

E25 Motor

Safety, Operation, Maintenance & Parts Manual

1996 LT30 Super	rev. F4 - F6.01
1996 LT40 Super	rev. F5 - F7.01
1996 LT30HD Super	rev. F8 - F9.01
1996 LT40HD Super	rev. F8 - F9.01



Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

July 1996

Form #669

See page 30 for the following revisions;

LT30 Super	rev. F7.00 - J2.00
LT40 Super	rev. F8.00 - J3.00
LT30HD Super	rev. G1.00 - J7.00
LT40HD Super	rev. G1.00 - J7.00

CAUTION!

The electric motor which operates the saw blade is capable of developing horsepower up to two or more times the horsepower listed on the motor nameplate. While the mill design allows for using this increased horsepower intermittently while sawing, it is possible in very aggressive cutting to overload the motor. Aggressive sawing for long periods may cause excessive heat buildup. An internal thermal protection device has been installed to ensure no damage to the motor can result from this overloading. This device shuts off the motor when its internal operating temperature becomes too hot. The motor will operate normally again after it cools (approximately 20 to 30 minutes).

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SECTION 1 SAFETY & GENERAL INFORMATION



This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word **DANGER** refers to hazards that can cause death or serious, irreversible personal injury. The word **WARNING** suggests a safety hazard that can cause personal injury. **CAUTION** refers to hazards that can cause damage to the equipment or property only.

Read and observe all safety instructions before operating this equipment! Read the manufacturer's operation manual and observe any additional safety instructions including dangers, warnings, and cautions applicable to the specific make and model you have purchased.

1.1 Battery Handling



WARNING! Batteries can explode when charging or boosting. Always wear eye protection.

WARNING! Keep cigarettes, flames or sparks away from battery.

WARNING! Charge the battery in a well-ventilated area. Do not attempt to charge a frozen battery.



CAUTION! Place a rag over battery vent holes when handling to avoid electrolyte squirting from holes.

1 Safety & General Information

Electric Sawmill Wiring

1.2 Electric Sawmill Wiring

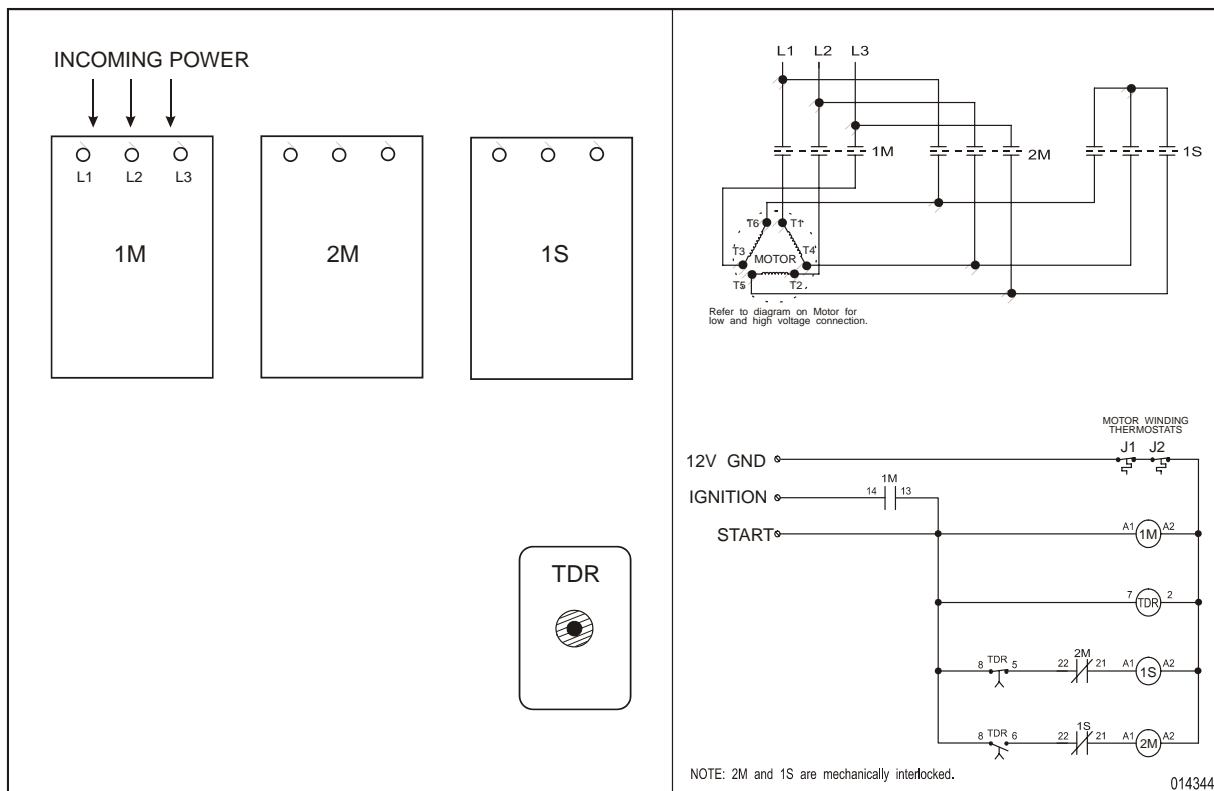
⚠ DANGER! Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

⚠ CAUTION! The sawmill motor is pre-wired for 460 volt, 60 Hz or 575 volt, 60 Hz power supplies. If you plan to use another type of power supply, you will need to rewire the motor.

See Figure 1-1. The wiring diagram and component layout for the Wye-Delta starter control is shown.

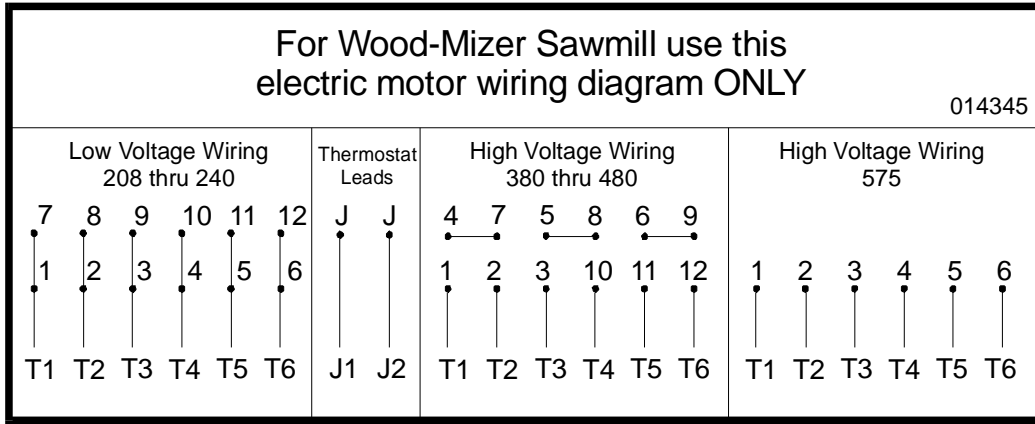
See Figure 1-2. See the wiring diagram to rewire the motor.

⚠ CAUTION! Sawmills equipped with 575 volt configurations should NOT be rewired for other power supplies.



3H0147B

FIG. 1-1



3H0164

FIG. 1-2

See Table 1-1. Install a fused disconnect switch within sight of the machine. Typical minimum switch, fuse, and wire sizes for use with various operating voltages is shown. Do all installation in accordance with local electrical codes. Fuses are sized for short-circuit protection only. The motor is configured with internal thermostats for overload protection. If an overload condition does occur, the thermostats shut the motor down and the motor cannot be restarted until it cools to a safe operating temperature.

3-Phase Volts	Fuse Disconnect	Time Delay Fuse	Suggested Wire Size
208 VAC	100 Amps	100 Amps	3AWG up to 50'
220 VAC	100 Amps	100 Amps	3AWG up to 50'
240 VAC	100 Amps	100 Amps	3AWG up to 50'
380 VAC	60 Amps	60 Amps	6AWG up to 50'
415 VAC	60 Amps	50 Amps	6AWG up to 50'
440 VAC	60 Amps	50 Amps	6AWG up to 50'
480 VAC	60 Amps	50 Amps	6AWG up to 50'
575 VAC	60 Amps	40 Amps	6AWG up to 50'

TABLE 1-1

1 Safety & General Information

Electric Sawmill Wiring

See Table 1-2. This table lists the 25 horsepower motor specifications.

25hp Electric Motor Specifications	
Horsepower	25
RPM	3435
Volts	230/460
Amps	61/30.5
Hz	60
SF	1.15
NOM EFF	86.5
Frame	256T
Design	B
AMB	40° C
INS	F
PH	3
ENCL	TEFC
Code	F
Duty	Saw

Make sure the power cords are free to travel the length of the machine. An overhead boom system to keep the cords off of the floor is recommended.

The electrical starter box must be kept dust-free. Disconnect and lock out all electrical power. Then, clean inside of box of any dust or wood chips. Do this on a regular schedule. Close and securely fasten the starter box door when finished; do not operate or store with starter box door open.



DANGER! Hazardous voltage inside the disconnect box, starter box, and at the electric motor can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during mill operation.

The time-delay relay in the electrical starter box should be set between 2-3 seconds. The time-delay relay does the automatic switching of the motor windings from Wye to Delta configurations.

1.3 Phase Converter

The Roto-Phase is a rotary 3-phase converter. It generates 3-phase power from a single phase.



CAUTION! This section contains service requirements for using the Roto-Phase with the Wood-Mizer sawmill only. If you plan on running additional equipment with the Roto-Phase, call the manufacturer for recommended specifications.

Inspect the phase converter for damage or missing parts upon receipt. If a part is damaged or missing, call ARCO at **1-800-428-4370**.



CAUTION! Make sure the Roto-Phase is installed in accordance with the National Electric Code, city and local codes. A properly sized magnetic starter is recommended for the Roto-Phase.

Mount the phase converter in a dry location. It may be mounted either horizontally or vertically. Avoid moisture and chemicals whenever possible.

See Table 1-3. Service requirements for the 230 volt phase converter (as used for the Wood-Mizer sawmill only) are shown below. Install the phase converter in accordance with ARCO installation data and local electrical codes.

MAIN	ROTO-PHASE			WIRE
Disconnect	Fused Disconnect	Time Delay Fuse	Output of Roto-Phase	To Roto-Phase
200 AMP	200 AMP	125 AMP	100 AMP	1/0 AWG or larger

TABLE 1-3

After installation, test the sawmill for proper motor rotation. If rotation is incorrect, switch the left two legs of incoming power to the sawmill's starter box. (The right leg is the manufactured leg of the phase converter and should not be used for any single phase loads.)

With the main disconnect on, start the phase converter with the magnetic starter button. Let the phase converter come up to speed. Switch on the sawmill's disconnect box.



WARNING! The sawmill's electrical starter should only be switched on after the phase converter is up to speed. Do not attempt to operate the sawmill without the phase converter operating properly.

1 Safety & General Information

Phase Converter

See Figure 1-3. The Roto-Phase wiring diagram is shown below. Additional drawings and information from the manufacturer are supplied with the unit.

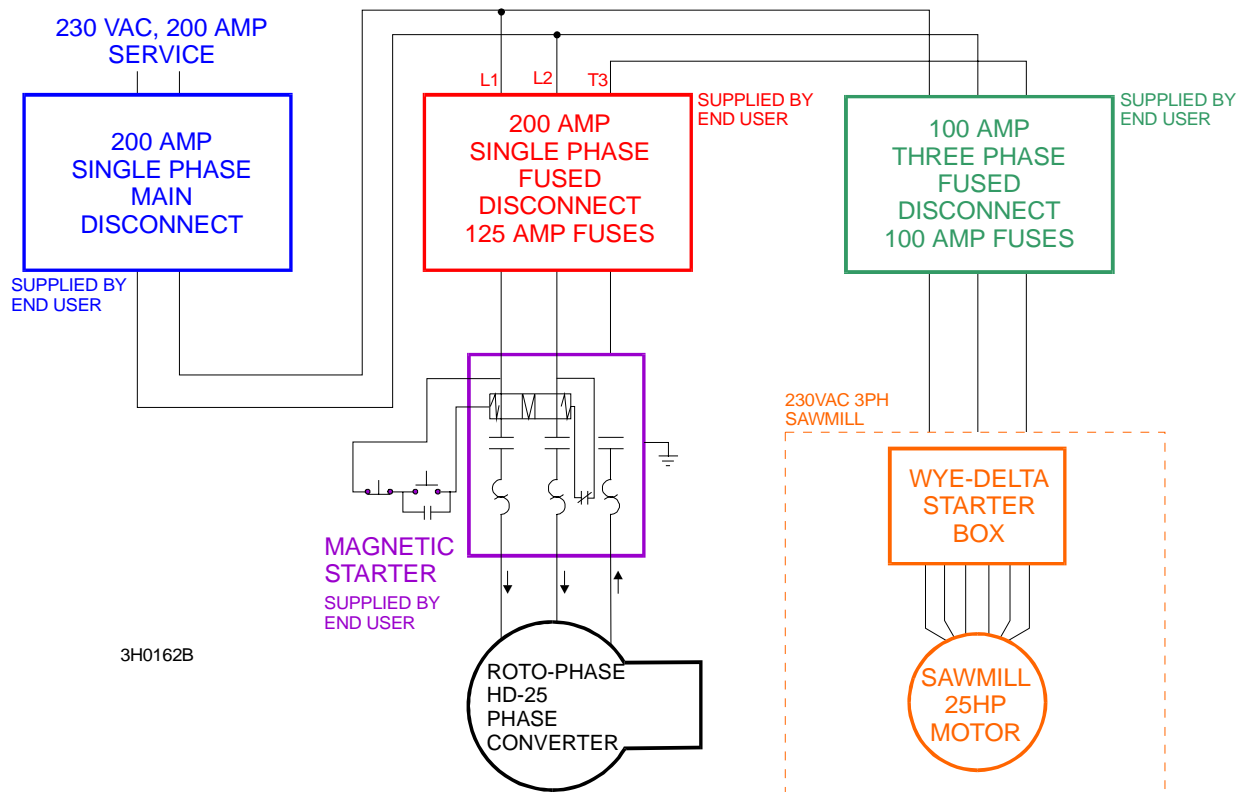


FIG. 1-3

SECTION 2 OPERATION

2.1 Starting The Motor



DANGER! Do not start the motor when the clutch/brake lever is in the engaged (down) position. Always be sure the blade is disengaged and all persons are away from the blade before starting the motor.



WARNING! Make sure the carriage fwd/rev switch is in the neutral position before turning the key switch to the ON or ACC position. This will prevent unintended carriage movement.

Engine Control Lights

See **Figure 2-1**. The following indicator lights are located on the sawmill control panel.



Alternator Charge Indicator: Lights if the alternator is not charging the battery.



Feed Overload Indicator: This light indicates the blade motor is being loaded beyond its recommended capacity. The light will blink for 5 seconds to warn the operator to reduce the feed rate. If the feed rate is not reduced within 5 seconds, the light will come on steady and the circuit will cut the feed rate by 1/3. To reset the circuit, return the carriage forward/reverse switch to neutral.¹



Key Switch Indicator: Lights up when the key is in either the ON or ACC (#1 or #3) position.

¹ LED circuit board with load limit circuitry is no longer available. If a problem with the board affects only the load limit circuitry, the customer may bypass this circuit: Remove one of the violet wires from the terminal block on the circuit board. Connect the wire to the terminal with the other violet wire. If the circuit board requires replacement, use standard LED board 023041: Remove both violet wires and connect together with a wire nut. Remove the three remaining black, white and red wires and tape together or remove the hall effect switch mounted at the motor.

2 Operation

Starting The Motor

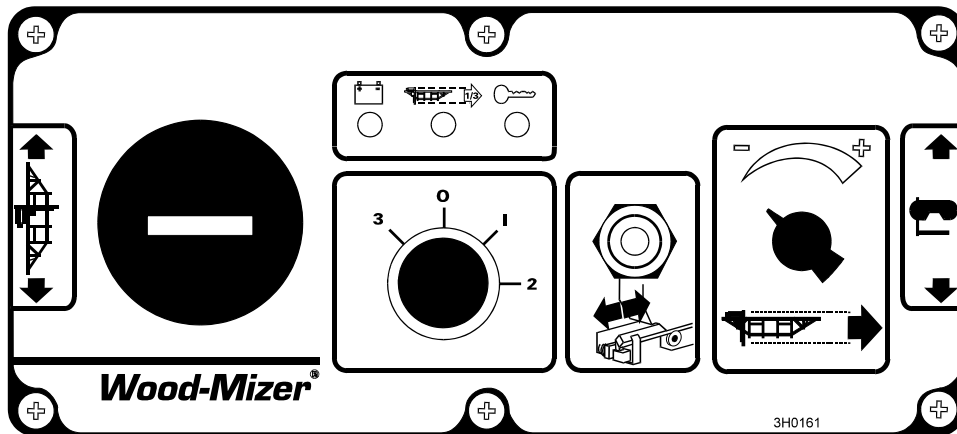


FIG. 2-1


Motor Start

Turn the key switch to the START (#2) position and release.


Motor Shutoff

Turn the key switch to the OFF (#0) position.

SECTION 3 MAINTENANCE

 **This symbol** identifies the interval (hours of operation) which each maintenance procedure should be performed. "AR" signifies maintenance procedures which should be performed as required.

3.1 Battery

 Check the battery electrolyte level every 50 hours of operation. See manufacturer's manual for instructions.



