

G24 Engine

Safety, Operation, Maintenance & Parts Manual

1996 LT30	rev. F4 - F6.01
1996 LT40	rev. F5 - F7.01
1996 LT30HD	rev. F8 - F9.01
1996 LT40HD	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 #598

See page 37 for these revisions

1997 LT30	rev. F7.00 - G2.02
1997 LT40	rev. F8.00 - G3.02
1997 LT30HD	rev. G1.00 - G5.02
1997 LT40HD	rev. G1.00 - G5.02

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


1.1 Refueling

 **WARNING!** Store gasoline away from sawdust and other flammable materials.


WARNING! Do not store gasoline near hot or burning materials.

WARNING! Do not smoke near gasoline storage tank or during refueling.


1.2 Engine Operation

 **DANGER!** Do not operate engine in enclosed areas. Carbon Monoxide poisoning may occur.

DANGER! Do not operate engine without proper and operational spark arrester/muffler.


 **WARNING!** The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

1.3 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.

SECTION 2 OPERATION



2.1 Starting The Engine

 **DANGER!** Do not start the engine 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 engine.

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

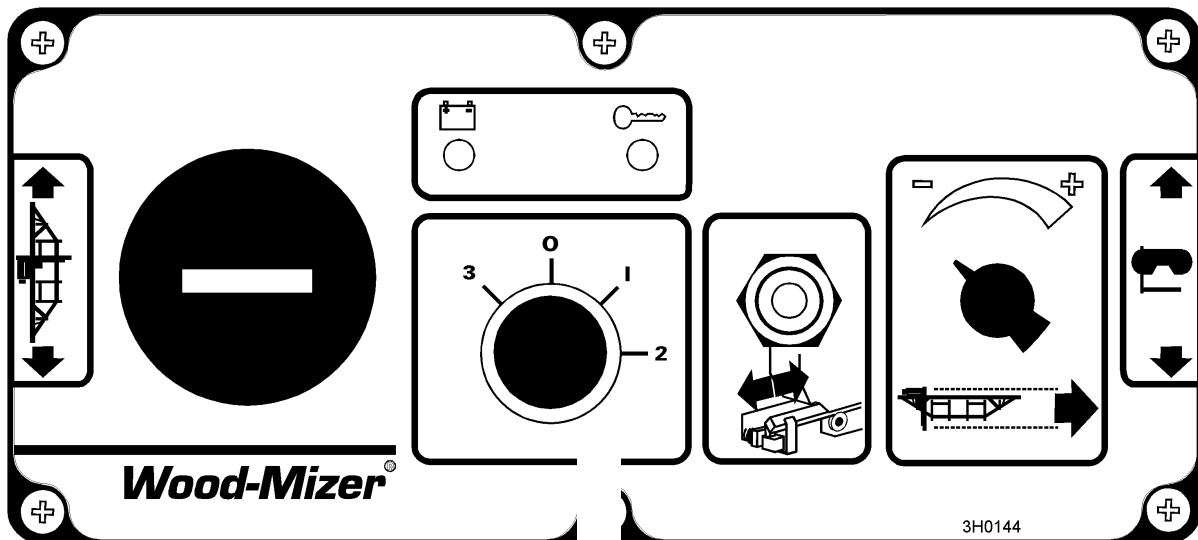


FIG. 2-1

Engine Start

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

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

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

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

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

SECTION 3 MAINTENANCE



IMPORTANT! The Wood-Mizer maintenance schedule takes into account the specific use of engines in the Wood-Mizer sawmill. Therefore, the schedule may require certain procedures be performed at different time intervals than found in the engine manufacturer's manuals. Refer to the [manufacturer's manual](#) if you need more information on how to perform a procedure or on the engine itself.



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.

3.1 Air Filter & Pre-Cleaner



Service the pre-cleaner every four hours of operation. Service 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. See the engine manual for further instructions.



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



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

3.2 Engine Oil & Filter



Check the oil level every 8 hours of operation. Add oil as necessary. See the engine manual for oil viscosity and grade recommendations.



IMPORTANT! During initial break-in, change the oil and the oil filter after the first 5 hours and every 50 hours thereafter. Continue to check oil level every 8 hours of operation and refill as necessary.



3.3 Air Cooling System

50

Wash the engine or brush off sawdust and debris every 50 hours of operation. Clean the spark arresters, breather pipe, cylinder head and cylinder cooling fins. Remove any dust, dirt or oil. See engine manual for further instructions.

3.4 Fuel Filter

100

Replace the fuel filter every 100 hours of operation.

3.5 Battery

50

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

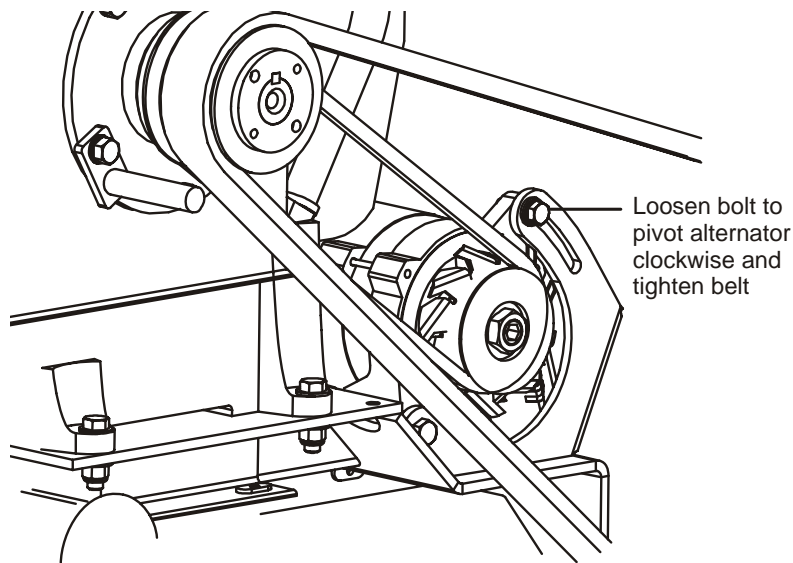


WARNING! Batteries contain explosive gases. Always wear eye protection and keep face away when charging or boosting battery. Charge battery in well-ventilated area. Keep battery away from hot or burning materials. Avoid spilling electrolyte when handling.

