WARNING

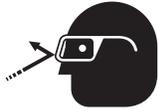
Inspect tool and dies before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel. Failure to observe this warning could result in severe injury or death.

⚠ WARNING



Electric shock hazard:
This tool is not insulated. When using this unit on or near energized electrical lines, use proper personal protective equipment. Failure to observe this warning could result in severe injury or death.

⚠ WARNING



Wear eye protection when operating or servicing this tool. Failure to wear eye protection could result in serious eye injury from flying debris.

⚠ WARNING



Pinch points:

- Remove battery before changing dies, adapters, or jaws.
- Keep hands away from the crimping tool head when crimping.

Failure to observe these warnings could result in severe injury or death.

⚠ CAUTION

- Allow approximately 3 to 5 minutes of time to cool down as tool automatically switches off when it gets too hot.
- Do not secure this tool in a vise. This tool is designed for hand-held operation.
- Use this tool for the manufacturer's intended purpose only. Failure to observe these precautions may result in injury or property damage.

Charging the Battery

Read the instructions supplied with the battery charger.

LED Work Light (white)

This LED automatically turns on when the trigger is pulled. It remains on for 10 seconds after the trigger is released.

LED Indicator (red)

This tool is equipped with a special circuit board incorporating several important features to inform the user about the current status of the unit. The LED signals in the following cases:

		When	What it means
	2 x	After inserting the battery	Battery is inserted in tool
	20 sec		Low battery
	20 sec/2 Hz	After working cycle	Contact TNB service
	20 sec/5 Hz		Tool has become too hot
	1 x	After interruption	Error – manual interruption of crimp cycle prior to completion
	3 x	After working cycle	Error – automatic opening of tool due to exceeding crimp force

To prepare cable follow the lug manufacturer's instructions for appropriate cable strip length.

2.3

INSTALLING DIES

1. Select the proper die set for the intended crimping operation, see Table 1.
2. Remove screw, washer, and die mounting pins from the crimping head.
3. Extend the ram partially by momentarily pulling the trigger to access the screw, washer, and pins in the ram, and remove.
4. Insert one die half into the partially extended ram. Install the 13mm pins**, screw and washer through the ram mounting holes and the die half. Tighten screw snugly. Retract ram fully by depressing retract button.
5. Insert remaining die half into the crimping head, and install with 18mm pins**, screw and washer. Tighten screw snugly.

** DIE2001, DIE2500 do not use die mounting pins. When installing the dies, proceed as described above but do not tighten screws fully. After die set is in place, ensure dies are properly aligned and extend the ram until the dies engage under some pressure. Tighten screws snugly.

BAT22-6NV2 Die Ordering Information	
CAT. NO.	DESCRIPTION
DIE2001	Insulated 22-10 AWG Sta-Kon® Terminals
DIE2002	Non-insulated 22-10 AWG Sta-Kon® and Spec-Kon® Terminals
DIE2005	Non-insulated 16-6 AWG Sta-Kon® and Spec-Kon® Terminals
DIE2007	Insulated 8-6 AWG Sta-Kon® Terminals
DIE2500	Insulated 22-10 AWG Spec-Kon® Terminals

TABLE 1

⚠ CAUTION ⚠

The largest nest must be positioned away from the open side of the crimping head, closest to the head itself. Failure to do so will result in premature head failure.

⚠ CAUTION ⚠

- Do not place the tool in a vise. The crimping tool is designed for hand-held operation.
- This tool may be used in damp or wet environments; however, we recommend air-drying the tool before use if it became soaked.
- Use this tool for manufacturer's intended purpose only.

FAILURE TO OBSERVE THESE PRECAUTIONS MAY RESULT IN INJURY OR PROPERTY DAMAGE.

2.4

CRIMPING CABLE

1. Insert the properly assembled connector into the crimping head.
2. Pull the trigger to make the crimp.

⚠ WARNING ⚠



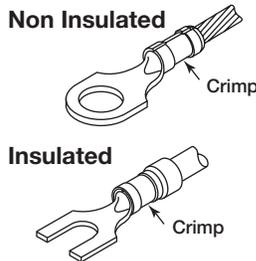
Keep hands away from the crimping head when crimping. Failure to observe this warning could result in severe injury.

