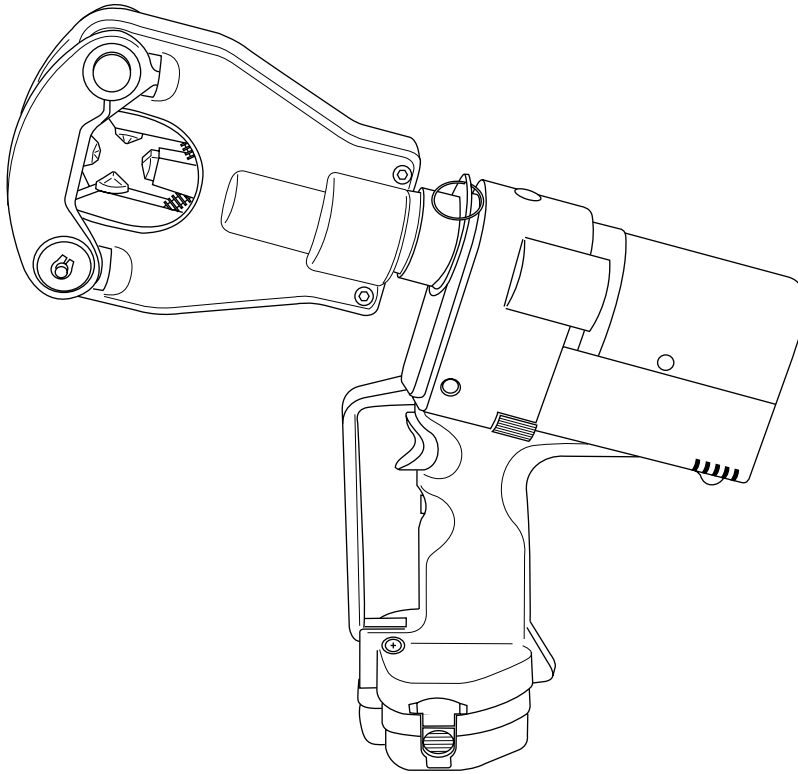


# INSTRUCTION MANUAL



## **GATOR™ EK06FT BATTERY-POWERED CRIMPING TOOL**



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

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## Description

The EK06FT Battery-Powered Crimping Tool is a hand-held, self-contained, dieless crimping tool intended to crimp aluminum and copper connectors onto electrical cable.

## Safety

Safety is essential in the use and maintenance of Greenlee tools and equipment. This instruction manual and any decals 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 EK06FT.

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

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***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**

Skin injection hazard:

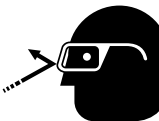
Oil under pressure easily punctures skin causing serious injury, gangrene or death. If you are injured by escaping oil, seek medical attention immediately.

- Do not use hands to check for leaks.
- Depressurize the hydraulic system before servicing.



#### **⚠ WARNING**

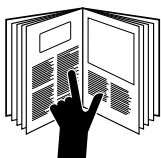
Do not use solvents or flammable liquids to clean the crimping tool. Solvents or flammable liquids could ignite and cause serious injury or property damage.



#### **⚠ 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**

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 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 connector and cable combinations. Improper combinations can result in an incomplete crimp.
- The relief valve will sound to indicate a completed crimp. If you do not hear the sound of the relief valve, the crimp is not complete.

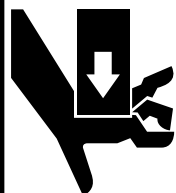
Failure to observe these warnings can result in severe injury or death.

## IMPORTANT SAFETY INFORMATION

### ⚠ WARNING

Inspect tool 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.



### ⚠ WARNING

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

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

### ⚠ WARNING

Do not dispose of batteries in a fire. Batteries will vent harmful vapors and may explode.

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

### ⚠ CAUTION

- Do not operate the tool without a connector in place. Damage to the ram or crimping tool head can result.
- This tool is not designed for continuous use. After 30 – 40 crimping cycles, allow the crimping tool to cool for 15 minutes.
- 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.
- Use this tool for the manufacturer's intended purpose only.

