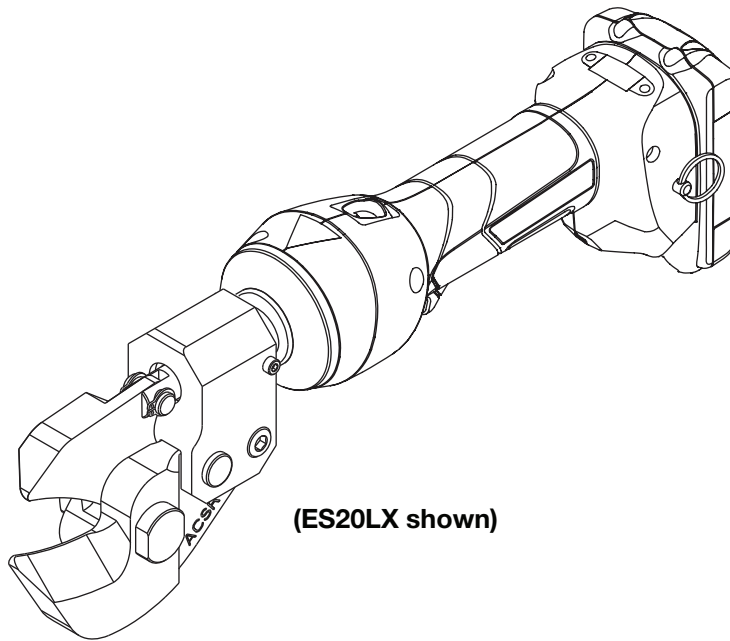


OPERATION MANUAL



GREENLEE®
A Textron Company

Serial Number



(ES20LX shown)

GATOR® **Battery-powered** **In-line Cutters**



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

Register this product at www.greenlee.com

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Description

Greenlee's Battery-powered In-line Cutters are hand-held, self-contained cutting tools intended to cut the following:

- **ES20LX ACSR Cutter:** Copper and aluminum cable up to 3/4" (19 mm), 336 ACSR, 3/8" reinforcement bar (rebar), and 3/8" stranded guy wire. It is not intended for use on EHS guy wire.
- **ES32LX Cable Cutter:** Aluminum and copper cable only.
- **ES32FLX Cable Cutter:** Fine stranded cable only.
- **ESC35LX Cable Cutter:** Regular and fine stranded aluminum and copper cable.
- **ETS8LX Cable Tray Cutter:** Wire, basket-style cable trays up to 0.31" (8.0 mm) diameter.
- **ETS12LX Single Use Lock Cutter and Bolt Cutter:** Bolts, steel rods, one-time disposable locks, and sea container seals or similar soft metal devices.
- **ESG25LX Cable Cutter:** Copper and aluminum cable up to 1" (25 mm), 636 ACSR, 3/8" reinforcement bar (rebar), 5/8" stranded guy wire and 1/2" wire rope. It is not intended for use on EHS guy wire.
- **ESG45LX Cable Cutter:** ACSR and guy strand.

The tool has a Bluetooth® connectivity and an LCD screen.

These tools are protected by U.S. Patent No. 6,276,186, 6,401,515, 6,718,870, 7,086,979, and 7,254,982.

Model X-FCC ID: 2AGL2X; IC ID: 20646LX

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

GATOR is a registered trademark of Textron Innovations Inc.

Bluetooth is a registered trademark of Bluetooth SIG, Inc.

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

Note: Change or modifications made to this equipment not expressly approved by Greenlee may void the FCC authorization to operate this equipment.

Safety

Safety is essential in the use and maintenance of Greenlee 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.

Note: For body worn operation, this device has been tested and meets the FCC RF exposure guidelines for an uncontrolled environment. The maximum reported SAR value is 0.08 mW/g

Purpose of this Manual

This manual is intended to familiarize all personnel with the safe operation and maintenance procedures for the following Greenlee tools:

- ES20LX Battery-powered ACSR Cutter
- ES32LX Battery-powered Cable Cutter
- ES32FLX Battery-powered Cable Cutter
- ESC35LX Battery-powered Cable Cutter
- ETS8LX Battery-powered Cable Tray Cutter
- ETS12LX Battery-powered Single Use Lock Cutter and Bolt Cutter
- ESG25LX Battery-powered Cable Cutter
- ESG45LX Battery-powered Cable Cutter

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge at www.greenlee.com.