3. Hold the trigger down until the crimping tool achieves pressure relief, which is accompanied by an audible "pop". Release the trigger.
4. The crimping tool returns automatically.
5. Position the crimping tool for the next crimp. Repeat Steps 2 and 3 for the next crimp (see Figure 1).

NOTE: If it is necessary to retract the ram before a crimping cycle is complete, push the retract button which will result in the complete retraction of the ram.

Sta-Kon® Terminals

One crimp required.



Sta-Kon® Splice

Two crimps required, one crimp on each side.

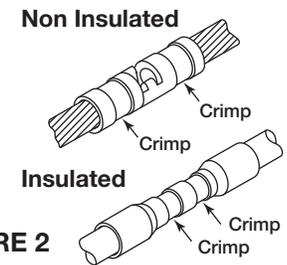
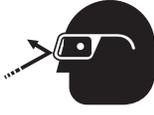


FIGURE 2

3.1

MAINTENANCE

	⚠ WARNING
	<p>Wear eye protection when operating or servicing this tool. Failure to wear eye protection could result in serious eye injury from flying debris.</p>

	⚠ WARNING
	<p>Do not use solvents or flammable liquids to clean the tool body. Solvents or flammable liquids could ignite and cause serious injury or property damage.</p>

	⚠ WARNING
	<p>Pinch points:</p> <ul style="list-style-type: none"> • Remove battery before changing dies, adapters, or jaws. • Keep hands away from the crimping tool head when crimping. <p>Failure to observe these warnings could result in severe injury or death.</p>

Daily

Before use:

1. Inspect the tool for wear.
2. Inspect the tool for damage, such as cracks, gouges or chips.

After use:

1. Use a damp cloth and mild detergent to clean the housing. Allow the housing to dry.
2. Place the tool in the carrying case and store in a cool, dry place.
3. If necessary, recharge the batteries. Refer to the instructions supplied with the battery charger.

Monthly

Thoroughly clean all surfaces.

Annually or After 10,000 Crimps:

Return the tool to an authorized Thomas & Betts service center for inspection.

