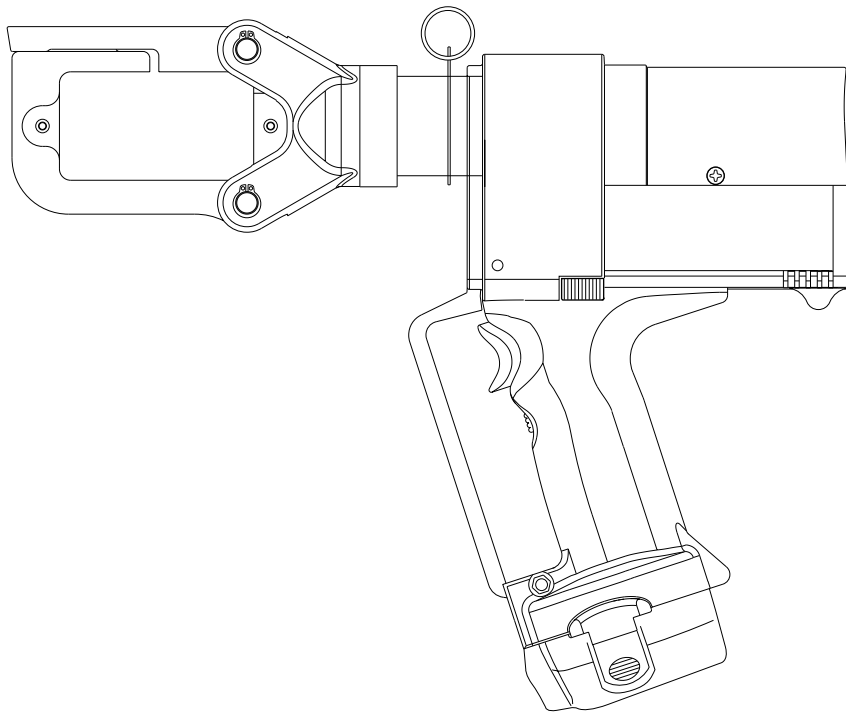


INSTRUCTION MANUAL



GATOR™ PRO ECCX BATTERY TOOL



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

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Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This instruction 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.

Purpose

This instruction manual is intended to familiarize operators and maintenance personnel with the safe operation, troubleshooting and repair procedures for the Greenlee Gator™ Pro ECCX Battery-Powered Tool.

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

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Description

The ECCX Battery-Powered Tool is a hand-held, self-contained tool intended to crimp cable, cut cable and threaded rod, and punch holes with the proper adapters.

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

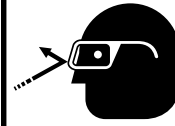
Immediate hazards which, if not avoided, **WILL** result in severe injury or death.

⚠ 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

Wear eye protection when operating or servicing this tool.

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



⚠ WARNING

Skin injection hazard:

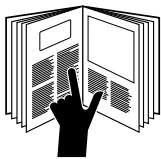
Do not use hands to check for oil leaks. Oil under pressure easily punctures skin. If injured, seek medical attention immediately to remove oil.

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



⚠ WARNING

Do not use solvents or flammable cleaners to clean the tool body. Solvents could ignite, causing serious 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 can 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 can result in severe injury or death.

⚠ WARNING

An incomplete crimp can cause a fire.

- Use proper die, connector and cable combinations. Mismatched combinations can result in an incomplete crimp.
- The crimping tool automatically retracts when a complete crimp has been achieved. If you do not hear a "pop," the crimp is incomplete.

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



⚠ WARNING

Pinch points:

- Keep hands away from the tool head when in use.
- Lock trigger when not in use.

IMPORTANT SAFETY INFORMATION

⚠ WARNING

Do not dispose of the battery in a fire. The battery will vent fumes and it could explode.

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

⚠ WARNING

Inspect tool, dies and adapters 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 can result in severe injury or death.

⚠ CAUTION

- Do not operate tool without adapters. Damage to the ram, tool head or accessories may result.
- Do not use this tool for continuous use. After 30 – 40 cycles, allow the tool to cool for 15 minutes.
- Do not secure this tool in a vise. A vise can damage the housing.
- Protect the tool from moisture. Any moisture inside the housing can damage internal circuitry.
- Use this tool for the manufacturer's intended use only.

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

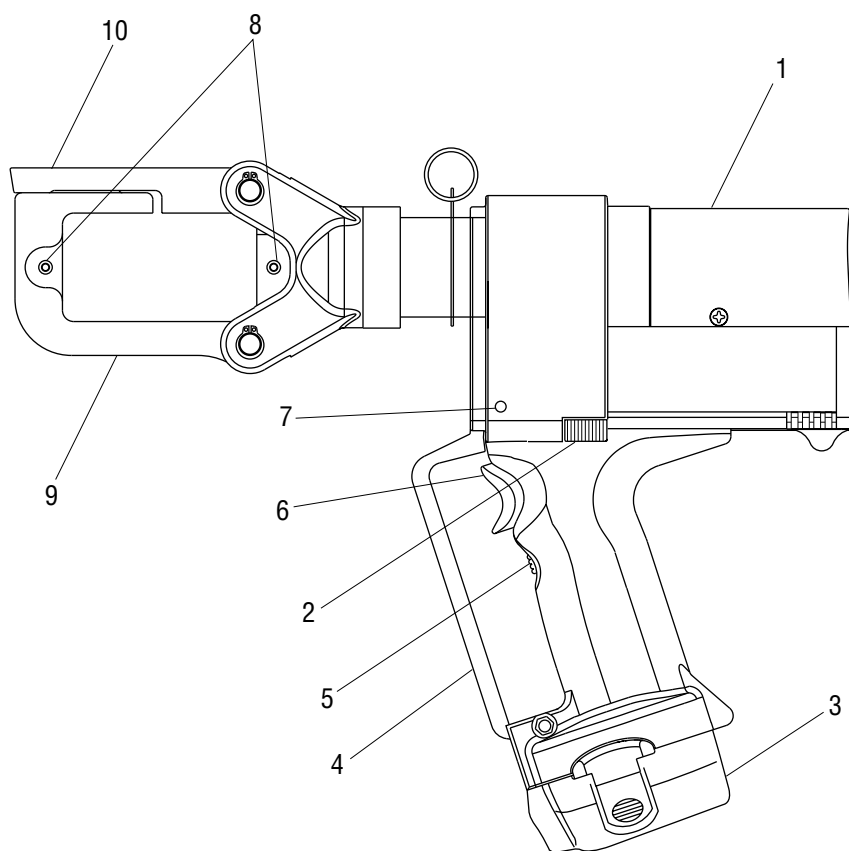
⚠ CAUTION

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 can result in injury and property damage.

Note: Keep decals clean and legible. Replace decals when necessary.

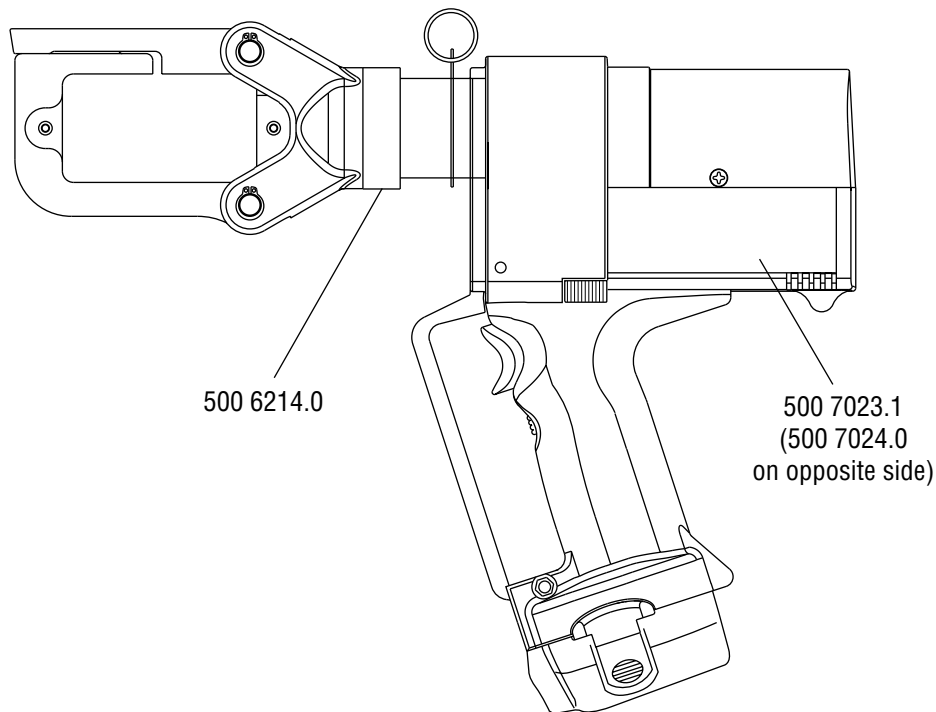
Identification



ECCX Battery Tool

- | | |
|-------------------|------------------------------|
| 1. Housing | 6. Trigger |
| 2. Retract Button | 7. Battery Load Display |
| 3. Battery | 8. Adapter Release Button |
| 4. Hand Guard | 9. CCX Head |
| 5. Trigger Lock | 10. Latch (for opening head) |