Do not discard this product or throw away!

For recycling information, go to www.greenlee.com.

KEEP THIS MANUAL

IMPORTANT SAFETY INFORMATION



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

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.

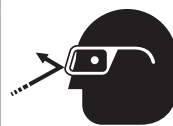


⚠ WARNING

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.



⚠ WARNING

Wear eye protection when operating or servicing this tool.

Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.



⚠ WARNING

Skin injection hazard:

Do not use hands to check for oil leaks. Oil under pressure easily punctures skin. If injured, seek medical attention immediately to remove oil.

Failure to observe this warning could result in serious injury, gangrene, or death.



⚠ 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

Cutting hazard:

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

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

⚠ WARNING

Do not dispose of batteries in a fire. They will vent fumes and may explode.

Failure to observe this warning could result in severe injury from harmful fumes or burns from flying debris.

IMPORTANT SAFETY INFORMATION

⚠ WARNING

Remove the battery before transporting the T version of this tool by air.

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

⚠ WARNING

- Inspect tool and blades before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.
- Carrying strap is for carrying only, not to be used to hang or suspend tool.

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

⚠ CAUTION

- Do not operate the tool without cutting blades. Damage to the ram or cutting head can result.
- Do not twist work piece or tool during cutting operation. Blade failure could result.
- This tool is not designed for continuous use. After 100 cutting cycles, allow the cutting tool to cool for 15 minutes.
- 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.

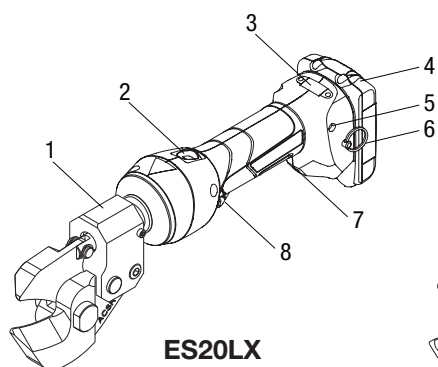
⚠ CAUTION

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

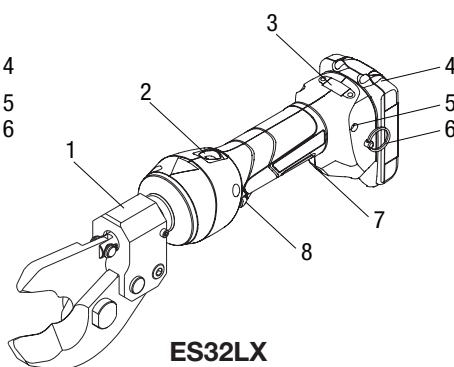
Failure to observe this precaution may result in injury and property damage.