3.2

TROUBLESHOOTING

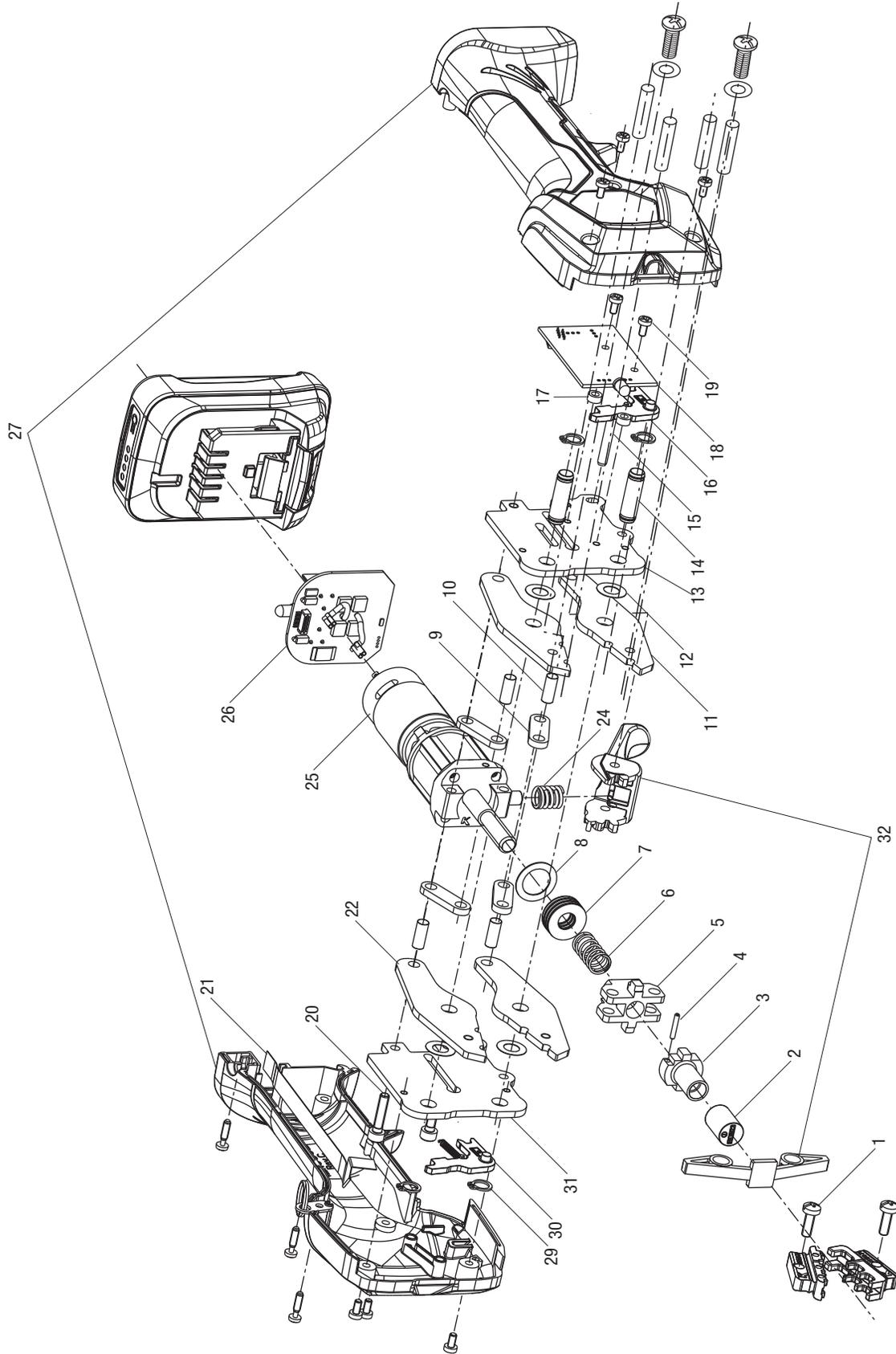
Troubleshooting

Before You Begin

1. Make sure that the battery is charged.
Recheck the battery after several minutes to make sure the battery is holding its charge.
2. Use a **nonflammable** contact cleaner or pencil eraser to clean the electrical contacts on the battery and tool.
3. Reinstall the battery and check the tool again.

Problem	Possible Cause	Probable Remedy
Tool is inoperative.	Continuous use causes tool to become too hot and automatically switch off.	Allow approximately 3 to 5 minutes of time to cool down.
	Dirt, contaminants, etc., in jaw area of tool.	Clean tool.
	Tool components worn or damaged.	Return tool to Thomas & Betts Service Center.
Motor is inoperative.	Low or uncharged battery.	Try known charged battery. Inoperative battery may be discharged or may have reached life expectancy.
	Broken switch components.	Return tool to Thomas & Betts Service Center.
LED glows for 20 seconds.	Battery charge low.	Charge or replace battery.

For parts and service, contact Thomas & Betts Tool Service center at 1-800-284-TOOL (8665).



Key	Part No.	Description	Qty
		Driver assembly with gearbox and spindle nut.	
2	52068843	Grease retainer cap	1
3		Spindle nut	1
4		Spring-type straight pin ISO 13337-2 x 12	1
5		Yoke	1
6		Compression spring	1
7		Cup spring DIN 2093-18 x 0.5 x 8.2	7
8		Shim washer DIN 988-13 x 19 x 0.5	1
25		Drive assembly 46-gearing/10.8V engine	1
		Crimp head (complete) 12 mm	
1	52068844	Screw, cross recess head M4 x 12	2
9		Linkage arm	4
10		Bolt $\phi 5$ x 12	4
11		Crimp head bracket with hole 4.2 mm	2
12		Shim ring DIN 988-7 x 13 x 0.2 steel	4
13		End plate, left	1
14		Bolt $\phi 7$ x 12	2
15		Parallel pin, hardened ISO 8734-4 x 28	1
16		Gear lever	2
20		HSH cap screw ISO 4762-M4 x 18 (DIN 912)	2
22		Crimp head bracket with thread M4	2
24		Compression spring DA 9.8 x L 14, x D 1.4	1
30		Retaining ring DIN 471-7 x 0.8	4
31		Extension spring DA 3.52 x L 8.7 x D 0.32	1
32	End plate, right	1	
		Crimp head (complete) 13 mm	
1	52068849	Screw, cross recess head M4 x 12	2
9		Linkage arm	4
10		Bolt $\phi 5$ x 12	4
11		Crimp head bracket with hole 4.2 mm	2
12		Shim ring DIN 988-7 x 13 x 0.2 steel	4
13		End plate, left	1
14		Bolt $\phi 7$ x 12	2
15		Parallel pin, hardened ISO 8734-4 x 28	1
16		Gear lever	2
20		HSH cap screw ISO 4762-M4 x 18 (DIN 912)	2
22		Crimp head bracket with thread M4	2
24		Compression spring DA 9.8 x L 14, x D 1.4	1
30		Retaining ring DIN 471-7 x 0.8	4
31		Extension spring DA 3.52 x L 8.7 x D 0.32	1
32	End plate, right	1	
		Switch board assembly	
17	52068845	Distance roll $\phi 6$ x 3	2
18		Plate for mini 10.8V	1
19		Screw DIN 7985 M3 x 6-4.6-Z zinc plated	2
		Cup spring assembly	
6	52068846	Compression spring	1
7		Cup spring DIN 2093-18 x 0.5 x 8.2	7
8		Shim washer DIN 988-13 x 19 x 0.5	1
32	52068847	Release lever and spacer	
		Tool housing (complete) 12 mm jaw	
27	52068848	Housing assembly, green	1
		Tool housing (complete) 13 mm jaw	
27	52068850	Housing assembly, green	1