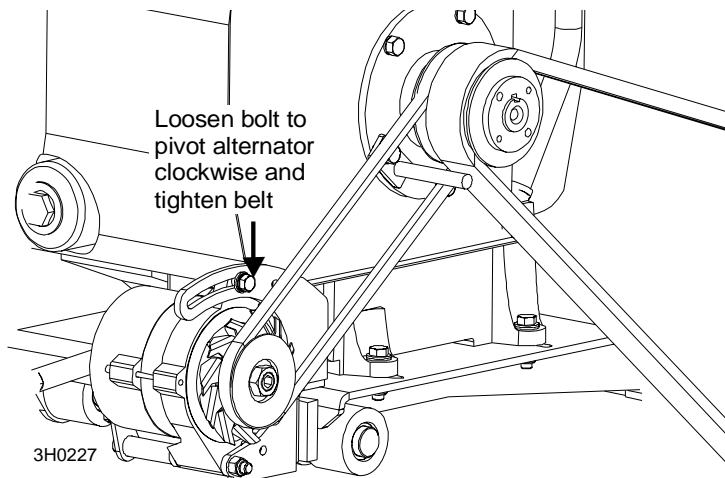
3.6 Alternator Belt

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

See Figure 3-1.



LT30 REV. F4 - F5, LT40 REV. F5 - F6, LT30HD/LT40HD REV. F8



LT30 REV. F6+, LT40 REV. F7+, LT30HD/40HD REV. F9+

3.7 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 14 lb. deflection force. To adjust the drive belt, 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.

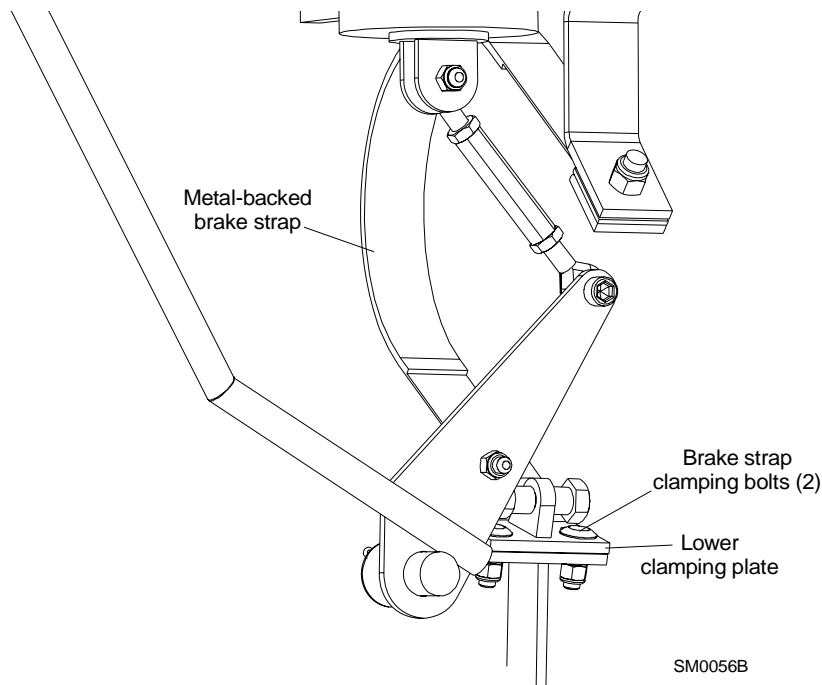


FIG. 3-2

AR

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

AR

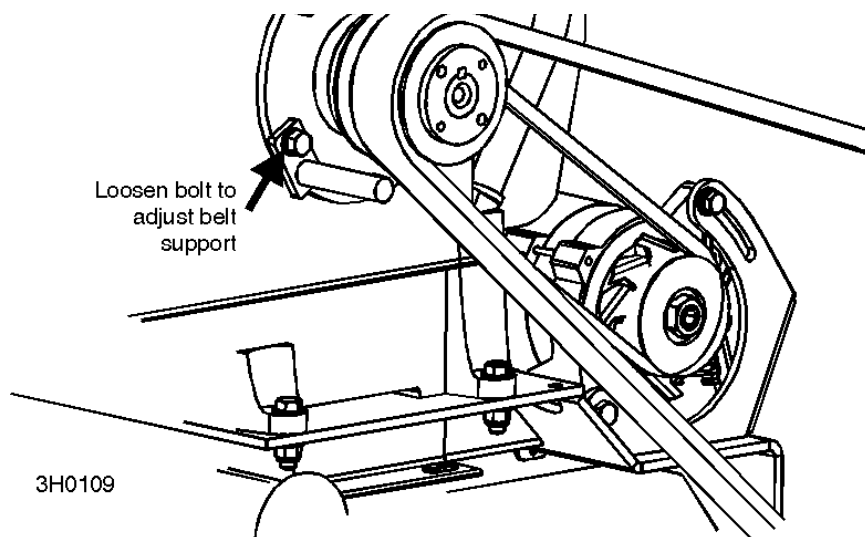
Adjust the drive belt support as needed. The drive belt support is designed to extend belt life. The support bracket should be adjusted to NOT touch the drive belt when the clutch handle is engaged (down position), AND to hold the drive belt away from the engine pulley when the clutch handle is disengaged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



