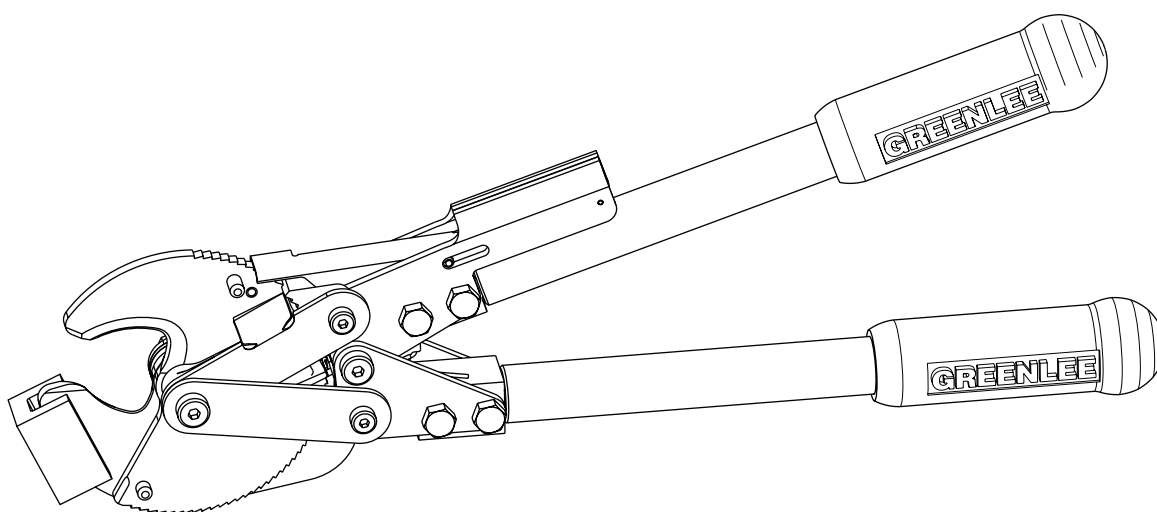


INSTRUCTION MANUAL



776 Ratchet ACSR Cutter



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 of this Manual

This instruction manual is intended to familiarize personnel with the safe operation and maintenance procedures for the Greenlee 776 Ratchet Cutter.

Keep this manual available to all personnel.

Replacement manuals are available upon request at no charge.

Description

The Greenlee 776 Ratchet Cutter is a non-insulated cutting tool intended to cut ACSR through 636 kcmil with steel core diameter less than 0.32".

Specifically cuts:

- all 336.4 kcmil and smaller ACSR
- 397.5 kcmil – Brant, Chickadee, Ibis
- 477.0 kcmil – Pelican, Flicker, Hawk
- 566.5 kcmil – Osprey, Parakeet
- 605.0 kcmil – Peacock
- 636.0 kcmil – Kingbird, Swift, Rook

This tool is equipped with fiberglass handles and rubber grips to limit operator fatigue.

This tool is not intended to cut guy wire, rebar, or steel rod.

The Greenlee 776 Ratchet Cutter is protected by U.S. Patent No. 6,766,581.

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

Molykote is a registered trademark of Dow Corning Corporation.

Loctite is a registered trademark of Loctite Corporation.

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.



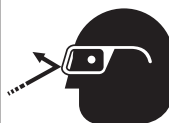
⚠ **WARNING**

Keep hands away from closing blades.



⚠ **WARNING**

Pinch points:
Keep hands away from moving parts.



⚠ **WARNING**

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

⚠ **CAUTION**

- This tool is intended for two-handed operation. Maintain a firm grip on both handles during operation.
- Do not cut guy wire or steel rod.
- Do not exceed the rated capacity of this tool.
- Inspect before use. Replace any worn or damaged parts.
- Do not perform any service or maintenance other than as described in this manual.

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



⚠ **WARNING**

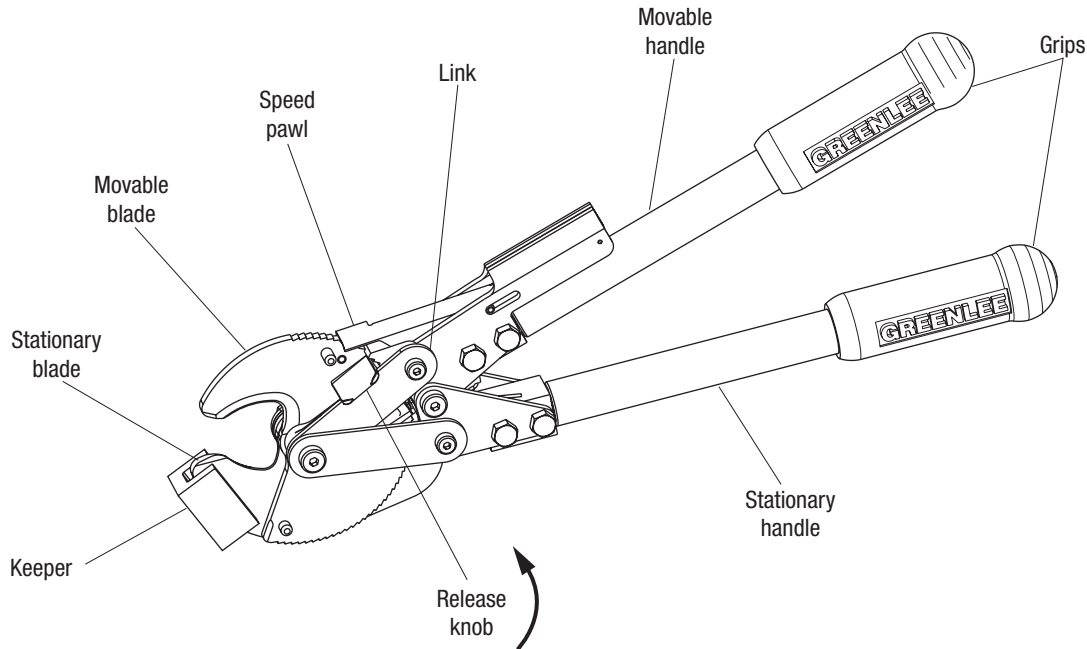
Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.
Failure to observe this warning could result in severe injury or death.