Replacement Parts

Key	Part No.	Description	Qty
21	52068569	Flat flexible cable 8-pole L 131.5	1
26	52068582	Programmed circuit board	1

NOTE: Calibration verification procedure should be performed whenever the tool is damaged or damage is suspected.

⚠ WARNING ⚠



Keep fingers clear of die nest during gaging procedure.

5.1

VISUAL INSPECTION

Tool must be free of cracks, sharp edges and other obvious imperfections that may affect performance of the tool. Nest area must be free of burrs, dents or scratches.

5.2

GAGING PROCEDURE

NOTE: Wipe die nest before gaging.

1. Cycle tool until dies bottom.
2. Using gage pins, insure that each nest meets the gaging requirements as specified in TABLE 2, 3, 4, 5 or 6 per the corresponding die.

UPON SUCCESSFUL COMPLETION OF THE ABOVE PROCEDURE, THE PREVIOUS CALIBRATION OF THE TOOL IS VERIFIED.

NOTICE: If tool fails any of the above tests, do not attempt repair or adjustment. Call the nearest Thomas & Betts Tool Service Center to arrange for repair service. Any change, modification or alteration of the tool or use by the customer in a manner other than as specified by Thomas & Betts shall void all warranties express or implied and the customer shall, therefore, assume all liability for any damage or injury caused by said change, modified or altered tool or improper usage or such tool.

TABLE 2

DIE2001 GAGING REQUIREMENTS		
NEST	GAGING MIN. - MAX.	WIRE SIZE
RED	.100 - .103	#22 - #18 AWG
BLUE	.117 - .120	#16 - #14 AWG
YELLOW	.149 - .152	#12 - #10 AWG

TABLE 3

DIE2002 GAGING REQUIREMENTS		
NEST	GAGING MIN. - MAX.	WIRE SIZE
A	.062 - .067	#22 - #18 AWG
B	.084 - .089	#16 - #14 AWG
C	.110 - .115	#12 - #10 AWG

TABLE 4

DIE2007 GAGING REQUIREMENTS		
NEST	GAGING MIN. - MAX.	WIRE SIZE
RED	.190 - .196	#8 AWG
BLUE	.212 - .218	#6 AWG

TABLE 5

DIE2500 GAGING REQUIREMENTS		
NEST	GAGING MIN. - MAX.	WIRE SIZE
RED	.080 - .088	#22 - #16 AWG
BLUE	.091 - .099	#16 - #14 AWG
YELLOW	.119 - .127	#12 - #10 AWG

TABLE 6

DIE2005 GAGING REQUIREMENTS		
NEST	GAGING MIN. - MAX.	WIRE SIZE
B	.083 - .089	#16 - #14 AWG
C	.118 - .124	#12 - #10 AWG
D-E	.176 - .181	#8 - #6 AWG

FOR PARTS OR SERVICE, CONTACT TOOL SERVICE CENTER AT 1-800-284-TOOL (8665)

IN ORDER TO OBTAIN WARRANTY SERVICE YOU MUST REGISTER YOUR PRODUCT BY LOGGING IN ON www.tnb.com/toolregistration. FAILURE TO REGISTER YOUR PRODUCT VOIDS ALL WARRANTIES.