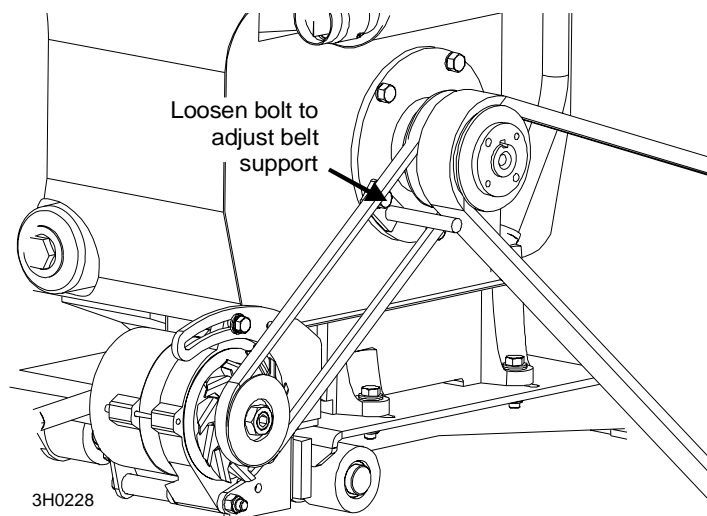
DANGER! Do not for any reason adjust the drive belt support with the motor running. Always stop the motor before reaching or looking into the drive belt area.

See Figure 3-3. To adjust:

1. Make sure the motor is not running. Loosen the adjustment bolt.
2. Position the support bracket so it does not touch the drive belt with the clutch handle engaged, and does hold the drive belt away from the motor pulley with the clutch handle disengaged.
3. Retighten the adjustment bolt to 25-27 pound feet (34-37 newton meters).



LT30 REV. F4 - F5, LT40 REV. F5 - F6, LT30HD/LT40HD REV. F8



LT30 REV. F6+, LT40 REV. F7+, LT30HD/40HD REV. F9+

3.8 Miscellaneous Maintenance

50

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

100

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

500

Adjust the valve clearance every 500 hours of operation. See engine manual for further details.

1000

Clean carbon and lead deposits from the cylinder head every 1000 hours of operation. See engine manual for further details.

3.9 RPM Adjustments



DANGER! Remove the blade from the sawmill before checking engine RPM.



Check the RPM with a tachometer after the first 20 hours of operation and every 200 hours thereafter. High-end RPM should be 3400-3600RPM and low-end RPM should be 1800 (± 100).

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

1. Start the engine to measure the low-end RPM.

See Figure 3-4. Make sure that the throttle linkage is not affecting the engine RPM while the clutch/brake handle is disengaged.

Make sure the cable is not bent or kinked. If necessary, rotate the clamp on bracket B until the cable spring, cable guide, cable, and throttle brackets are aligned. **NOTE:** It is important that the above components are aligned. Proper alignment allows any slack in the cable (when engine is idling) to slide down into the cable spring. This maintains free operation of the cable and prevents the cable from kinking. Make sure the shoulder bolt does not rub against the crankcase vent tube.

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.

See Figure 3-4. To adjust the high-end RPM, lower or raise the cable guide in the throttle cable bracket until the cable spring extends 1/4" - 3/8" (6.4 - 9.5 mm) when the engine is at 3400-3600 RPM. Bend the high speed stop on bracket B down until it touches bracket A. This will prevent over-revving the engine when tightening the belt adjustment. To adjust for low-end RPM, adjust the idle screw on bracket B until the RPM is 1800 (± 100). **NOTE:** A properly adjusted throttle will extend the cable spring 1/4" to 3/8" (6.4 - 9.5 mm) when running and have a slight amount of slack in the cable when idling.