WARNING! Batteries contain explosive gases. Always wear eye protection and keep face away when charging or boosting battery. Charge battery in well-ventilated area. Keep battery away from hot or burning materials. Avoid spilling electrolyte when handling.

3.2 Alternator Belt

Adjust the alternator belt as needed. Check the alternator belt for tension and wear when battery is not charging properly or when the alternator belt is squealing.

Remove the engine belt pulley guard and alternator guard.

To tighten the belt, loosen the adjustment bolt and lock washer. Pivot the alternator until the belt has 3/16" (5 mm) deflection with a 15 lb. deflection force. Retighten the adjustment bolt.

See Figure 3-1.

Illustration Not Available
At Time of Publication

FIG. 3-1

3.3 Drive Belt Adjustment

50 See **Figure 3-2**. Check the drive belt tension after the first 20 hours, and every 50 hours thereafter. The drive belt should have 7/16" (11 mm) deflection with a 15 lb. deflection force. Always be sure to check the drive belt support after adjusting drive belt tension.

See **Figure 3-3**. To adjust drive belt tension, remove the two belt covers located underneath the engine. Loosen the turnbuckle jam nuts. Turn the turnbuckle counterclockwise (as viewed from the top) to tighten the belts, clockwise to loosen the belts. Retighten the jam nuts. Replace the belt covers.

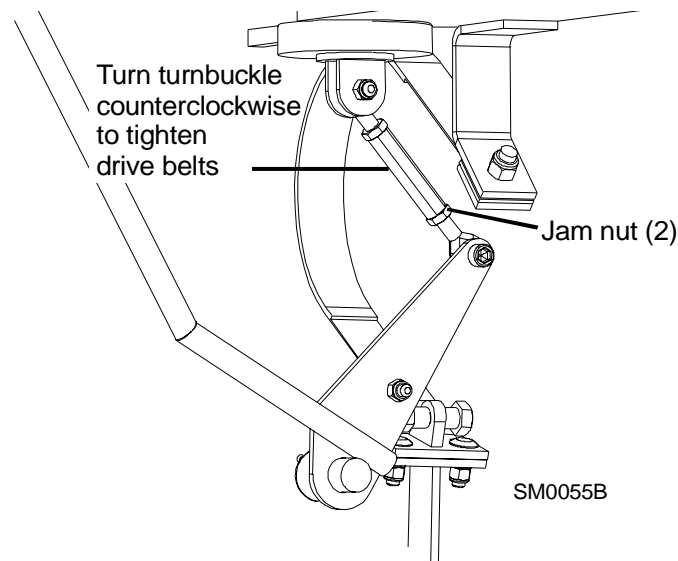


FIG. 3-3

AR Periodically check all belts for wear. Replace any damaged or worn belts as needed.

AR Adjust the drive belt support as needed. The drive belt support is designed to extend belt life. The spider bracket should be adjusted to NOT touch the drive belt when the clutch handle is engaged (down position), AND to hold the drive belt away from the engine pulley when the clutch handle is disengaged (up position).

! DANGER! Do not for any reason adjust the drive belt support with the motor running. Always stop the motor before reaching or looking into the drive belt area.

See **Figure 3-4**. To adjust the drive belt support:

1. Make sure the motor is not running. Loosen the adjustment bolt.

3**Maintenance***Drive Belt Adjustment*

2. Position the bracket so that the prong is close to, but does not touch, the drive belt with the clutch handle engaged.
3. Retighten the adjustment bolt.

Illustration Not Available
At Time of Publication

FIG. 3-4

SECTION 4 REPLACEMENT PARTS

4.1 How To Use The Parts List

- Use the table of contents or the index to locate the assembly that contains the part you need.
- Go to the appropriate section and locate the part in the illustration.
- Use the number pointing to the part to locate the correct part number and description in the table.
- Parts shown indented under another part are included with that part.
- Parts marked with a diamond (◆) are only available in the assembly listed above the part.

See the sample table below. Sample Part #A01111 includes part F02222-2 and subassembly A03333. Subassembly A03333 includes part S04444-4 and subassembly K05555. The diamond (◆) indicates that S04444-4 is not available except in subassembly A03333. Subassembly K05555 includes parts M06666 and F07777-77. The diamond (◆) indicates M06666 is not available except in subassembly K05555.

4.2 Sample Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	SAMPLE ASSEMBLY, COMPLETE (INCLUDES ALL INDENTED PARTS BELOW)	A01111	1	
4	Sample Part	F02222-22	1	
	Sample Subassembly (Includes All Indented Parts Below)	A03333	1	
5	Sample Part (◆ Indicates Part Is Only Available With A03333)	S04444-4	1	◆
	Sample Subassembly (Includes All Indented Parts Below)	K05555	1	
6	Sample Part (◆ Indicates Part Is Only Available With K05555)	M06666	2	◆
7	Sample Part	F07777-77	1	

To Order Parts:

- From the continental U.S., call **1-800-525-8100** to order parts. Have your customer number, vehicle identification number, and part numbers ready when you call.
- From other international locations, contact the Wood-Mizer distributor in your area for parts.

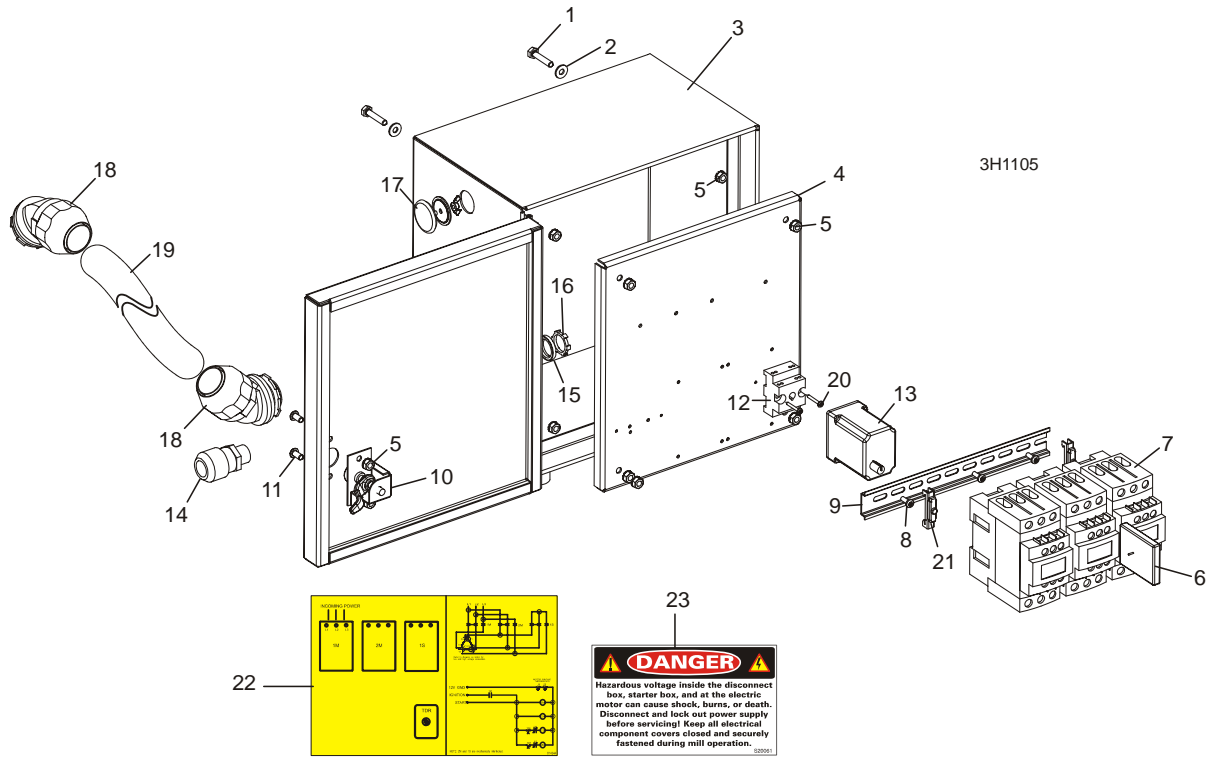
4

Replacement Parts

Motor Starter (Retrofit)

4.3 Motor Starter (Retrofit)				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	STARTER ASSEMBLY, 25HP 3-PHASE 50/60HZ 3450RPM ELECTRIC MOTOR	014399 ¹	1	
1	Bolt, 1/4-20 x 1 1/4" Hex Head Tap	F05005-3	4	
2	Washer, 1/4" SAE Flat	F05011-11	4	
3	Box, Electric Motor Starter Enclosure	014405	1	◆
4	Panel, Starter Box Component Mounting	S10212	1	
5	Nut, 1/4-20 Hex Self-Locking	F05010-9	11	
6	Interlock, D40-D80 Contactor Mechanical	023171-1 ¹	1	
7	Contactor, 65Amp 3P 12VDC Coil D-A Series	069521 ¹	3	
8	Screw, #10-24 x 1/2" Philips Pan Head Type 23	F05015-17 ¹	3	
9	DIN Rail, 35mm x 7.5mm x 10" Steel Sym	024474-10	1	
10	Latch, Starter Box Door	P20048	1	
11	Screw, 1/4-20 X 1/2" Button Head Socket Stainless	F05005-112	2	
12	Socket, 8-pin Relay Sq-D #00605 Class 8501 Type NR52B	E10216	1	
13	Timer Kit, 12V Y-Delta Replacement	050826	1	
14	Connector, SR507 Cord	E20456	1	
15	Ring, 1/2" Sealing	E20460	1	
16	Nut, 1/2" #141 Lock	E20461	1	
17	Plug, AS075 OilTite Painted	024250	1	
18	Connector, 1.25" 45° Nylon	014448	2	
19	Conduit, 1.25" Maxi-Flex	R01633	3.58 Ft.	
20	Screw, #6 x 1" Phillips Pan Head Type A Sheet Metal	F05004-42	2	
21	Clamp, Plastic DIN Rail	E22707 ¹	2	
22	DECAL, Y-DELTA E20/E25 ELECTRIC WIRING	014344	1	
23	DECAL, ELECTRICAL HAZARD DANGER	S20061	1	

¹ Starter Assembly 014399 modified 1/11 to accept DIN-rail mounted Contactors 069521 due to a change in vendor supply. Replacement of old-style contactors requires DIN rail 024474-10, three screws F05015-17, two clamps E22707 and new interlock 023171-1. Three 5/32" diameter holes in the insert panel are required to mount DIN rail. New contactors include transient suppression, eliminating the need for three diode suppression modules 023360.



4

Replacement Parts

Motor Starter/Water Bottle Assembly

4.4 Motor Starter/Water Bottle Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	STARTER ASSEMBLY, 25HP 3-PHASE 50/60HZ 3450RPM ELECTRIC MOTOR	014399 ¹	1	
1	Box, Electric Motor Starter Enclosure	014405	1	◆
2	Latch, Starter Box Door	P20048	1	
3	Screw, 1/4-20 X 1/2" Button Head Socket	F05005-62	2	
4	Nut, 1/4-20 Hex Self-Locking	F05010-9	10	
	Connector, 1.25" 45° Nylon	014448	1	
5	Connector, Straight 1.25" Nylon	014447	1	
6	Conduit, 1.25" Maxi-Flex	R01627	3.58 Ft.	
7	Plug, AS075 OilTite Painted	024250 ²	1	
8	Connector, SR507 Cord	E20456	1	
9	Ring, 1/2" Sealing	E20460	1	
10	Nut, 1/2" #141 Lock	E20461	1	◆
11	Decal, Y-Delta E20/E25 Electric Wiring	014344	1	
12	Panel, Starter Box Component Mounting	S10212	1	
13	Contact, 65Amp 480Volt 3Phase 12VDC Coil	023169 ¹	3	
14	Interlock, Mechanical for LP1D65	023171 ¹	1	
15	Diode, Suppression Module D40-D80	023360 ¹	3	
16	Timer Kit, 12V Y-Delta Replacement	050826 ³	1	
17	Socket, 8-pin Relay Sq-D #00605 Class 8501 Type NR52B	E10216	1	
	TRAY ASSEMBLY, FUEL TANK/WATER BOTTLE	A11685	1	
18	Tray, Fuel Tank/Water Bottle	S11684	1	◆
	Strap, 15" Rubber	P07461	1	
19	Strap, 20" Rubber	P11668	2	
	Strap, 24" Rubber (not used on electric assembly)	P11258	2	
20	Bolt, 1/4-20 X 1" Carriage Head	F05005-34	5	
21	Nut, 1/4-20 Hex Lock	F05010-21	5	
	Clamp, 1/2" EMT Hose	P07584	3	
	Bolt, 1/4-20 x 1/2" Carriage Head	F05005-33	2	
	Nut, 1/4-20 Self-Locking	F05010-9	2	
	Washer, 1/4" SAE Flat	F05011-11	3	
22	BOTTLE, 5 GALLON WATER	P04357	1	
23	Cap, 5 Gallon Water Bottle	P09088	1	
24	VALVE, WATER FLOW	014100	1	
25	FITTING, 5/8" THREAD TO 3/8" HOSE BARB	014113	1	
26	HOSE, PLASTIC WATER LUBE	R01885	6.5 Ft	
	WASHER, 3/8" FLAT	F05011-3	4	
	NUT, 3/8-16 2-WAY SELF-LOCKING	F05010-10	4	
	BOLT, 3/8-16 X 2 3/4" HEX HEAD	F05007-29	4	

Replacement Parts 4

Motor Starter/Water Bottle Assembly

- ¹ Starter Assembly 014399 modified 1/11 to accept DIN-rail mounted Contactors 069521 due to a change in vendor supply ([See Section 4.3](#)). Original Contactors 023169 available for service while supplies last. Replacement of old-style contactors with new requires DIN rail 024474-10, three screws F05015-17, two clamps E22707 and new interlock 023171-1. Three 5/32" diameter holes in the insert panel are required to mount DIN rail. New contactors include transient suppression, eliminating the need for three diode suppression modules 023360.
- ² Replaces E20570 unpainted plug.
- ³ Replacement Kit 050826 replaces Timer 023170 supplied prior to 9/02. Kit includes new polarized timer and instructions on how to change wiring to accept the new timer.

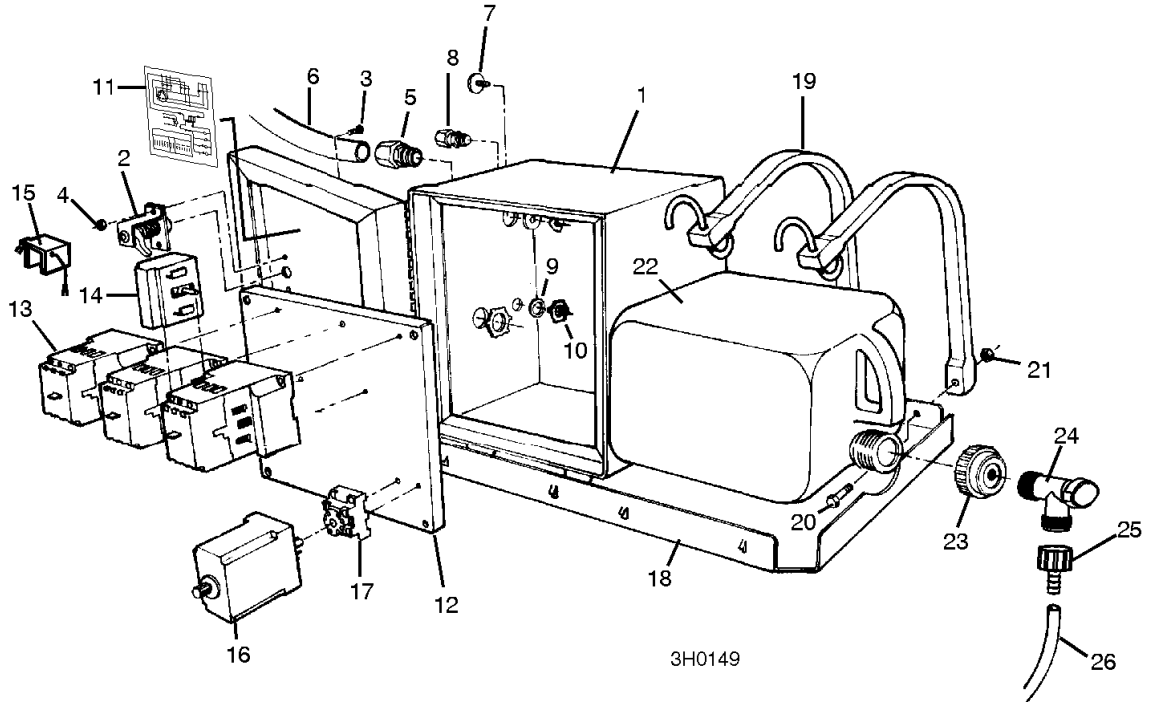


FIG. 4-1

4

Replacement Parts

Motor Assembly

4.5 Motor Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	MOTOR ASSEMBLY, 25HP 208/220/380/415-440V	014432	1	
1	Motor, 25HP Electric	P13385	1	◆
	Terminal, #10 10-12 Ga Ring NI Loose	F05092-1	12	
	Terminal, #10 14-16 Ga Ring NI Loose	F05092-9	2	
2	Magnet, RPM Limit Sensor	014434	1	
3	Decal, E20/E25 Wiring	014345	1	
4	PULLEY, 3-GROOVE MOTOR	014084	1	
	PULLEY, 4TB46 3-GROOVE MOTOR (50HZ ELECTRIC ONLY)	014008 ¹	1	
5	BUSHING, 1 5/8" P1	014009	1	
6	BELT, 3BX72 DRIVE	014085	1	
	BELT, 3BX74 DRIVE (50HZ ELECTRIC ONLY)	014249 ¹	1	
7	BRACKET, RPM LOAD LIMIT SENSOR MOUNT	014433	1	
8	NUT, 3/8-16 HEX LOCK	F05010-25	2	
	SENSOR ASSEMBLY, RPM LOAD LIMIT	014431 ²	1	◆
9	Block, Sensor Mount	013357	1	◆
	Sensor, Hall Effect	023302	1	◆
10	Bushing, Plastic Shoulder	P10523	1	◆
	Cable, 24 AWG 3 Conductor Shielded	R01904	10.5 Ft.	◆
11	BOLT, #10-24 X 1/2" SLOTTED HEAD	F05004-1	2	
12	BOLT, 1/2-13 X 2" HEX HEAD	F05008-76	4	
13	WASHER, 1/2" SAE FLAT	F05011-2	4	
14	NUT, 1/2-13 HEX LOCK	F05010-3	4	
	MOUNT KIT, ELECTRIC MOTOR	016322³	1	
15	Plate Weldment, Electric Motor Mount	014059	1	◆
16	NUT, 3/8-16 HEX JAM	F05010-29	2	
17	BOLT, 3/8-16 X 3" HEX HEAD FULL THREAD	F05007-1	2	
18	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	1	
19	PIN WELDMENT, ENGINE MOUNT PIVOT	014154	1	
20	NUT, 1/2-13 NYLON LOCK	F05010-8	1	
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ⁴	3	◆
21	Bushing, Rubber Motor Mount Pivot	P05041	1	◆
22	Spacer, Motor Mount Pivot	P12164	1	
23	PLATE, MOTOR MOUNT PIVOT BUSHING	014031	3	
24	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	8	
25	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	6	
26	WASHER, 3/8" SPLIT LOCK	F05011-4	2	
27	WASHER, 3/8" SAE FLAT	F05011-3	3	
28	BRACKET WELDMENT, ELECTRIC ALTERNATOR	014230 ⁵	1	
29	ALTERNATOR, 105A 12V	050287 ⁵	1	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	