Location of Decals



Specifications

Tool

Overall Length	37.1 cm (14-5/8")
Width	95 mm (3-3/4")
Height	33 cm (13")
Weight (with battery)	4.6 kg (10.1 lbs)
Maximum Force	60 kN (6 tons)
Head	Steel
Sound Level	75 dB (A) at 1 meter
Vibrations	< 2.5 m/s ²
Motor	Direct-Current Permanent Field Motor
Motor Voltage	12 VDC
Hydraulic Oil	50 ml (0.1 pint) Shell Tallus T 15

Crimping Tool

Maximum Crimping Cable Size	600 MCM Copper
Crimping Time	7 seconds
Crimping Performance	approximately 120/charge


Cutting Tool


Maximum Cutting	40 mm (1-1/2") MCM AL or CU
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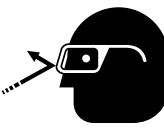
Battery

Charging Voltage	12 VDC
Charging Time	1 Hour

Operation

	⚠ WARNING
	<p>Electric shock hazard:</p> <p>This tool is not insulated. When using this unit as a cable cutter on or near energized electrical lines, use proper personal protective equipment.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

	⚠ WARNING
	<p>Pinch points:</p> <ul style="list-style-type: none"> • Keep hands away from the tool head when in use. • Lock trigger when not in use.

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

⚠ CAUTION
<ul style="list-style-type: none"> • Do not operate tool without adapters. Damage to the ram, tool head or accessories may result. • Do not use this tool for continuous use. After 30 – 40 cycles, allow the tool to cool for 15 minutes. • Do not secure this tool in a vise. A vise can damage the housing. • Protect the tool from moisture. Any moisture inside the housing can damage internal circuitry. • Use this tool for the manufacturer's intended use only. <p>Failure to observe these precautions can result in injury or property damage.</p>

Crimping

Setup

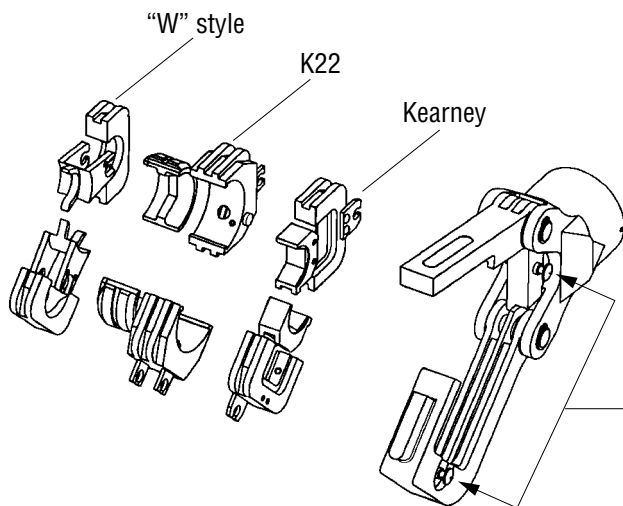
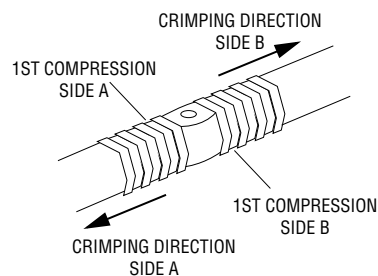
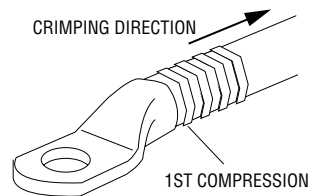
1. Open the tool head.
2. Remove any accessories from the tool head.
3. Select the appropriate set of dies. Use the table provided here to select the corresponding adapter set.
4. Install the adapters and dies—one set in each groove. If either the adapters or dies have W-type tabs, lock them in place with the W-type detents.
IMPORTANT: W-type dies must be locked into place or the die detents will be damaged.
5. Visually check the dies to ensure that they are aligned correctly, so that they will complete the crimping operation.
6. Close the tool head.

Accessory Table

Dies	Adapter Set
Greenlee K-22 Type Dies	UA22
Greenlee W-Type Dies	UAW
Kearney "OD" Dies	UAK
Thomas & Betts "6 Ton" Dies	UAK
D ₃ Profile Dies	UAW
Blackburn "O" Dies	UAK
Huskie "HT" Dies	UAK
FCI Burndy "W" Dies	UAW
Huskie "HT-58" Dies	UAW
ILSCO "ND-60" Dies	UAW
Izumi "N58" Dies	UAW
Ponduit "CD-2001" Dies	UAW

Preparing the Cable

Follow the lug manufacturer's instruction for appropriate cable strip length.

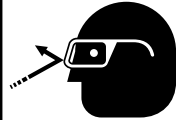


Press and slide the adapter and/or die into place. Release to lock.

IMPORTANT:

W-type dies must be locked into place or the die detents will be damaged.

Crimping (cont'd)

	<p>⚠ WARNING</p> <p>Wear eye protection when operating or servicing this tool.</p> <p>Failure to wear eye protection can result in serious eye injury from flying debris or hydraulic oil.</p>
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<p>⚠ WARNING</p> <p>An incomplete crimp can cause a fire.</p> <ul style="list-style-type: none"> • Use proper die, connector and cable combinations. Mismatched combinations can result in an incomplete crimp. • The crimping tool automatically retracts when a complete crimp has been achieved. If you do not hear a “pop,” the crimp is incomplete. <p>Failure to observe this warning can result in severe injury or death.</p>
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8. Position crimper for next crimp. Repeat Steps 5 through 7 for the number of crimps as described in this manual.
9. Open the crimping head and remove the connector.
Note: If it is necessary to retract the ram before a crimp cycle is completed, push the retract button (2). Pushing the retract button will result in complete retraction of the ram.
10. Press the trigger lock up to lock the trigger.
Note: After completing the last crimp on an aluminum connector, wipe off the excess oxide inhibitor.

The battery indicator illuminates to show battery charge level as follows:

Normal: *Illuminates momentarily at beginning of crimp.*

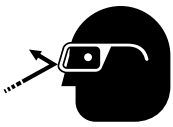
Normal: *Flickering at point of maximum crimping force.*


Low charge: *Flickering during entire crimping cycle.*

Low charge: *Illuminates continuously when operating without a load.*

1. Press the latch (10) and open the tool head.
2. Insert the properly assembled connector into the tool head.
3. Close the tool head.
4. Push down on the trigger lock (5) to release the trigger (6).
5. Pull the trigger to make the crimp.
6. Hold the trigger down until the crimper achieves pressure relief.
Note: Pressure relief occurs at approximately 10,000 psi. If you do not hear a “pop,” the crimp is incomplete.
Note: It is normal for the battery load display to light at both the beginning and near the end of the crimping cycle.
7. The ram will return automatically.

Cutting

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

	<p>⚠ WARNING</p>
	<p>Electric shock hazard:</p> <p>This tool is not insulated. When using this unit as a cable cutter on or near energized electrical lines, use proper personal protective equipment.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

Accessory Table

Task	Blade
Copper and Aluminum 26mm (1.00") max.	UC26
Copper and Aluminum 40mm (1.56") max.	UC40
ACSR Copperweld ACAR Guy Strand EHS Guy Strand Ground Rod Anchor Rod Soft Bolts Rebar	UCACSR
Threaded Rod	Threaded Rod Blades
DIN Rail	DIN Rail Blades

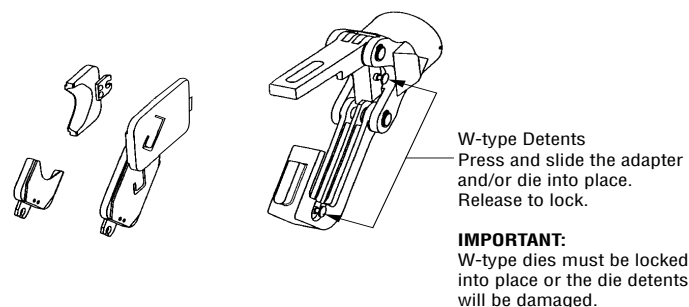
Setup

1. Open the tool head.
2. Remove any accessories from the tool head.
3. Select the appropriate set of blades.
4. Install one blade in each groove. If the blades have W-type tabs, lock them in place with the W-type detents.
5. Visually check the blades to ensure that they are aligned correctly so that they will complete the butting operation.
6. Close the tool head.