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 attempt to open the battery. It contains no user-serviceable parts.
- Do not charge the battery with another type of charger. Other chargers may overcharge and damage the battery.

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

### ⚠ CAUTION

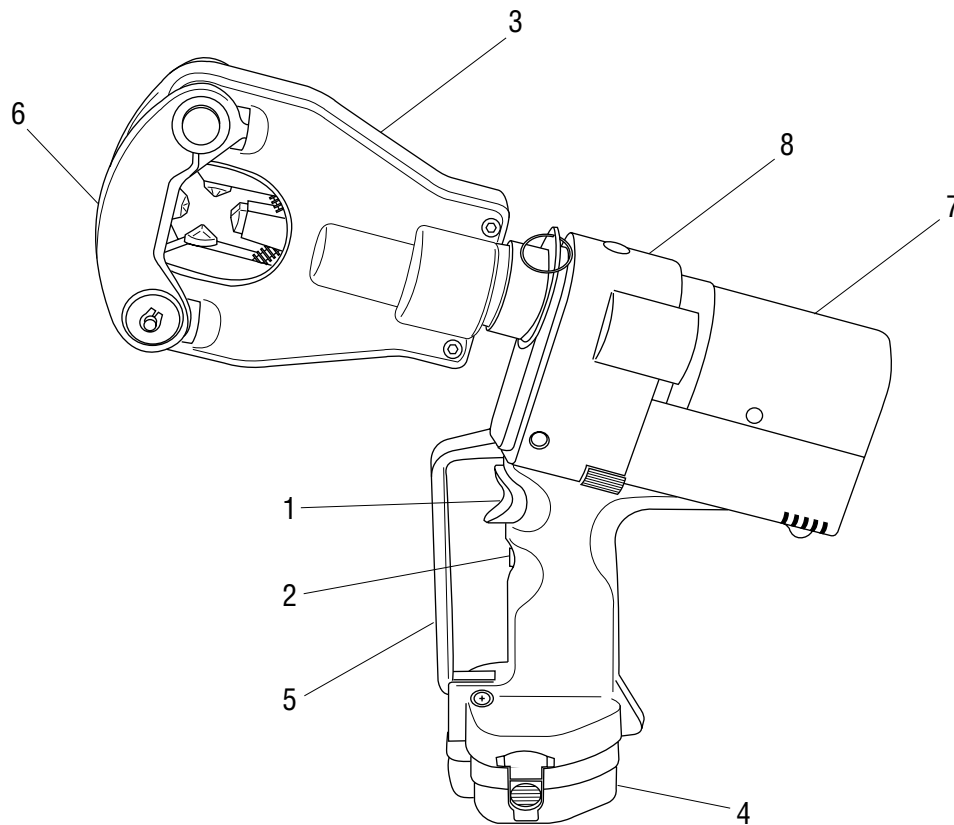
Do not allow any object to contact the battery terminals.

- Do not immerse 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.

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

## Identification



### EK06FT

- |                  |                    |
|------------------|--------------------|
| 1. Trigger       | 5. Hand Guard      |
| 2. Trigger Lock  | 6. Flip Top        |
| 3. Crimping Head | 7. Reservoir Cover |
| 4. Battery       | 8. Body            |

## Specifications

### Crimping Tool

Length .....	377.7 mm (14.87")
Width .....	311.2 mm (12.25")
Height .....	76.2 mm (3.00")
Mass/Weight (with battery) .....	4.9 kg (10 lbs 12 oz)
Sound Level .....	75 dB (A) at 1 Meter
Vibration .....	(< or >) 2.5 m/s <sup>2</sup>
Motor Type .....	DC Permanent Field Motor
Motor Voltage .....	12 VDC
Hydraulic Oil .....	ml (pint) of Shell Tellus T15

### Crimping Capacities

Crimping Force .....	55 kN (6.2 tons)
Crimping Time .....	7 Seconds
Crimps per Charge .....	Approximately 40/charge
Cable Size .....	#6 AWG -750 MCM

### Battery

Charging Voltage .....	12 V
Charging Time .....	1 Hour

## Operation


### Charging the Battery

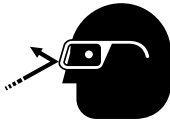
Read the instructions supplied with the battery charger.