30	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	1	
31	BRACE, ALTERNATOR	W12761	1	
32	BOLT, 3/8-16 X 5 1/2" HEX HEAD FULL THREAD	F05007-34	1	
33	BOLT, M8 X 1 1/4" X 1" HEX HEAD FULL THREAD	F05004-40	2	
34	WASHER, 5/16" SPLIT LOCK	F05011-13	2	
35	WASHER, 5/16" SAE FLAT	F05011-17	2	
36	PULLEY, 1979452 DELCO ALTERNATOR	P03806	1	
37	GUARD, ALTERNATOR	014227	1	
38	BOLT, 1/4-20 X 1/2" HEX HEAD	F05005-15	3	
39	WASHER, 1/4" SAE FLAT	F05011-11	3	
40	BELT, A25 ALTERNATOR	014643 ⁶	1	
	BELT, A27 ALTERNATOR (50HZ ELECTRIC ONLY)	014250 ¹	1	
41	BRACKET WELDMENT, DRIVE BELT SUPPORT	014112	1	
42	BOLT, 3/8-16 X 2 3/4" HEX HEAD	F05007-29	2	
43	WASHER, 3/8" SAE FLAT	F05011-3	4	
44	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2	
45	PULLEY KIT, 50HZ ELECTRIC MOTOR (NOT SHOWN)	014314	1	
	Pulley, 4TB46 50Hz Electric Motor	014008	1	
	Bushing, 1 5/8" P1	014009	1	
	Belt, 3BX74 Drive	014249	1	
	Belt, A27 Alternator	014250	1	
	Turnbuckle Assembly, 3 3/4" Clutch/Brake	A11576	1	

¹ Alternate parts for 50Hz Electric operation. Complete conversion kit available (See Item 45).

² Load limit switch assembly no longer available. The customer may bypass this circuit: Remove one of the violet wires from the terminal block on the circuit board. Connect the wire to the terminal with the other violet wire. Remove the three remaining black, white and red wires and tape together or remove the hall effect switch mounted at the motor.

³ Mount Kit 016322 includes new rubber clutch handle mount bushings and hardware standard after 6/99.

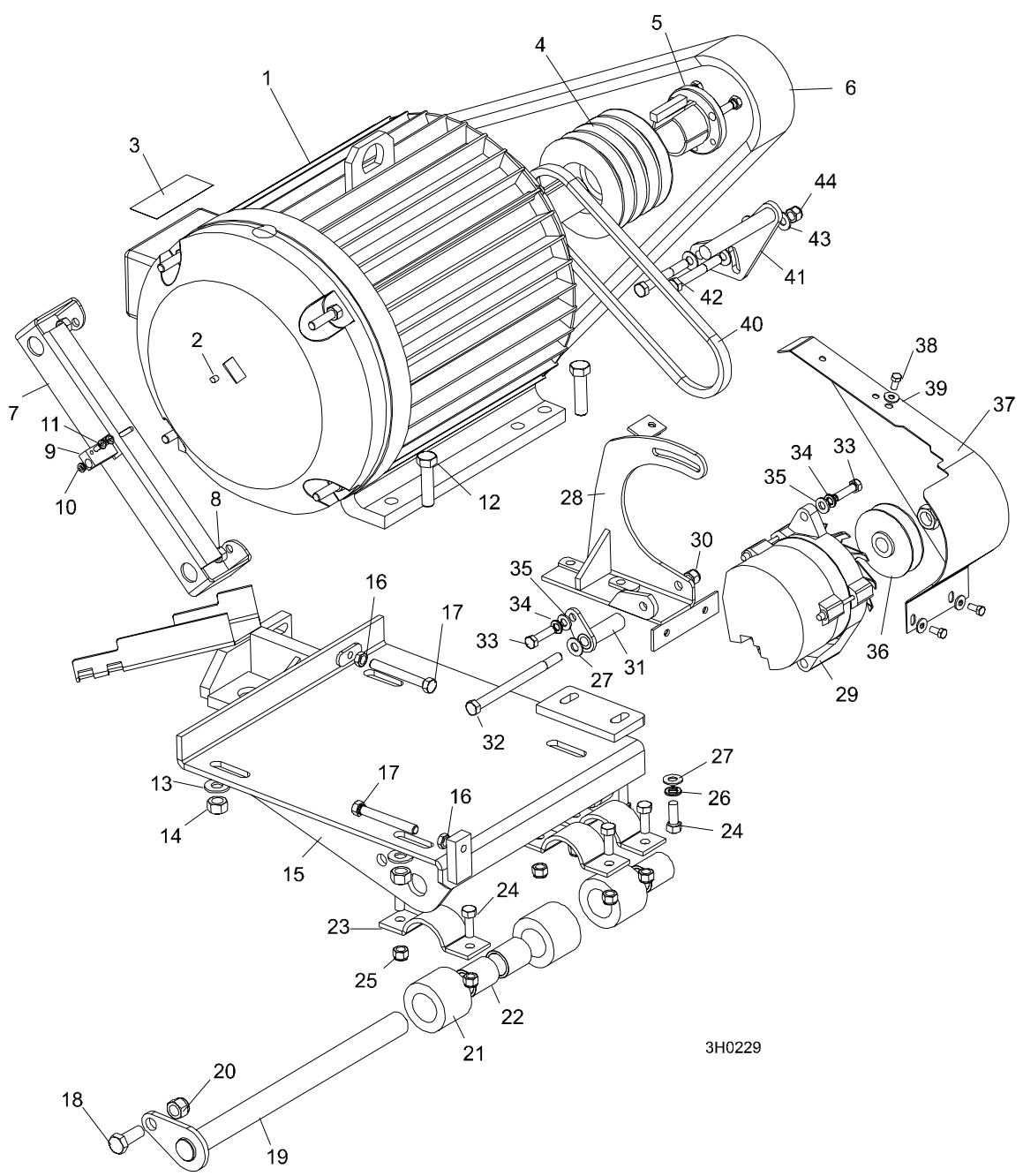
⁴ A04127 no longer available. Purchase individual component parts P12164 and P05041 or upgrade to aluminum bushing assembly 016380.

⁵ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014230). Existing brackets can be modified to accept 105A alternator by grinding enough material (approx. 1/16" - 1/8") from the bottom of the mounting plates to clear the larger alternator body.

⁶ 014643 A25 Alternator belt replaces P04031 4L280 belt originally supplied until LT30 Rev. F6.01, LT40 Rev. F7.01, and LT30HD/LT40HD Rev. F9.01. Shorter belt provides more adjustment.

4 Replacement Parts

Motor Assembly



3H0229

FIG. 4-2

SECTION 5 ELECTRICAL INFORMATION

5.1 Electrical Symbol Diagram, E25 Super LT30/LT40

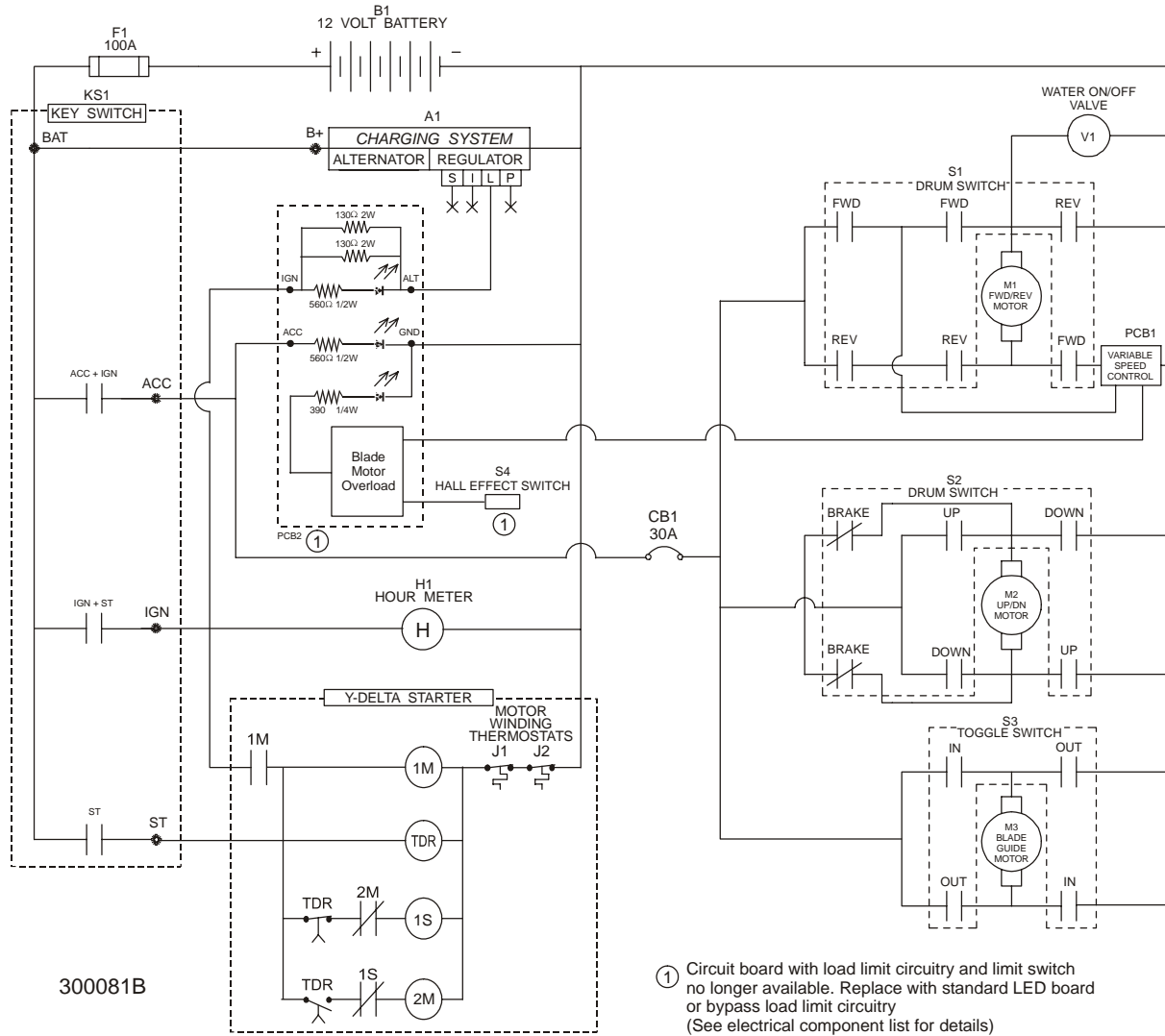
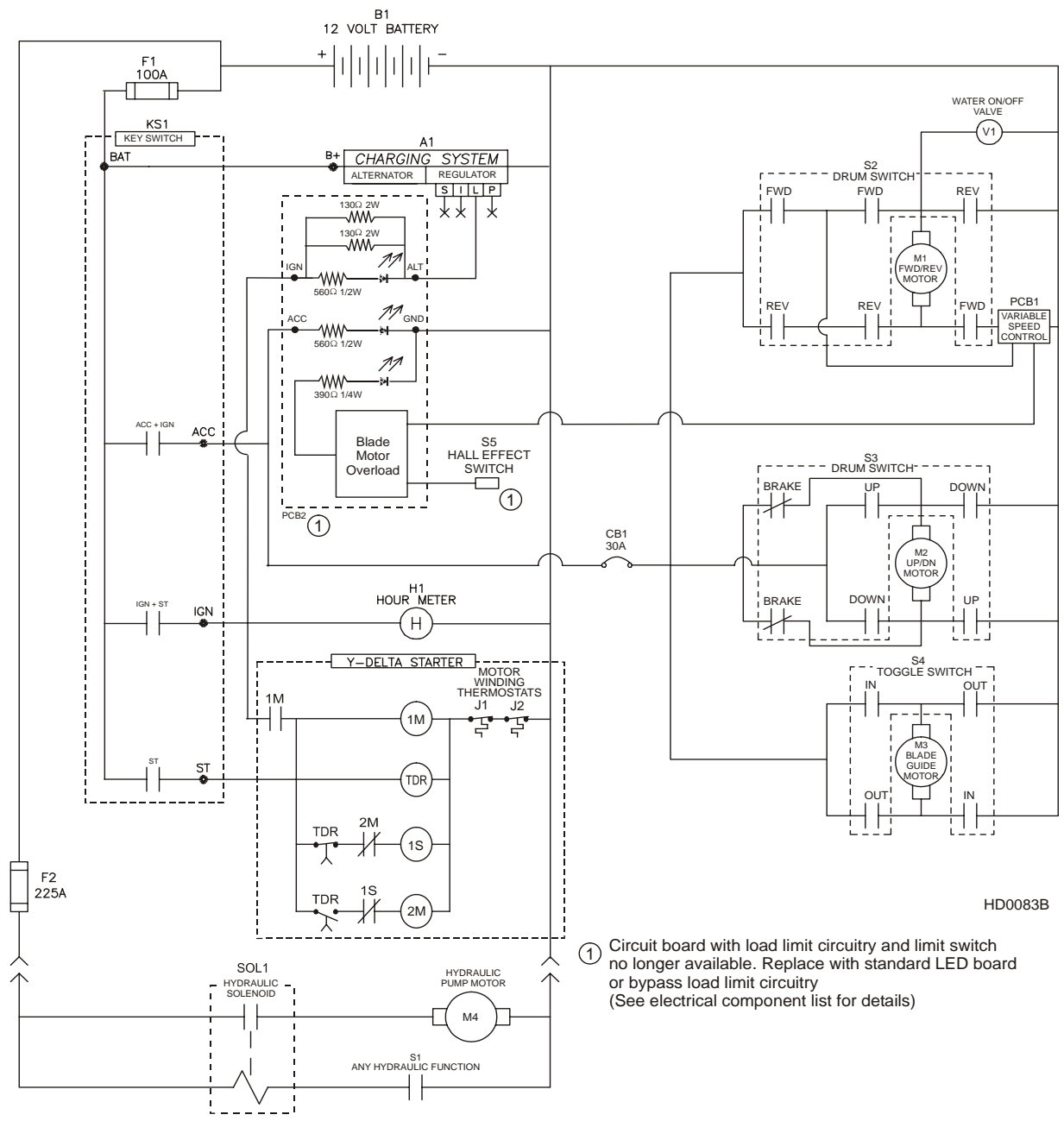


FIG. 5-1

5.2 Electrical Symbol Diagram, E25 Super LT30HD/LT40HD



① Circuit board with load limit circuitry and limit switch no longer available. Replace with standard LED board or bypass load limit circuitry (See electrical component list for details)

FIG. 5-2

5.3 Electrical Components, E25 Super LT30/LT40

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
A1	CS-130	Delco-Remy	050287 ¹	Alternator, 12 Volt, 105 Amp Maximum
B1	524MFD	Deka	P09725-1	Battery, 12 Volt LT30/40 (See Section 5.5)
CB1	30128-30	Cole-Hersee	E20486 ²	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset
F1	RL-100	Gould	P11549	Fuse Link, 100 Amp, 250 Volt For Main + 12 Volt Starter, Alternator
H1	T40 Series	ENM Corp.	P09631	Hour Meter, 12 Volt, Low Power T40 Series
KS1	121801	General	P04350	Key Switch, 4-position (Accessory, Off, Ignition, Start)
M1	1149-001	Current App.	006747 ³	Motor, 12 Volt Power Feed
M2	1149-001	Current App.	006747 ⁴	Motor, 12 Volt Up/Down
M3	P09698-1	Klauber	A10365	Motor, 12 Volt Blade Guide Arm 53:1 Gear
PCB1	024495	Wood-Mizer	024495 ⁵	Circuit Board, Power Feed
PCB2	023047	Wood-Mizer	023047 ⁶	Board, LED/Load Limit Circuit (U.S.)
S1	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S2	2601-AF2-S12	Square D	E20440	Drum Switch, Up/Down Motor
S3	1121-0004	McGill	P10006	Toggle Switch, Blade Guide In/Out Motor
S4	014431	Wood-Mizer	014431 ⁶	Switch Assembly, RPM Load Limit Hall Effect
V1	S24C-6V 12VDC	Atkomatic Valve Co.	016280 ⁷	Valve, Waterlube Solenoid

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014230). Existing brackets can be modified to accept 105A alternator by grinding enough material (approx. 1/16" - 1/8") from the bottom of the mounting plates to clear the larger alternator body.