IMPORTANT: W-type dies must be locked into place or the die detents will be damaged.

For Din Rail Cutters


1. Install both blades in moveable head.
2. Close head.
3. Slide one blade over until it engages in W-type detents.

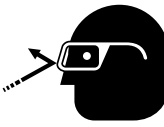


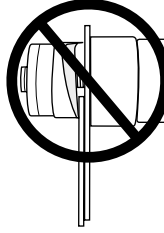
Operation

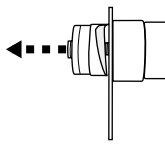
1. Press the latch (10) and open the tool head.
2. Position the item to be cut in the tool head.
3. Close the tool head.
4. Push down on the trigger lock (5) to release the trigger (6).
5. Pull the trigger to cut the item.
6. Release the trigger when the cut is complete.
7. The ram will return automatically.
8. Press the trigger lock up to lock the trigger.

Punching

	<p>⚠ WARNING</p>
	<p>Electric shock hazard:</p> <p>Do not use this tool as a punch driver on or near live circuits. This includes, but is not limited to, the following circumstances:</p> <ul style="list-style-type: none"> energized electrical lines energized circuit breaker panels and fuse boxes junction boxes with energized circuits <p>Failure to observe this warning can result in severe injury or death.</p>

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

	<p>⚠ WARNING</p>
	<p>Do not attempt to punch a hole through two or more thicknesses of material. This will bend or break the draw stud, and could throw parts with great force.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

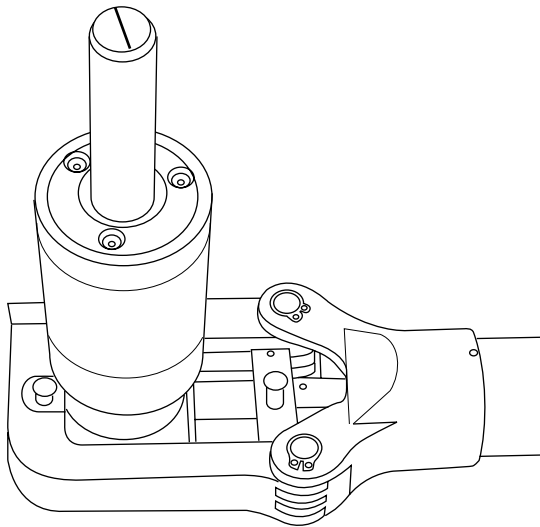
	<p>⚠ WARNING</p>
	<p>A component failure could throw broken parts.</p> <ul style="list-style-type: none"> Do not allow anyone to stand in front of the punch. Close access doors or covers on any equipment that is in line with the punch. <p>Failure to observe this warning can result in severe injury or death.</p>

<p>⚠ WARNING</p>
<p>Set up the tool properly. An improper setup could cause a component to fail and strike nearby personnel with great force.</p> <ul style="list-style-type: none"> Thread the punch completely onto the draw stud. All of the punch threads must be engaged by the draw stud threads. Incomplete assembly could cause a component failure. Use only Greenlee punches, dies and draw studs. Other manufacturers' components might not withstand the forces generated by this punch driver. <p>Failure to observe these warnings can result in severe injury or death.</p>

Punching (cont'd)

Setup and Operation

1. Open the tool head.
2. Remove any accessories from the tool head.
3. Install the punch driver, as shown.
Note: Install the punch driver so that the drive piston is toward the yoke, as shown.
4. Close the tool head.
5. Select the punch, die and draw stud that will make the appropriate size hole. See illustrations on following pages.



6. Determine and mark the exact location for the hole. Use a Greenlee Kwik-Stepper® drill bit to drill a hole that is slightly larger than the draw stud. This is the pilot hole.
7. Push the retract button and hold the button until the ram is completely retracted.
8. Thread the 3/4" draw stud or 3/4" adapter completely into the punch driver. See illustrations on following pages.

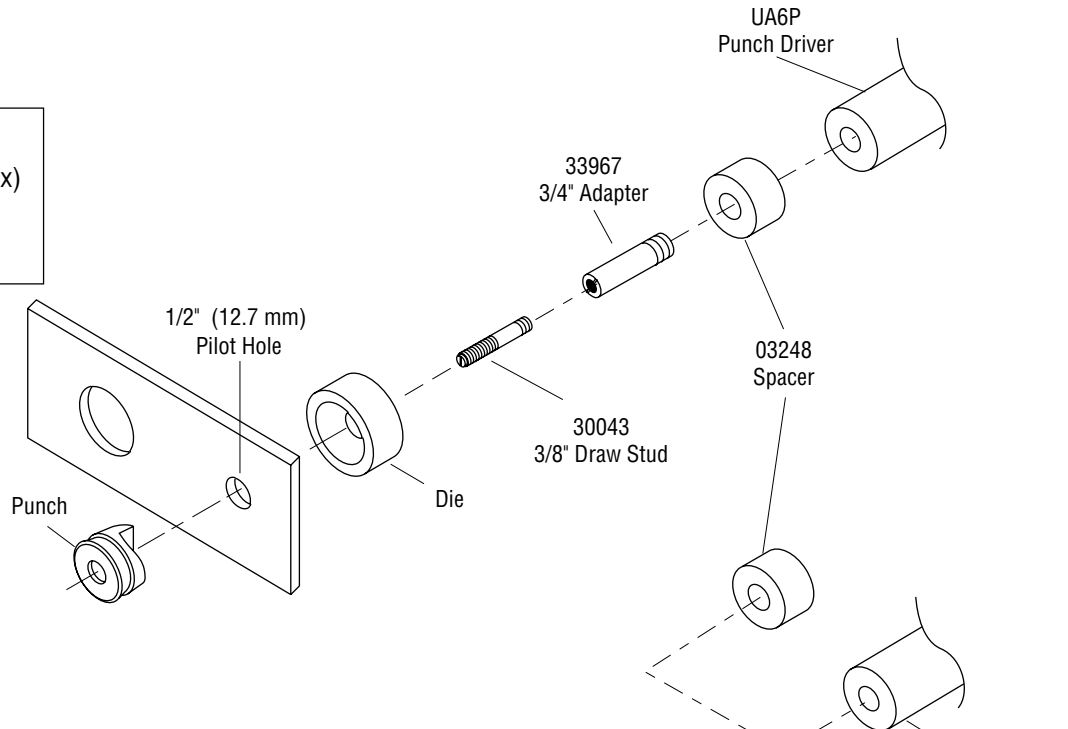
Note: For a punch and die with a 3/8" center hole, thread the 3/8" draw stud into the end of the 3/4" adapter.

9. Install a spacer, if necessary. See illustrations on the following pages.
10. Slide the die over the draw stud with the open end of the die facing away from the punch driver.
11. Insert the draw stud through the pilot hole.
12. Thread the punch onto the draw stud with the cutting surfaces of the punch facing the material. Tighten the punch by hand until the spacer, die, material and punch contact each other.
Note: All of the punch threads must be engaged by the draw stud threads. If any of the punch threads are not engaged, disassemble the setup, remove the spacer and reassemble the setup.
13. Release the trigger lock and pull the trigger.
Note: A "popping" sound indicates that the tool has reached relief pressure. This may indicate that the attempted operation is beyond the capacity of the tool.
14. Release the trigger when the punch completes the hole. The ram will return automatically.
15. Unscrew the punch. Remove slugs from the die. Remove the spacer and unscrew the draw stud.