⚠ **WARNING**

Electric shock hazard:
This tool is not insulated. Do not use this tool near energized electrical lines.
Failure to observe this warning could result in severe injury or death.

Identification



Specifications

Mass/Weight.....	2.8 kg (6.2 lb)
Length	505 mm (19.87")
Width	
at blades	127 mm (5.0")
at handles.....	159 mm (6.25")
Thickness	68.5 mm (2.7")
Jaw opening (minimum)	29 mm (1.15")
Handle force at Maximum Capacity	267 N (60 lb)
Capacity — cuts ACSR through 636 kcmil with steel core diameter less than 0.32"	

Specifically cuts:


- all 336.4 kcmil and smaller ACSR
- 397.5 kcmil — Brant, Chickadee, Ibis
- 477.0 kcmil — Pelican, Flicker, Hawk
- 566.5 kcmil — Osprey, Parakeet
- 605.0 kcmil — Peacock
- 636.0 kcmil — Kingbird, Swift, Rook

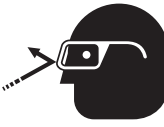
CAUTION

Do not attempt to cut ACSR cable that is not listed, or ACSR cable with a steel core diameter greater than 0.32".

Failure to observe this precaution may result in damage to the tool.

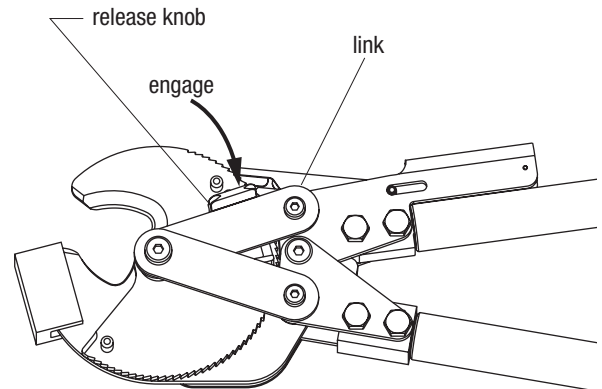
Operation

	<p>⚠ WARNING</p>
	<p>Electric shock hazard: This is not an insulated tool. Contact with live circuits could result in severe injury or death.</p>

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

<p>⚠ CAUTION</p>
<ul style="list-style-type: none"> • This tool is intended for two-handed operation. Maintain a firm grip on both handles when using this tool. • Inspect before use. Replace any worn or damaged parts. <p>Failure to observe these precautions may result in injury or property damage.</p>

1. Check to see that the release knob is against the link.

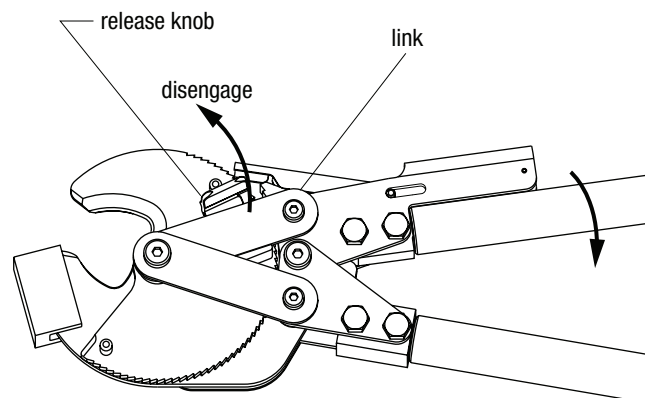


2. Place the cable to be cut between the cutting blades.
3. Open and close the handles until the cable is cut.

Note: The automatic rapid advance mechanism will advance the movable blade by 3 teeth each time the handle is opened. The blade advances 1 tooth for each closing of the handle. The rapid advance mechanism is spring-loaded to disengage when maximum leverage is needed to cut the cable.

4. When the cut is complete, the automatic blade mechanism automatically returns the blade to the open position and resets the reverse lever to cut cable.

Note: To open the blade before the cut is complete, move the release knob away from the link and press the handles together. The blade spring will return the blade to the open position.



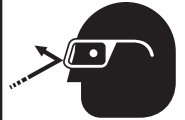
Maintenance

General

Maintain the tool with care. Keep the blades sharp and the tool clean for better and safer performance. Follow instructions for lubricating the cutter; lubrication prolongs the tool life and enables the tool to cut with less force. Keep grips dry, clean and free from oil and grease.


Note: The blade lock nut (43) may require tightening after making several initial cuts on a new or repaired unit. Always maintain proper adjustment on all pivot screws. For adjustment procedures, see Assembly—Tighten pivot screws.


Cleaning the cutter

	<p style="text-align: center;">⚠ WARNING</p> <p>Wear eye protection when using this tool. Failure to wear eye protection could result in serious eye injury from flying debris.</p>
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Blow dirt and/or cable particles out of the ratchet mechanism with compressed air.