### Battery Condition

Battery Load Display	Battery Condition
Momentary illumination at beginning of crimp	Normal
Flickering at end of crimp	Normal
Flickering during entire crimp	Low charge
Constant illumination during entire crimp	Low charge

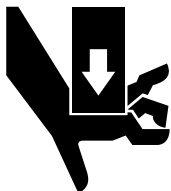
### Preparation

	<p><b>⚠ WARNING</b></p>
	<p>Electric shock hazard:</p> <p>The EK06FT is not insulated. When using this unit near energized electrical lines use proper personal protective equipment.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

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

<p><b>⚠ WARNING</b></p>
<p>An incomplete crimp can cause a fire.</p> <ul style="list-style-type: none"> <li>• Use proper connector and cable combinations. Improper combinations can result in an incomplete crimp.</li> <li>• The relief valve will sound to indicate a completed crimp. If you do not hear the sound of the relief valve, the crimp is not complete.</li> </ul> <p>Failure to observe this warning can result in severe injury or death.</p>

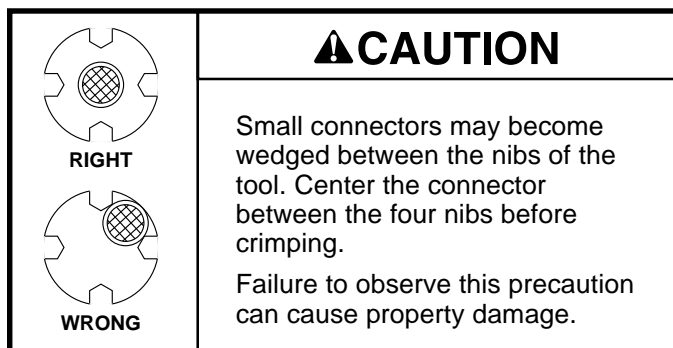
<p><b>⚠ WARNING</b></p>
<p>Inspect tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike nearby personnel.</p> <p>Failure to observe this warning can result in severe injury or death.</p>

	<p><b>⚠ WARNING</b></p>
	<ul style="list-style-type: none"> <li>• Keep hands away from the crimping tool head when crimping.</li> <li>• Lock trigger when not in use.</li> </ul> <p>Failure to observe these warnings can result in severe injury or death.</p>

## Operation (cont'd)

### Crimping

1. Insert cable fully into connector. Center the connector between the nibs.



2. Pull the trigger to advance the nibs. Hold the trigger down until the pressure relief valve activates.

*Note: Pressure relief occurs at approximately 690 Bar (10,000 psi) and is indicated by an audible "pop."*

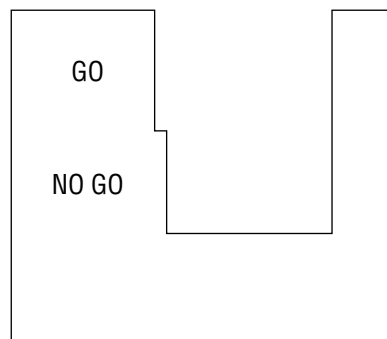
3. After achieving pressure relief, the ram will automatically return to the start position and the nibs will retract.
4. Complete the number of crimps specified by the connector manufacturer.

## Periodic Pressure Relief Valve Check

Test the crimping tool periodically to ensure that the pressure relief valve activates at the proper pressure.

### Testing the Crimping Tool

1. Center a test slug between the nibs.
2. Pull the trigger to advance the nibs. Hold the trigger down until the pressure relief valve activates.
3. After achieving pressure relief, the ram will automatically return to the start position and the nibs will retract.
4. Evaluate the test slug as follows:
  - If the test slug does not fit into GO slot, the pressure relief valve is set too high. Send the crimping tool to an authorized Greenlee service center.
  - If the test slug fits into the GO slot, the pressure relief valve is set correctly.
  - If the test slug fits into the NO GO slot, the pressure relief valve is set too low. Send the crimping tool to an authorized Greenlee service center.