Punching (cont'd)

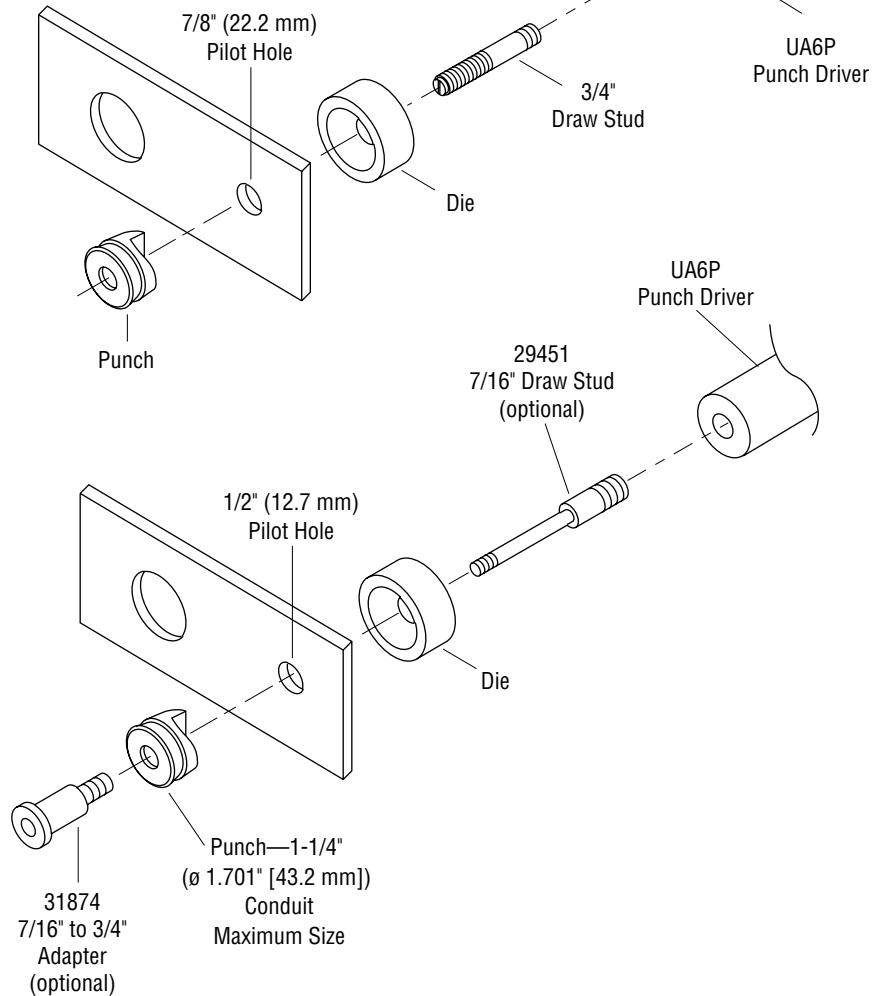
Round Punches

Metric: 22,5 mm (max)
 Conduit Size: 1/2" (max)
 Actual Size: 0.885" (max)



Round Punches

Metric: 28,3 – 61,5 mm
 Conduit Size: 3/4" – 2"
 Actual Size: 1.115" – 2.416"



Punching (cont'd)

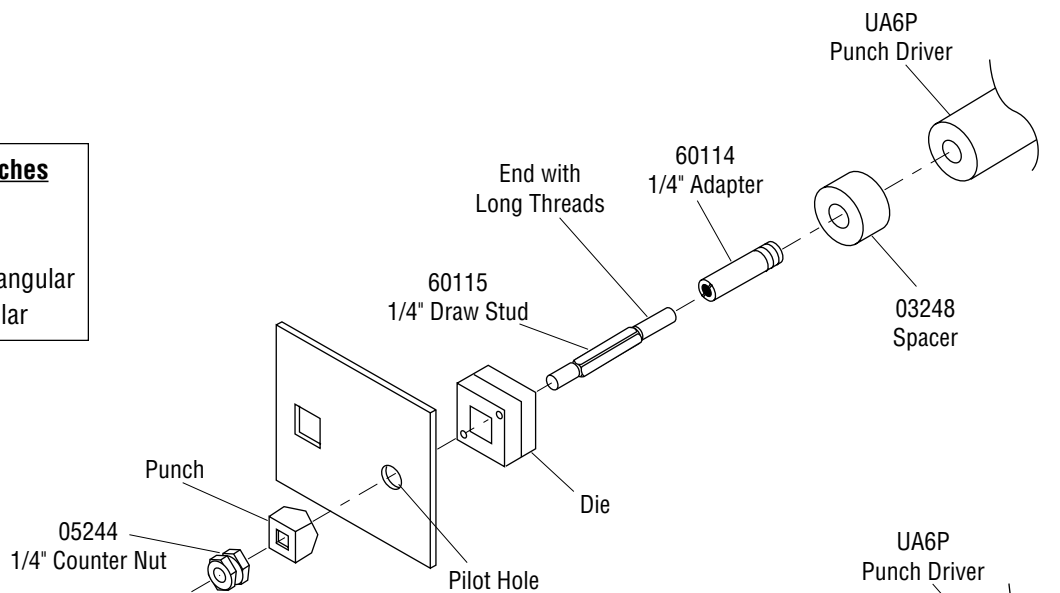
Square and Rectangular Punches

Metric: 12.7 mm square

Inches: 1/2" square

Metric: 11,1 x 22,2 mm rectangular

Inches: 7/16" x 7/8" rectangular



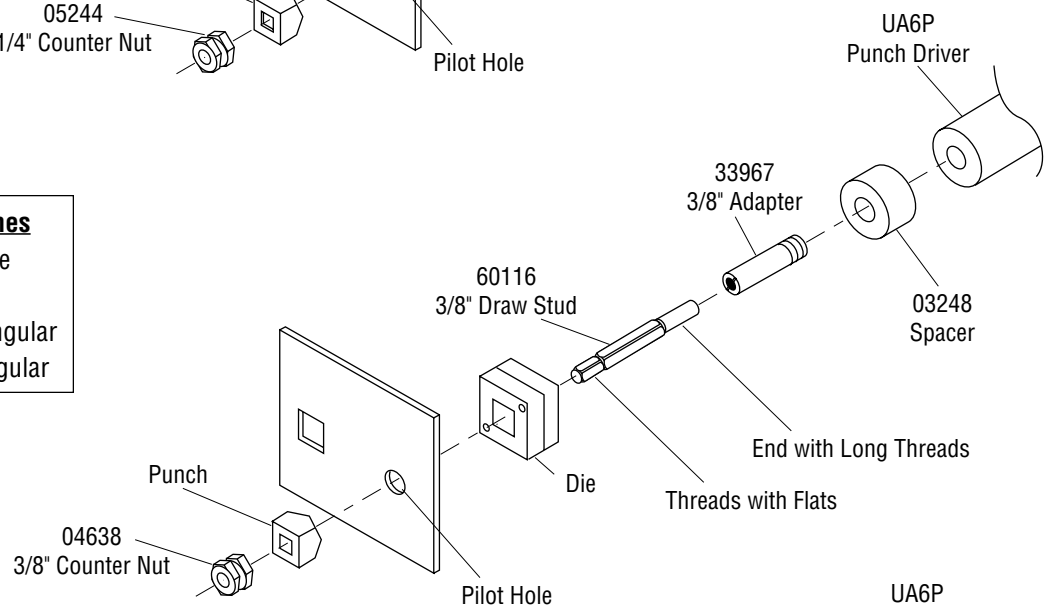
Square and Rectangular Punches

Metric: 15,9 – 24,0 mm square

Inches: 5/8" – 0.945" square

Metric: 17,0 x 19,0 mm rectangular

Inches: 0.670" x 0.749" rectangular



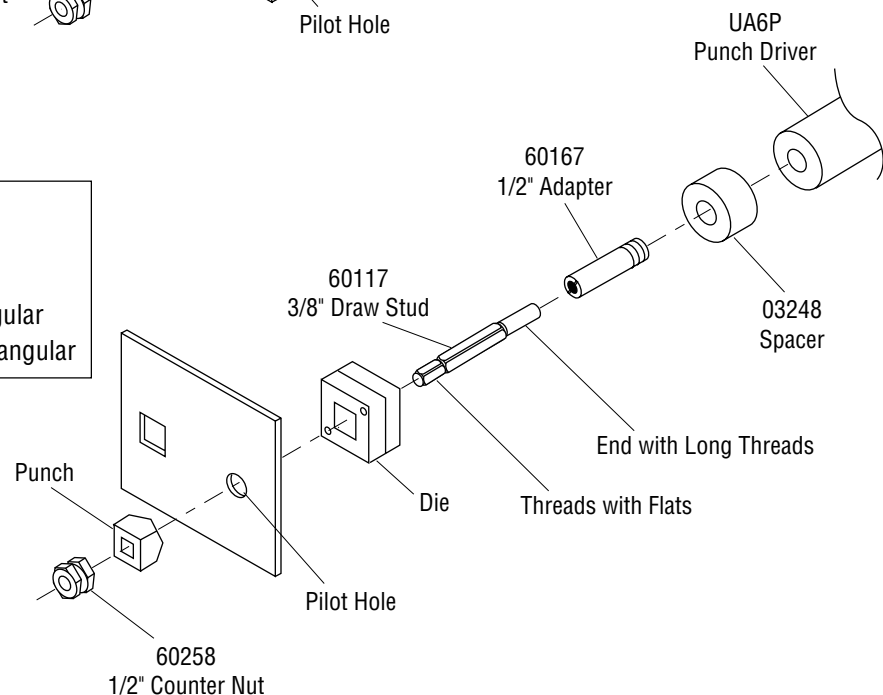
Square and Rectangular Punches

Metric: 25,4 mm square

Inches: 1" square

Metric: 19,1 x 29,0 – 31,8 x 35,1 mm rectangular

Inches: 0.750" x 1.140" – 1.250" x 1.380" rectangular



Punching (cont'd)

