# **G13 Engine**

Safety, Operation, Maintenance & Parts Manual

034606 Engine, LT15G13 2002

rev.D

## Safety is our #1 concern!

April 2010

Form #884

Used with LT15G13

rev. E6.07



WARNING! Read and understand this manual before using this machine.

#### California

#### Proposition 65 Warning



**WARNING:** Breathing gas/diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Always start and operate the engine in a well-ventilated area. If in an enclosed area, vent the exhaust to the outside. Do not modify or tamper with the exhaust system. Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov.



**WARNING:** Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

For more information go to www.P65Warnings.ca.gov/wood.

#### Active Patents assigned to Wood-Mizer, LLC

Wood-Mizer, LLC has received patents that protect our inventions which are a result of a dedication to research, innovation, development, and design. Learn more at: <u>woodmizer.com/patents</u>

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#### **SECTION 1 SAFETY**

This manual is provided as a supplement to the equipment manufacturer's manuals.

This manual provides information specific to the use of this equipment on the Wood-Mizer® sawmill. Refer to the sawmill operator's manual and manufacturer's manual before attempting to operate this equipment.

**NOTICE** Read the sawmill operator's manual and engine manufacturer's manual for instructions and safety precautions before operating this equipment.

The information and instructions given in this manual do not amend or extend the limited warranties for the equipment given at the time of purchase.

Refer to the manufacturer's manual for maintenance intervals and procedures unless otherwise instructed in this manual. Follow the manufacturer's recommendations for dusty conditions.

**NOTICE** This manual only provides information about additional procedures or procedures to be performed at different time intervals than found in the manufacturer's manuals. Refer to the manufacturer's manual for complete maintenance instructions.



**WARNING!** Clean sawdust from all guards, vents, control boxes, or any area where sawdust may gather **after every shift**. Failure to do so may result in fire, causing death or serious injury.



### 1.1 Safety

Use caution when performing maintenance or service to the engine.



DANGER! Take proper protective measures against rotating shafts, pulleys, fans, etc.

Ensure loose clothing or long hair does not engage rotating members.

**DANGER!** Do not touch or perform service functions on a hot engine. Allow the engine to cool sufficiently before beginning any service function. Hot engine components will cause serious burns.



**WARNING!** Remove the blade before performing any engine service.

**WARNING!** Wear eye, hand, and foot protection equipment when performing service functions.

#### **SECTION 2 OPERATION**

### 2.1 Starting The Engine



**DANGER!** Ensure the blade is disengaged and all persons are out of the path of the blade before starting. Failure to do so will result in death or serious injury.

**DANGER!** Operate your engine only in well ventilated areas. The exhaust gases of your engine can cause nausea, delirium, and potentially death unless adequate ventilation is present.

**DANGER!** Never operate an engine with a fuel or oil leak. This is a fire hazard, which may cause serious injury or death.



**WARNING!** Do not operate engine without proper and operational spark arrester/muffler. Sparks emitted from the engine exhaust could ignite surrounding materials, causing serious injury or death.



**CAUTION!** EPA Compliant Gas Tanks Only: Always relieve all fuel pressure inside the tank prior to filling or connecting fuel fittings. Failure to do so may result in fuel spillage.

**CAUTION!** EPA Compliant Gas Tanks Only: Disconnect the fuel tank when not in use, or engine flooding or fuel spillage may result.

- 1. Turn the run/stop switch to the RUN position.
- **2.** Close the engine choke by moving the choke lever to the start position.
- 3. Pull the start rope slowly until you feel resistance, then pull the cord quickly to start the engine. Repeat with the choke opened slightly if necessary.

**NOTE:** If the engine is hard to start with the throttle in the idle position, push the throttle swivel plate down slightly and retry.

**4.** When the engine starts, slowly open the choke all the way by moving the choke lever to the off position.

For more information, see the engine manufacturer's operation manual.

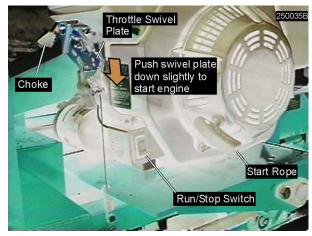


FIG. 2-1

#### **ENGINE SHUTOFF**

- 1. Disengage the clutch handle to stop the blade if necessary.
- 2. Let the engine run for 15 seconds with no load, then push the run/stop switch to STOP.

#### **SECTION 3 MAINTENANCE**

Refer to the manufacturer's manual for maintenance intervals and procedures unless otherwise instructed in this manual. Follow the manufacturer's recommendations for dusty conditions.

**NOTICE** This manual only provides information about additional procedures or procedures to be performed at different time intervals than found in the manufacturer's manuals. Refer to the manufacturer's manual for complete maintenance instructions.



**WARNING!** Clean sawdust from all guards, vents, control boxes, or any area where sawdust may gather **after every shift**. Failure to do so may result in fire, causing death or serious injury.



### 3.1 Safety

Use caution when performing maintenance or service to the engine.



**DANGER!** Take proper protective measures against rotating shafts, pulleys, fans, etc.

Ensure loose clothing or long hair does not engage rotating members.

**DANGER!** Do not touch or perform service functions on a hot engine. Allow the engine to cool sufficiently before beginning any service function. Hot engine components will cause serious burns.



**WARNING!** Remove the blade before performing any engine service.

**WARNING!** Wear eye, hand, and foot protection equipment when performing service functions.

## 3.2 Cooling System

Wash the engine or brush off sawdust and debris every 50 hours of operation.

Clean the grass screen, cooling fins, and external surfaces.

Remove any dust, dirt, or oil.