3 Maintenance
RPM Adjustments

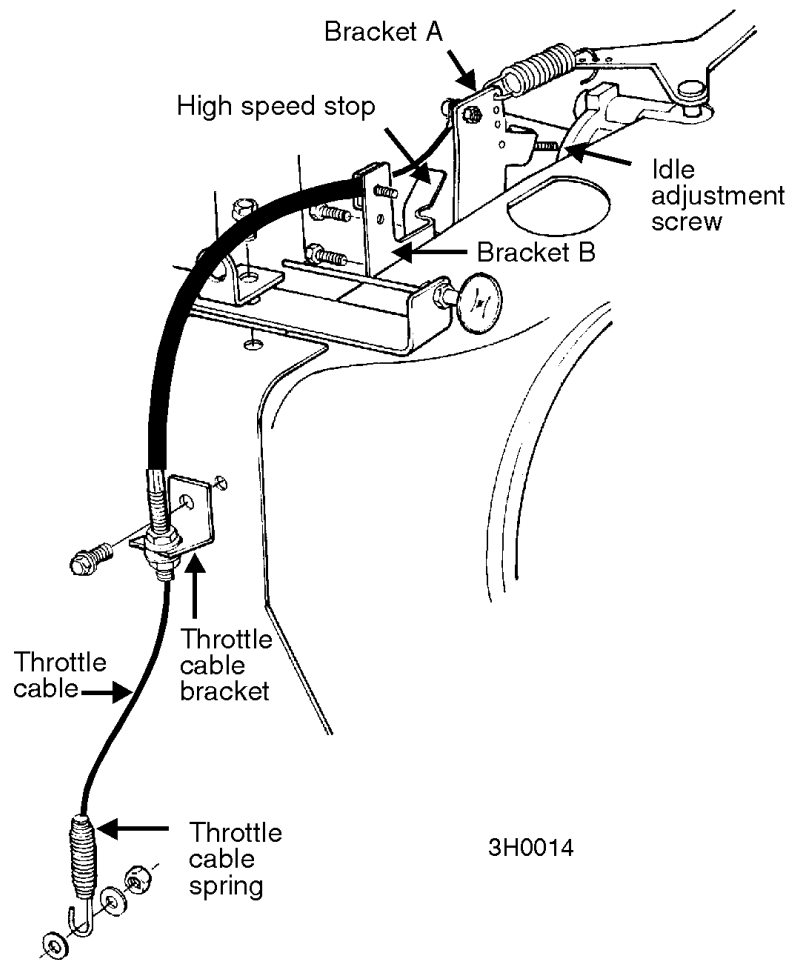


FIG. 3-4

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

5-Gallon Fuel Tank Assembly

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	TANK ASSEMBLY, 5-GALLON RED GASOLINE	A12285	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 Pipe Plug	P10367 ¹	1	
	HOSE, FUEL LINE WITH PRIMER BULB	014497 ²	1	
	Bulb Kit, Fuel Primer Replacement	014496 ²	1	
6	Bulb, Fuel Primer	014481	1	◆
7	Clamp, 7/32 - 1/2 Hose	P649 ²	2	
	Instruction Sheet, Fuel Primer Bulb Replacement	014496-590	1	
8	Hose, 1/4" ID Fuel	P642 ²	6.5 Ft	
9	Clamp, 7/32 - 1/2 Hose	P649 ²	2	
10	FITTING, 1/4" NPT PLASTIC MALE DISCONNECT	P12176 ³	1	

¹ Plug fitting P10367 added 11/03. Hole added to fuel tank to accommodate return line for fuel injected engines.

² Fuel Line P642 replaces R01890-1 originally supplied. Hose Clamp P649 replaces plastic clamp P12374 and 015584 previously supplied.

³ Replacement requires qty. 1 hose clamp (P649).

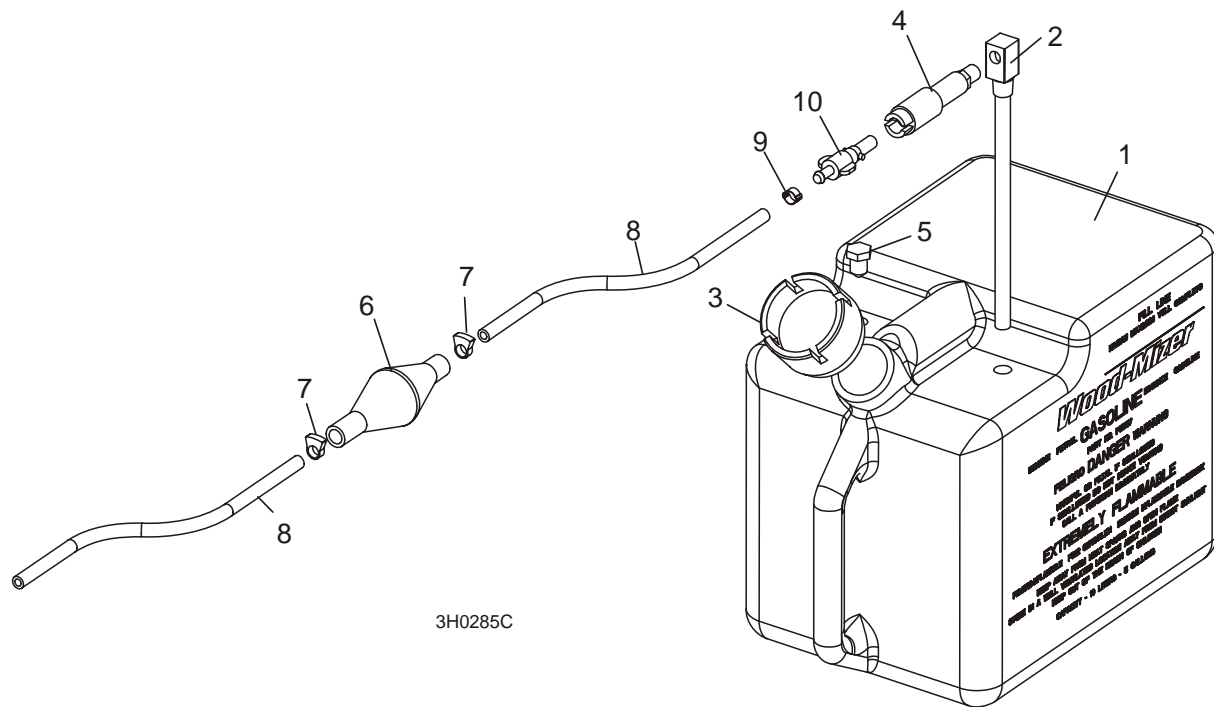


FIG. 4-1

4

Replacement Parts

Engine Assembly

27	Cap, Oil Drain 3/8" Pipe	P04332	1	
	Oil, 10W30 Type CD	L04869-1	.5 Gal	◆
28	Pulley, 3-Groove Motor	S10435	1	
29	Bushing, 1 1/8" Split Taper	P04306	1	
30	BELT, 2BX74 DRIVE	P10277-2	1	
	MOUNT KIT, GAS ENGINE	016319 ³	1	
31	Plate, Motor Mount	014514	1	◆
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ⁴	2	◆
32	Bushing, Rubber Motor Mount Pivot	P12164	1	
33	Spacer, Motor Mount Pivot	P05041	1	
34	PLATE, MOTOR MOUNT PIVOT BUSHING	014031	3	
35	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	6	
36	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	6	
37	BOLT, 3/8-16 X 1 1/2" HEX HEAD GRADE 2	F05007-3	4	
38	WASHER, 3/8" SAE FLAT	F05011-3	12	
39	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	4	
	KIT, ALTERNATOR WITH BRACE	K12801 ⁵	1	
40	Alternator, 105A 12V	050287 ⁵	1	
41	Brace, Alternator	W12761	1	
42	Washer, 3/8" SAE Flat	F05011-3	1	
43	Bolt, 3/8-16 x 5 1/2" Hex Head Full Thread	F05007-34	1	
44	Nut, 3/8-16 Hex Nylon Lock	F05010-10	1	
45	Washer, 5/16" SAE Flat	F05011-17	1	
46	Washer, 5/16" Split Lock	F05011-13	1	
47	Bolt, M8 X 1.25" X 1" Hex Head Full Thread	F05004-40	1	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	
48	WASHER, 5/16" SAE FLAT	F05011-17	1	
49	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
50	BOLT, M8 X 1.25" X 1" HEX HEAD FULL THREAD	F05004-40	1	
51	PULLEY, 1979452 DELCO ALTERNATOR	P03806	1	
52	BELT, AX36 ALTERNATOR	016083 ⁶	1	
	BRACKET ASSEMBLY, DRIVE BELT SUPPORT SINGLE-PRONG	A12243	1	
53	Bracket, Drive Belt Support Single-Prong	W12237	1	◆
54	Washer, 3/8" Split Lock	F05011-4	1	
	Instruction Sheet, Drive Belt Support Single-Prong	A12243-420	1	
55	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	1	
56	PIN WELDMENT, ENGINE MOUNT PIVOT	014154	1	
57	NUT, 1/2-13 NYLON LOCK	F05010-8	1	
58	BRACKET, ALTERNATOR MOUNT	014509 ⁵	1	
59	WASHER, 3/8" SAE FLAT	F05011-3	2	
60	WASHER, 3/8" SPLIT LOCK	F05011-4	2	
61	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	2	