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

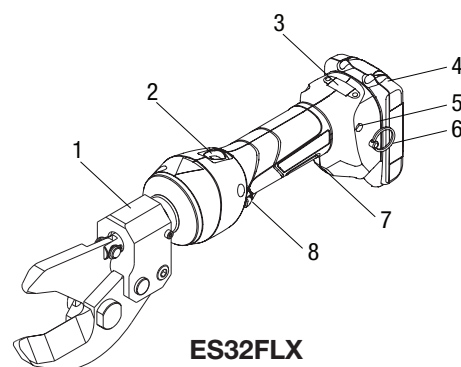
Identification



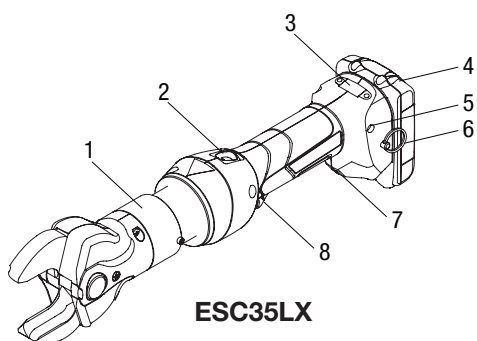
ES20LX



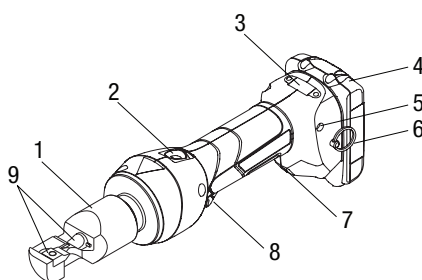
ES32LX



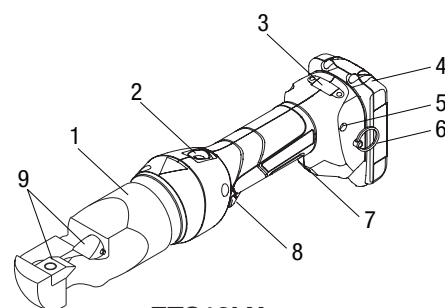
ES32FLX



ESC35LX

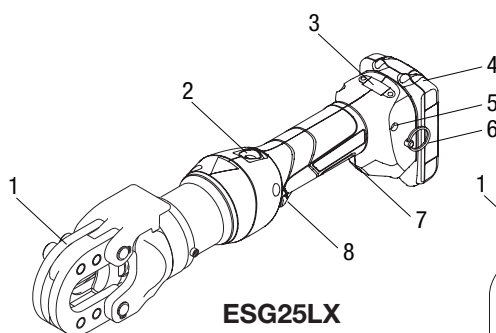


ETS8LX

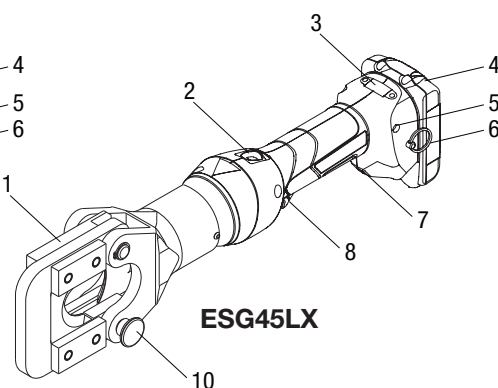


ETS12LX

1. Cutting Head
2. Retract Button
3. LCD Screen
4. Battery Cartridge
5. LED Indicator (red)
6. Lanyard Ring
7. LED Work Light (white)
8. Trigger
9. Cutting Blades (ETS8X and ETS12X)
10. Pull Pin (ESG45X)



ESG25LX



ESG45LX

Specifications

ES20LX

Cutting Tool

Length (with battery).....	15.43" (392 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	4.4 lb (2.0 kg)

Cutting Capacity

Maximum Cable Cutting Diameter (copper and aluminum)	3/4" (19 mm)
ACSR.....	Merlin ø11/16 (336 kcmil)
Guy Strand (not EHS)	3/8" (9 mm) dia.
Ground Rod	3/8" (9 mm) dia.
Rebar (Schedule 60)	3/8" (9 mm) dia.

ES32LX

Cutting Tool

Length (with battery).....	15.43" (392 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	4.4 lb (2.0 kg)

Cutting Capacity

Maximum Cable Size with 2 Cutting Cycles	500 kcmil (MCM) (300 mm ²) (aluminum and copper)
Maximum Cable Size with 1 Cutting Cycle	400 kcmil (MCM) (240 mm ²) (aluminum and copper)

ES32FLX

Cutting Tool

Length (with battery).....	15.43" (392 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	4.4 lb (2.0 kg)

Cutting Capacity

Fine Stranded Copper Cable only	ø1.25" (31.8 mm) max.
<i>Not for cutting regular stranded cable or steel</i>	

ESC35LX

Cutting Tool

Length (with battery).....	17.22" (438 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	5.77 lb (2.62 kg)

Cutting Capacity

Maximum Cable Cutting Diameter (copper and aluminum, regular and fine).....	1.38" (35 mm)
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Specifications (cont'd)**ETS8LX**

Cutting Tool

Length (with battery).....	12.44" (316 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	3.5 lb (1.6 kg)

Cutting Capacity

Cable Tray (mild steel, zinc plated).....	1/16", 1/8", 3/16", 1/4", 5/16"
Cable Tray (stainless steel)	1/16", 1/8", 3/16", 1/4"
Threaded Rods.....	1/16", 1/8", 3/16", 1/4", 5/16"
Grade 2 Bolt	1/16", 1/8", 3/16", 1/4", 5/16"
Grade 8 Bolt	1/16", 1/8", 3/16"