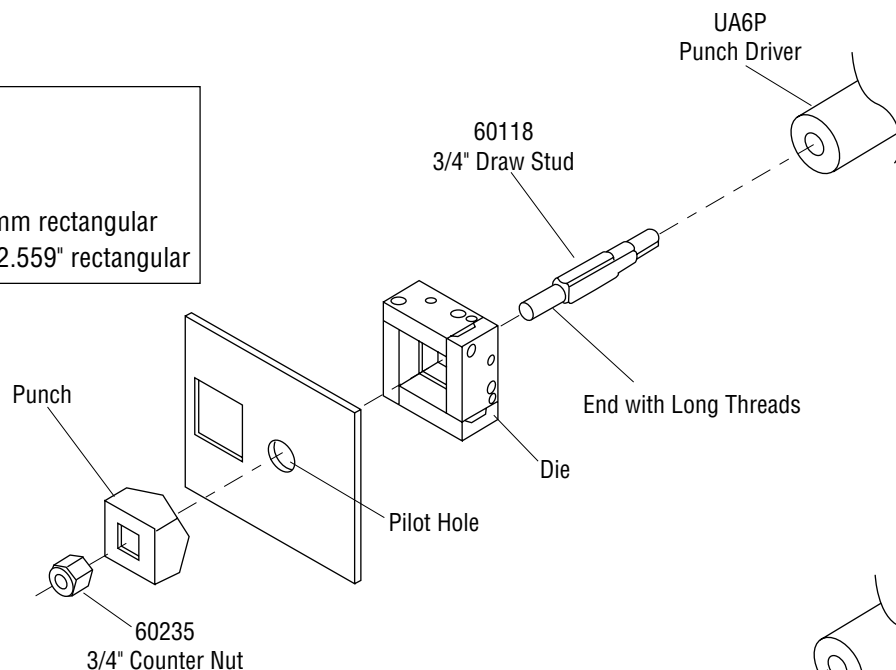
Square and Rectangular Punches

Metric: 46.0 – 68.0 mm square

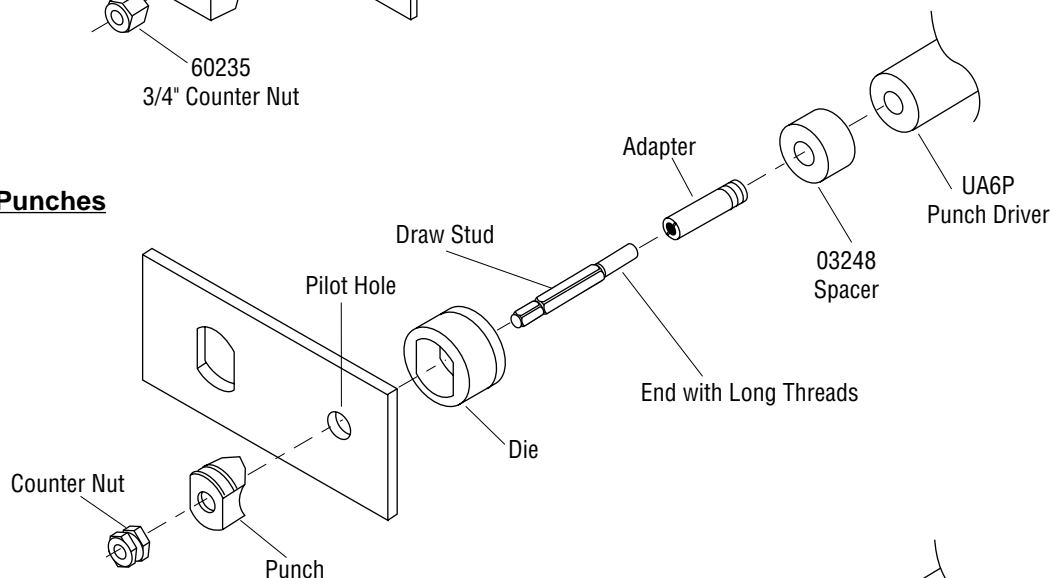
Inches: 1.811" – 2.677" square

Metric: 33.3 x 66.7 – 35.0 x 65.0 mm rectangular

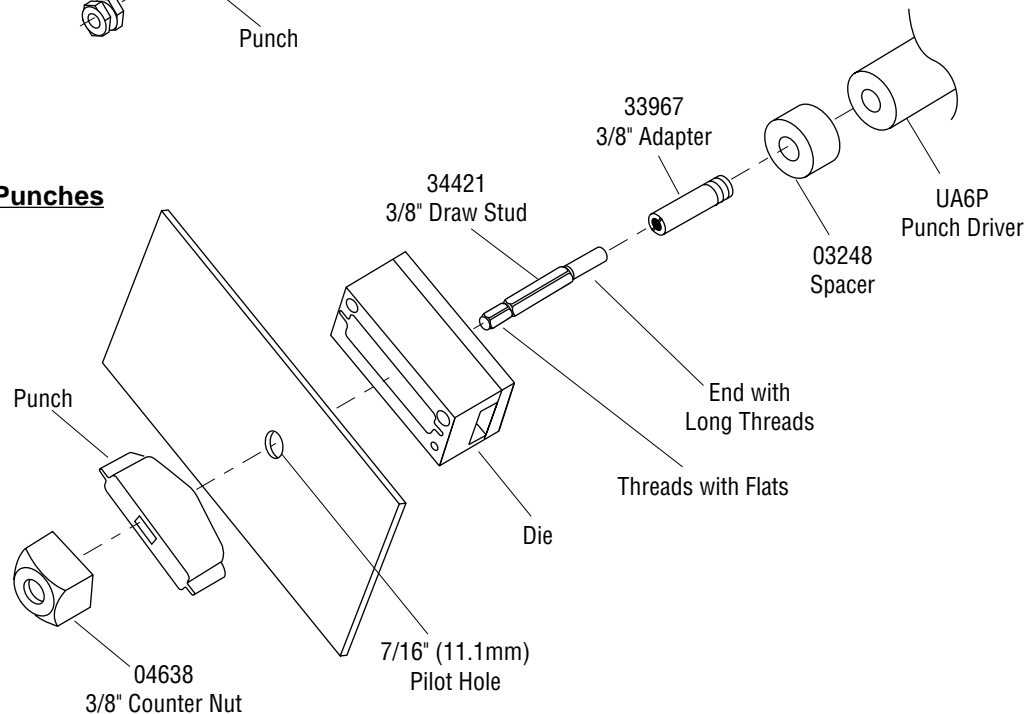
Inches: 1.312" x 2.625" – 1.378" x 2.559" rectangular



"D", Double "D", and Key Punches



Electronic Connector Panel Punches



Available Adapters

	Greenlee	Description
UA22	500 7062.2	Adapter for Greenlee 22 series dies
UAK	500 7033.9	Adapter for Kearney & T&B dies
UAW	500 7035.5	Adapter for "W" dies, D3
UC26	500 6714.1	Cutter blades for copper & aluminum 26mm (1") max
UC40	500 7036.3	Cutter blades for copper & aluminum 40mm (1-1/2") max
UCASCR	500 7037.1	Cutter blades for ACSR, ACAR, standard guy wire, EHS guy wire, copperweld, ground rod, anchor rod, soft bolts, rebar
UCUNC14	500 7038.0	Cutter blades for 1/4" threaded rod
UCUNC38	500 7039.8	Cutter blades for 3/8" threaded rod
UCUNC12	500 7274.9	Cutter blades for 1/2" threaded rod
UCM5	500 7053.3	Cutter blades for M5 threaded rod
UCM6	500 7050.9	Cutter blades for M6 threaded rod
UCM8	500 7051.7	Cutter blades for M8 threaded rod
UCM10	500 7052.5	Cutter blades for M10 threaded rod
UCD3575	500 7041.0	DIN rail cutter blades - 35 x 7.5
UCD3215	500 7042.8	DIN rail cutter blades - 32 x 15
UCD3515	500 7043.6	DIN rail cutter blades - 35 x 15
UA6P	500 7020.7	Punch Driver Adapter

Die Selection

Crimps made on copper cable with Greenlee K22-type dies and the connectors listed here are UL classified and CSA certified. See Connector Selection for (brands names and model numbers of) appropriate lugs and crimping instructions.