See engine manual for further instructions.

#### 3.3 Air Filter & Pre-Cleaner



**WARNING!** Always wear proper safety equipment when performing service functions, including eye protection, breathing protection, hand protection and foot protection.

Service the pre-cleaner every four hours of operation by gently shaking excess sawdust and debris from the foam piece.

Clean the air filter (air cleaner element) and pre-cleaner (element wrapper) every eight hours of operation.

Replace the air filter (cleaner) every 200 hours of operation.

Replace the pre-cleaner (element wrapper) every 2000 hours of operation.

See the engine manual for further instructions.

#### 3.4 Fuel Filter

Replace the fuel filter every 100 hours of operation or as required for engine performance.

### 3.5 RPM Adjustments



**WARNING!** Remove the blade before performing any engine service. Failure to do so may result in serious injury.

Check the RPM with a tachometer every 200 hours of operation.

| Engine | High End RPM | Low End RPM |
|--------|--------------|-------------|
| G13    | 3750         | 1800        |

Before checking the RPM, make sure belt and brake strap tensions are correct (See Sawmill Maintenance).

Check oil, fuel, and coolant levels.

Ensure the throttle cable does not affect the engine RPM when the clutch handle is disengaged. Ensure the cable is not bent or kinked.

- 1. Start the engine to measure the low-end RPM.
- 2. Refer to the engine manual to adjust the low-end RPM.
- 3. Engage the clutch handle to throttle the engine and measure the high-end RPM.

The high-end RPM is factory-set at 3750. Readjust the throttle cable if necessary to increase or reduce the high-end engine speed.

#### 3.6 Miscellaneous Maintenance



**CAUTION!** Do not remove the plug wire to check for electrical spark. Damage to the ignition circuit may result.

Inspect the spark plugs every 100 hours of operation. Remove any deposits and adjust gap if necessary. See engine manual for further information.

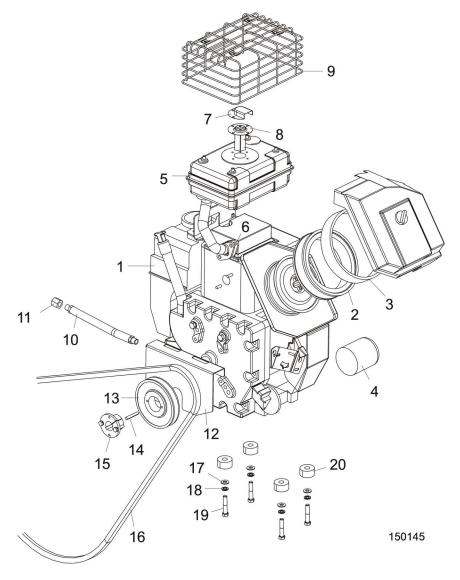
Clean and inspect the spark arresters every 50 hours of operation. Replace if damaged.

Review the manufacturer's manual for maintenance intervals.

## **SECTION 4 REPLACEMENT PARTS**

## 4.1 Engine Assembly

LT15Rev. E1.00+

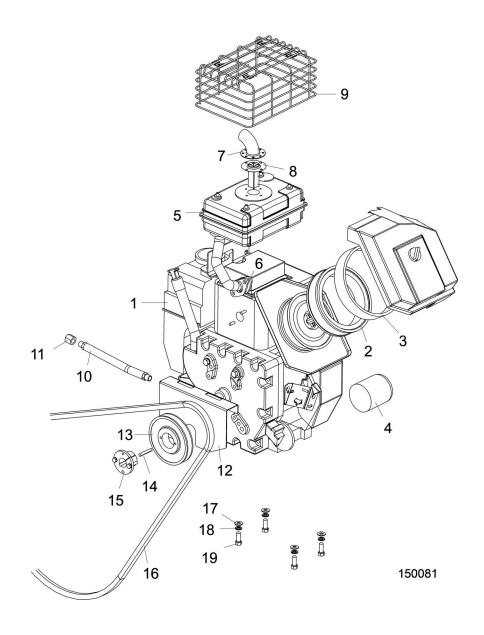


| REF | PART # | DESCRIPTION                               | COMMENTS   | QTY. |
|-----|--------|---|--|------|
|     | P12393 | Cover, Engine                             |  | 1    |
|     | 034806 | ENGINE ASSEMBLY, 13 HP KOHLER<br>W/CLUTCH |  | 1    |
| 1   | 014809 | Engine, 13 HP Kohler #PA22519             |  | 1    |
| 2   | 014718 | Filter, Kohler Air #47-083-01             |  | 1    |
| 3   | 014719 | Pre-Cleaner, Kohler Air #52-083-01        |  | 1    |
| 4   | 036653 | Filter, Kohler Oil #28-050-01-S           | Shorter Oil Filter 036653  | 1    |
|     | 014717 | Filter, Kohler Oil #52-050-02             | required for LT15G13 Rev. E4.00 and later to avoid interference with up/down assist mechanism. Either filter can be used for previous revisions. | 1    |