## Maintenance

1. Inspect nibs for wear or damage such as cracks, gouges or chips.
2. Inspect the crimping tool for damage or leaks. Have a damaged or leaking crimping tool repaired at an authorized Greenlee service center.

### After Each Use

	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p>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>
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1. Wipe all tool surfaces clean with a damp cloth and mild detergent.
2. Fully retract and lock the trigger. Place the crimping tool in the carrying case. Store in a cool, dry place.
3. Charge the battery.

### Monthly

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

### Annually or Every 10,000 Crimps

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

### Checking the Oil Level

1. Remove the two screws (215) that retain the tank housing cover.
2. Remove the tank housing cover.
3. Point the cutting head downward and remove the oil plug (16). Add oil if necessary.
4. Replace the oil plug and the tank housing cover. Secure with screws.

### Recommended Hydraulic Oils

AVIA HVI 15  
Shell Tellus T-15  
Mobil DTE 11  
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	PROBABLE 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.
Ram does not advance completely.	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.

## Service

### Disassembly

#### Main Components

1. Remove battery (219).
2. Remove retaining ring (115) and remove pin (106). Pull out locking pin (108) and remove flip top (102).
3. Remove screws (116, 117). Remove head cover. Remove battery driver from bottom head cover.
4. Drive out pin (225) from between yoke assembly (101) and piston (223).
5. Remove sleeve (224), spring (222) and piston (223). Replace the piston O-ring (220) and piston back-up ring (221).
6. Unscrew two tank cover screws (215) and remove tank cover.
7. Remove the hydraulic reservoir plug (16) and drain hydraulic fluid.
8. Reinstall plug.
9. Remove the remaining housing screws (203, 204, 205, 212).
10. Remove the right housing half.
11. Remove trigger (209) and trigger lock (210).
12. Lift pump/motor assembly and circuit card from left housing half. Lift LED from its bushing (218).
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.

#### Pump

1. Use a hooked tool to remove the reservoir O-ring (38). Gently tug it over the reservoir.
2. Remove the reservoir (17).
3. Remove pump piston (49). Replace the O-ring (48).
4. Remove screw plug (41) and spring (43), valve stem (44) and pump piston (45). Replace sealing washer (42).
5. 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).
6. Remove feeder tube subassembly by unscrewing feeder tube (35). Replace the oil filter (34). Remove metal chips from magnet (36).
8. Remove threaded bushing (46) and replace O-ring (47).

#### Motor, Gearbox and Bearing

1. Remove tamper-proof paper seal (52).
2. Remove two screws (54). Remove end cap (53).
3. Apply pressure evenly at three points around the ball bearing (50) and gently pry the bearing up to remove it.
4. Remove eccentric (51), grooved ball bearing (31), and snap ring (30) subassembly from shaft.
5. Remove four screws (29). Remove mounting block (8) from gear housing (28).
6. Use a snap-ring removal tool to remove the snap ring (30).
7. 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).

## Service (cont'd)

### Assembly

#### Motor, Gearbox and Bearing

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.