ETS12LX

Cutting Tool

Length (with battery).....	14.06" (357 mm)
Width	2.95" (75 mm)
Depth.....	4.92" (125 mm)
Weight.....	4.6 lb (2.1 kg)

Cutting Capacity

Common Bolt	1/2" dia.
Grade 5 Bolt	7/16" dia.
Grade 8 Bolt	5/16" dia.
Threaded Rod.....	1/2" dia.
One-Time Disposable Lock.....	4 AWG Alumoweld
Boa Lock	BL-9
Grade 40 Rebar	3/8" dia.
Steel Rod.....	3/8" dia. (1/2" dia. using two cycles)
Ground Rod.....	3/8" dia. (1/2" dia. using two cycles)
Copper and Aluminum Cable	2/0 AWG
ACSR.....	3/0 AWG Pigeon (4/0 AWG Penguin using two cuts)
Guy Strand	5/16" dia. (3/8" dia. using two cycles)
EHS Guy Strand	5/16" dia.
Aircraft Cable.....	1/4" dia.

Not recommended for fine stranded cables.

Specifications (cont'd)**ES25LX**

Cutting Tool

Length (with battery).....	15.43" (392 mm)
Width	2.95" (75 mm))
Depth.....	4.92" (125 mm)
Weight.....	4.4 lb (2.0 kg)

Cutting Capacity

Maximum Cable Cutting Diameter (copper and aluminum)	1" (25 mm)
ACSR.....	Grosbeak 1" (636 kcmil)
Guy Strand (not EHS)	5/8" (16 mm) dia.
Ground Rod	3/8" (9 mm) dia.
Rebar (Schedule 60)	3/8" (9 mm) dia.
Wire Rope.....	1/2" (13 mm) dia.

ESG45LX

Cutting Tool

Length.....	19.57" (497 mm)
Width	2.95" (75 mm)
Depth.....	4.94" (123 mm)
Weight.....	9.5 lb (4.3 kg)

Cutting Capacities

Maximum Cable Cutting Diameter (copper and aluminum).....	1.75" (45 mm)
ACSR.....	Falcon 54/19 (1590 kcmil)
Guy Strand	5/8" (16 mm) dia.
EHS Guy Strand	1/2" (13 mm) dia.
Ground Rod	5/8" (16 mm) dia.
Rebar (Schedule 60)	1/2" (13 mm) dia.
Wire Rope.....	5/8" (16 mm) dia.

All Models

Cutting Tool

Hydraulic Oil	52057878 biodegradable hydraulic fluid
Recommended Operating Temperature Range.....	5 °F to 122 °F (–15 °C to 50 °C)
Battery Charger.....	Read the instructions supplied with the battery charger

Operation

⚠ WARNING

- Inspect tool and blades before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.
- Carrying strap is for carrying only, not to be used to hang or suspend tool.

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 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 or hydraulic oil.

⚠ WARNING



Cutting hazard:

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

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

⚠ CAUTION

- Do not operate the tool without cutting blades. Damage to the ram or cutting head can result.
- Do not twist work piece or tool during cutting operation. Blade failure could result.
- This tool is not designed for continuous use. After 100 cutting cycles, allow the cutting tool to cool for 15 minutes.
- 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.

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:

What happens	Signal	What it means
Flashing light for 2 seconds	● ●	Battery is inserted in tool
Constant light for 20 seconds at end of cycle	■	Battery charge is below 17 V at beginning of cycle*
Tool will not start, and constant light for 20 seconds when trigger is released	■	Battery charge is below 16 V at beginning of cycle*
Tool will stop, and constant light for 20 seconds after trigger is released	■	Battery voltage drops below 13 V during cycle*
Tool will stop, and flashing light for 20 seconds when trigger is released	● ● ● ●	Motor current exceeds 20 A during cycle Circuit has become too hot
Flashing light for 20 seconds at end of cycle	● ● ● ●	Send tool in for service

* Running the battery below 16 V can damage the battery.

Operation (cont'd)

Important Features of All Models

- The hydraulic unit incorporates an automatic retraction, which returns the piston and movable blade to the starting position when the maximum cutting force is achieved.
- The unit is equipped with a special brake, which stops the forward motion of the piston when the trigger is released.
- The cutting heads have been designed to turn 350° around the longitudinal axis in order to gain the best access to tight corners and other difficult working areas.