| REF | PART #     | DESCRIPTION   | COMMENTS   | QTY. |
|-----|------------|---|--|------|
|     | 016498     | Muffler Kit, G13 Kohler                             |  | 1    |
| 5   | 016106     | Muffler, Kohler #12-068-39                          | Available in assemblies only.  | 1    |
| 6   | 016494     | Gasket, Kohler Muffler #12-041-03                   |  | 1    |
| 7   | 016497     | Deflector, Kohler Flat #12-755-27                   |  | 1    |
| 8   | 016495     | Arrestor, Kohler Spark #12-189-02                   |  | 1    |
| 9   | 016105     | Guard, Kohler Muffler #12-314-11                    | No longer available (5/16). No replacement part available from Kohler or Wood-Mizer. | 1    |
|     | P12757     | Plug, Kohler Spark #12-132-02 (Champion #RC12YC)    |  | 1    |
|     | 014720     | Filter, Kohler In-Line Fuel #25-050-02              |  | 1    |
|     | 051992     | Switch, Kohler PHI Oil #25-099-24-S                 |  | 1    |
|     |            | Throttle and Clutch Parts (See <u>Section 4.5</u> ) |  |      |
| 10  | P10082     | Hose, Oil Drain                                     |  | 1    |
| 11  | P04332     | Cap, Oil Drain Hose                                 |  | 1    |
| 12  | 016493     | Plate, LT15 Engine Guard                            |  | 1    |
| 13  | 016512     | Sheave, BK55QT                                      |  | 1    |
| 14  | S04124     | Key, 1/4" X 1 11/16"                                | Replaces S21486 1/4" x 1" key. S04124 always used in production.                     | 1    |
| 15  | 016513     | Bushing, QT x 1"                                    |  | 1    |
| 16  | 017943     | BELT, BX87 DRIVE                                    |  | 1    |
| 17  | F05011-3   | WASHER, 3/8" SAE FLAT                               |  | 4    |
| 18  | F05011-4   | WASHER, 3/8" SPLIT LOCK                             |  | 4    |
| 19  | F05007-119 | BOLT, 3/8-16 X 1 3/4" HEX HEAD GR5                  |  | 4    |
| 20  | 034641     | Spacer, 17/32" x 1 1/2" x 3/4"                      |  | 4    |

## 4.2 Engine Assembly

LT15Rev. D4.00 - D7.00

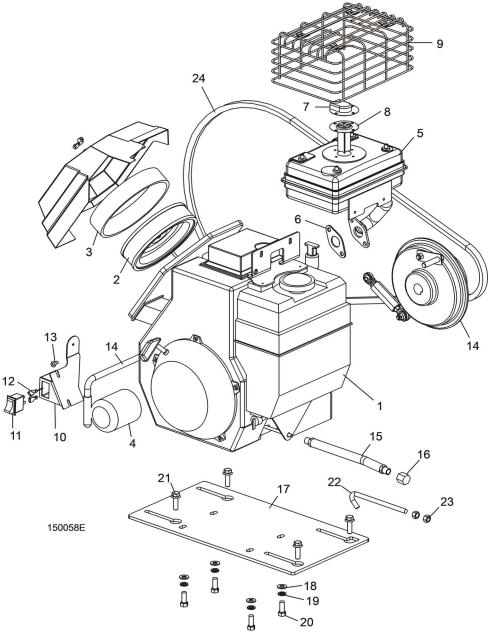


| REF | PART # | DESCRIPTION                        | COMMENTS                      | QTY. |
|-----|--------|------------------------------------|-------------------------------|------|
|     | P12393 | Cover, Engine                      |                               | 1    |
|     | 016517 | ENGINE ASSY, 13 HP KOHLER W/CLUTCH |                               | 1    |
| 1   | 014809 | Engine, 13 HP Kohler #PA22519      |                               | 1    |
| 2   | 014718 | Filter, Kohler Air #47-083-01      |                               | 1    |
| 3   | 014719 | Pre-Cleaner, Kohler Air #52-083-01 |                               | 1    |
| 4   | 014717 | Filter, Kohler Oil #52-050-02      |                               | 1    |
|     | 016498 | Muffler Kit, G13 Kohler            |                               | 1    |
| 5   | 016106 | Muffler, Kohler #12-068-39         | Available in assemblies only. | 1    |
| 6   | 016494 | Gasket, Kohler Muffler #12-041-03  |                               | 1    |
| 7   | 016497 | Deflector, Kohler Flat #12-755-27  |                               | 1    |

| REF | PART #   | DESCRIPTION                                      | COMMENTS   | QTY. |
|-----|----------|--|--|------|
| 8   | 016495   | Arrestor, Kohler Spark #12-189-02                |  | 1    |
| 9   | 016105   | Guard, Kohler Muffler #12-314-11                 | No longer available (5/16). No replacement part available from Kohler or Wood-Mizer. | 1    |
|     | P12757   | Plug, Kohler Spark #12-132-02 (Champion #RC12YC) |  | 1    |
|     | 014720   | Filter, Kohler In-Line Fuel #25-050-02           |  | 1    |
|     | 051992   | Switch, Kohler PHI Oil #25-099-24-S              |  | 1    |
|     |          | Throttle and Clutch Parts (See Section 4.5)      |  |      |
| 10  | P10082   | Hose, Oil Drain                                  |  | 1    |
| 11  | P04332   | Cap, Oil Drain Hose                              |  | 1    |
| 12  | 016493   | Plate, LT15 Engine Guard                         |  | 1    |
| 13  | 016512   | Sheave, BK55QT                                   |  | 1    |
| 14  | S04124   | Key, 1/4" x 1 11/16"                             |  | 1    |
| 15  | 016513   | Bushing, QT x 1                                  |  | 1    |
| 16  | 016505   | BELT, BX82 DRIVE                                 |  | 1    |
| 17  | F05011-3 | WASHER, 3/8" SAE FLAT                            |  | 4    |
| 18  | F05011-4 | WASHER, 3/8" SPLIT LOCK                          |  | 4    |
| 19  | F05007-7 | BOLT, 3/8-16 X 1" HEX HEAD                       |  | 4    |