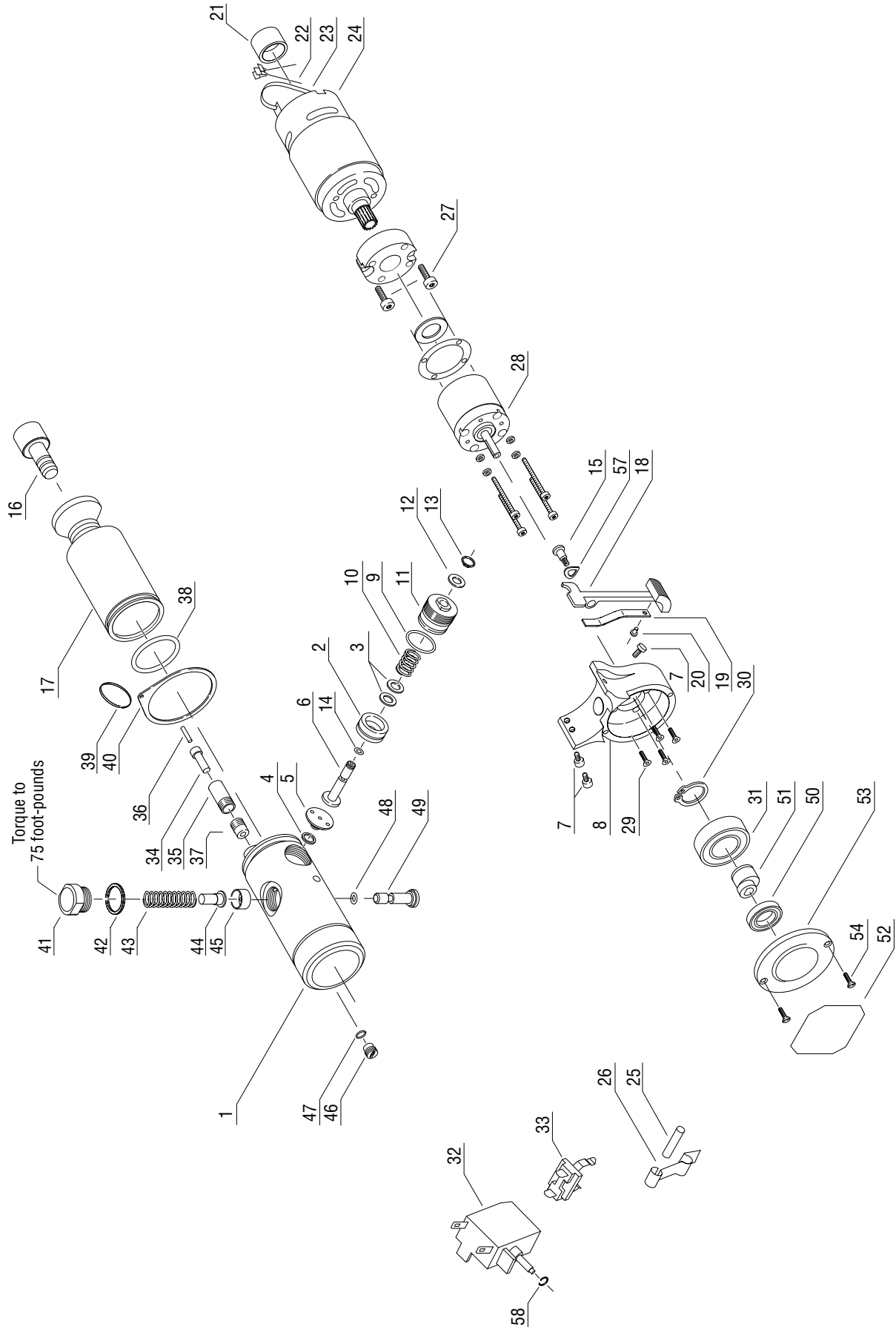
#### Pump

1. Insert pump piston (49) into pump housing.
2. 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 piece of tape is facing up.
3. 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 101 Newton-meters (75 foot-pounds).
4. 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).
5. Insert threaded bushing (37) and feed tube subassembly (34, 35, 36). Screw in until snug.
6. 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. Insert the plug (16) into the reservoir.