Part Number	UPC Number	Cable Size	Color Code
K22-0	03079	8 AWG	Red
K22-1	03080	6 AWG	Blue
K22-2	03081	4 AWG	Gray
K22-3	03082	2 AWG	Brown
K22-31	03083	1 AWG	Green
K22-4	03084	1/0 AWG	Pink
K22-5	03085	2/0 AWG	Black
K22-6	03086	3/0 AWG	Orange
K22-7	03087	4/0 AWG	Purple
K22-8	03088	250 MCM	Yellow
K22-9	03089	300 MCM	White
K22-10	03090	350 MCM	Red
K22-11	03091	400 MCM	Blue
K22-12	03092	500 MCM	Brown
K22-13	03093	600 MCM	Green

Connector Selection

ECCX - TOOL RANGE #8 - 600 MCM

When used with K22 type dies, this tool is UL classified and CSA certified for use with the following connector brands:

CONNECTOR TYPE	BARREL TYPE	ANDERSON	BLACKBURN®	BURNDY	ILSCO	PANDUIT	T&B	PENN-UNION	NUMBER OR CRIMPS*
COPPER SPLICE	SHORT LONG	VHSS VHS	CPS CU	YS-L YS	CT CTL	SCSS/SCS SCL/SCH	54504-54520 54804-54820	BCU BBCU	A B
COPPER LUGS	SHORT LONG	VHCS VHCL	CTL-2/CTL CTL-L/LCN	YA-2LN/YA-L/YA-2L YA/YA-L-TC/YA-L-2TC YA-2N	CRA/CRB CRA-L/CRB-L CRA-2L/CRB-2L	LCAS/LCA LCD LCB/LCC	54104-54120 54204-54220 54930BE-54920BE 54850BE-54878BE	BLU BBLU	A A B B

*Use the number of crimps listed in the last column instead of the number provided with the connector:



A: #8 - 1/0, 1 crimp
2/0 - 600, 2 crimps

B: #8 - 1/0, 2 crimps
2/0 - 3/0, 3 crimps
4/0 - 600, 4 crimps


BLACKBURN® is a registered trademark of Thomas & Betts

Maintenance

Each Operating Day


Before use:

1. Inspect dies and adapters 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 an authorized Greenlee service center for inspection.

	⚠ WARNING
	<p>High Pressure Hazard:</p> <p>Do not use fingers or hands to check for oil leaks. High pressure oil easily punctures skin causing serious injury, gangrene or death. If injured, seek medical help immediately to remove oil.</p>

After Use:

1. Wipe clean and dry all exposed surfaces.
Note: Use a slightly damp cloth and a mild detergent to clean the cutter body. Solvents can damage the cutter body and may ignite.

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

2. Fully retract and lock trigger. Place tool in the carrying case. Store in a cool, dry place.
3. Fully discharged batteries should be recharged so that they are ready for use. (See battery charger instructions.)

Monthly

1. Thoroughly clean all surfaces.
2. Check the oil level.
3. Oil the bolt joints.

Annually or After 10,000 Cycles

1. Replace the hydraulic oil.
2. Return the tool to an authorized Greenlee service center for inspection.

General

Store the tool in the carrying case when it is not in use.

Checking the Oil Level

1. Remove the two screws holding the tank housing cover.
2. Remove the tank housing cover.
2. Point the cutting head towards the ground and remove the oil plug. Refill reservoir if necessary.
3. Replace the oil plug and tank housing cover.

Recommended Hydraulic Oils

AVIA HVI 15
 Shell Tallus T 15
 Mobil DTE 15
 NUTO H 15

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 crimping tool.
3. Reinstall battery and check the tool again.

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
Tool is inoperative.	Dirt, contaminants, etc., in ram area of tool.	Clean tool.
	Crimping tool battery contacts damaged.	Reform contacts.
	Tool components worn or damaged.	Return tool to an authorized Greenlee service center.
	Dead battery.	Charge or replace.
Dies and adapters stop during operation.	Oil level is low.	Check oil level. Refill reservoir.
	Air in hydraulic system.	Pull trigger and hold retract button simultaneously. Hold for approximately 10 seconds.
Battery load display flashes constantly.	Battery charge low.	Charge or replace battery.
Tool loses oil.	Damaged internal seal.	Return tool to an authorized Greenlee service center.
	Oil plug not installed properly.	Refill reservoir and replace plug.

Disassembly (see Exploded Views)

1. Remove battery.
2. Remove pin (114). Remove adapter ram (104).
3. Loosen two screws (111).
4. Unscrew and remove universal head assembly.
5. Remove sleeve (107), spring (117) and piston (106). Replace the piston O-ring (118) and piston back-up ring (119).
6. Unscrew two tank cover screws (208) and remove tank cover (200).
7. Remove the hydraulic reservoir plug (16) and drain hydraulic fluid.
8. Reinstall plug.
9. Remove the remaining housing screws (204, 205, 206 and 209).
10. Remove housing half.
11. Remove trigger cover (210) and trigger lock (201).
12. Lift pump/motor assembly and circuit card from housing half. Lift LED from its housing (213).
13. Slide a plastic bag over the circuit card and electronic subassemblies. Tape the bag shut to protect the subassemblies from hydraulic oil and other contamination.
14. Unscrew shoulder bolt (15) and remove release lever (18).
15. Remove three hex head cap screws (7) and separate the gear housing/motor subassembly from pump housing.
16. Use a hooked tool to remove the reservoir O-ring (38). Gently tug it over the reservoir.
17. Remove the reservoir (17).
18. Remove pump piston (49). Replace the O-ring (48).
19. Remove screw plug (41) and spring (43), valve stem (44) and pump piston (45). Replace sealing washer (42).
20. Use a piece of tape to mark the side of the relief (11) that is facing up. (This is a reference point for reassembly.) Remove unloading valve by unscrewing the plug (11).
21. Remove feeder tube subassembly by unscrewing feeder tube (35). Replace the oil filter (34). Remove metal chips from magnet (36).
22. Remove threaded bushing (46) and replace O-ring (47).

Motor/Gearbox/Bearing Disassembly

23. Remove tamper-proof paper seal (52).
24. Remove two screws (54). Remove end cap (53).
25. Apply pressure evenly at three points around the ball bearing (50) and gently pry the bearing up to remove it.
26. Remove eccentric (51), grooved ball bearing (31), and snap ring (30) subassembly from shaft.
27. Remove four screws (29). Remove mounting block (8) from gear housing (28).
28. Use a snap-ring removal tool to remove the snap ring (30).
29. Unscrew four bolts (not numbered) from the gear housing (28). Separate gear housing from spacer (not numbered). Unscrew two fillister head screws (27) to separate spacer from motor (24).

Reassembly

Motor/Gearbox/Bearing Reassembly

1. Install two fillister head screws (27) into spacer (not numbered) and motor (24). Tighten screws.
2. Install four screws (not numbered) into gear housing (28). Tighten screws.
3. Install four screws (29) into mounting block (8) and gear housing (28). Tighten screws.
4. Replace grooved ball bearing (31) and snap ring (30) subassembly.
5. Replace eccentric (51). Use a fiber mallet to tap eccentric onto shaft. Replace ball bearing (50).
6. Align end cap (53). Use a fiber mallet to tap cover until it is flush on mounting block (8). Install two screws (54).
7. Align gear housing/motor subassembly so that the pump piston (49) extends through the mounting block (8) and makes contact with the grooved bearing (31). Locate and start the three screws (7) through the mounting block and into the pump housing. Tighten the screws.