## 4.3 Engine Assembly

### LT15Rev. A1.00 - D3.00

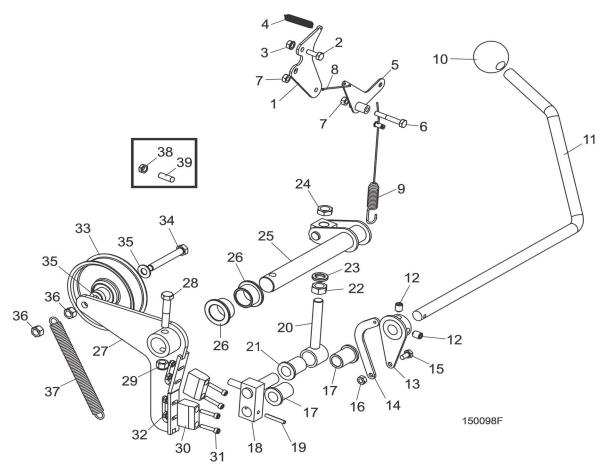


| REF | PART # | DESCRIPTION                        | COMMENTS | QTY. |
|-----|--------|------------------------------------|----------|------|
|     | P12393 | Cover, Engine                      |          | 1    |
|     | 014801 | ENGINE ASSY, 13 HP KOHLER W/CLUTCH |          | 1    |
| 1   | 014809 | Engine, 13 HP Kohler #PA22519      |          | 1    |
| 2   | 014718 | Filter, Kohler Air #47-083-01      |          | 1    |
| 3   | 014719 | Pre-Cleaner, Kohler Air #52-083-01 |          | 1    |
| 4   | 014717 | Filter, Kohler Oil #52-050-02      |          | 1    |
|     | 016498 | Muffler Kit, G13 Kohler            |          | 1    |

| REF | PART #     | DESCRIPTION  | COMMENTS  | QTY. |
|-----|------------|--|---|------|
| 5   | 016106     | Muffler, Kohler #12-068-39                           | Available in assemblies only. Use muffler kit 016498 for service. Kit includes gasket, deflector and spark arrestor. Muffler 016106 no longer a sellable item (3/00). | 1    |
| 6   | 016494     | Gasket, Kohler Muffler #12-041-03                    |   | 1    |
| 7   | 016497     | Deflector, Kohler Flat #12-755-27                    |   | 1    |
| 8   | 016495     | Arrestor, Kohler Spark #12-189-02                    | Spark arrestor 016495 replaces 016146 originally supplied prior to 3/00 (duplicate parts).  | 1    |
| 9   | 016105     | Guard, Kohler Muffler #12-314-11                     | No longer available (5/16). No replacement part available from Kohler or Wood-Mizer.  | 1    |
|     | P12757     | Plug, Kohler Spark #12-132-02 (Champion #RC12YC)     |   | 1    |
|     | 014720     | Filter, Kohler In-Line Fuel #25-050-02               |   | 1    |
|     | 051992     | Switch, Kohler PHI Oil #25-099-24-S                  |   | 1    |
| 10  | 015441     | Bracket Weldment, Throttle Mount/Switch Mount        |   | 1    |
| 11  | 015444     | Switch, Engine Stop/Run                              |   | 1    |
| 12  | F05708-3   | Terminal, 1/4" 14-16 Ga Quick Female FI              |   | 2    |
| 13  | F05092-2   | Terminal, 1/4" 14-16 Ga Ring NI Loose                |   | 1    |
| 14  |            | Throttle and Clutch Parts                            | See <u>Section 4.5</u>  |      |
| 15  | P10082     | Hose, Oil Drain                                      |   | 1    |
| 16  | P04332     | Cap, Oil Drain Hose                                  |   | 1    |
| 17  | 014810     | Plate, G13 Engine Mount                              |   | 1    |
| 18  | F05011-3   | Washer, 3/8" SAE Flat                                |   | 4    |
| 19  | F05011-4   | Washer, 3/8" Split Lock                              |   | 4    |
| 20  | F05007-7   | Bolt, 3/8-16 x 1" Hex Head                           |   | 4    |
| 21  | F05007-131 | BOLT, 3/8-16 X 1 1/4" SPRING WASHER LOCK<br>HEX HEAD |   | 4    |
| 22  | 014975     | ROD, BELT TENSION ADJUSTMENT                         |   | 1    |
| 23  | F05010-1   | NUT, 3/8-16 HEX                                      |   | 2    |
| 24  | 014819     | BELT, BX81   |   | 1    |