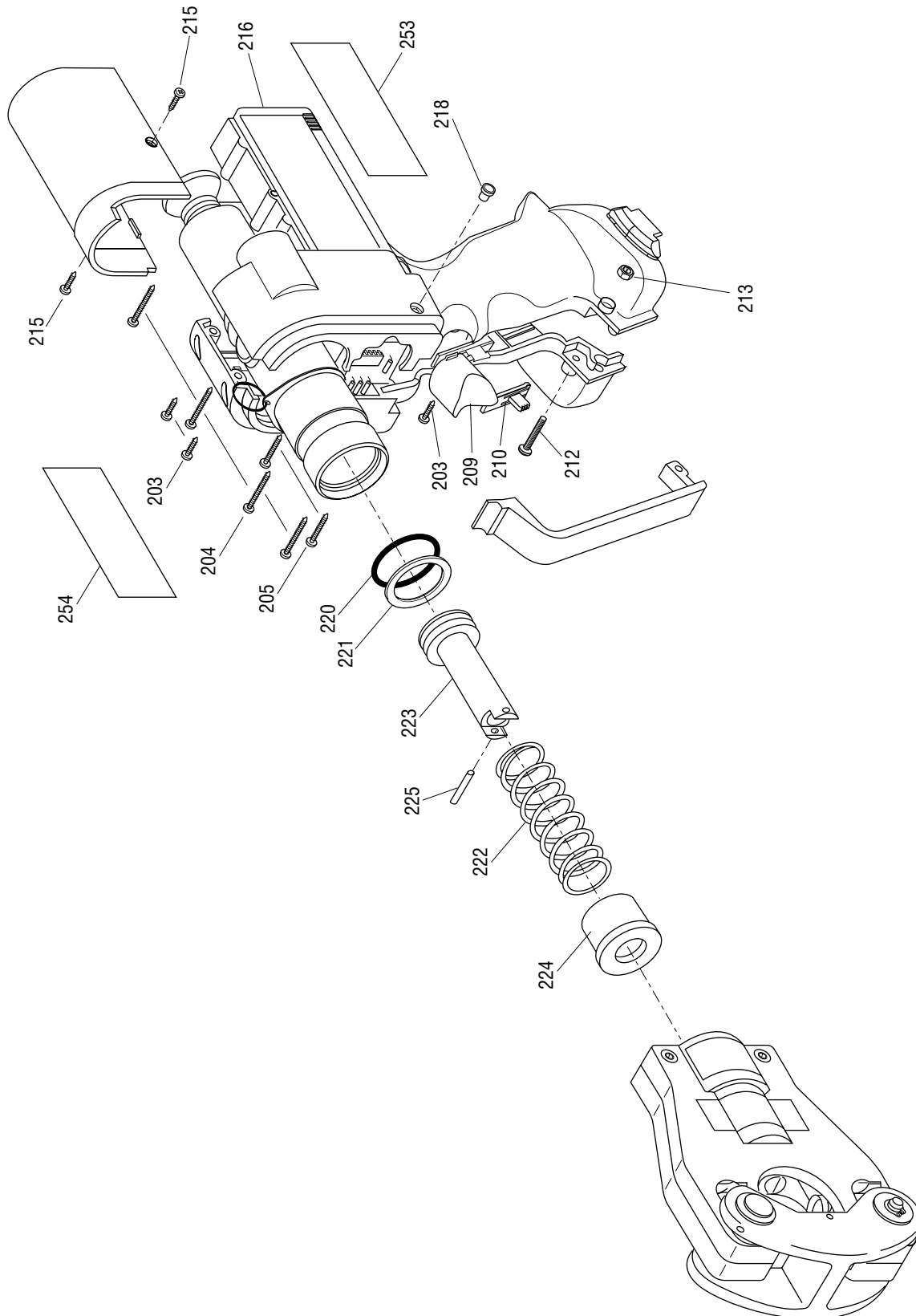
#### Main Components

1. Remove the protective plastic bag from the electronics subassembly. Insert the LED into the LED bushing (218).
2. 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.
3. Lay the wires into case. Be sure that the wires will not be pinched. Guide the wires for the battery clip so the battery wires lay on top of the electronics box; install the battery clip so the red wire is upward.
4. Install the trigger (209) and trigger lock (210). Depress and release the trigger and slide the trigger lock to be sure that they operate freely.
5. Locate the right housing half on top of the left housing half. Check for pinched wires.
6. Install the housing screws (203, 204, 205, 212).  
*Note: Handle screw (212) must engage the nut (213).*
7. Install the piston (223).
8. Install the spring (222) and sleeve (224). Assemble pin (225) into piston (223) and yoke assembly (101).
9. Set the pump block (1) into the bottom half of the crimping head. Lay the top half of the crimping head onto the unit. Assemble with screws (116, 117).
10. Assemble pin (106) into head with flip top (102) in place. Assemble retaining ring (115) into place. Make sure locking pin (108) functions properly.
11. 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.
12. Install the battery (219).
13. Squeeze the trigger while depressing the release lever for 45 – 60 seconds. Fill the reservoir with hydraulic oil. Replace the fill plug (16).
14. Replace the tank cover and tank cover screws (215).