Cutting Procedure— ES20LX, ES32LX, ES32FLX, and ESC35LX

1. Insert the cable to be cut into the cutting head.
2. Pull the trigger to make the cut.
3. Hold the trigger down until the cutting tool achieves pressure relief, which is accompanied by an audible “pop”.
4. The cutting tool returns automatically.

Note: If it is necessary to retract the ram before a cutting cycle is completed, push the retract button. Pushing the retract button will result in the complete retraction of the ram.

Note (ES32T/X only): For some cables more than one cutting cycle may be required to complete the cut. If the cable is not fully cut during the first cycle, move the cable as close to the jaw pivot as possible and cycle the tool again.

Cutting Procedure—ETS8LX and ETS12LX

1. Check cutting head to ensure the piston and movable blade are fully retracted. If necessary, pull the retract slide in the direction of the arrow.
2. After positioning the wire/bolt between the open cutting blades, actuate the trigger to start the cutting cycle.

Note: Do not twist work piece or tool during cutting operation. Blade failure could result.

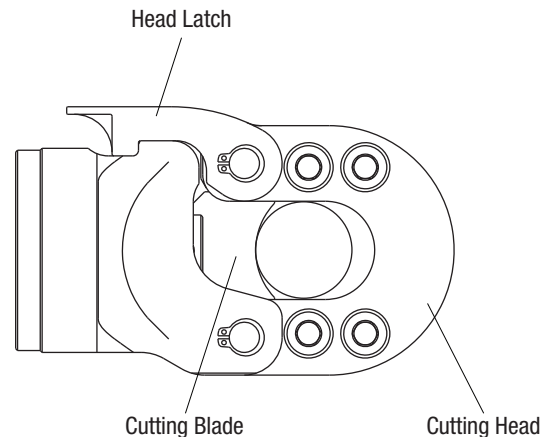
Note: The cutting process can be interrupted at any moment by releasing the trigger. By actuating the retract slide, the piston and movable blade will return to the starting position.

Operation (cont'd)

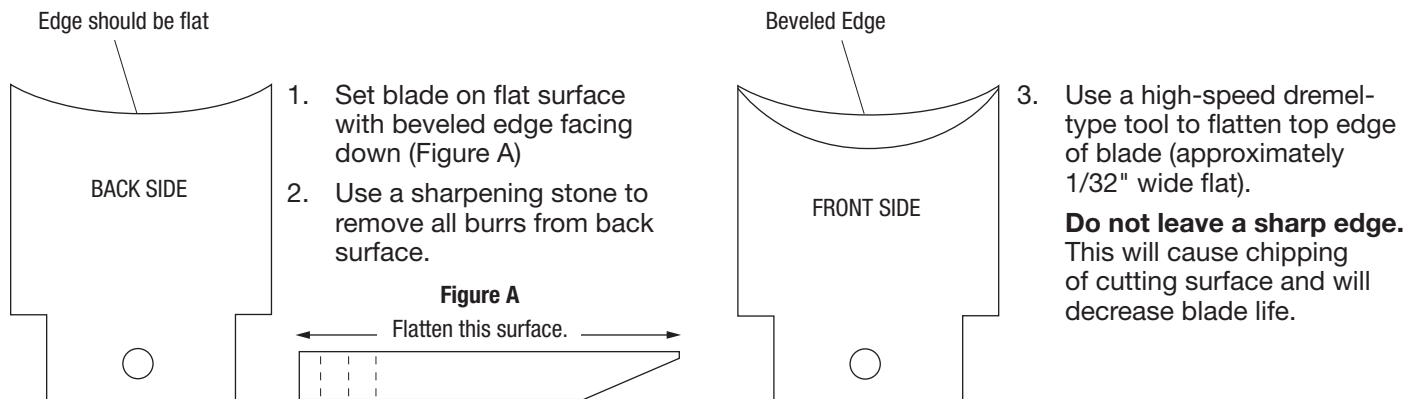
Cutting Procedure—ESG25LX

1. Lift the head latch to open the cutter.
2. Place the material to be cut between the jaws.
3. Close the head latch completely.
4. Align the material at a 90° angle to the blades.
5. Pull the trigger to make the cut.
6. Hold the trigger down until the cutting tool achieves pressure relief, which is accompanied by an audible “pop”.
7. The cutting tool returns automatically.