## 4.4 Throttle/Clutch Assembly

#### LT15 G13/G15Rev. E1.00 - E6.09

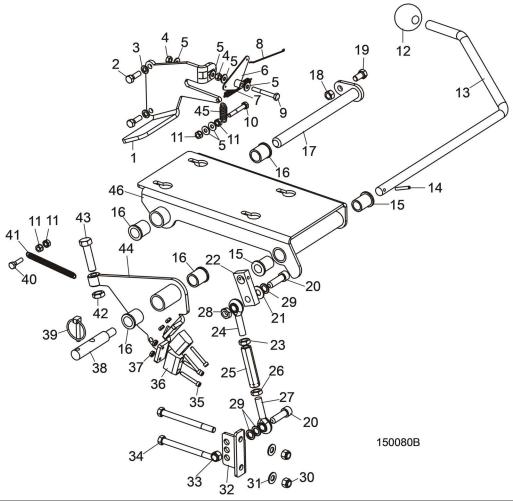


| REF | PART #     | DESCRIPTION  | COMMENTS | QTY. |
|-----|------------|--|----------|------|
| 1   | 034616     | PLATE, THROTTLE CABLE BRACKET LT15G                        |          | 1    |
| 2   | F05005-1   | SCREW, 1/4-20 X 3/4 FT HEX HEAD                            |          | 1    |
| 3   | F05010-69  | NUT, 1/4-20 NYLON LOCK                                     |          | 1    |
| 4   | 014818     | SPRING, EXTENSION 3/8 X 3                                  |          | 1    |
| 5   | 034805     | PIVOT WELDMENT, THROTTLE LT15G                             |          | 1    |
| 6   | F05005-125 | BOLT, 1/4-20 X 2 HEX HEAD GR5                              |          | 1    |
| 7   | F05010-21  | NUT, 1/4-20 SWAGED   |          | 2    |
| 8   | 015446     | LINK, THROTTLE 2 13/16                                     |          | 1    |
| 9   | 034838     | CABLE ASSEMBLY, LT15G15 THROTTLE                           |          | 1    |
| 10  | P04211     | KNOB, 5/8-11 BALL  |          | 1    |
| 11  | 016487     | HANDLE, LT15 CLUTCH  |          | 1    |
| 12  | F05007-12  | SCREW, 3/8-16 X 1/2 SOCKET HEAD CUP PT<br>SET              |          | 2    |
| 13  | 034815     | ACTUATOR WELDMENT, THROTTLE LT15D&G                        |          | 1    |
| 14  | 034818     | LINKAGE, THROTTLE LT15D&G                                  |          | 1    |
| 15  | F05005-15  | BOLT, 1/4-20 X 1/2" HEX HEAD                               |          | 1    |
| 16  | F05010-21  | NUT, 1/4-20 SWAGED   |          | 1    |
| 17  | 016486     | BUSHING, 5/8" ID X 7/8" OD X 1 1/8" LONG<br>FLANGED BRONZE |          | 2    |

| REF | PART #     | DESCRIPTION  | COMMENTS   | QTY. |
|-----|------------|--|--|------|
| 18  | 034612     | BLOCK WELDMENT, LINKAGE CLUTCH/BRAKE                       |  | 1    |
| 19  | F05012-16  | PIN, 3/16 X 1 1/4 ROLL                                     |  | 1    |
| 20  | 034605     | LINKAGE ASSEMBLY, W/BEARING                                |  | 1    |
| 21  | 016486     | Bushing, 5/8" ID x 7/8" OD x 1 1/8" Long<br>Flanged Bronze |  | 1    |
| 22  | F05010-35  | NUT, 1/2-13 FREE HEX, ZINC                                 |  | 1    |
| 23  | F05011-9   | WASHER, 1/2 SPLIT LOCK                                     |  | 1    |
| 24  | F05010-31  | NUT, 1/2-13 JAM  |  | 1    |
| 25  | 034608     | PIVOT WELDMENT, CLUTCH/BRAKE                               |  | 1    |
| 26  | P737       | BUSHING, 1 X 1 1/4 X 3/4 FLG BRONZE                        |  | 2    |
|     | 034603     | BRAKE/CLUTCH ASSEMBLY, LT15                                |  | 1    |
| 27  | 034613     | Arm Weldment, Clutch/Brake LT15                            |  | 1    |
| 28  | F05007-124 | Bolt, 3/8-16 x 2 Hex Head Gr5                              |  | 1    |
| 29  | F05010-10  | Nut, 3/8-16 Hex Nylon Lock                                 |  | 1    |
| 30  | 016488     | Block, LT15 Brake  |  | 2    |
| 31  | F05004-2   | Screw, 10-24 x 1" Socket Head                              | Replaces F05004-50 originally supplied before 4/03 (duplicate part numbers). | 4    |
| 32  | F05010-14  | Nut, #10-24 Keps   |  | 4    |
| 33  | 034602     | Idler, 4" O.D. x 3/8 Bore                                  |  | 1    |
| 34  | F05007-230 | Bolt, 3/8-16 x 2-3/4" Hex Head Gr5 Full<br>Thread          |  | 1    |
| 35  | F05011-3   | Washer, 3/8 Flat   |  | 2    |
| 36  | F05010-25  | Nut, 3/8-16 Swaged Lock                                    |  | 2    |
| 37  | 034810     | Spring, Idler Arm LT15/D/E/G                               |  | 1    |