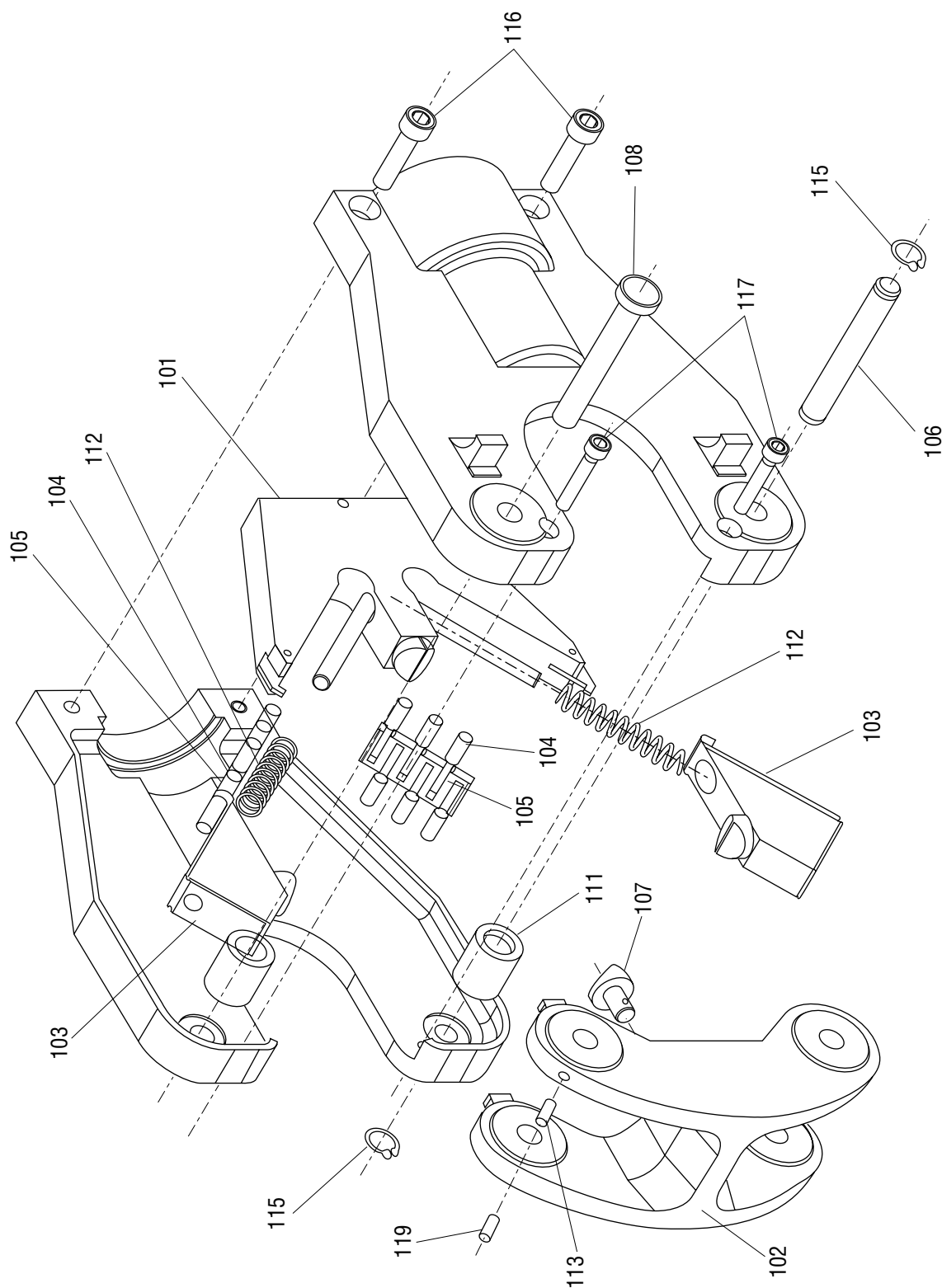
## Exploded View



**Exploded View—EK06FT**



**Exploded View—Crimping Head**



## Parts List

### EK06FT

KEY	UPC NO. 78-23310-	DESCRIPTION	QTY.
1	500 6383.9	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 4122.3	Reservoir Plug .....	1
17	500 5861.4	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 x6 .....	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



## Parts List (cont'd)

### EK06FT

KEY	UPC NO. 78-23310-	DESCRIPTION	QTY.
41	500 5896.7	Screw Plug .....	1
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
57	500 4922.4	Lock Washer .....	1
58	500 5901.7	C-Clip .....	1
60	500 5903.3	Unloading Valve Kit (2-6, 9-14) .....	1
61	500 5904.1	Seal Kit, (4,9,13,14,38,42,47,48,52,220,221) .....	1
100	500 6126.7	Head Cover Set w/Decal .....	1
101	500 6125.9	Cam Yoke Assembly .....	1
102	500 6117.8	Latch .....	1
103	500 6127.5	Moving Side Jaw .....	2
104	500 6089.8	Roller Bearings .....	12
105	500 6088.0	Bearing Retainers .....	2
106	500 6121.6	Latch Mounting Pin .....	1
107	500 6118.6	Latch Nib .....	1
108	500 6124.0	Lock Pin .....	1
111	500 6116.0	Side Jaw Roller .....	2
112	500 6091.0	Compression Spring .....	2
113	500 6096.1	Ball Screw .....	1
115	500 6122.4	Snap Ring .....	2