62	GUARD, ALTERNATOR BELT	014499 ⁷	1	
63	SPACER, 5/16" X 7/16" X 1 15/16" TUBE	014424 ⁷	1	
64	WASHER, 1/4" SAE FLAT	F05011-11	2	
65	BOLT, 1/4-20 X 2 1/4" HEX HEAD	F05005-7	2	

- ¹ Coil kit P06827 no longer available from vendor. If replacing original coil, order mount parts: Screw 055000, Nut 055001, Screw 055002, Clamp 055003 & Bracket 055004 in addition to Coil 055005. If coil is mounted on top of manifold, order coil 055005 only.
- ² Cable revised to include heavier spring (LT30 rev. F6.01+, LT40 rev. F7.01, LT30HD/LT40HD rev. F9.01+).
- ³ Mount Kit 016319 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 (014509).
- ⁶ 016083 AX36 Belt replaces 014523 A36 Belt originally supplied.
- ⁷ Spacer removed from guard weldment 9/96. Spacer 014424 available separately.

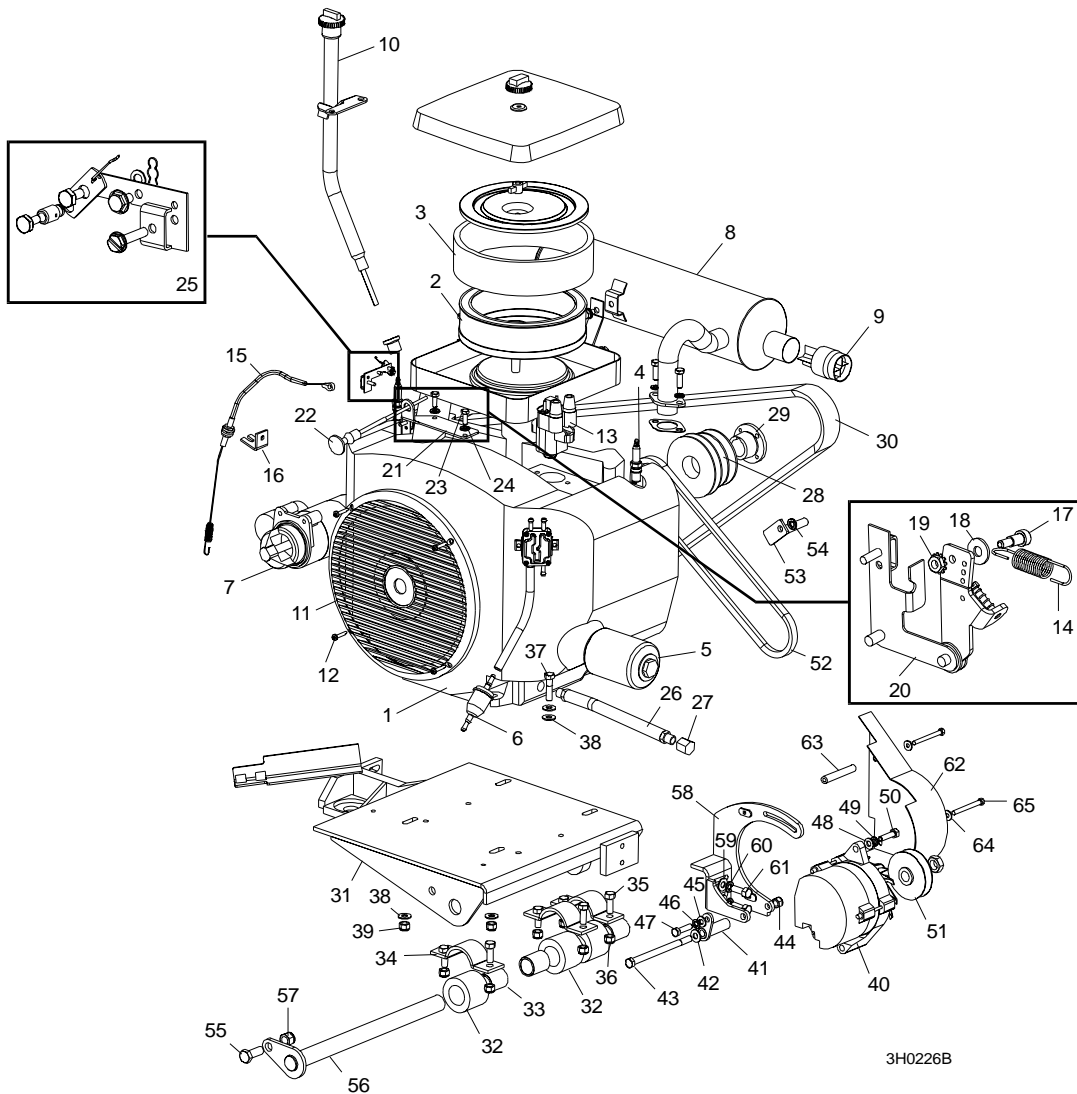


FIG. 4-2

4

Replacement Parts

Engine Assembly

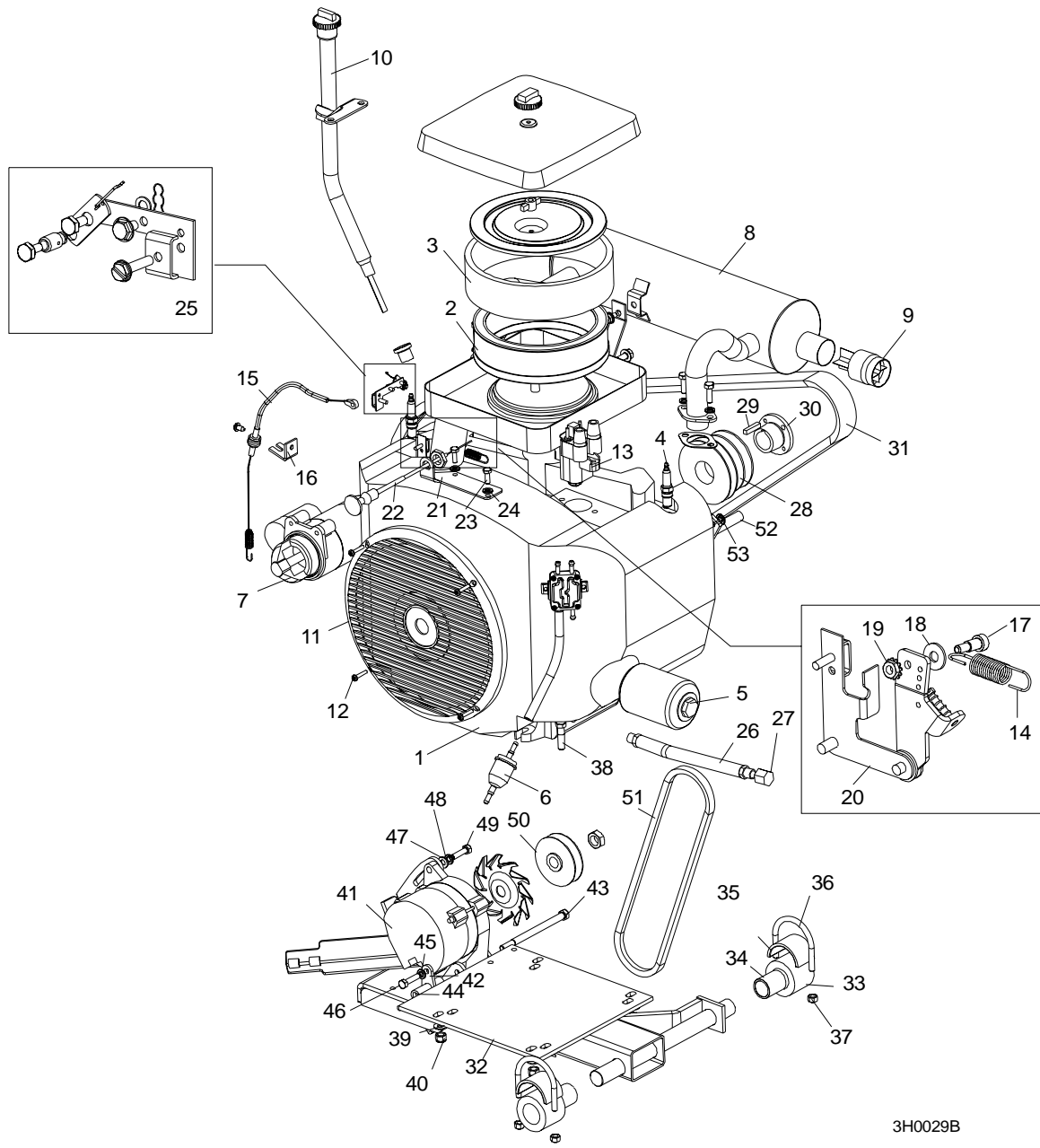
27	Cap, Oil Drain 3/8" Pipe	P04332	1	
	Oil, 10W30 Type CD	L04869-1	.5 Gal	◆
28	Pulley, 3-Groove Motor	S10435	1	
29	Key, 1/4" x 1/4" x 1 11/16"	S04124 ²	1	
30	Bushing, 1 1/8" Split Taper	P04306	1	
31	BELT, 2BX74 DRIVE	P10277-2	1	
32	PLATE, MOTOR MOUNT	W11543 ³	1	
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ⁴	2	◆
33	Bushing, Rubber Motor Mount Pivot	P12164	1	
34	Spacer, Motor Mount Pivot	P05041	1	