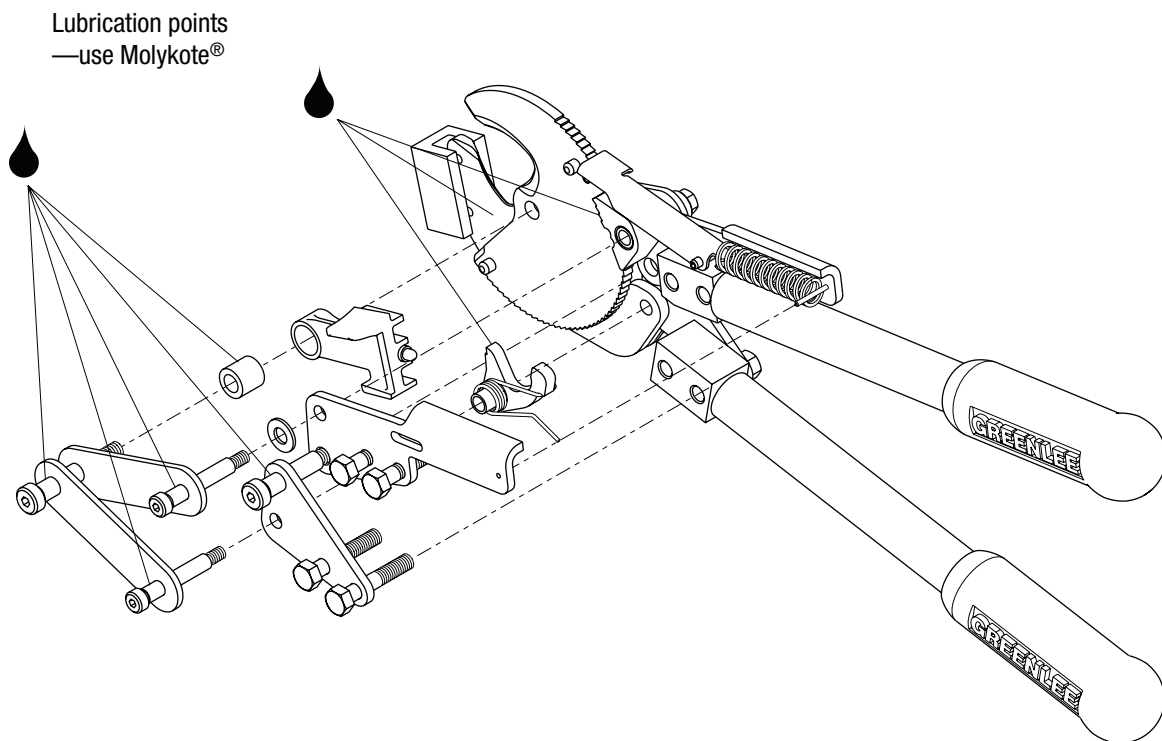
Lubricating the cutter

	<p style="text-align: center;">⚠ WARNING</p> <p>Keep hands away from closing blades.</p>
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	<p style="text-align: center;">⚠ WARNING</p> <p>Pinch points: Keep hands away from moving parts.</p>
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Close the blades and apply Molykote lubricant or equivalent between the blades. Lubricate the teeth on holding pawl (6) and drive pawl (7). Lubricate the four pivot shoulder screws (13, 16 and 17) and area between pivoting surfaces. Operate the cutter to spread the lubricant.

Disassemble, clean, and lubricate the tool if it does not operate smoothly.



Disassembly

This tool consists of three subassemblies: the cutter head, stationary handle, and movable handle sub-assemblies (see figure).

1. Cutter head assembly: movable blade (1), stationary blade (2), release lever (3), links (4), keeper (18), spring cover (10), reverse lever pin (12), spring (37), bushing (29), return spring (36), shoulder screw (17) and related hardware.
2. Stationary handle assembly: handle unit (39), handle plates (5), holding pawl (6), torsion spring (40), shoulder screw (16) and related hardware.
3. Movable handle assembly: handle unit (38), handle plates (8 and 9), speed pawl (11), spring (35), drive pawl (7), shoulder screws (13 and 16) and related hardware.

The disassembly procedure is divided into sections of the tool. Disassemble only the section(s) necessary to complete the repair.

Disassemble the tool on a flat, clean surface. Take care not to lose or damage any parts that may fall free during disassembly.