² A retrofit is available for Super model mills which provides a second circuit breaker. This will allow the power feed and up/down to be operated at the same time without nuisance tripping of the breaker. Order kit #024235.

³ Motor 006747 replaced 014359 supplied until 11/08. .25HP motor directly replaces .49HP motor P04140 (Owosso #PR-4P07Q). Requires two rubber boots (P03807) to protect external motor terminals.

⁴ Motor 006747 replaced 014359 supplied until 11/08. .25HP motor directly replaces .49HP motor P04140 (Owosso #PR-4P07Q). Requires two rubber boots (P03807) to protect external motor terminals.

⁵ Replaces A20428 originally supplied before 4/99. New assembly includes LED indicator lights for easier troubleshooting. Modularized components and surface mount technology improve durability and power capability.

⁶ LED circuit board with load limit circuitry and load limit switch assembly no longer available. If a problem with the board affects only the load limit circuitry, the customer may bypass this circuit: Remove one of the violet wires from the terminal block on the circuit board. Connect the wire to the terminal with the other violet wire. If the circuit board requires replacement, use standard LED board 023041: Remove both violet wires and connect together with a wire nut. Remove the three remaining black, white and red wires and tape together or remove the hall effect switch mounted at the motor.

⁷ Valve kit 016280 replaces 014165 solenoid valve, F05004-74 4mm x 12 screws and F05011-57 4mm lock washers originally supplied. 014165 valve no longer available. New valve 016140 requires #10 mounting hardware.

5.4 Electrical Components, E25 Super LT30HD/LT40HD

Component	Mfg. Part No.	Manufacturer	Wood-Mizer Part No.	Description
A1	CS-130	Delco-Remy	050287 ¹	Alternator, 12 Volt, 105 Amp Maximum
B1	DP24M ²	Deka	P09853-1	Battery, 12 Volt LT30HD/40HD (See Section 5.6)
CB1	30128-30	Cole-Hersee	E20486 ³	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset
F1	RL-100	Gould	P11549	Fuse Link, 100 Amp, 250 Volt For Main + 12 Volt Starter, Alternator
F2	RL-225	Gould	P11550	Fuse Link, 225 Amp, 250 Volt For Hydraulic +12 Volt Circuit
H1	T40 Series	ENM Corp.	P09631	Hour Meter, 12 Volt, Low Power T40 Series
KS1	121801	General	P04350	Key Switch, 4-position (Accessory, Off, Ignition, Start)
M1	1149-001	Current App.	006747 ⁴	Motor, 12 Volt Power Feed
M2	1149-001	Current App.	006747 ⁵	Motor, 12 Volt Up/Down
M3	P09698-1	Klauber	A10365	Motor, 12 Volt Blade Guide Arm 53:1 Gear
M4	08714	Monarch Hyd.	052807 ⁶	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ⁷	Circuit Board, Power Feed
PCB2	023047	Wood-Mizer	023047 ⁸	Board, LED/Load Limit Circuit (U.S.)
S1	024198	Wood-Mizer	024198 ⁹	Switch, Hydraulic Pump Levers
S2	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S3	2601-AF2-S12	Square D	E20440	Drum Switch, Up/Down Motor
S4	1121-0004	McGill	P10006	Toggle Switch, Blade Guide In/Out Motor
S5	014431	Wood-Mizer	014431 ⁸	Switch Assembly, RPM Load Limit Hall Effect
SOL1	586-902	Stancor	016371 ¹⁰	Solenoid, 200 Amp Hydraulic Pump Motor
V1	S24C-6V 12VDC	Atkomatic Valve Co.	016280 ¹¹	Valve, Waterlube Solenoid

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014230). Existing brackets can be modified to accept 105A alternator by grinding enough material (approx. 1/16" - 1/8") from the bottom of the mounting plates to clear the larger alternator body.

² Replaces 8T24 originally supplied.

³ A retrofit is available for Super model mills which provides a second circuit breaker. This will allow the power feed and up/down to be operated at the same time without nuisance tripping of the breaker. Order kit #024235.

⁴ Motor 006747 replaced 014359 supplied until 11/08. .25HP motor directly replaces .49HP motor P04140 (Owosso #PR-4P07Q). Requires two rubber boots (P03807) to protect external motor terminals.

⁵ Motor 006747 replaced 014359 supplied until 11/08. .25HP motor directly replaces .49HP motor P04140 (Owosso #PR-4P07Q). Requires two rubber boots (P03807) to protect external motor terminals.

⁶ Bosch motor P09955 replaced by vendor with Iskra motor 1/06. Brush kit P09585 no longer available to service Bosch motor. Replace motor using kit 052807 ([See Form #1578](#) for applicable discount information). Use Brush Kit 038682 to service Iskra motor.

⁷ Replaces A20428 originally supplied before 4/99. New assembly includes LED indicator lights for easier troubleshooting. Modularized components and surface mount technology improve durability and power capability.

⁸ LED circuit board with load limit circuitry and load limit switch assembly no longer available. If a problem with the board affects only the load limit circuitry, the customer may bypass this circuit: Remove one of the violet wires from the terminal block on the circuit board. Connect the wire to the terminal with the other violet wire. If the circuit board requires replacement, use standard LED board 023041: Remove both violet wires and connect together with a wire nut. Remove the three remaining black, white and red wires and tape together or remove the hall effect switch mounted at the motor.

⁹ Saleable service assembly created which includes 014765 3-wire switch and crimped terminals (7/97). 014765 3-wire switch directly replaces P12735 2-wire switch (4/97).

¹⁰ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.

¹¹ Valve kit 016280 replaces 014165 solenoid valve, F05004-74 4mm x 12 screws and F05011-57 4mm lock washers originally supplied. 014165 valve no longer available. New valve 016140 requires #10 mounting hardware.

5.5 Battery Specifications, Super E25 LT30/LT40

Group No.	Type No.	Performance Level		Approximate Weight	Maximum Overall Dimensions		
		Cranking Performance	Reserve Capacity	Wet	Length	Width	Height
24	524MFD	535CC	90	35.5 lb. (16.1 kg)	10.25 in. (260 mm)	6.75 in. (171 mm)	9.0 in. (229 mm)

TABLE 5-1

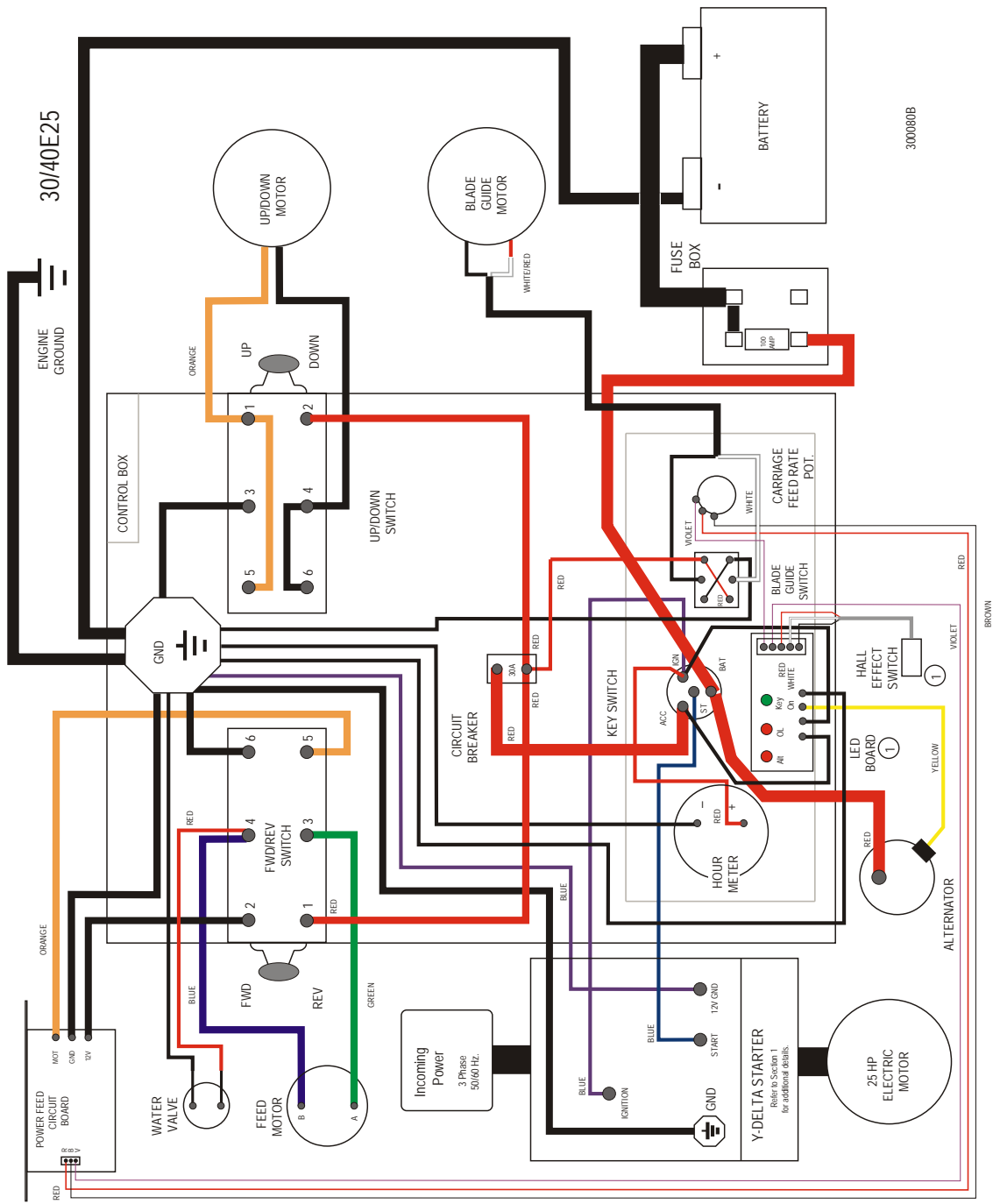
5.6 Battery Specifications, Super E25 LT30HD/LT40HDs

Group No.	Type No.	Performance Level		Approximate Weight	Maximum Overall Dimensions		
		Cranking Performance	Reserve Capacity	Wet	Length	Width	Height
24	DP24M ¹	515CC	---	39.0 lb. (17.7 kg)	10.75 in. (273 mm)	6.75 in. (171 mm)	9.875 in. (251 mm)

TABLE 5-2

¹ Replaces 8T24 originally supplied.

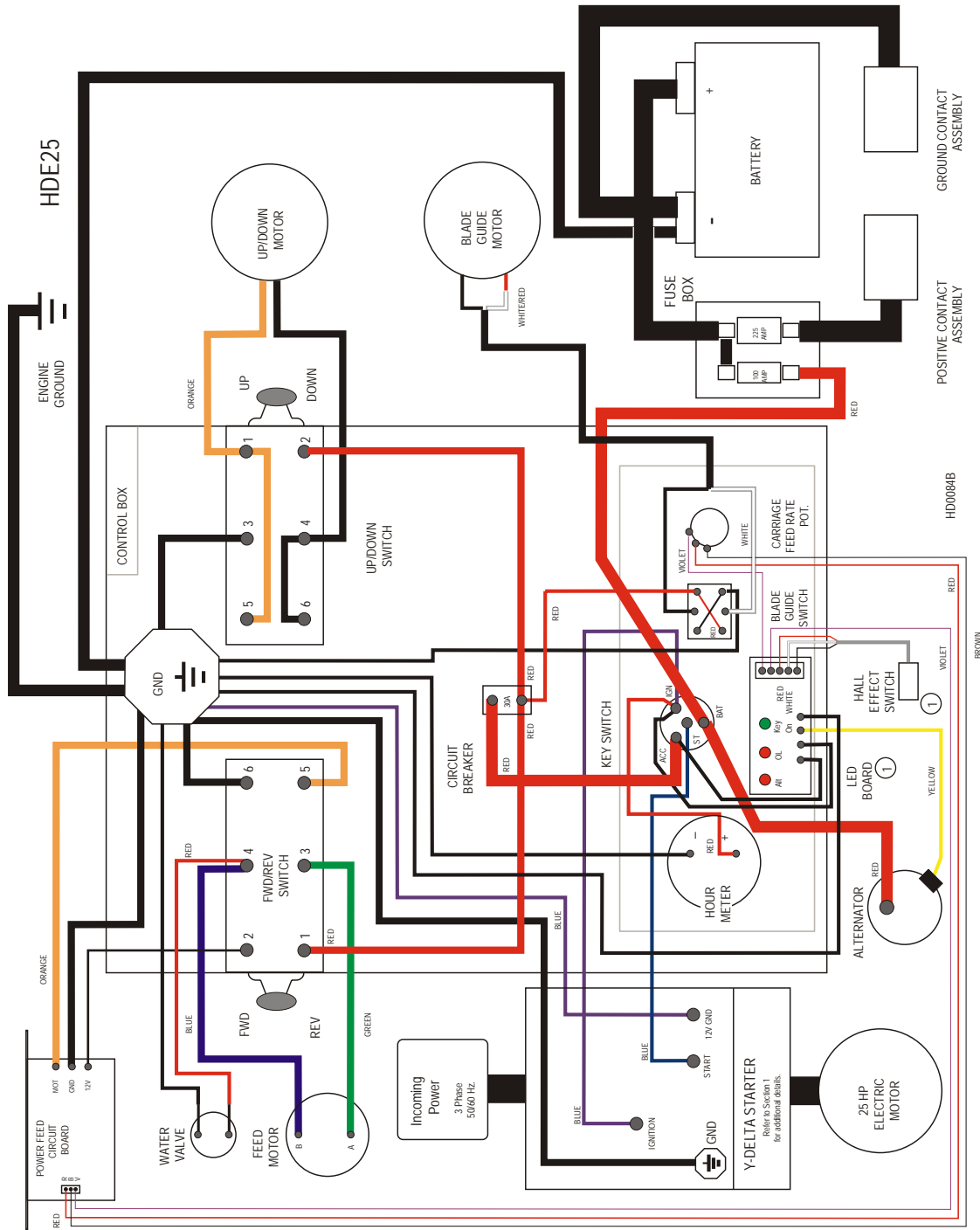
5.7 Wiring Diagram, E25 Super LT30/LT40



NOTE: Black Wires Not Labeled With Color Designations
 Circuit board with load limit circuitry and limit switch no longer available. Replace with standard LED board or bypass load limit circuitry (See electrical component list for details)

FIG. 5-3

5.8 Wiring Diagram, E25 Super LT30HD/LT40HD



NOTE: Black Wires Not Labeled With Color Designations
 ① Circuit board with load limit circuitry and limit switch no longer available. Replace with standard LED board or bypass load limit circuitry (See electrical component list for details)

FIG. 5-4

G35 Engine

Safety, Operation, Maintenance & Parts Manual

LT30 Super	rev. F7.00 - J2.00
LT40 Super	rev. F8.00 - J3.00
LT30HD Super	rev. G1.00 - J7.00
LT40HD Super	rev. G1.00 - J7.00



Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

February 1998

Form #767

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	<i>LT40HD Super Rev. H1.00+</i>	
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	<i>LT40HD Super Rev. G9.00+</i>	
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	<i>LT30HD Super</i> <i>Rev. G1.00 - G9.00</i>	
	<i>LT40HD Super</i> <i>Rev. G1.00 - G9.00</i>	

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I

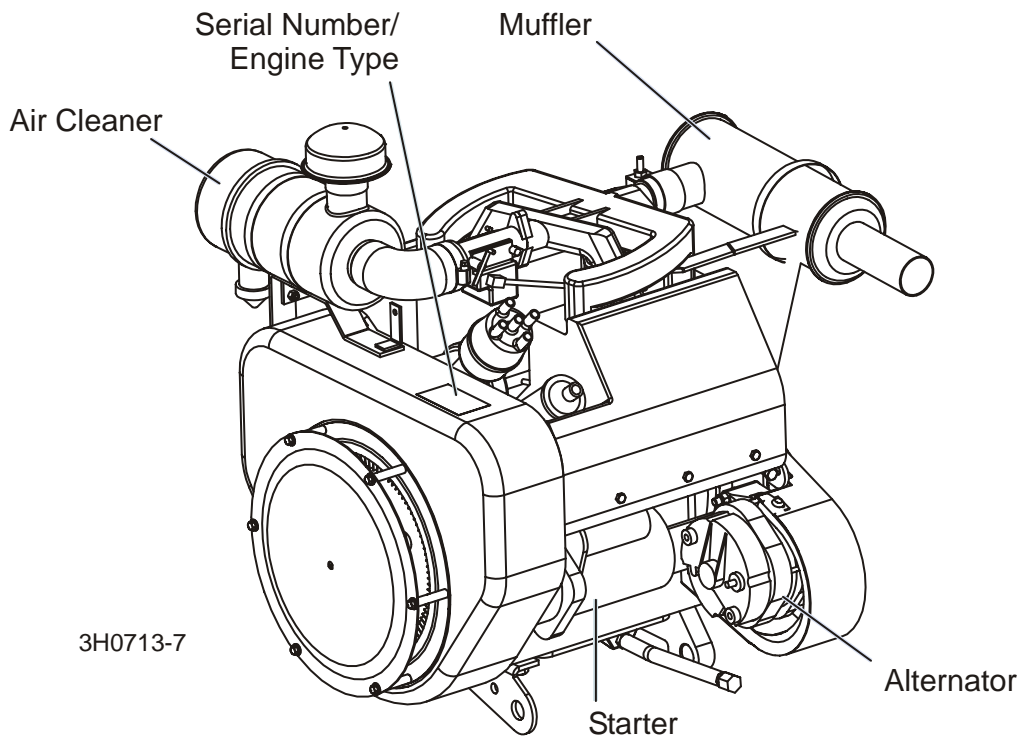
ABOUT THIS MANUAL

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.