35	PLATE, MOTOR MOUNT PIVOT BUSHING	S04403	2	
36	BOLT, 5/16-18 X 2 1/2" 'U'	P05039	2	
37	NUT, 5/16-18 HEX LOCK	F05010-6	2	
38	BOLT, 3/8-16 X 1 1/2" HEX HEAD GRADE 2	F05007-3	4	
39	WASHER, 3/8" SAE FLAT	F05011-3	8	
40	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	4	
	KIT, ALTERNATOR WITH BRACE	K12801 ³	1	
41	Alternator, 105A 12V	050287 ³	1	
42	Brace, Alternator	W12761	1	
43	Bolt, 3/8-16 x 5 1/2" Hex Head Full Thread	F05007-34	1	
44	Nut, 3/8-16 Hex Nylon Lock	F05010-10	1	
45	Washer, 5/16" Split Lock	F05011-13	1	
46	Bolt, M8 X 1.25" X 1" Hex Head Full Thread	F05004-40	1	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	
47	WASHER, 5/16" SAE FLAT	F05011-17	1	
48	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
49	BOLT, M8 X 1.25" X 1" HEX HEAD FULL THREAD	F05004-40	1	
50	PULLEY, 1979452 DELCO ALTERNATOR	P03806	1	
51	BELT, A33 ALTERNATOR	P11542	1	
	BRACKET ASSEMBLY, DRIVE BELT SUPPORT SINGLE-PRONG	A12243	1	
52	Bracket, Drive Belt Support Single-Prong	W12237	1	◆
53	Washer, 3/8" Split Lock	F05011-4	1	
	Instruction Sheet, Drive Belt Support Single-Prong	A12243-420	1	

¹ Coil kit P06827 no longer available from vendor. If replacing original coil, order mount parts: Screw 055000, Nut 055001, Screw 055002, Clamp 055003 & Bracket 055004 in addition to Coil 055005. If coil is mounted on top of manifold, order coil 055005 only.