Cutter head

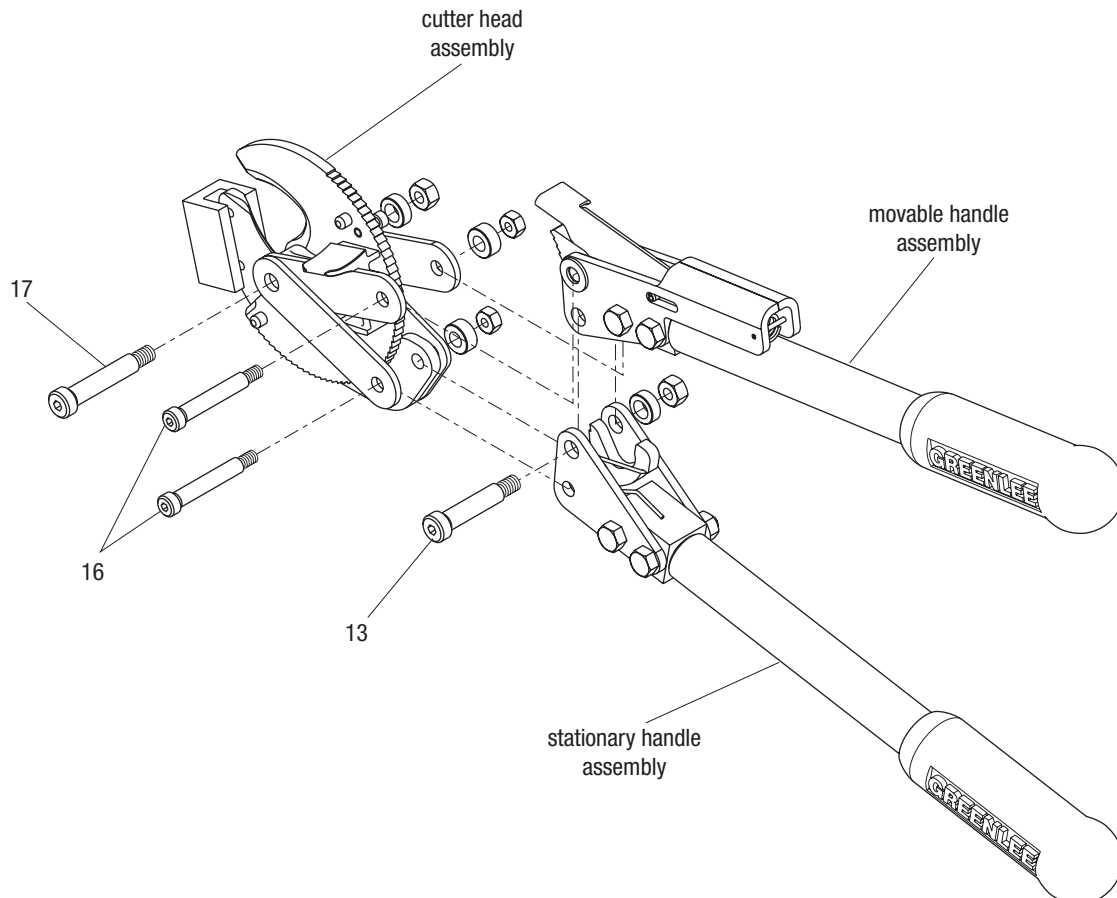
1. Open the movable blade to release tension on the blade return spring (36).
2. Remove two shoulder screws (16) and remove the cutter head assembly from the handle assemblies.
Note: Holding pawl (6), torsion spring (40), drive pawl unit (7), washer (22) and spacer (19) may fall free during disassembly.
3. Remove shoulder screw (17), spacers (27 and 20), links (4), release lever (3) and bushing (29).
4. Remove screw (15) and separate cover (10) from stationary blade (2).
5. Remove screw (41) and spring (36).