116	500 6100.3	SH Cap Screw .....	2
117	500 6103.8	SH Cap Screw .....	2
118	500 6129.1	Bearing/Retainer Kit (104, 105) .....	1
119	500 8366.0	Set Screw .....	1
200	500 6333.2	Steel Case .....	1
203	500 4207.6	Screw, 3.9 x 19MM .....	4
204	500 4208.4	Screw, 3.9 x 38MM .....	4
205	500 4209.2	Screw, 3.9 x 25MM .....	2

## Parts List (cont'd)

EK06FT

KEY	UPC NO.	DESCRIPTION	QTY.
	<b>78-23310-</b>		
209	500 4216.5	Switch Cover .....	1
210	500 4217.3	Lockout .....	1
212	500 4220.3	Screw .....	1
213	500 4221.1	Nut .....	1
215	500 4236.0	Screw, 3.9 x 16MM.....	2
216	500 7142.4	Housing Kit .....	1
218	500 4241.6	LED Bushing .....	1
219	500 2999.1	Battery 12V .....	1
220	500 4192.4	O-Ring, Piston .....	1
221	500 4194.0	Back-up Ring, Piston .....	1
222	500 5839.8	Compression Spring .....	1
223	500 6381.2	Piston .....	1
224	500 6382.0	Sleeve .....	1
225	500 6340.5	Dowel Pin .....	1
250	500 6308.1	10 Test Slugs	
251	500 6309.0	Test Gage	
252	500 6130.5	10 Slugs w/Gage	
253	500 6076.7	Decal, Serial Number .....	1
254	500 6078.3	Decal, Warning .....	1
	500 3046.9	12V Charger 110VAC .....	1
	500 3047.7	12V Charger 220VAC .....	1
	500 3048.5	12V Charger 12VDC .....	1

# GREENLEE **TEXTRON**

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