## 4.5 Throttle/Clutch Assembly

#### LT15 Rev. D4.00 - D7.00

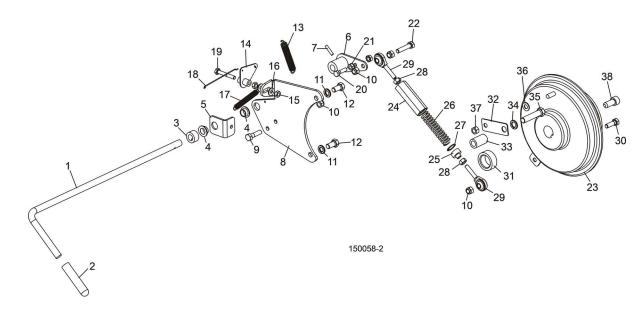


| REF | PART #     | DESCRIPTION                         | COMMENTS   | QTY. |
|-----|------------|-------------------------------------|--|------|
| 1   | 016470     | PLATE, BRAKE ACTUATOR               |  | 1    |
| 2   | F05006-11  | BOLT, 5/16-24 X 1" HEX HEAD         |  | 2    |
| 3   | F05011-13  | WASHER, 5/16" SPLIT LOCK            |  | 2    |
| 4   | F05010-21  | NUT, 1/4-20 SWAGED                  |  | 2    |
| 5   | F05011-11  | WASHER, 1/4" SAE FLAT               |  | 6    |
| 6   | 016503     | PIVOT WELDMENT, THROTTLE LT15       |  | 1    |
| 7   | 014818     | SPRING, 3/8" X 3" EXTENSION         |  | 1    |
| 8   | 014826     | WIRE, THROTTLE LT15                 |  | 1    |
| 9   | F05005-125 | BOLT, 1/4-20 X 2" HEX HEAD GRADE 5  |  | 1    |
| 10  | F05005-4   | SCREW, 1/4-20 X 1 3/4" HEX HEAD CAP |  | 1    |
| 11  | F05010-9   | NUT, 1/4-20 KEPS                    |  | 2    |
| 12  | P04211     | KNOB, 5/8-18 PLASTIC ROUND          |  | 1    |
| 13  | 016487     | HANDLE, LT15 CLUTCH                 | Clutch Handle 016487 modified 3/07 to eliminate possible pinch point with feed rope pulley with saw head at certain heights. | 1    |
| 14  | F05012-16  | PIN, 3/16 X 1 1/4" ROLL             |  | 1    |

| REF | PART #    | DESCRIPTION  | COMMENTS  | QTY. |
|-----|-----------|--|---|------|
| 15  | 016486    | BUSHING, 5/8" ID X 7/8" OD X 1 1/4" LONG<br>FLANGED BRONZE |   | 2    |
| 16  | 016485    | BUSHING, 3/4" ID X 1" OD X 1 1/8" LONG<br>FLANGED BRONZE   |   | 4    |
| 17  | 016477    | PIN WELDMENT, MOTOR PIVOT                                  |   | 1    |
| 18  | F05010-25 | NUT, 3/8-16 SWAGED LOCK                                    |   | 1    |
| 19  | F05007-27 | BOLT, 3/8-16 X 3/4" HEX HEAD GRADE 2                       |   | 1    |
| 20  | F05007-55 | SCREW, 7/16-20 X 1 1/2" SOCKET HEAD CAP                    |   | 2    |
| 21  | F05011-43 | WASHER, 7/16" SAE FLAT 15/16" OD                           |   | 1    |
| 22  | 016481    | BLOCK, MOTOR HANDLE PIVOT                                  |   | 1    |
|     | A12304    | TURNBUCKLE ASSEMBLY, CLUTCH                                |   | 1    |
| 23  | F05010-38 | Nut, 7/16-20 Jam   |   | 1    |
| 24  | P11579    | Rod End, 7/16-20 Right Hand Male                           |   | 1    |
| 25  | S11577    | Turnbuckle, 3" Clutch                                      |   | 1    |
| 26  | F05010-87 | Nut, 7/16-20 Left Hand Jam                                 |   | 1    |
| 27  | P11578    | Rod End, 7/16-20 Left Hand Male                            |   | 1    |
| 28  | F05010-38 | NUT, 7/16-20 JAM   |   | 1    |
| 29  | F05011-48 | WASHER, 7/16" SPLIT LOCK                                   |   | 3    |
| 30  | F05010-10 | NUT, 3/8-16 HEX NYLON LOCK                                 |   | 2    |
| 31  | F05011-3  | WASHER, 3/8" FLAT SAE                                      |   | 6    |
| 32  | 016472    | PLATE, LOWER TURNBUCKLE MOUNT                              |   | 1    |
| 33  | F05010-83 | NUT, 7/16-20 NYLON LOCK                                    |   | 1    |
| 34  | F05007-35 | BOLT, 3/8-16 X 4 1/2" HEX HEAD                             |   | 2    |
| 35  | F05004-51 | SCREW, 10-24 X 1 1/2" SOCKET HEAD CAP<br>BLACK OXIDE       |   | 4    |
| 36  | 016488    | BLOCK, LT15 BRAKE  |   | 2    |
| 37  | F05010-14 | NUT, #10-24 KEPS   |   | 4    |
| 38  | 040102    | PIN, IDLER PIVOT   |   | 1    |
| 39  | P113      | PIN, 1/4" DIA LYNCH  |   | 1    |
| 40  | F05005-38 | SCREW, 1/4-20 X 1" HEX HEAD CAP                            |   | 1    |
| 41  | 016508    | SPRING, 3/8" OD X 4 1/2" LONG X .047" WIRE EXTENSION       |   | 1    |
| 42  | F05010-31 | NUT, 1/2-13 JAM  |   | 1    |
| 43  | F05008-8  | BOLT, 1/2-13 X 2" HEX HEAD GRADE 5                         | Replaces F05008-33 1/2-13 x 1 1/2" Hex Head Bolt supplied prior to 10/00. Longer bolt provides more brake adjustment. | 1    |
| 44  | 016482    | PLATE WELDMENT, BRAKE                                      |   | 1    |
| 45  | 014817    | SPRING, EXTENSION 1/2" X 2 1/4" X .06"                     |   | 1    |
| 46  | 016473    | PLATE, LT15 MOTOR MOUNT                                    |   | 1    |