IMPORTANT! 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.



3H0713-7





ENGINE COMPONENTS

SECTION 1 OPERATION

1.1 Starting The Engine

Engine Control Lights

See **Figure 1-1**. The following indicator lights are located on the sawmill control panel.

-  *Alternator Charge Indicator*: Lights up if the alternator is not charging the battery.
- 
-  *Key Switch Indicator*: Lights up when the key is in either the on or accessory (#1 or #3) position.
- 

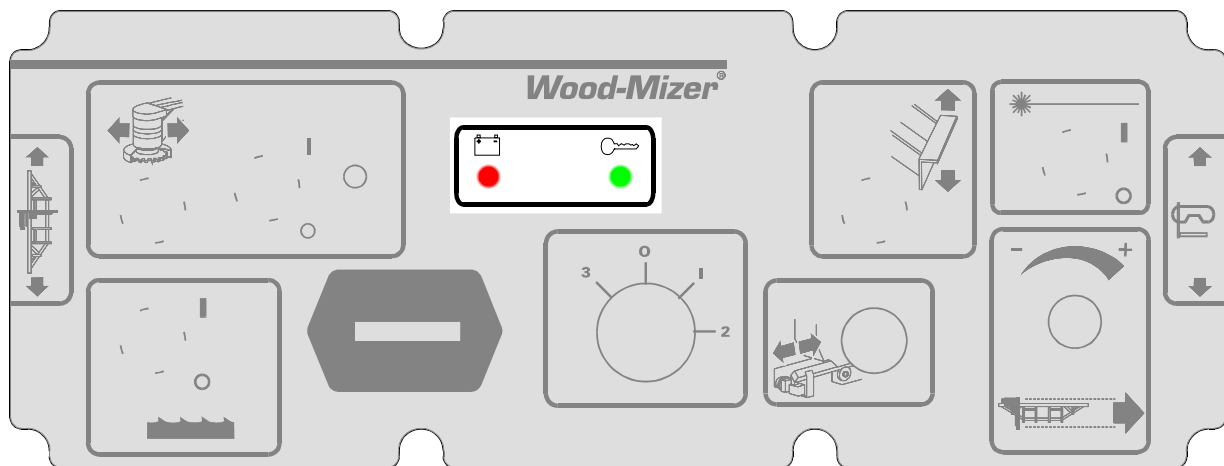


FIG. 1-1

Engine Start



DANGER! Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine. Failure to do so will result in serious injury.

DANGER! Operate your engine/machine 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. The leaking fuel or oil could potentially come in contact with hot surfaces and ignite into flames.



WARNING! Be sure the power feed switch is in the neutral position before turning the key switch to the on (#1) or accessory (#3) position. This prevents accidental carriage movement, 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.

Turn the key switch to the start (#2) position and release.

If the engine needs choking to start, pull the choke cable out until the engine starts. Push the choke wire in after the engine starts.

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

LT30 Super rev. F7.00 - F8.01

LT40 Super rev. F8.00 - F9.01

LT30HD Super rev. G1.00 - G2.01

LT40HD Super rev. G1.00 - G2.01

If the fuel tank was recently filled or replaced, squeeze the primer bulb once or twice before trying to start the engine. **NOTE:** If pumping problems are experienced, make sure the out-flow end of the hose line is connected to the fuel filter. If pumping problems are still experienced, hold the primer bulb in a vertical position while squeezing. This allows the fuel check valve to operate properly.

Engine Shutoff



CAUTION! A minimum 2 minute idle time is recommended to allow the battery charge to recover before the engine is shut off.

Turn the key switch to the off (#0) position.

SECTION 2 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.



IMPORTANT! 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.

2.1 Safety

Use caution when performing maintenance or service to the engine.



DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

DANGER! Engine components can become very hot during operation. Avoid contact with any part of a hot engine. The exhaust components of your engine are especially hot during and following operation. Contact with hot engine components can cause serious burns. Therefore, never touch or perform service functions on a hot engine. Allow the engine to cool sufficiently before beginning any service function.




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


WARNING! Always wear proper and necessary safety equipment when performing service functions. Proper safety equipment includes eye protection, breathing protection, hand protection and foot protection.




This symbol identifies the interval (hours of operation) at which each maintenance procedure should be performed. "AR" signifies maintenance procedures which should be performed as required.

2.2 Air Cleaner


 Replace the air cleaner cartridge every 200 hours of operation. Change the cartridge more often if operating the sawmill in dirty conditions or if engine performance indicates a new cartridge is necessary.


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


2.3 Fuel Filter

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

2.4 Battery

 Check the battery electrolyte level every 50 hours of operation. See manufacturer's manual for instructions.

 **DANGER!** Batteries expel explosive gases. Keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Always wear safety goggles and a face shield when working near batteries. Failure to do so will cause serious injury.¹

 **WARNING!** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

2.5 Alternator Belt

LT30 Super Rev. G6.00+
LT40 Super Rev. G7.00+
LT30HD Super Rev. H1.00+
LT40HD Super Rev. H1.00+



The belt tension should be checked after the first 100 hours of operation, when the battery is not charging properly or when the alternator belt is squealing. If the battery continues to not charge properly or the belt continues to squeal after the initial belt adjustment, replace the belt.



IMPORTANT! Sawmills built prior to March 1999 were provided with a sight hole in the alternator bracket to gauge belt tension. To achieve proper belt tension, **do not use the sight hole**. Follow the procedure below to check the belt tension and adjust if necessary.

1. Release the blade tension and remove the blade from the sawmill if necessary. Turn the key switch to OFF (0) and remove the key.
2. Remove the drive belt cover and alternator cover.

See Figure 2-1.

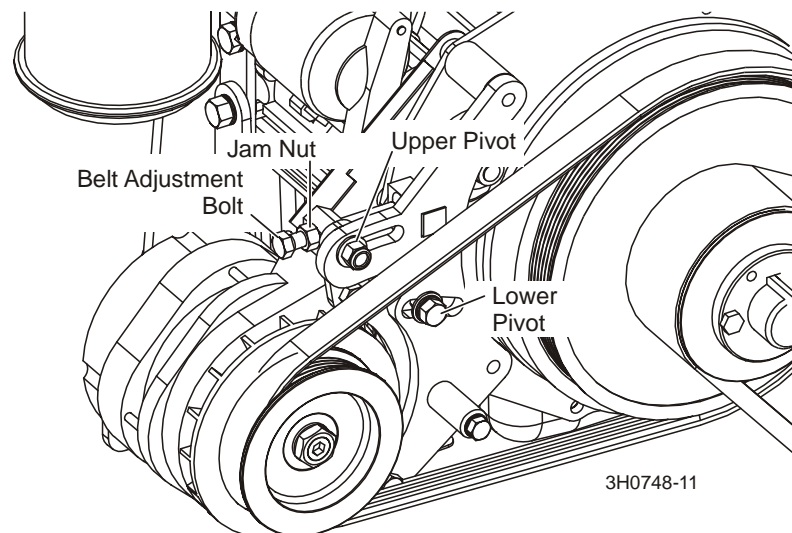


FIG. 2-1

3. Use a belt tension gauge to measure the belt tension. Place the gauge on the belt at the midpoint between the two pulleys. If the belt tension is less than 3/16" with 9 lb. of deflec-

tion, tighten the belt as described below.

4. Loosen the upper pivot, lower pivot and the adjustment bolt jam nut.
5. Turn the belt tension adjustment bolt clockwise to tighten the belt, counterclockwise to loosen the belt. Adjust the bolt until the proper belt tension is achieved.



CAUTION! Do not overtighten the alternator belt. Damage to the alternator will occur.

6. After the alternator belt has been tensioned, tighten the adjustment bolt jam nut. Tighten the upper and lower pivots and replace the belt covers.

LT30 Super Rev. F7.00 - G5.00

LT40 Super Rev. F8.00 - G6.00

LT30HD Super Rev. G1.00 - G9.00

LT40HD Super Rev. G1.00 - G9.00

Replace the alternator belt every 1000 hours.

1000

Check the alternator belt tension every 500 hours. Also check the alternator belt for tension and wear when battery is not charging properly or when the alternator belt is squealing. Adjust as needed.

500

1. Remove the alternator belt guard.
2. Loosen the two bolts in the slotted alternator bracket holes (opposite holes in front and rear of bracket).

2 Maintenance

Alternator Belt

See Figure 2-2.

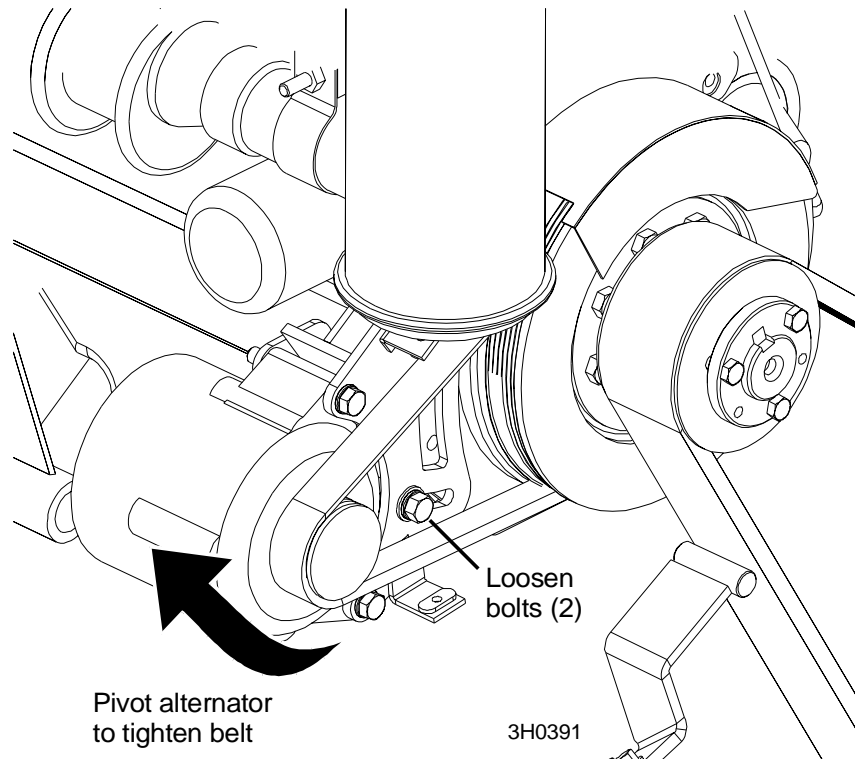


FIG. 2-2

3. Pivot the alternator to tighten the belt. Retighten the adjustment bolts and replace the belt guard.

2.6 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 after the first 20 hours of operation and every 200 hours thereafter.

See Table 2-1.

Engine	High End RPM	Low End RPM
G35	3200	1500

TABLE 2-1

Before checking the RPM, make sure belt and brake strap tensions are correct (See Saw-mill Maintenance). Also check oil, fuel, and coolant levels.

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

1. Use the bottom threaded cable mount to adjust the throttle cable. When the clutch handle is disengaged, the throttle cable should be taut but the spring not extended. When the clutch handle is engaged, the throttle spring should extend 1/8" to 1/4". Once the throttle cable is adjusted properly, use the adjustments provided on the engine to adjust the engine RPM (3200[+0, -100] high-end, 1500[±100] idle).



CAUTION! Do not extend the throttle spring over 1/4". Excessive tension may cause the throttle cable to fail prematurely.

See Figure 2-3.

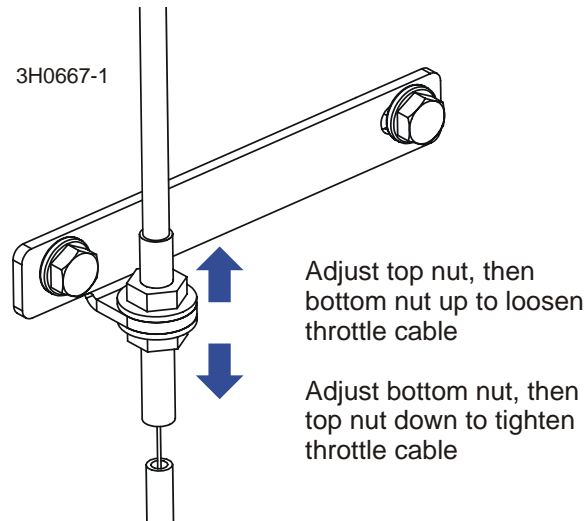


FIG. 2-3

2. The low-end RPM should be 1500. To adjust the low-end RPM, use the throttle stop screw. Turn the screw in or out until the engine idles at 1500 RPM.

See Figure 2-4.

3. The high-end RPM is factory set at 3200 (3000 with load) and cannot be adjusted.

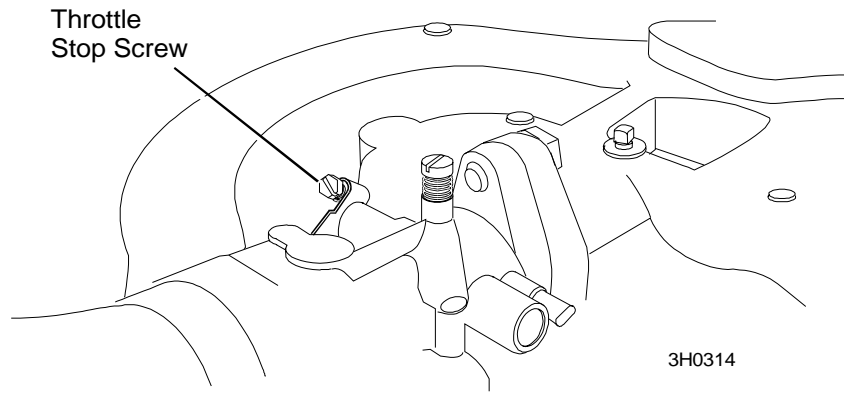
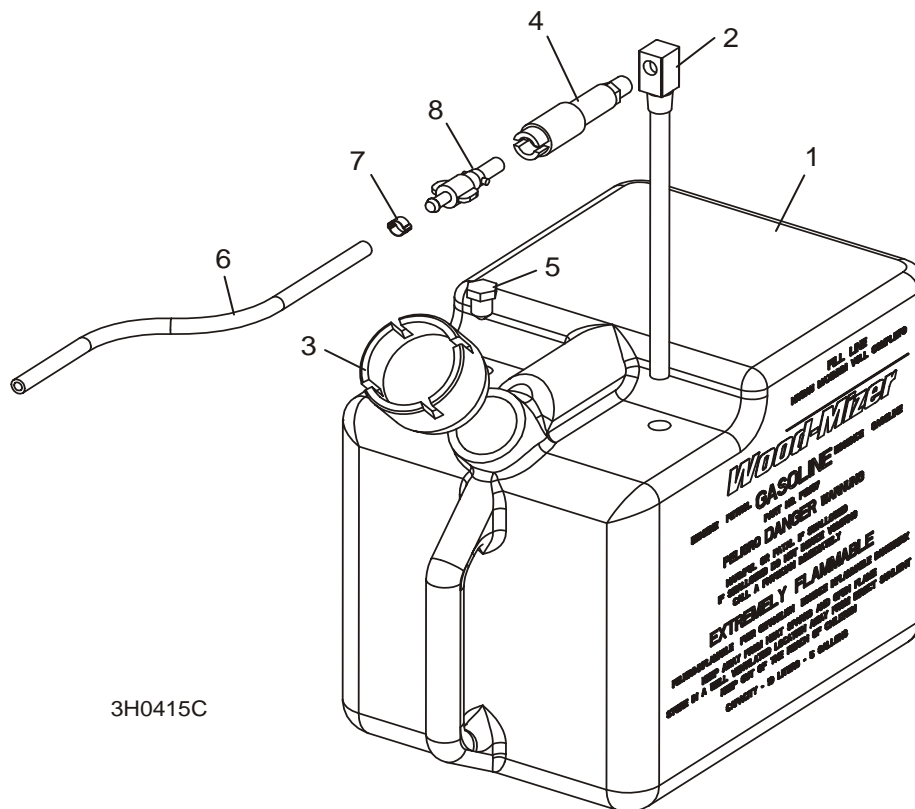