Pump Subassembly

8. Insert pump piston (49) into pump housing.
9. Insert seal (4) and unloading valve assembly into pump housing. Grasp needle valve subassembly by the pressure relief (11) and twist it several turns clockwise. Stop when the mark or piece of tape is facing up.
10. Assemble pump piston (45), valve stem (44), spring (43) and screw plug (41). Be sure to replace sealing washer (45). Torque screw plug (41) to 75 foot-pounds.
11. Install release lever (19) so that the forked end engages the unloading valve subassembly between the pressure relief (11) and the support ring (12). Install screw (15) and washer (57).
12. Insert threaded bushing (37) and feed tube subassembly (34, 35 and 36). Screw in until snug.
13. Install reservoir (17). Slip the O-ring (38) over the reservoir. Using a hooked tool, carefully slip the O-ring over the lip of the pump housing.
14. Insert the plug (16) into the reservoir.

Misc. Components Reassembly

15. Remove the protective plastic bag from the electronics subassembly. Insert the LED into the LED bushing (213).
16. Lay the gear housing/motor subassembly into the right half of the housing. Insert the circuit board into the circuit board slot, so that the wires and chip face in the direction of the trigger.
17. Lay the wires into case. Be sure that the wires will not be pinched.
18. Guide the wires for the battery clip so that battery wires lay on top of the electronics box; install the battery clip so the red wire is upward.
19. Install the trigger cover (210) and trigger lock (201). Depress and release the trigger and slide the trigger lock to be sure that they operate freely.
20. Locate the right housing half on top of the left housing half. Check for pinched wires.
21. Install the housing screws (204, 205, 206 and 209).
Note: Handle screw (206) must engage the nut (207).
22. Install the piston (106).
23. Install the spring (117).
24. Replace the front head assembly. Twist the cutting head base (100) until it stops; back off 3/4 of a turn and tighten the screws (111). Be sure that the crimping head assembly rotates freely approximately 350°.
25. Install the adapter ram (104). Insert the pin (114) through the ram.
26. Clamp the head assembly into a vise with the reservoir plug facing upward. Remove the fill plug (16) and fill the reservoir with hydraulic oil.
27. Install the battery.
28. Squeeze the trigger while depressing the release lever for 45-60 seconds. Fill the reservoir with hydraulic oil. Replace the fill plug (16).
29. Replace the tank cover (200) and tank cover screws (208).

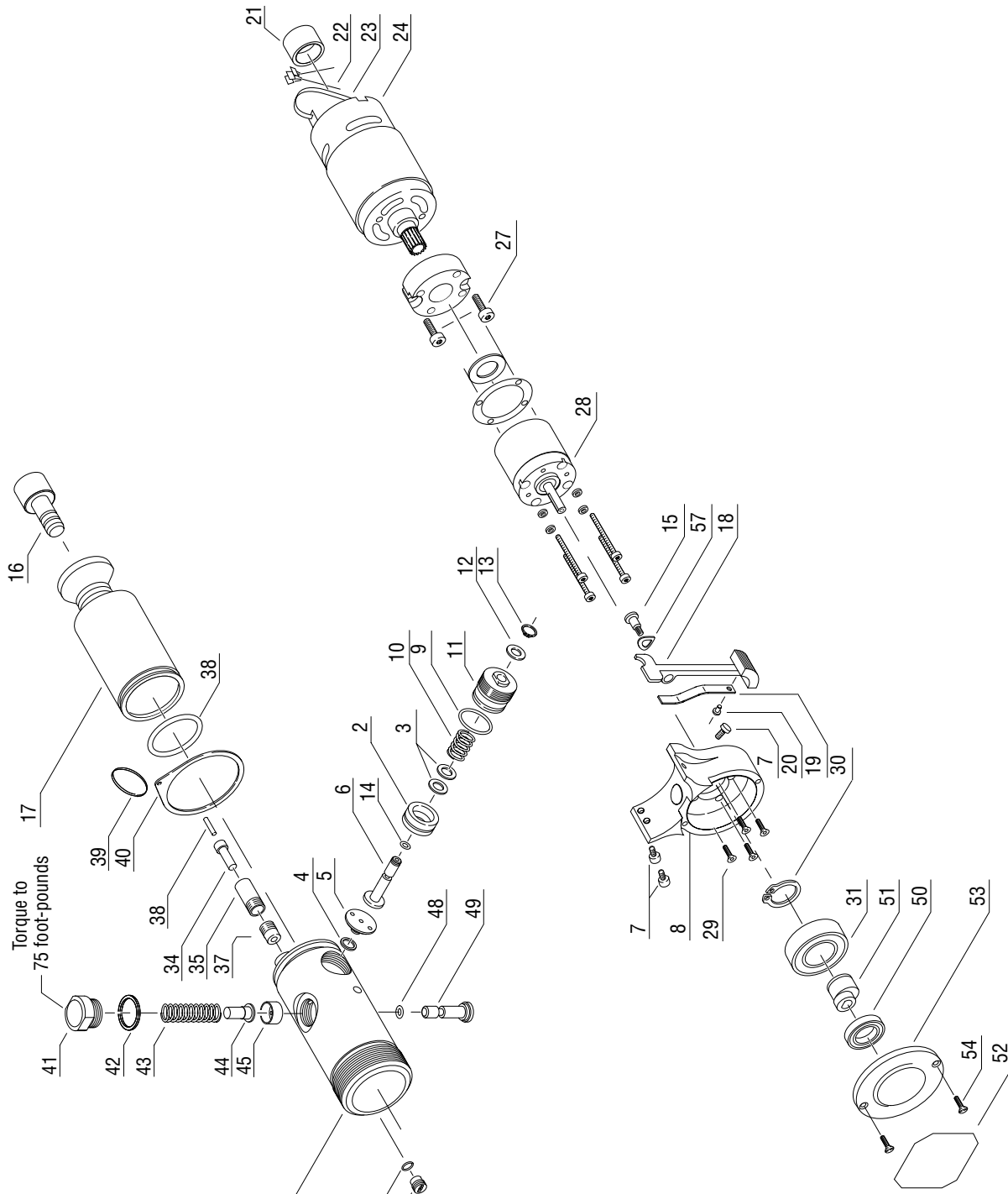
Service

Should your battery-powered tool require service, return it to an authorized Greenlee service center.