Stationary handle

6. Remove shoulder screw (13) and movable handle assembly.
7. Remove two screws (30) and stationary handle plates (5).

Movable handle

8. Remove two screws (31), left handle plate (8), right handle plate (9), speed pawl (11) and spring (35).

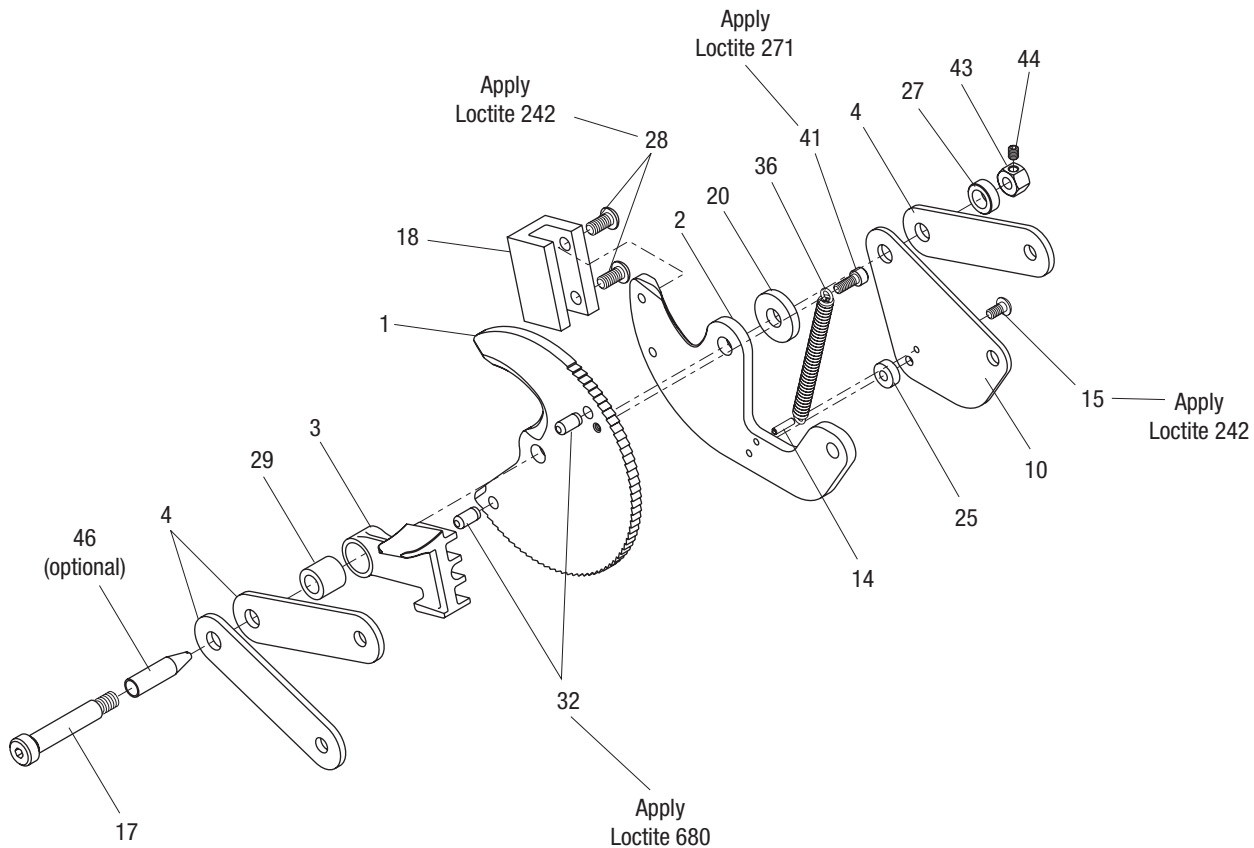


Assembly

Refer to the Exploded View and Parts List for correct orientation and placement of parts. Inspect and replace any worn or damaged parts. Wherever the assembly results in metal-to-metal contact, coat the surfaces with Molykote or equivalent lubricant.

Cutter head

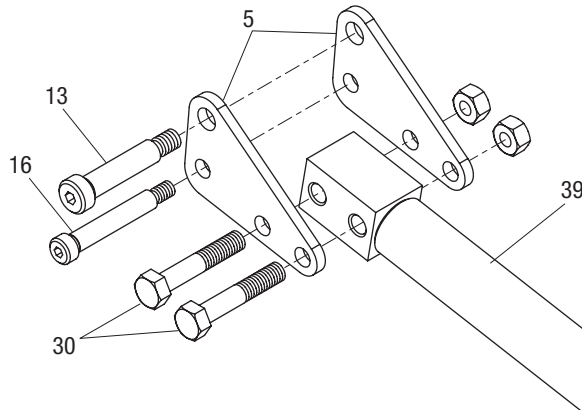
1. Apply Loctite 680 retaining compound to two dowel pins (32) and install into movable blade, if necessary. The dowel pins should be flush with the flat side of the blade. Remove excess Loctite.
2. Apply Loctite 271 thread adhesive to screw (41) and install screw through end of spring (36) and into movable blade. Adjust until end of screw is flush with the angled side of the blade. Allow Loctite to cure for 10 minutes and remove excess adhesive.
3. Install roll pin (14) into stationary blade (2), if necessary.
4. Install end of spring (36) over roll pin (14) and assemble spacer (25), and cover (10). Apply Loctite 242 thread adhesive to screw (15) and assemble to stationary blade (2). Roll pin (14) should be flush with top of cover (10).
5. Install optional screw guide (46) onto shoulder screw (17) to help guide the screw through components.
6. Lubricate components and assemble shoulder screw (17), two links (4), bushing (29), reverse lever (3), movable blade (1), stationary blade (2), spacer (20), cover (10), link (4), spacer (27)—with counterbore toward link. Remove guide (46) if used and install lock nut (43). Tighten lock nut so gap between blades does not exceed .004 inches. Tighten set screw (44).
7. Apply Loctite 242 thread adhesive to screws (28) and install screws through keeper (18) and into stationary blade (2).



Assembly (continued)

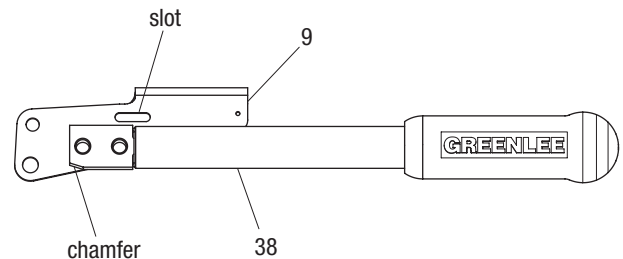
Stationary handle

8. Assemble handle plates (5) to handle unit (39), but do not tighten hex screws (30).
9. Insert shoulder screws (13 and 16) to align handle plates (5) and tighten hex screws (30) to 170-190 in-lb. Remove shoulder screws.

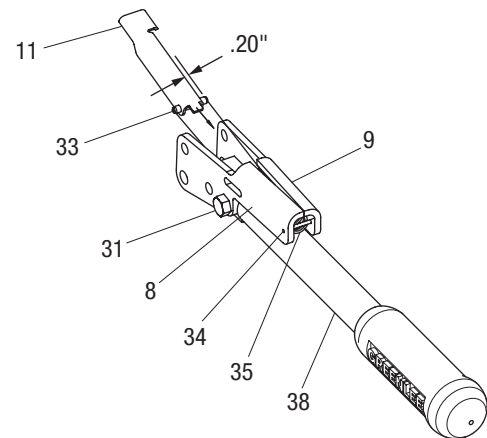


Movable handle

10. Assemble right and left handle plates (8 and 9) to handle unit (38), but do not tighten hex screws (31). Orient handle plates so slotted hole is opposite the chamfer in the handle adapter.



11. Install roll pin (34) into right and left handle plates.
12. Install roll pin (33) into speed pawl (11), if necessary. The roll pin should protrude .20 inches from each side of the speed pawl.
13. Install spring (35) between handle plates.
14. Spread the right and left handle plates and install speed pawl so the roll pin fits into the slot in the handle plates. Use the speed pawl to compress spring (35).