Note: If it is necessary to retract the ram before a cutting cycle is completed, push the retract button. Pushing the retract button will result in the complete retraction of the ram



Sharpening the Blade—ESG25T/X



Cutting Procedure—ESG45LX

1. Open the head by using the pull pin.
2. Position the cable in the open cutting head.
3. Close the cutting head and insert pull pin.
4. Align the material at a 90° angle to the blades.
5. Pull the trigger to make the cut.
6. Hold the trigger down until the cutting tool achieves pressure relief, which is accompanied by an audible “pop”.
7. The cutting tool returns automatically.

Note: If it is necessary to retract the ram before a cutting cycle is completed, push the retract button. Pushing the retract button will result in the complete retraction of the ram.

LCD Screen

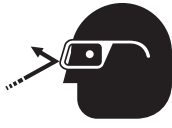
This tool has an LCD screen, which displays information about the tool. Turn on the screen by inserting the battery and jogging the tool. If there are any problems with the tool, an error code appears.

Error Code	Meaning
1	Overcurrent fuse
2	Overcurrent comparator
3	Overheated circuit board
4	Overheated battery
5	Battery empty; operation stops
6	Faulty cut; complete cycle
7	Faulty cut; incomplete cycle
8	Low battery
9	Battery empty; tool won't run
10	Real-time clock battery low
11	Tool deactivated
12	Service necessary
13	Real-time clock not found
14	Bluetooth® unit not found
15	
16	Pressure sensor not found
17	Burst pressure exceeded
18	Battery temperature too low

If there is no error code, cycle through the various displays using the left and right buttons on either side of the screen. There are seven displays in total.

Display	Information Shown
1	Bluetooth® status, battery charge, current pressure, max. pressure
2	Firmware, available firmware update, serial number
3	Current user. Press and hold both buttons to change user, select with right button, and confirm by jogging the tool.
4	
5	
6	Cycles until next service
7	Since manufacturing: operating hours, capacity, number of cycles

Maintenance

	⚠ WARNING Wear eye protection when operating or servicing this tool. Failure to wear eye protection could result in serious eye injury from flying debris or hydraulic oil.
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	⚠ WARNING Skin injection hazard: Do not use hands to check for oil leaks. Oil under pressure easily punctures skin. If injured, seek medical attention immediately to remove oil. Failure to observe this warning could result in serious injury, gangrene, or death.
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	⚠ 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.
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	⚠ WARNING Cutting hazard: • Remove battery before changing dies, adapters, or jaws. • Keep hands away from the cutting head when cutting. Failure to observe these warnings could result in severe injury or death.
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IMPORTANT Relief valve adjustments must be done by an authorized service center.

Daily

Before use:

1. Inspect the tool for wear or damage, such as cracks, gouges, or chips.
2. Inspect the tool for damage or leaks.
3. Inspect the rotation of the head assembly. Fully retract the ram. The head should rotate no more than 360°. If damage is detected, contact Greenlee customer service at 800-435-0786 for warranty service or repair.

After use:

1. Use a damp cloth and mild detergent to clean the housing. Allow the housing to dry.
2. Fully retract the ram. 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 Cuts

Contact Greenlee customer service at 800-435-0786 for warranty service or repair, and hydraulic oil replacement.

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.	Dirt, contaminants, etc., in ram area of tool.	Clean tool.
	Tool components worn or damaged.	Contact Greenlee customer service at 800-435-0786 for warranty service or repair.
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.	Contact Greenlee customer service at 800-435-0786 for warranty service or repair.
Motor runs but tool will not complete a cycle.	Oil level low.	Contact Greenlee customer service at 800-435-0786 for warranty service or repair.
	Air in hydraulic system.	Pull trigger and hold retract button simultaneously. Run for approximately 10 seconds, and then attempt to cut. If unsuccessful, contact Greenlee customer service at 800-435-0786 for warranty service or repair.
	Cold oil.	Pull trigger and hold retract button simultaneously to warm oil. Store tool in warm area.
LED glows for 20 seconds.	Battery charge low.	Charge or replace battery.
Tool loses oil.	Damaged seal.	Contact Greenlee customer service at 800-435-0786 for warranty service or repair.



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