² 1-11/16" key replaces 1 1/4" or 2" key originally supplied.

³ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (W11543). 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.

⁴ A04127 no longer available. Purchase individual component parts P12164 and P05041.



3H0029B

FIG. 4-3

Form #202

Onan Engine Service Parts (● indicates part is applicable to specified model)

Description	WM Part No.	Onan Part No.	18HP P218G	20HP B48G	20HP P220G	24HP T260G	24HP P224G
Cap, Crankcase Breather	P06828	123-0954	●	N/A	●	●	●
Carburetor, Onan	P06825	146-0662	146-659	146-0495 (Spec B-C) 146-0660 (Spec D+)	146-0660	●	●
Carburetor Kit, Onan Repair	P06826	146-0500	● (Spec A-F) 146-0657 (Spec G+)	146-0292 (Spec B-C) 146-0356 (Spec D+)	● (Spec A-F)	●	● (Spec A-F) 146-0657 (Spec G+)
Cleaner, Onan 4C Carburetor	014385	326-5278	●	●	●	●	●
Clip, Onan Linkage #004	P09580	518-0004	●	●	●	●	●
Clip, Onan Linkage #406	P09581	518-0406	●	●	●	●	●
Coil, Onan Ignition	P10358	166-0772	N/A	●	N/A	● (Spec A-E)	N/A
Coil, Onan Ignition (Electronic)	055005 ^a	166-0820	●	N/A	●	● (Spec F+)	●
Condenser, Onan Elec. Ignition	P06820	312-0256	●	N/A	●	312-0255 (Spec F+)	●
Condenser, Kit w/Points	K12503	160-1183/312-0246	N/A	●	N/A	● (Spec A-E)	N/A
Filter, Onan Air	P07566	140-2628-01	●	●	●	●	●
Filter, Onan Air Pre-Cleaning	P07961	140-1496-01	●	●	●	●	●
Filter, Onan Inline Fuel	P07570	149-2206-01	●	●	●	●	●
Filter, Onan Oil	P09881	122-0469	●	●	●	●	●
Gasket Kit, Complete Engine	P06815	168-0191	168-0187	168-0187	168-0187	●	●
Gasket Kit, B48/P218/P220 Decarbon	014629	168-0189	●	●	●	N/A	N/A
Gasket Kit, T260/P224 Decarbon	P06822	168-0190	N/A	N/A	N/A	●	●
Gasket Kit, T260/P224 Valve Adjust	014604	110-3575/154-2219/ 154-2747 (2 ea)	N/A	N/A	N/A	●	●
Jet, P218 High Altitude Carburetor	014630	146-0652	●	N/A	N/A	N/A	N/A
Jet P224 High Altitude Carburator	014631	146-0695	N/A	N/A	N/A	N/A	●
Jet, Onan Carburetor Idle	P09624	146-0426	●	146-0337	●	●	● (Spec A-G)
Plug, RS17YC Spark	P06819	167-0272	●	●	●	●	●
Pump, Onan Fuel	P07978	149-1982	●	●	●	●	149-2187-02
Regulator, 20 Amp	P07932	191-2106	●	●	●	N/A	N/A
Regulator, 35 Amp	P09679	191-1847	N/A	N/A	N/A	●	N/A

Spring, Onan Governor	P04497	150-1214	●	●	●	N/A	●
Spring, Onan Governor (T260)	014610	150-1831	N/A	N/A	N/A	●	N/A
Spring, Onan Governor Rod	014311	N/A	N/A	N/A	N/A	N/A	●
Spring, Onan Governor Surge	014541	150-1755	N/A	N/A	N/A	150-2550	●
Starter, Onan Engine	P06830	191-1949-04	●	191-1567	●	191-1949-01	●

^a Coil kit P06827 (541-0523) no longer available from vendor. If replacing original coil, order mount parts: Screw 055000, Nut 055001, Screw 055002, Clamp 055003 & Bracket 055004 in addition to Coil 055005. If coil is mounted on top of manifold, order coil 055005 only.