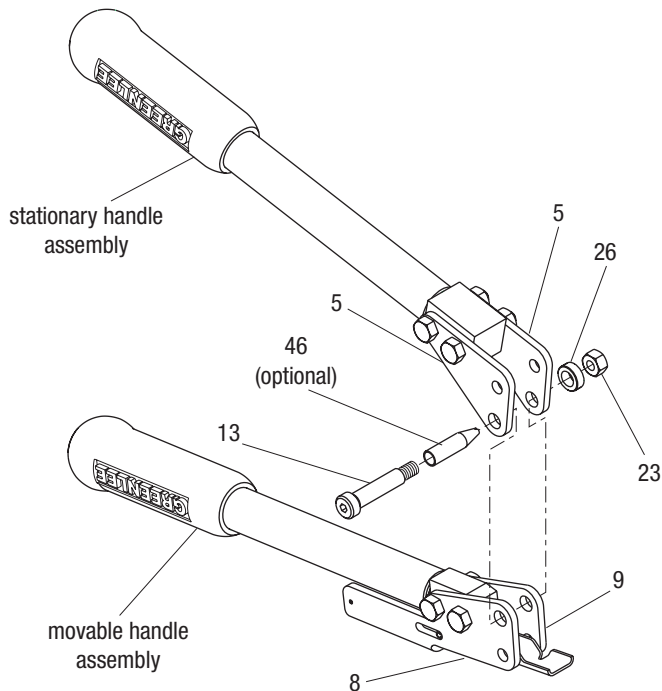
15. Insert shoulder screws (13 and 16) to align handle plates and tighten hex screws (31) to 170-190 in-lb. Remove shoulder screws.



Assembly (continued)

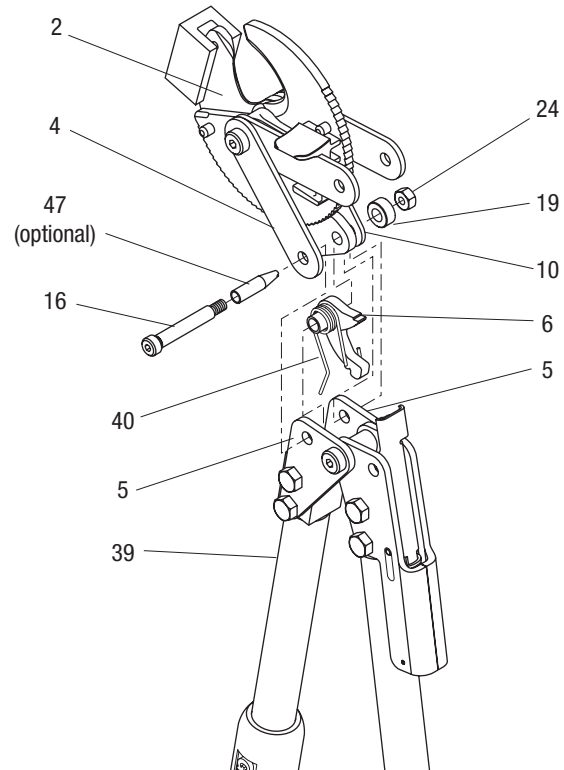
Movable handle to stationary handle

16. Install movable handle assembly between the stationary handle plates and align 3/8" pivot holes.
17. Install optional screw guide (46) onto shoulder screw (13) to help guide the screw through components.
18. Lubricate shoulder screw (13) and install it through the handle plates (5 and 8), handle plates (9 and 5) and spacer (26). Remove guide (46) if used and install lock nut (23).

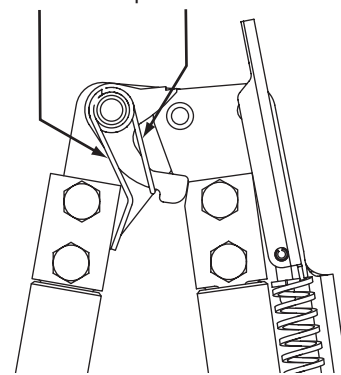


Cutter head to stationary handle

19. Install torsion spring (40) onto holding pawl (6) and locate them between the handle plates on the stationary handle (39) as shown.

**Note:**

Ends of torsion spring should be against handle and pawl as shown.

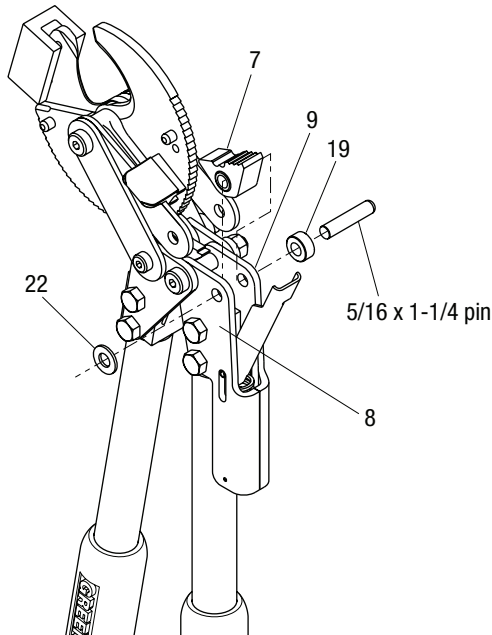


20. Install head assembly between handle plates on the stationary handle and around the holding pawl (6).
21. Install optional screw guide (47) onto shoulder screw (16) to help guide the screw through components.
22. Lubricate shoulder screw (16) and install it through link (4), handle plate (5), torsion spring (40), holding pawl (6), stationary blade (2), second handle plate (5), cover (10) and spacer (19). Remove guide (47) if used and thread on lock nut (24), but do not tighten.