# 4.6 Throttle/Clutch Assembly

### LT15Rev. D3.00

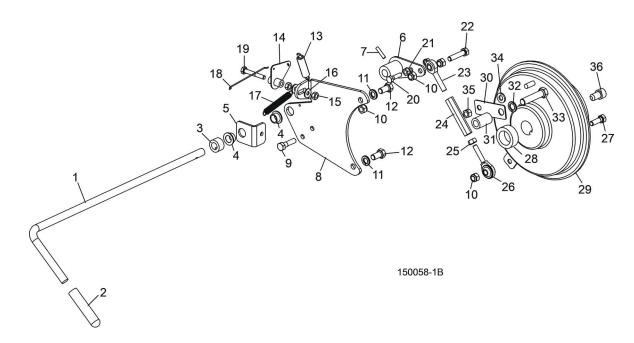


| REF | PART #    | DESCRIPTION  | COMMENTS  | QTY. |
|-----|-----------|--|---|------|
| 1   | 014825    | HANDLE, THROTTLE/CLUTCH                                |   | 1    |
| 2   | 014835    | GRIP, 1/2" I.D. X 3" LONG HANDLE                       |   | 1    |
| 3   | 014820    | COLLAR, 1/2" I.D. X 7/8" O.D. LOCK                     |   | 1    |
| 4   | P08060    | BUSHING, SF1260-6 BRONZE                               |   | 2    |
| 5   | 014821    | BRACKET, THROTTLE/CLUTCH HANDLE MOUNT                  |   | 1    |
| 6   | 014837    | BRACKET, THROTTLE/CLUTCH HANDLE PIVOT                  |   | 1    |
| 7   | F05012-22 | PIN, 3/16" X 5/8" ROLL                                 |   | 1    |
| 8   | 014813    | PLATE, THROTTLE MOUNT                                  |   | 1    |
| 9   | F05006-18 | BOLT, 5/16-18 X 1 1/4" HEX HEAD FULL<br>THREAD         |   | 1    |
| 10  | F05010-58 | NUT, 5/16-18 HEX NYLON LOCK                            |   | 4    |
| 11  | F05011-4  | WASHER, 3/8" SPLIT LOCK                                |   | 2    |
| 12  | F05007-27 | BOLT, 3/8-16 X 3/4" HEX HEAD GRADE 2                   |   | 2    |
| 13  | 014817    | SPRING, 1/2" X 2 1/4" X .06" EXTENSION                 |   | 1    |
| 14  | 014836    | BRACKET WELDMENT, THROTTLE PIVOT                       |   | 1    |
| 15  | F05010-21 | NUT, 1/4-20 HEX LOCK                                   |   | 2    |
| 16  | F05011-11 | WASHER, 1/4" SAE FLAT                                  |   | 2    |
| 17  | 014818    | SPRING, 3/8" X 3" EXTENSION                            |   | 1    |
| 18  | 014826    | WIRE, THROTTLE   |   | 1    |
| 19  | F05005-4  | BOLT, 1/4-20 X 1 3/4" HEX HEAD GRADE 2                 |   | 1    |
| 20  | F05005-38 | BOLT, 1/4-20 X 1" HEX HEAD GRADE 2                     |   | 1    |
| 21  | F05010-9  | NUT, 1/4-20 SELF-LOCKING HEX                           |   | 2    |
| 22  | F05006-76 | BOLT, 5/16-18 X 1 1/2" HEX HEAD GRADE 5<br>FULL THREAD |   | 1    |
|     | 016514    | CLUTCH/TURNBUCKLE KIT, LT15<br>SPRING-LOADED           | Kit includes Clutch and Spring-Loaded Turnbuckle. Use to retrofit LT15 prior to Rev. D3.00. | 1    |

| REF | PART #     | DESCRIPTION   | COMMENTS   | QTY. |
|-----|------------|---|--|------|
| 23  | 014816     | Clutch, LT15 w/Brake  | Available in assemblies only. Kit includes Clutch and Spring-Loaded Turnbuckle. Use to retrofit LT15 prior to Rev. D3.00.  | 1    |
|     | 016446     | Turnbuckle Assembly, LT15 Spring-Loaded Clutch              |  | 1    |
| 24  | 016443     | Turnbuckle, LT15 Clutch                                     | Available in assemblies only.  | 1    |
| 25  | 016444     | Plunger, LT15 Clutch Turnbuckle                             |  | 1    |
| 26  | 016492     | Spring, 3/4" OD x 3" Long x .095" Wire Compression          |  | 1    |
| 27  | F04254-34  | Ring, 3/4" Inside Retaining                                 |  | 1    |
| 28  | F05010-28  | Nut, 5/16-24 Hex  |  | 2    |
| 29  | P09814     | Rod End, 5/16-24 Male Right-Hand                            |  | 2    |
|     | 016446-956 | Instruction Sheet, LT15 Clutch Turn-<br>buckle Installation |  | 1    |
|     | 016514-957 | Instruction Sheet, LT15 Clutch Installation                 |  | 1    |
| 30  | F05006-1   | BOLT, 5/16-18 X 1" HEX HEAD GRADE 2                         |  | 1    |
| 31  | S09174     | SPACER, 1.016" X 1.5" X .56"                                |  | 1    |
|     | 016437     | BRACKET KIT, LT15G13 RETRO CLUTCH<br>MOUNT                  | Clutch Mount Bracket Kit<br>016437 replaces 014988 Clutch<br>Mount Bracket originally sup-<br>plied prior to LT15HA Rev. A.01.<br>Kit includes hardware neces-<br>sary to retrofit original bracket. | 1    |
| 32  | 015979     | Bracket, Clutch Mount                                       |  | 1    |
| 33  | 015978     | Boss, 3/4 x 29/64 x 1 1/4"                                  |  | 1    |
| 34  | F05011-48  | Washer, 7/16" Split Lock                                    |  | 1    |
| 35  | F05007-139 | Bolt, 7/16-14 x 2" Hex Head Grade 5                         | Replaces F05007-121 7/16-20 x 1 1/2" Socket Head Bolt originally supplied prior to LT15HA rev. A.01.   | 1    |
| 36  | F05011-17  | WASHER, 5/16" SAE FLAT                                      |  | 1    |
| 37  | F05010-6   | NUT, 5/16-18 HEX LOCK                                       |  | 1    |
| 38  | F05007-117 | BOLT, 7/16-20 X 1" SOCKET HEAD                              | Replaces F05007-107 7/16-20 x 3/4" Socket Head Bolt originally supplied (7/99).  | 1    |