Customer Center and Field Service: 800/435-0786

Fax (24 Hour) Customer Center: 800/451-2632 or 815/397-1865

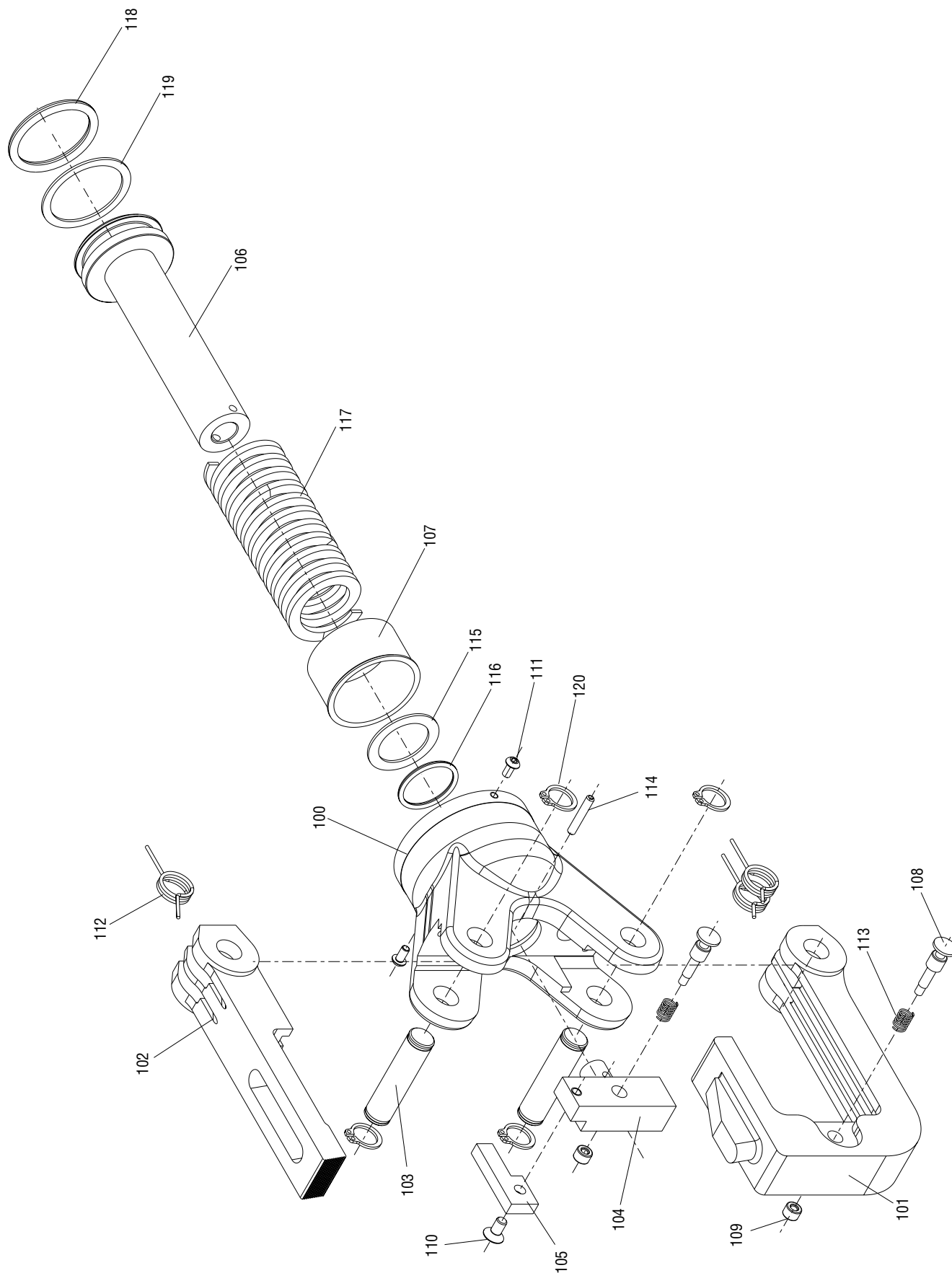
Exploded Views



This exploded perspective view illustrates the assembly of a vehicle interior component, likely a center console or seat base. The diagram shows the following parts and their assembly sequence:

- 200**: A large, curved upper housing or trim piece.
- 201**: A central structural frame or support component.
- 202**: A long, curved lower housing or trim piece.
- 203**: A small, rectangular component, possibly a switch or sensor, mounted on the frame.
- 204**: A long, thin rod or pin used for fastening.
- 205**: A small, cylindrical component, possibly a bush or spacer.
- 206**: A small, rectangular component, possibly a switch or sensor, mounted on the frame.
- 207**: A small, rectangular component, possibly a switch or sensor, mounted on the frame.
- 208**: A small, cylindrical component, possibly a bush or spacer.
- 209**: A long, thin rod or pin used for fastening.
- 210**: A small, rectangular component, possibly a switch or sensor, mounted on the frame.
- 211**: A large, rectangular plate or cover, possibly a base plate or a decorative panel.
- 212**: A long, thin rod or pin used for fastening.
- 213**: A small, cylindrical component, possibly a bush or spacer.
- 214**: A small, rectangular component, possibly a switch or sensor, mounted on the frame.
- 215**: A circular, ring-like component, possibly a gasket or a decorative ring.

Exploded Views (cont'd)



Parts List

KEY	PART NO.	DESCRIPTION	QTY
1	500 6336.7	Pump Housing	1
2	500 5864.9	Plunger	1
3	500 5860.6	Washer	2
4	500 5862.2	Seal	1
5	500 5863.0	Valve Seat	1
6	500 5877.0	Needle Valve	1
7	500 4921.6	Screw, Pan Head	3
8	500 4109.6	Mounting Block	1
9	500 5869.0	O-Ring	1
10	500 5894.0	Spring	1
11	500 5871.1	Pressure Relief	1
12	500 5875.4	Support Ring	1
13	500 5876.2	Retaining Ring	1
14	500 4134.7	O-Ring, Needle Valve	1
15	500 4203.3	Screw, Flat Head M4 x 6	1
16	500 5878.9	Reservoir Plug	1
17	500 5873.8	Hydraulic Reservoir	1
18	500 5879.7	Release Lever	1
19	500 4125.8	Relief Lever Spring	1
20	500 5872.0	Screw	1
21	500 4113.4	Spacer	1
22	500 4137.1	Capacitor	3
23	500 4136.3	Ground Strap	1
24	500 4132.0	Motor	1
25	500 3633.5	Pin, 4 x 16	1
26	500 4128.2	Battery Clip	1
27	500 4164.9	Screw, M10 x 4	2
28	500 4133.9	Gearbox	1
29	500 4157.6	Screw, Flat Head M3 x 6	4
30	500 4151.7	Retaining Ring	1
31	500 4139.8	Grooved Ball Bearing	1
32	500 4126.6	Switch	1
33	500 4127.4	Battery Contacts	1
34	500 5880.0	Filter	1
35	500 5882.7	Filter Adapter	1
36	500 5898.3	Magnet	1
37	500 5885.1	Threaded Bushing	1
38	500 5886.0	O-Ring	1
39	500 4198.3	Ring	1
40	500 5829.0	Hanging Ring	1
41	500 5896.7	Screw Plug	1

Parts List (cont'd)

KEY	PART NO.	DESCRIPTION	QTY
42	500 5888.6	Sealing Washer	1
43	500 5889.4	Spring	1
44	500 5890.8	Valve Stem	1
45	500 5891.6	Pump Piston	1
46	500 4144.4	Threaded Bushing	1
47	500 4143.6	O-Ring	1
48	500 5897.5	O-Ring	1
49	500 5892.4	Pump Piston	1
50	500 4138.0	Ball Bearing	1
51	500 4123.1	Eccentric	1
52	500 4153.3	Seal	1
53	500 4108.8	End Cap	1
54	500 4155.0	Screw, Flat Head M3 x 10	2
55	500 5899.1	Wire	1
56	500 5900.9	Wire	1
57	500 4922.4	Lock Washer	1
58	500 5901.7	C-Clip	1
100	500 6715.0	Fixed Head	1
101	500 6716.8	Moveable Head	1
102	500 6717.6	Latch	1
103	500 6718.4	Pin, 10 x 40.5MM	2
104	500 6719.2	Adapter Ram	1
105	500 6721.4	Guide Plate	1
106	500 6722.2	Piston	1
107	500 5844.4	Bushing	1
108	500 6723.0	Adapter Lock	2
109	500 6724.9	Bushing	2
110	500 6725.7	Screw, M4 x 8	1
111	500 4168.1	Screw, M4 x 6	2
112	500 4383.8	Spring	3
113	500 4396.0	Compression Spring	2
114	500 7122.0	Pin, 3 x 18	1
115	500 5837.1	Adapter Disc	1
116	500 5838.0	O-Ring	1
117	500 5825.8	Compression Spring	1
118	500 4192.4	O-Ring	1
119	500 4194.0	Backup Ring	1
120	500 3430.8	Retaining Ring	4

Parts List (cont'd)

KEY	PART NO.	DESCRIPTION	QTY
200	500 4222.0	Reservoir Cover	1
201	500 4217.3	Lockout	1
202	500 4219.0	Handle	1
203	500 7142.4	Case Halves	1
204	500 4209.2	Screw, 3.9 x 25MM	2
205	500 4208.4	Screw, 3.9 x 38MM	4
206	500 4220.3	Screw	1
207	500 4221.1	Nut	1
208	500 4236.0	Screw, 3.9 x 16MM	2
209	500 4207.6	Screw, 3.9 x 19MM	4
210	500 4216.5	Switch Cover	1
211	500 7023.1	Serial Number Decal	1
212	500 7024.0	Warning Decal	1
213	500 4241.6	LED Bushing	1
214	500 7151.3	Circuit Board	1
215	500 7155.6	Warning Decal	1
	500 5903.3	Unloading Valve Kit (includes 2-6, 9-14)	
	500 5904.1	Seal Kit (includes 4,9,13,14,38,42,47,48,53,118,119)	
	500 7146.7	Case w/Inserts	
	500 7063.0	12V Battery NimH	
	500 3046.9	12V Charger 110V AC	
	500 3047.7	12V Charger 220V AC	
	500 3048.5	12V Charger 12V DC	
	500 7154.8	Decal Kit	

GREENLEE TEXTRON

Greenlee Textron / Subsidiary of Textron Inc.

4455 Boeing Drive, Rockford, IL 61109-2988 USA

Customer Service (International): 815/397-7070 • Fax: 815/397-9247

Customer Service (North America): 800/435-0786 • Fax: 800/451-2632, 815/397-1865

Canada Fax: 800/524-2853

Printed in the U.S.A.