FIG. 2-4

SECTION 3 REPLACEMENT PARTS

3.1 Fuel Tank



3H0415C

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	TANK ASSEMBLY, 5-GALLON RED GASOLINE	A12285 ¹	1	
1	Tank, 5-Gallon Red Fuel	P12167	1	◆
2	Pickup, 9" Fuel	P12172	1	
3	Cap, 3 or 5-Gallon Fuel Tank	P09683	1	
4	Fitting, 1/4" NPT Plastic Female Disconnect	P12175	1	
5	Fitting, 3/8" NPT Hex Plug	P10367 ²	1	
6	HOSE, 1/4" ID FUEL	P642 ³	6.7 Ft	
7	CLAMP, 7/32 - 1/2 HOSE	P649 ³	6	
8	FITTING, 1/4" NPT PLASTIC MALE DISCONNECT	P12176 ⁴	1	

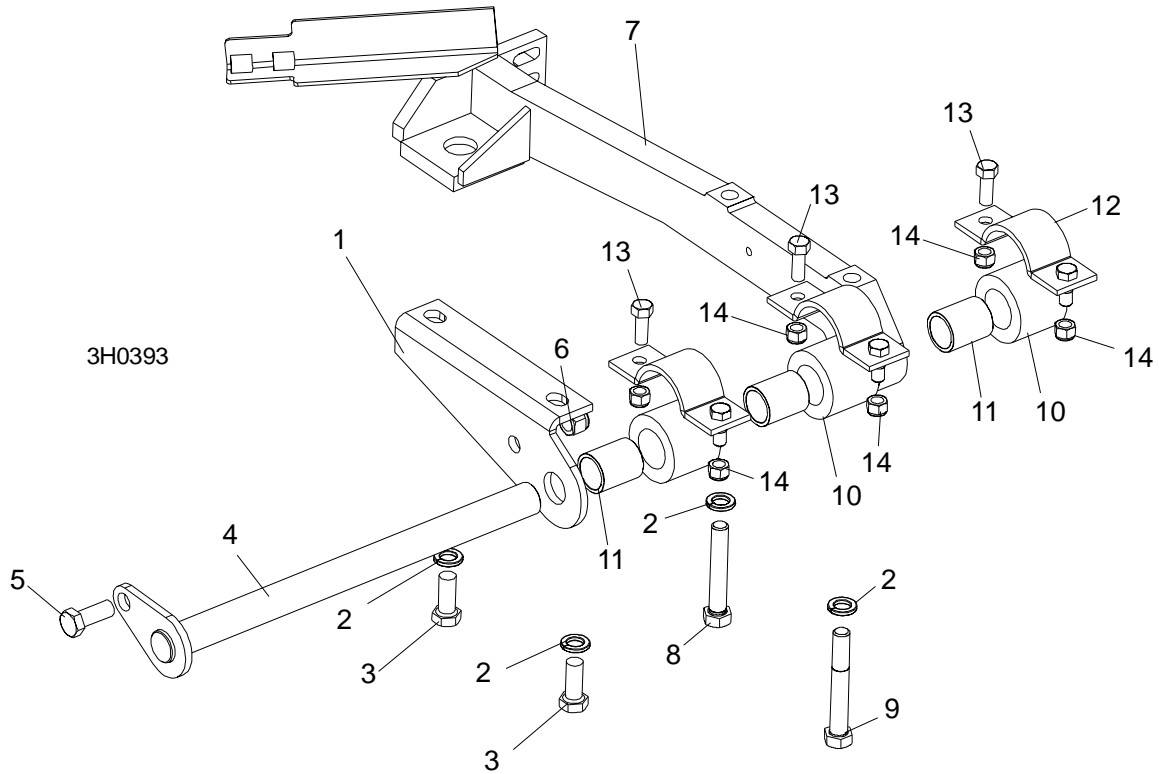
¹ 014497 primer bulb assembly removed from G35 sawhead assembly (LT30 Super rev. F8.02, LT40 Super rev. F9.02, LT30HD/40HD Super rev. G2.02).

² Plug fitting P10367 added 11/03. Hole added to fuel tank to accommodate return line for fuel injected engines.

³ P642 fuel hose replaces R01890-1 used prior to LT30 Super Rev. G3.02, LT40 Super Rev. G4.02, and LT30HD/40HD Super Rev. G7.02. Use clamp P649 with new hose (replaces 015584 and P12374 used with old fuel hose).

⁴ Replacement requires qty. 1 hose clamp (P649).

3.2 Engine Mount Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	MOUNT PLATE, WISCONSIN ENGINE	014276	1	
2	WASHER, 1/2" SPLIT LOCK	F05011-9	4	
3	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	2	
4	PIN WELDMENT, ENGINE MOUNT PIVOT	014154	1	
5	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	1	
6	NUT, 1/2-13 NYLON LOCK	F05010-8	1	
	MOUNT KIT, WISCONSIN ENGINE	016320 ¹	1	
7	Mount Weldment, Gas Engine	014305	1	◆
8	BOLT, 1/2-13 X 3" HEX HEAD GRADE 5	F05008-23	1	
9	BOLT, 1/2-13 X 3 1/2" HEX HEAD	F05008-15	1	
	BUSHING ASSEMBLY, MOTOR MOUNT	016380 ²	3	
10	Bushing, 2" OD x 2"	016378	1	◆
11	Bearing, 1" x 1 1/4" x 2"	016379	1	◆
12	CLAMP WELDMENT, MOTOR MOUNT PIVOT BUSHING	014540	3	
13	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	3	
14	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	6	

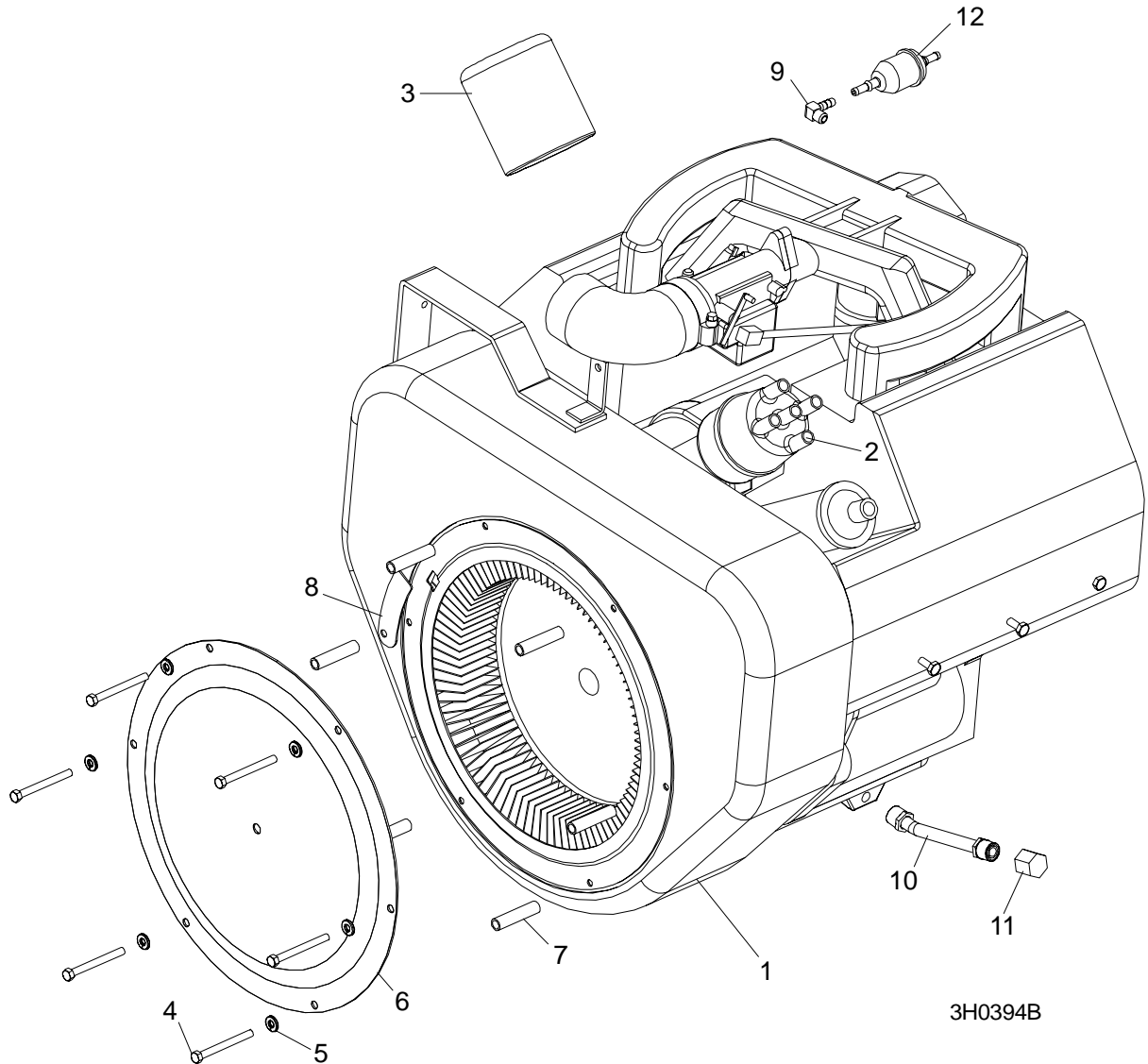
¹ Mount Kit 016320 includes new rubber clutch handle mount bushings and hardware standard on LT30 Super Rev. G9.00, LT40 Super Rev. H1.00 and LT30HD/40HD Super Rev. H4.00 (See Clutch Handle parts in Sawmill Parts Manual).

3 Replacement Parts

Engine Mount Assembly

² New assembly 016380 replaces original rubber pivot bushing P12164 and bronze bushing P05041 supplied prior to LT30 Super Rev. H1.00, LT40 Super Rev. H2.00 and LT30HD/40HD Super Rev. H5.00. NOTE: When replacing original components with new assembly, it is best to replace all three assemblies at the same time.

3.3 Engine Assembly



3H0394B

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	ENGINE, 35HP WISCONSIN MODEL W4-1770	014222	1	◆
	Rotor, Wisconsin W4-1770 Distributor #20121006	014380	1	
2	Cap, Wisconsin W4-1770 Distributor #20121003	014379	1	
	Module, Wisconsin W4-1770 Distributor #20120005	014378	1	
	Plug, Wisconsin W4-1770 Spark #YD6	014377	4	
3	Filter, Wisconsin W4-1770 Oil #RV52	014376	1	
	Gasket Kit, Wisconsin W4-1770 #Q12L	014375	1	
	Gasket Kit, Wisconsin Valve Cover	016080	1	

3

Replacement Parts

Engine Assembly

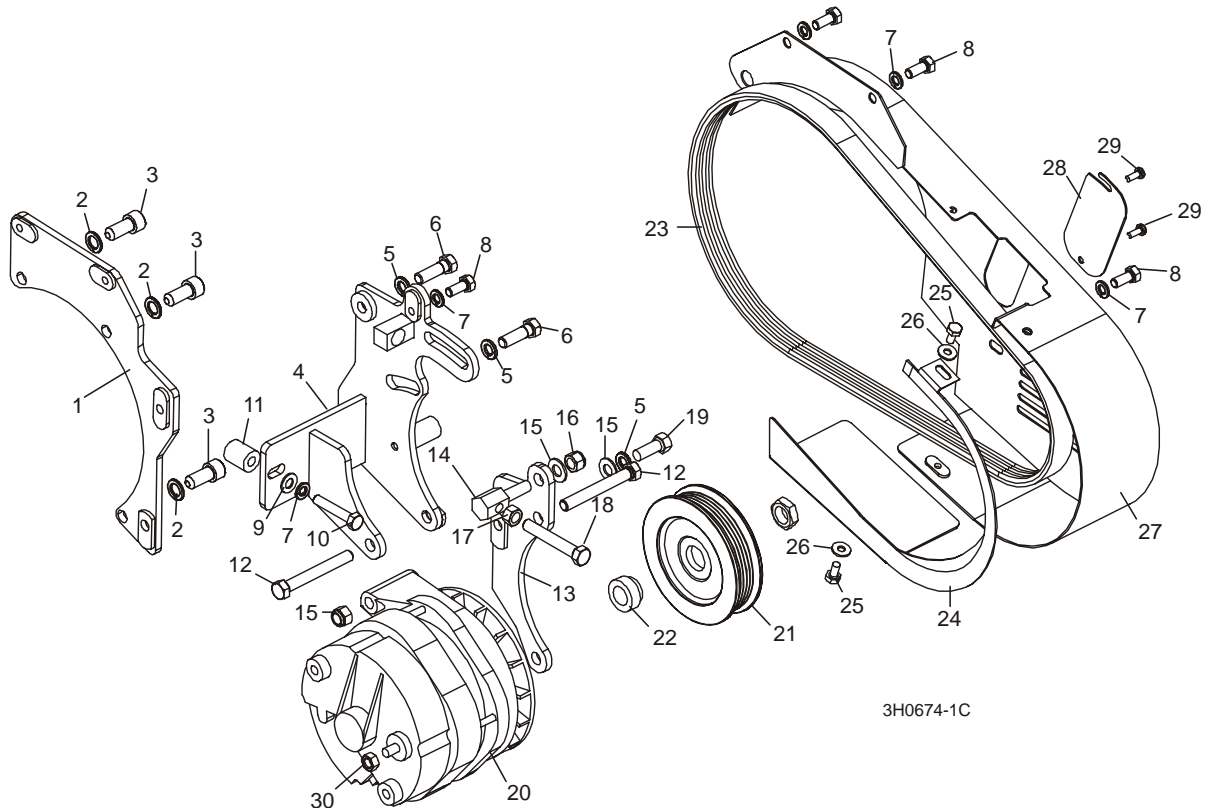
	Gasket, Wisconsin Valve Cover #QD612A	016081	4	
	Gasket, Wisconsin Gear Cover to Spacer #QD851	014546	1	
	Seal, Wisconsin Third Bearing Housing O-Ring #JK72	014545	1	
	Carburetor, Wisconsin W4-1770 #57MS1	014374	1	
	Carburetor Kit, Wisconsin W4-1770 #LQ57	014373	1	
	Pump, Wisconsin W4-1770 Fuel #LP38ES1	014372	1	
4	BOLT, 1/4-20 X 2 1/2" HEX HEAD	F05005-7 ¹	6	
5	WASHER, 1/4" SPLIT LOCK	F05011-14	6	
6	COVER, WISCONSIN ENGINE SOUND	014423	1	
7	SPACER, ENGINE SOUND COVER	014424	6	
8	COVER, TIMING HOLE	014422	1	
9	FITTING, 1/8" NPT TO 1/4" TUBE ELBOW	P12206	1	
10	DRAIN WELDMENT, OIL	015881 ²	1	
11	CAP, 3/8" PIPE	P04332	1	
12	FILTER, IN-LINE FUEL	P07570	1	

¹ Sound Cover and hardware removed LT30 Super Rev. G8.00, LT40 Super Rev. G9.00 and LT30HD/40HD Rev. H3.00. Cover found to be ineffective in reducing engine noise.

² Steel drain weldment 015881 replaces rubber hose P10082 starting with LT30 Super Rev. F9.02, LT40 Super Rev. G1.02, LT30HD Super and LT40HD Super Rev. G3.03.

3.4 Alternator Assembly

LT30 Super Rev. G6.00+
 LT40 Super Rev. G7.00+
 LT30HD Super Rev. H1.00+
 LT40HD Super Rev. H1.00+



3H0674-1C

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	WIRE ASSEMBLY, 61/140 AMP ALTERNATOR PLUG	015969 ¹	1
	ALTERNATOR KIT, G35 140A	023804 ¹	1
	Belt Guard Parts (See Section 3.12)		
1	Bracket Weldment, G35 Alternator Base Mount	023784	1
2	Washer, 7/16" Split Lock	F05011-48	3
3	Bolt, 7/16-14 x 1" Socket Head	F05007-121	3
4	Bracket Weldment, G35 Alternator Mount	023767 ²	1
5	Washer, 3/8" Split Lock	F05011-4	3
6	Bolt, 3/8-16 x 1" Hex Head Grade 5	F05007-87 ³	2
7	Washer, 5/16" Split Lock	F05011-13	5
8	Bolt, 5/16-18 x 3/4" Hex Head	F05006-5	4
9	Washer, 5/16" SAE Flat	F05011-17	1
10	Bolt, 5/16-18 x 1 3/4" Hex Head Full Thread	F05006-17	1
11	Bushing, .75OD x .34ID x .81LG	015553	1

3

Replacement Parts

Alternator Assembly

12	Bolt, 3/8-16 x 3" Hex Head Full Thread	F05007-1	2	
13	Plate Weldment, Alternator Mount	015875 ⁴	1	
14	Stud, Alternator Belt Tension Adjustment	023764	1	
15	Washer, 3/8" SAE Flat	F05011-3	2	
16	Nut, 3/8-16 Nylon Lock	F05010-10	2	
17	Nut, 3/8-16 Hex	F05010-1	1	
18	Bolt, 3/8-16 x 2 1/2" Hex Head Grade 2 Full Thread	F05007-157	1	
19	Bolt, 3/8-16 x 1" Hex Head	F05007-87 ³	1	
	Alternator Assembly, 140 Amp	023730	1	◆
20	Alternator, 140 Amp	023695	1	
	Pulley Assembly, 140 Amp Alternator	036572 ⁵	1	
21	Pulley, 140 Amp Alternator	023694	1	◆
22	Spacer, Alternator Pulley	036571	1	
23	Belt, 6PK425 Fiberglass	023709	1	
24	Guard, 140 Amp Alternator Belt Rear	023786	1	
25	Washer, 1/4" SAE Flat	F05011-11	2	
26	Bolt, 1/4-20 x 1/2" Hex Head	F05005-15	2	
27	Guard Weldment, 140 Amp Alternator Belt	023783 ²	1	
28	Plate, Alternator Belt Access	023794	1	
29	Bolt, #10-24 x 1/2" Pan Head	F05015-17	2	
30	NUT, M8 X 1.25 HEX JAM	F05010-76	1	

¹ 140 amp alternator supplied on LT30 Super Rev. G6.00, LT40 Super Rev. G7.00 and LT30HD/LT40HD Super Rev. H1.00. [See Section 3.5](#) for 105 amp alternator parts. Previous revisions can retrofit to 140A alternator. Alternator Retrofit Kit 016239 includes alternator kit 023804, retrofit plug wire assembly, and installation instructions.