## 4.7 Throttle/Clutch Assembly

### LT15Rev. A1.00 - D2.00



| REF | PART #    | DESCRIPTION  | COMMENTS  | QTY. |
|-----|-----------|--|---|------|
| 1   | 014825    | HANDLE, THROTTLE/CLUTCH                                |   | 1    |
| 2   | 014835    | GRIP, 1/2" I.D. X 3" LONG HANDLE                       |   | 1    |
| 3   | 014820    | COLLAR, 1/2" I.D. X 7/8" O.D. LOCK                     |   | 1    |
| 4   | P08060    | BUSHING, SF1260-6 BRONZE                               |   | 2    |
| 5   | 014821    | BRACKET, THROTTLE/CLUTCH HANDLE MOUNT                  |   | 1    |
| 6   | 014837    | BRACKET, THROTTLE/CLUTCH HANDLE PIVOT                  |   | 1    |
| 7   | F05012-22 | PIN, 3/16" X 5/8" ROLL                                 |   | 1    |
| 8   | 014813    | PLATE, THROTTLE MOUNT                                  |   | 1    |
| 9   | F05006-18 | BOLT, 5/16-18 X 1 1/4" HEX HEAD FULL<br>THREAD         |   | 1    |
| 10  | F05010-58 | NUT, 5/16-18 HEX NYLON LOCK                            |   | 4    |
| 11  | F05011-4  | WASHER, 3/8" SPLIT LOCK                                |   | 2    |
| 12  | F05007-27 | BOLT, 3/8-16 X 3/4" HEX HEAD GRADE 2                   |   | 2    |
| 13  | 014817    | SPRING, 1/2" X 2 1/4" X .06" EXTENSION                 |   | 1    |
| 14  | 014836    | BRACKET WELDMENT, THROTTLE PIVOT                       |   | 1    |
| 15  | F05010-21 | NUT, 1/4-20 HEX LOCK                                   |   | 2    |
| 16  | F05011-11 | WASHER, 1/4" SAE FLAT                                  |   | 2    |
| 17  | 014818    | SPRING, 3/8" X 3" EXTENSION                            |   | 1    |
| 18  | 014826    | WIRE, THROTTLE   |   | 1    |
| 19  | F05005-4  | BOLT, 1/4-20 X 1 3/4" HEX HEAD GRADE 2                 |   | 1    |
| 20  | F05005-38 | BOLT, 1/4-20 X 1" HEX HEAD GRADE 2                     |   | 1    |
| 21  | F05010-9  | NUT, 1/4-20 SELF-LOCKING HEX                           |   | 2    |
| 22  | F05006-76 | BOLT, 5/16-18 X 1 1/2" HEX HEAD GRADE 5<br>FULL THREAD |   | 1    |
|     | 014934    | TURNBUCKLE ASSEMBLY, LT15 CLUTCH                       | Available in assemblies only.<br>Turnbuckle retrofit 016446 available 3/00 (See Section 4.7). | 1    |

| REF | PART #     | DESCRIPTION                                | COMMENTS   | QTY. |
|-----|------------|--|--|------|
| 23  | 014815     | Rod End, 5/16-24 Male Left-Hand            |  | 1    |
| 24  | 014880     | Turnbuckle, 2 3/4" Clutch                  |  | 1    |
| 25  | F05010-28  | Nut, 5/16-24 Hex                           |  | 1    |
| 26  | P09814     | Rod End, 5/16-24 Male Right-Hand           | Replaces 014814 supplied before 5/98 (duplicate parts).  | 1    |
| 27  | F05006-1   | BOLT, 5/16-18 X 1" HEX HEAD GRADE 2        |  | 1    |
| 28  | S09174     | SPACER, 1.016" X 1.5" X .56"               |  | 1    |
| 29  | 014816     | CLUTCH, LT15 W/BRAKE                       | Available in assemblies only. Clutch available only in kit 016514 including spring-loaded turnbuckle (See Section 4.7).  | 1    |
|     | 016437     | BRACKET KIT, LT15G13 RETRO CLUTCH<br>MOUNT | Clutch Mount Bracket Kit<br>016437 replaces 014988 Clutch<br>Mount Bracket originally sup-<br>plied prior to LT15HA Rev. A.01.<br>Kit includes hardware neces-<br>sary to retrofit original bracket. | 1    |
| 30  | 015979     | Bracket, Clutch Mount                      |  | 1    |
| 31  | 015978     | Boss, 3/4 x 29/64 x 1 1/4"                 |  | 1    |
| 32  | F05011-48  | Washer, 7/16" Split Lock                   |  | 1    |
| 33  | F05007-139 | Bolt, 7/16-14 x 2" Hex Head Grade 5        | Replaces F05007-121 7/16-20 x 1 1/2" Socket Head Bolt originally supplied prior to LT15HA rev. A.01.   | 1    |
| 34  | F05011-17  | WASHER, 5/16" SAE FLAT                     |  | 1    |
| 35  | F05010-6   | NUT, 5/16-18 HEX LOCK                      |  | 1    |
| 36  | F05007-117 | BOLT, 7/16-20 X 1" SOCKET HEAD             | Replaces F05007-107 7/16-20 x 3/4" Socket Head Bolt originally supplied (7/99).  | 1    |