Assembly (continued)

Cutter head to movable handle

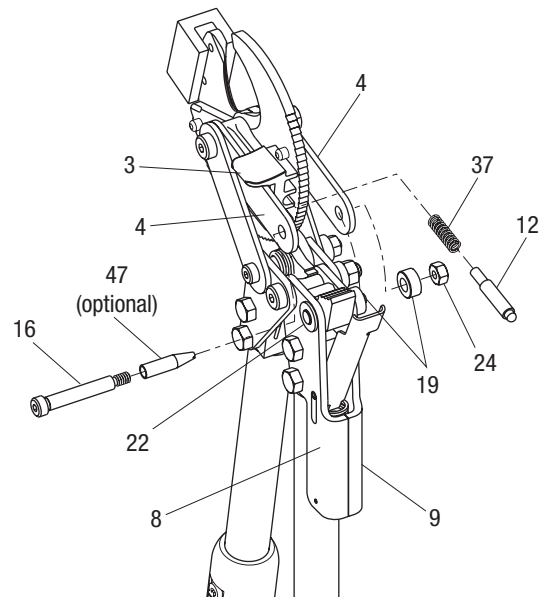
23. Lubricate the ID and teeth on drive pawl unit (7). Install drive pawl unit between right and left handle plate (8 and 9) with teeth toward speed pawl. Install a 5/16 x 1-1/4" pin through the handle plates, pawl unit, washer (22) and spacer (19) to keep it in place.



24. Lubricate release lever pin (12) OD and spherical end. Install spring (37) and release lever pin (12) into release lever (3).
25. Rotate cutter head to align 5/16" diameter holes in links (4) with handle plates (8 and 9).

Note: Spherical end of release lever pin should nest into one of the two pockets in drive pawl unit.

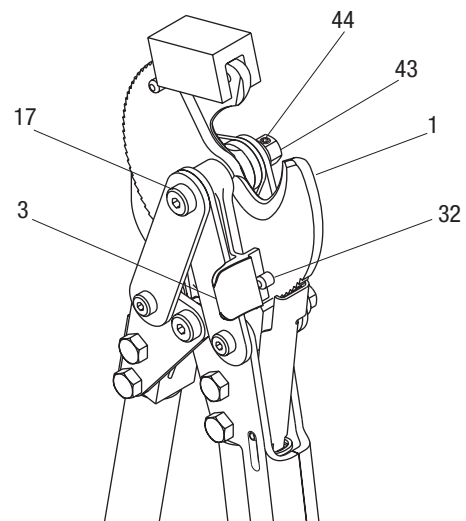
26. Install optional screw guide (47) onto shoulder screw (16) to help guide the screw through components.
27. Lubricate components and install shoulder screw (16) through link (4), washer (22), right handle plate (8), drive pawl unit (7), left handle plate (9), spacer (19), link (4) and spacer (19). Remove guide (47) if used and thread on lock nut (24), but do not tighten.



Tighten pivot screws

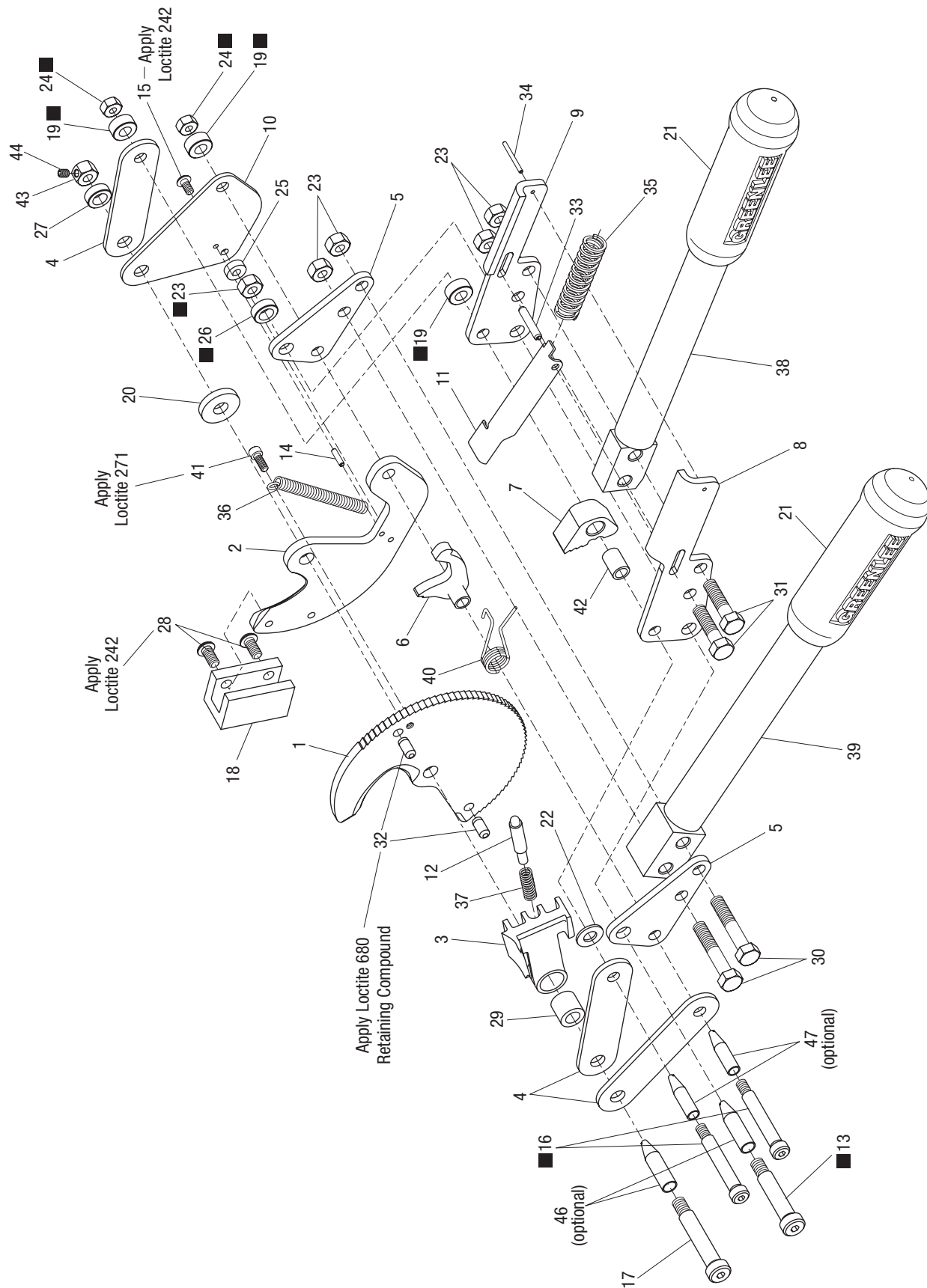
28. Tighten lock nut (43) and set screw (44) on shoulder screw (17) so gap between blades does not exceed .004 inches. Spring (36) must open movable blade freely.
29. Tighten lock nuts on three shoulder screws (13 and 16) and adjust until components pivot freely.
30. Operate the cutter without cutting cable (see Operation) and check for proper function. At the end of the cutting cycle, the spring (36) should automatically return the movable blade (1) to the fully open position. Pin (32) should hit and reset reverse lever (3) into the cutting position. Pin (32) should remain against the reverse lever as shown.