² Mount bracket and belt cover modified 2/99 to provide more belt tension adjustment.

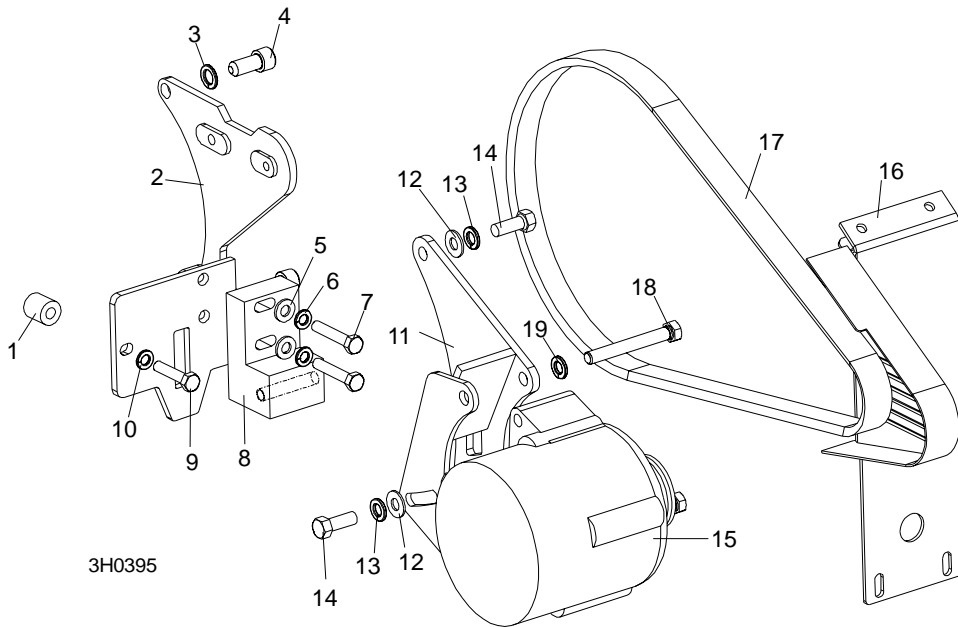
³ Replaces two F05007-2 3/8-16 x 1 1/4" bolts and one F05007-7 3/8-16 x 1" bolt previously supplied. The 1 1/4" bolts were too long, causing misalignment of the bracket with the alternator belt. The 1" bolt was also replaced so all three bolts remain consistent.

⁴ 015875 replaces 023765 originally supplied before 12/99 (similar parts).

⁵ Pulley Assembly 036572 replaces Pulley 023694 and Spacer 016279 supplied prior to 7/04. Pulley Assembly with pressed Spacer 036571 provides improved positioning relative to drive pulley.

3.5 Alternator Assembly

LT30 Super *Rev. F7.00 - G5.00*
LT40 Super *Rev. F8.00 - G6.00*
LT30HD Super *Rev. G1.00 - G9.00*
LT40HD Super *Rev. G1.00 - G9.00*



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	BOSS, .75 X .34 X .81	015553	1	
2	SPACER WELDMENT, G35 ALTERNATOR BRACKET	015558	1	
3	WASHER, 7/16" SPLIT LOCK	F05011-48	2	
4	SCREW, 7/16-14 X 1" SOCKET HEAD CAP BLACK OXIDE	F05007-121	2	
5	WASHER, 5/16" SAE FLAT	F05011-17	2	
6	WASHER, 5/16" SPLIT LOCK	F05011-13	2	
7	BOLT, 5/16-18 X 1 3/4" FULL THREAD HEX HEAD TAP	F05006-17	2	
8	BLOCK, G35 ALTERNATOR MOUNT	015552	1	
9	BOLT, 5/16-18 X 1 1/2" FULL THREAD HEX HEAD TAP	F05006-2	1	
10	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
11	MOUNT WELDMENT, G35/E25 ALTERNATOR	015556	1	
12	WASHER, 3/8" FLAT	F05011-3	3	
13	WASHER, 3/8" SPLIT	F05011-4	3	
14	SCREW, 3/8-16 X 1" HEX HEAD CAP	F05007-7	3	
15	ALTERNATOR, 105 AMP	015473 ¹	1	
	WIRE ASSEMBLY, ALTERNATOR PLUG 105 AMP	015932 ²	1	
16	GUARD WELDMENT, G35 ALTERNATOR 97	015494	1	
17	BELT, 6PK1015 ALTERNATOR	015474	1	

3 Replacement Parts

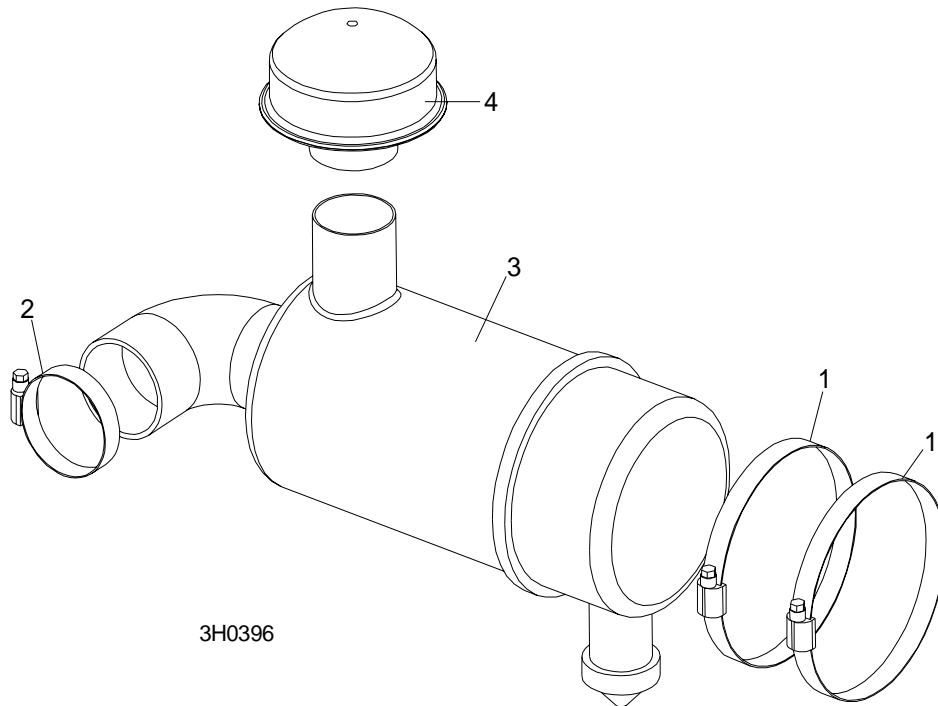
Alternator Assembly

18	BOLT, 3/8-16 X 3" FULL THREAD HEX HEAD	F05007-1	2	
19	WASHER, 3/8" SPLIT	F05011-4	2	

¹ 140A Alternator Retrofit 016239 available ([See Section 3.4](#)).

² New part available 11/97. Plug housing seals added to harness LT30 Super Rev. G4.00, LT40 Super Rev. G5.00, LT30HD Super and LT40HD Super Rev. G8.00.

3.6 Air Cleaner Assembly



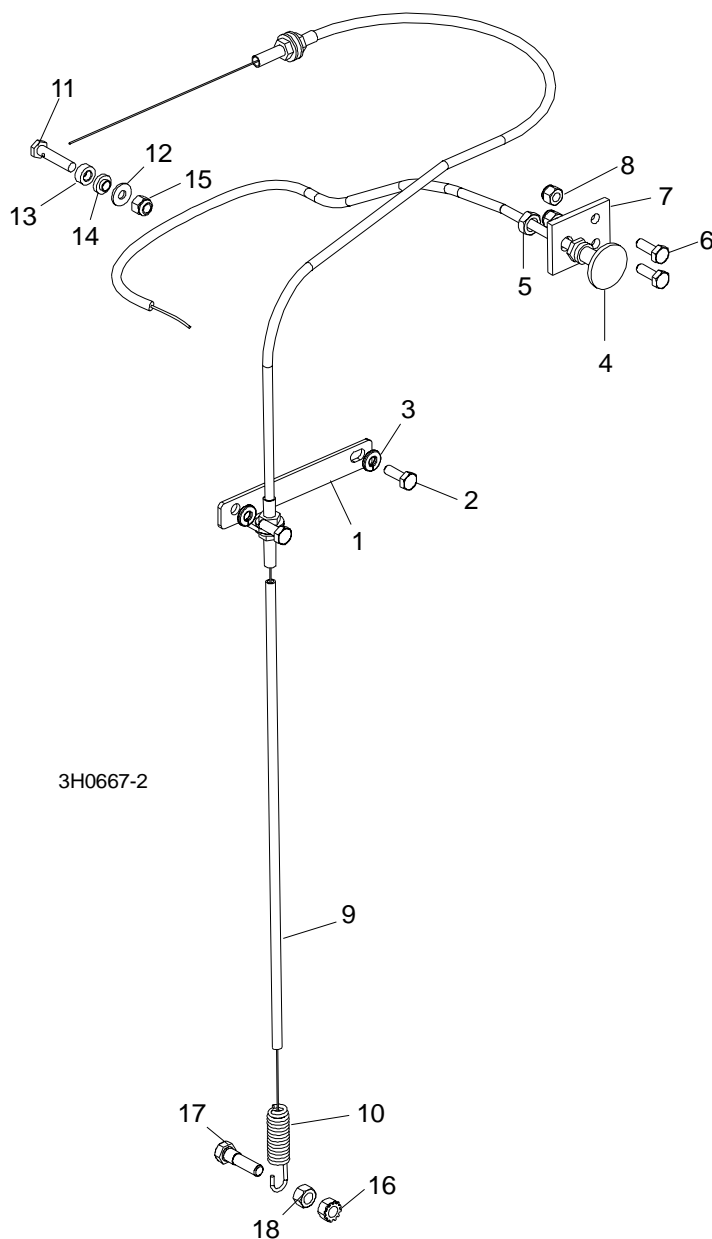
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	CLAMP, 5" WORM	014096	2	
2	CLAMP 2 1/2" WORM	P09895	1	
3	CLEANER, WISCONSIN AIR	014246	1	
	Filter, Air Cleaner Cartridge	014386	1	
4	COVER, WISCONSIN ENGINE	014247	1	

3 Replacement Parts

Throttle/Choke Assembly

3.7 Throttle/Choke Assembly

LT30 Super *Rev. G5.00+*
LT40 Super *Rev. G6.00+*
LT30HD Super *Rev. G9.00+*
LT40HD Super *Rev. G9.00+*



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	BRACKET, THROTTLE CABLE MOUNT	014306	1
2	BOLT, 1/4-20 X 3/4" FULL THREAD HEX HEAD	F05005-1	2
3	WASHER, 1/4" SPLIT LOCK	F05011-14	2

Replacement Parts

Throttle/Choke Assembly

3

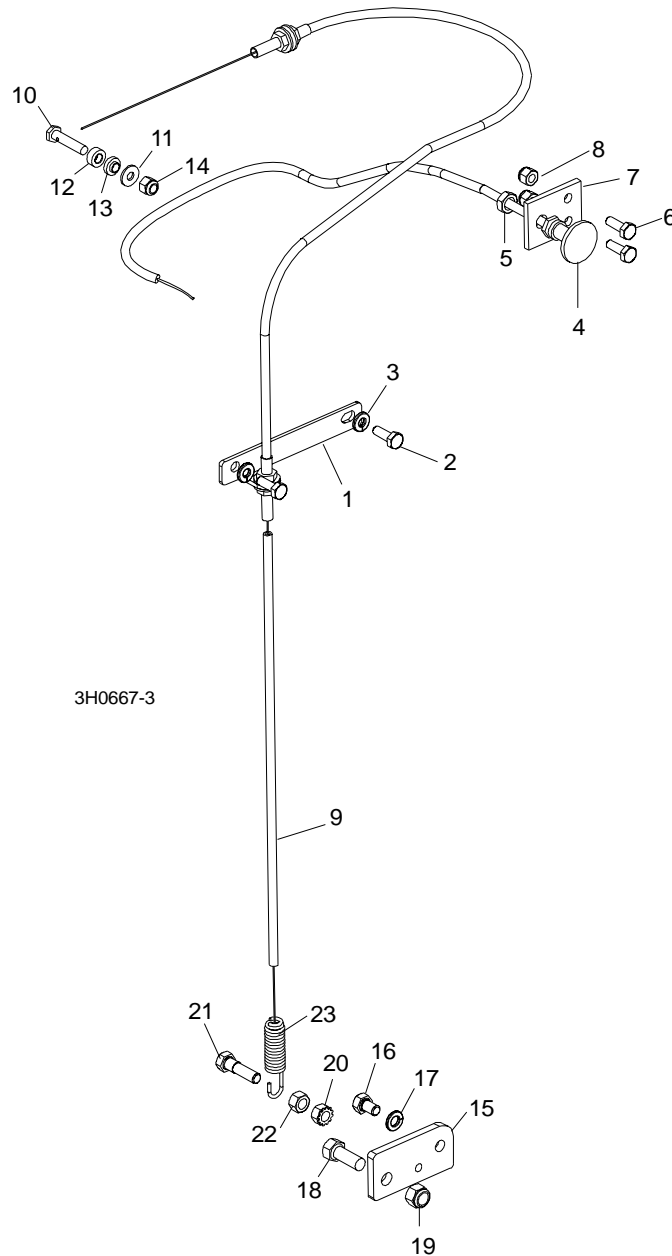
4	CABLE, ENGINE CHOKE	P12314	1	
5	NUT, 3/8-24 HEX JAM	F05010-22	1	
6	BOLT, 1/4-20 X 3/4" HEX HEAD FULL THREAD	F05005-1	2	
7	PLATE, CHOKE CABLE MOUNT	014253	1	
8	NUT, 1/4-20 NYLON LOCK	F05010-69	2	
9	CABLE ASSEMBLY, G35 THROTTLE	016127 ¹	1	
	Cable, G35 .078" Throttle	016126 ¹	1	
10	Spring, Throttle	016033	1	
11	BOLT, WISCONSIN 35HP THROTTLE CABLE	015985	1	
12	WASHER, .25ID X .62OD X .06THK, PLATED	016175	1	
13	WASHER, .266 X .50 X .28 AL-BRONZE	015986	1	
14	BOSS, 1/4 X 1/2 X 1/4" AL-BRONZE	015984	1	
15	NUT, 1/4-20 NYLON LOCK	F05010-69	1	
16	NUT, 5/16-18 SELF-LOCKING HEX	F05010-20	1	
17	BOLT, 5/16-18 X 1 1/4" HEX HEAD FULL THREAD	F05006-18	1	
18	NUT, 5/16-18 HEX LOCK	F05010-6	1	

¹ Use throttle cable retrofit kit 016016 for revisions prior to LT30 Rev. Super G5.00, LT40 Super Rev. G6.00, and LT30HD/40HD Super Rev. G9.00.

3.8 Throttle/Choke Assembly

LT30 Super
LT40 Super
LT30HD Super
LT40HD Super

Rev. F7.00 - G4.02
Rev. F8.00 - G5.02
Rev. G1.00 - G8.02
Rev. G1.00 - G8.02



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	BRACKET, THROTTLE CABLE MOUNT	014306	1	
2	BOLT, 1/4-20 X 3/4" FULL THREAD HEX HEAD	F05005-1	2	

3	WASHER, 1/4" SPLIT LOCK	F05011-14	2	
4	CABLE, ENGINE CHOKE	P12314	1	
5	NUT, 3/8-24 HEX JAM	F05010-22	1	
6	BOLT, 1/4-20 X 3/4" HEX HEAD FULL THREAD	F05005-1	2	
7	PLATE, CHOKE CABLE MOUNT	014253	1	
8	NUT, 1/4-20 NYLON LOCK	F05010-69	2	
9	CABLE KIT, WISCONSIN 35HP THROTTLE REPLACEMENT	016016 ¹	1	
	Cable, G35 .078" Throttle	016126 ¹	1	
10	Bolt, Wisconsin 35hp Throttle Cable	015985 ²	1	
11	Washer, .25ID X .62OD X .06Thk, Plated	016175 ²	1	
12	Washer, .266 x .50 x .28 al-bronze	015986 ²	1	
13	Boss, 1/4 x 1/2 x 1/4" al-bronze	015984 ²	1	
14	Nut, 1/4-20 Nylon Lock	F05010-69 ²	1	
15	Plate, Throttle Cable Retrofit	016128	1	
16	Bolt, 5/16-18 x 1/2" Hex Head Grade 5	F05006-15	1	
17	Washer, 5/16" Split Lock	F05011-13	1	
18	Bolt, 3/8-16 x 1 Hex Head	F05007-7	1	
19	Nut, 3/8-16 Nylon Lock	F05010-10	1	
	Instruction Sheet, D30/D40/G35 Throttle Cable Retrofit Installation	016015-840	1	
20	Nut, 5/16-18 Self-Locking Hex	F05010-20	1	
21	Bolt, 5/16-18 x 1 1/4" Hex Head Full Thread	F05006-18	1	
22	Nut, 5/16-18 Hex Lock	F05010-6	1	
23	SPRING, THROTTLE	016033	1	

¹ Replaces cable kit originally supplied prior to LT30 Rev. Super G5.00, LT40 Super Rev. G6.00, and LT30HD/40HD Super Rev. G9.00. .078" dia. cable 016126 replaces .059" dia. cable 014252 to provide improved durability. Kit includes hardware required to retrofit previous revisions. [See Section 3.7](#) for replacement components if throttle cable has been retrofitted.

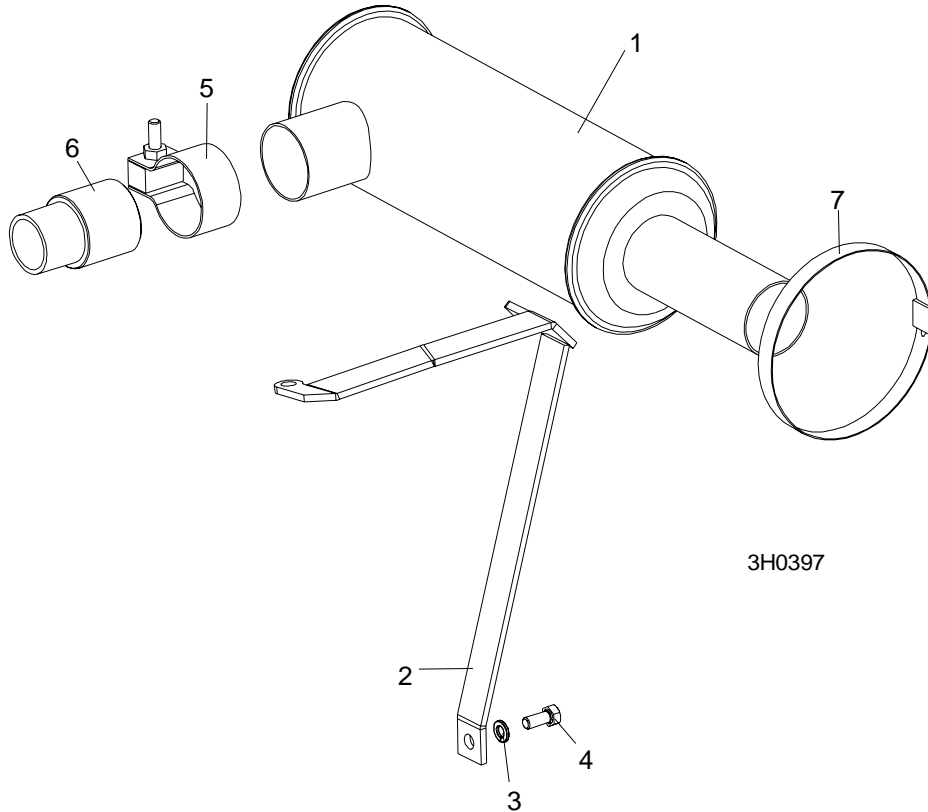
² Replaces cable clamp originally supplied with motor (no WM part# available) prior to LT30 Super Rev. G2.01, LT40 Super Rev. G3.01, LT30HD/40HD Super Rev. G6.01. Also replaces 015983 originally supplied prior to LT30 Super Rev. G5.00, LT40 Super Rev. G6.00, and LT30HD/40HD Super Rev. G9.00.

NOTE: 015983 bolt requires (1) F05011-11 washer, 015984 boss, 015986 washer, and F05010-69 lock nut.

3 Replacement Parts

Muffler Assembly

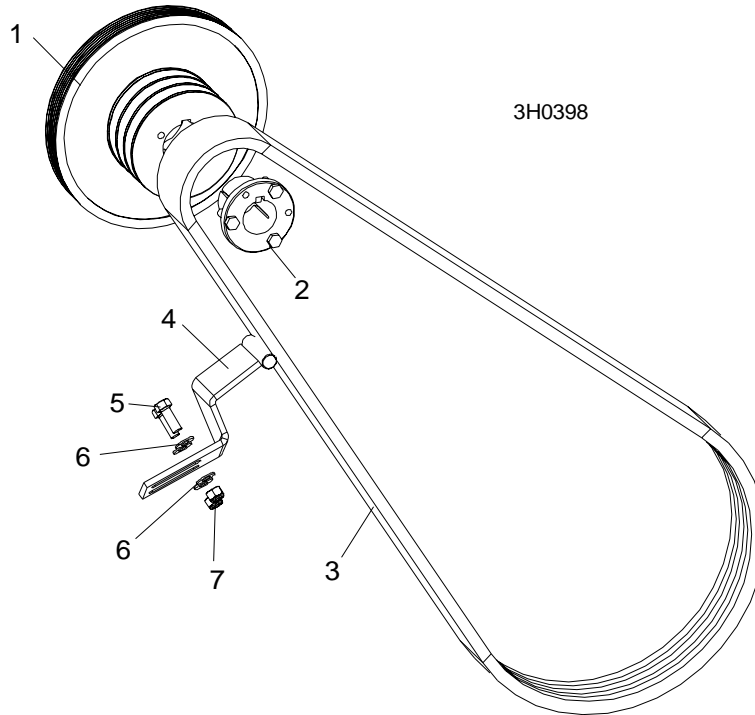
3.9 Muffler Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	MUFFLER, WISCONSIN 35HP	014093	1	
2	BRACKET, MUFFLER MOUNT	014698	1	
3	WASHER, 1/2" SPLIT LOCK	F05011-13	1	
4	SCREW, 5/16-18 X 3/4" HEX HEAD CAP	F05006-5	1	
5	CLAMP, 2" MUFFLER	014205	1	
6	TUBE, MUFFLER ADAPTOR	014254	1	
7	CLAMP, 5" WORM	014096	1	

3.10 Drive Assembly

LT30 Super *Rev. H4.00+*
LT40 Super *Rev. H5.00+*
LT30HD Super *Rev. H8.00+*
LT40HD Super *Rev. H8.00+*



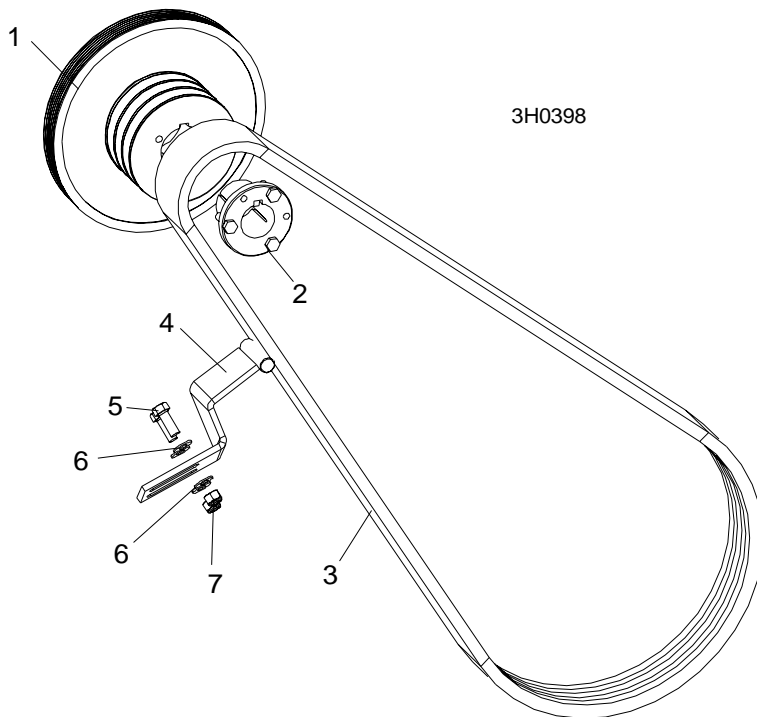
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	SHEAVE, 5V X 4.46" POLY V (GAS/DIESEL)	016533	1
2	BUSHING, SH X 1 7/16"	016535	1
3	BELT, 3/5VL760	016557	1
4	BRACKET, DRIVE BELT SUPPORT	015058	1
5	BOLT, 3/8-16 X1" HEX HEAD	F05007-7	2
6	WASHER, 3/8" SAE FLAT	F05011-3	4
7	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2

3 Replacement Parts

Drive Assembly

3.11 Drive Assembly

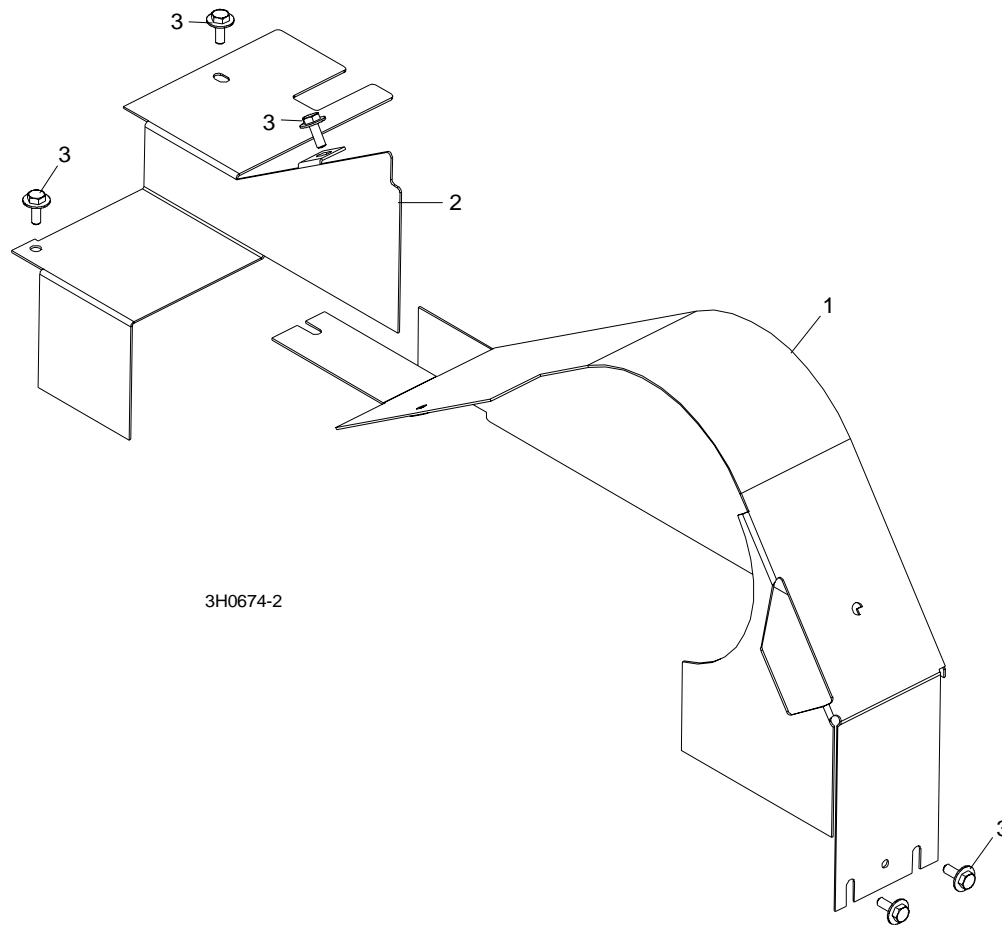
LT30 Super *Rev. F7.00 - H3.00*
LT40 Super *Rev. F8.00 - H4.00*
LT30HD Super *Rev. G1.00 - H7.00*
LT40HD Super *Rev. G1.00 - H7.00*



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	PULLEY, G35 ENGINE POLY GROOVE	015349	1	
2	BUSHING, P1 1 7/16" W/KEY AND BOLTS	014460	1	
3	BELT, 3BX74 DRIVE	014249	1	
4	BRACKET, DRIVE BELT SUPPORT	015058	1	
5	BOLT, 3/8-16 X1" HEX HEAD	F05007-7	2	
6	WASHER, 3/8" SAE FLAT	F05011-3	4	
7	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2	

3.12 Engine Pulley Guards

LT30 Super *Rev. G6.00+*
LT40 Super *Rev. G7.00+*
LT30HD Super *Rev. H1.00+*
LT40HD Super *Rev. H1.00+*



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	GUARD WELDMENT, G35 ENGINE PULLEY	023792 ¹	1
2	GUARD, G35 SIDE ENGINE PULLEY	023793 ¹	1
3	BOLT, 1/4-20 X 3/4" HEX HEAD WITH CONICAL WASHER	F05005-134	5

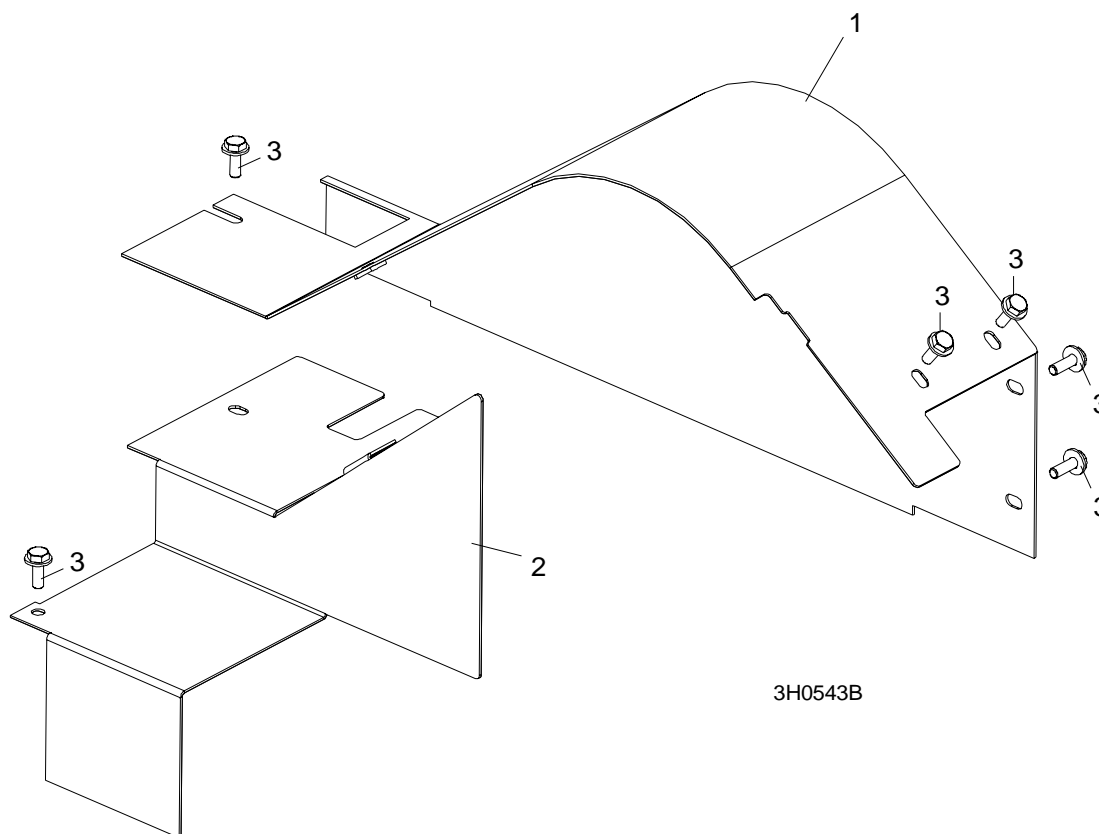
¹ Guards modified for 140 amp alternator supplied after LT30 Super Rev. G6.00+, LT40 Super Rev. G7.00+ and LT30HD/LT40HD Super Rev. H1.00+. [See Section 3.13](#) for covers used on previous revisions with 105 amp alternator.

3 Replacement Parts

Engine Pulley Guards

3.13 Engine Pulley Guards

LT30 Super **Rev. F7.00 - G5.00**
LT40 Super **Rev. F8.00 - G6.00**
LT30HD Super **Rev. G1.00 - G9.00**
LT40HD Super **Rev. G1.00 - G9.00**



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	GUARD WELDMENT, G35 ENGINE PULLEY	015497	1	
2	GUARD, G35 SIDE ENGINE PULLEY	015498	1	
3	BOLT, 1/4-20 X 3/4" HEX HEAD WITH CONICAL WASHER	F05005-134 ¹	6	

¹ Replaces 1/4-20 x 3/4" hex head bolt (F05005-1) and 1/4" SAE flat washer (F05011-11) originally supplied prior to LT30 Super rev. G6.00, LT40 Super rev. G7.00 and LT30HD/40HD Super rev. H1.00.