Note: Tighten the lock nut (43) on screw (17) if there is a gap between the pin and reverse lever. Loosen the lock nut (43) if the movable blade returns slowly or the reverse lever does not reset to the cutting position. Tighten set screw (44).





Illustration



Parts List

Key	Part No.	Description	Qty
1		Blade assembly, movable (includes key 32).....	1
2		Blade, stationary.....	1
3	50105213	Lever, release.....	1
4	50105248	Link.....	3
5	50105264	Plate, stationary handle.....	2
6	50105280	Pawl, holding.....	1
7	50106317	Pawl unit, drive (includes key 42).....	1
8	50105310	Plate, right handle.....	1
9	50105337	Plate, left handle.....	1
10	50028251	Cover, spring.....	1
11	50105370	Pawl, speed.....	1
12	50106252	Pin, reverse lever.....	1
13	90553764	Screw, shoulder, 3/8" x 1.50" x 5/16-18.....	1
14	90513479	Rollpin, .125" x .50".....	1
15	90501110	Screw, cap, #10-24 x .50" button head.....	1
16	F023194	Screw, shoulder, 5/16 x 1.75 x 1/4-20.....	2
17	90552229	Screw, shoulder, 3/8" x 1.75 x 5/16-18.....	1
18	50028278	Keeper.....	1
19	50106279	Spacer, .315" x .62" x .286".....	3
20	50106287	Spacer, main pivot.....	1
21	50223003	Grip, rubber 0.995" x 1.50" x 5.09".....	2
22	90516567	Washer, 5/16 flat.....	1
23	F009550	Nut, locking, 5/16-18.....	5
24	90541200	Nut, locking, 1/4-20.....	2
25	50018671	Spacer, .203" x .50" x .179".....	1
26	50018663	Spacer, .377" x .62" x .230".....	1
27	50109901	Spacer, .377" x .62" x .187".....	1
28	90507967	Screw, 1/4 - 20 x 1/2 button, head cap.....	2
29	50106295	Bushing.....	1
30	90553853	Screw, cap, 5/16-18 x 1.75" hex head.....	2
31	90552652	Screw, cap, 5/16-18 x 1.25" hex head.....	2
32		Pin, dowel, .2503" x .50".....	2
33	90506995	Rollpin, .187" x 1".....	1
34	90517822	Rollpin, .094" x 1".....	1
35	90553780	Spring, compression.....	1
36	90539850	Spring, extension.....	1
37	90553802	Spring, compression.....	1
38	50106716	Handle kit—one handle and hardware (includes keys 38, 21, 31, 23) ...	1
39	50106724	Handle kit—one handle and hardware (includes keys 39, 21, 30, 23) ...	1
40	50106309	Spring, torsion.....	1
41	F017344	Screw, cap, #10-24 x 1/2, socket head.....	1
42	90553799	Bearing, bronze, .312" x .437" x .625".....	1
43	50028286	Nut, lock, 5/16-18.....	1
44	90513746	Screw, #10-32 x 1/8" set.....	1

Repair Parts List

Key	Part No.	Description	Qty
■	50106260	Bolt kit (includes keys 13, 16, 19, 23, 24, 26).....	1
	50113976	Blade assembly (includes keys 1, 2, 32).....	1

Optional Repair Parts

	50114603	Service kit, screw guides (includes keys 46, 47)	1
46		Guide, 3/8 screw	1
47		Guide, 5/16 screw	1