SECTION 5 ELECTRICAL INFORMATION

5.1 Electrical Symbol Diagram, G24 LT30/LT40

LT30
LT40

F4723 - F6.01
F5588 - F7.01¹

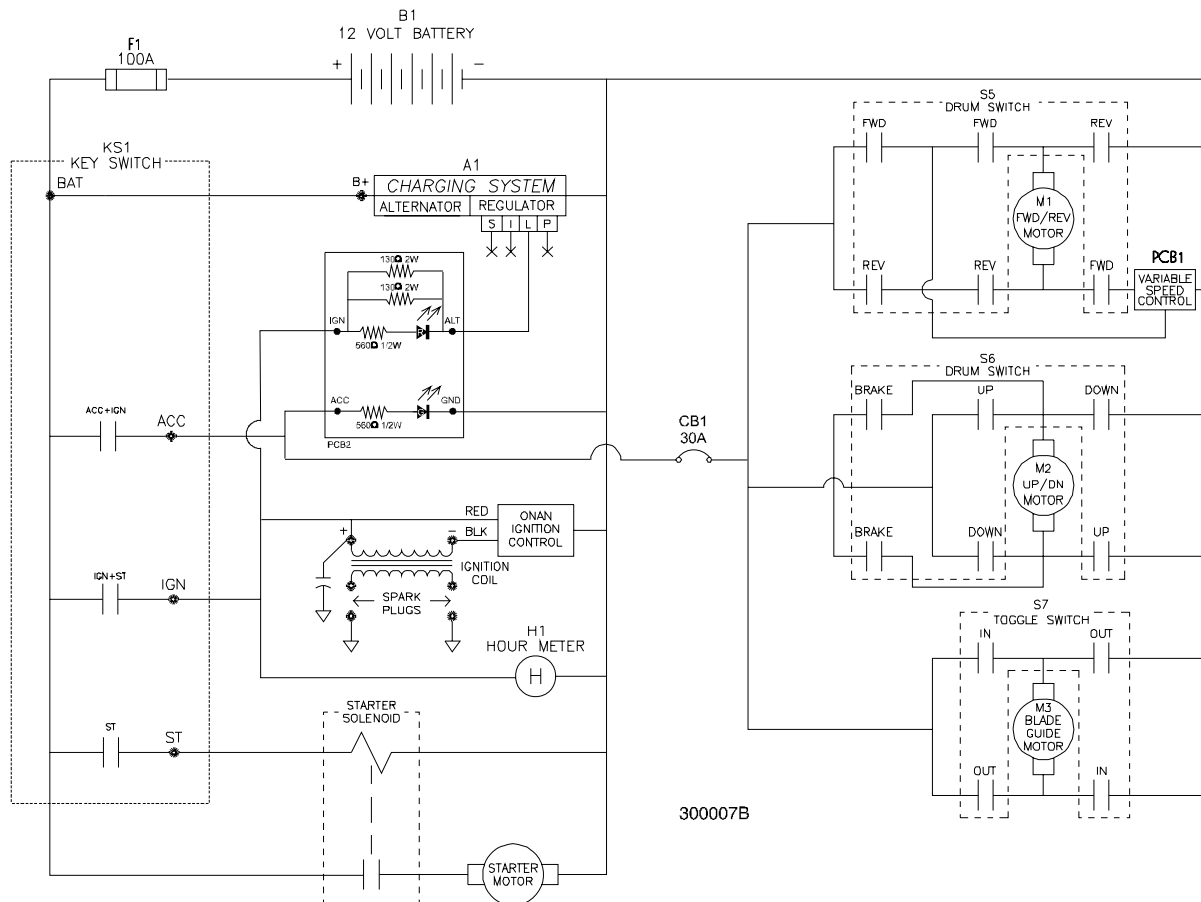


FIG. 5-1

¹ Except LT40 Rev. F5592 (See Section 5.2).

5.2 Electrical Symbol Diagram, G24 LT30/LT40

LT30
 LT40

F4710 - F4722
 F5565 - F5587, 592

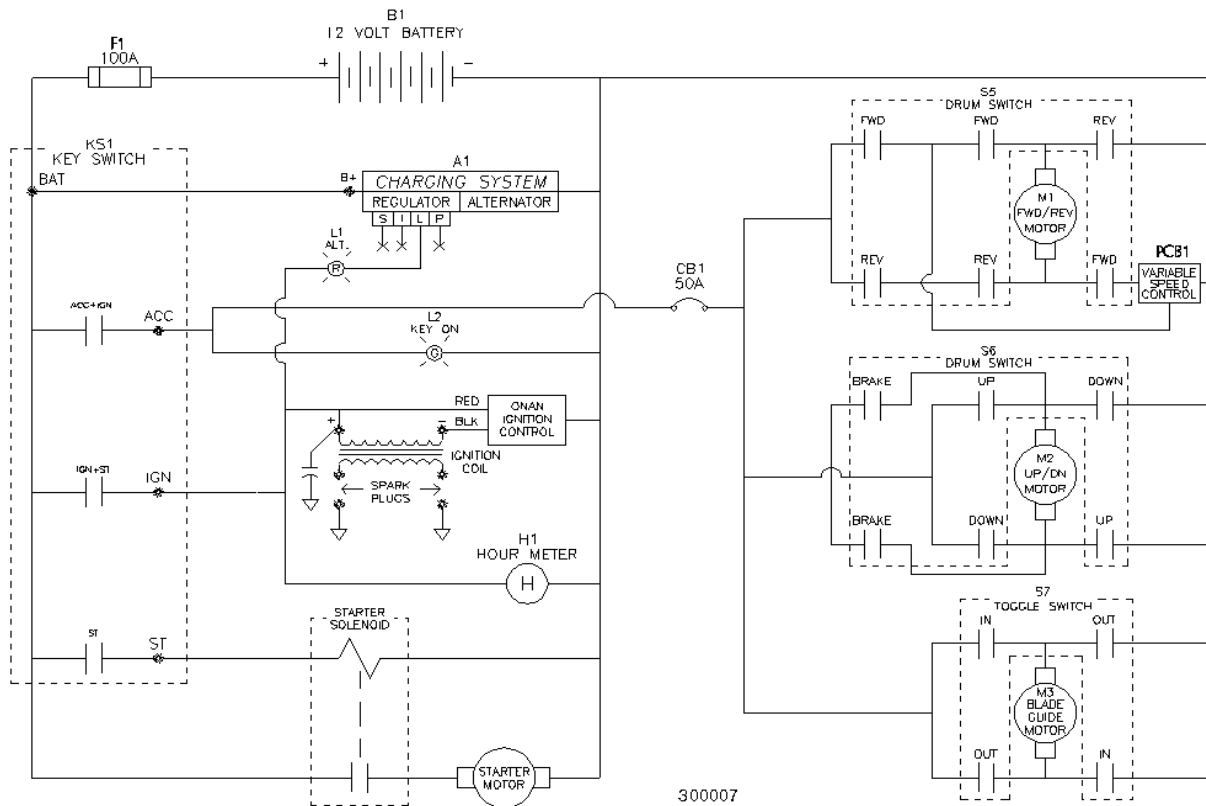
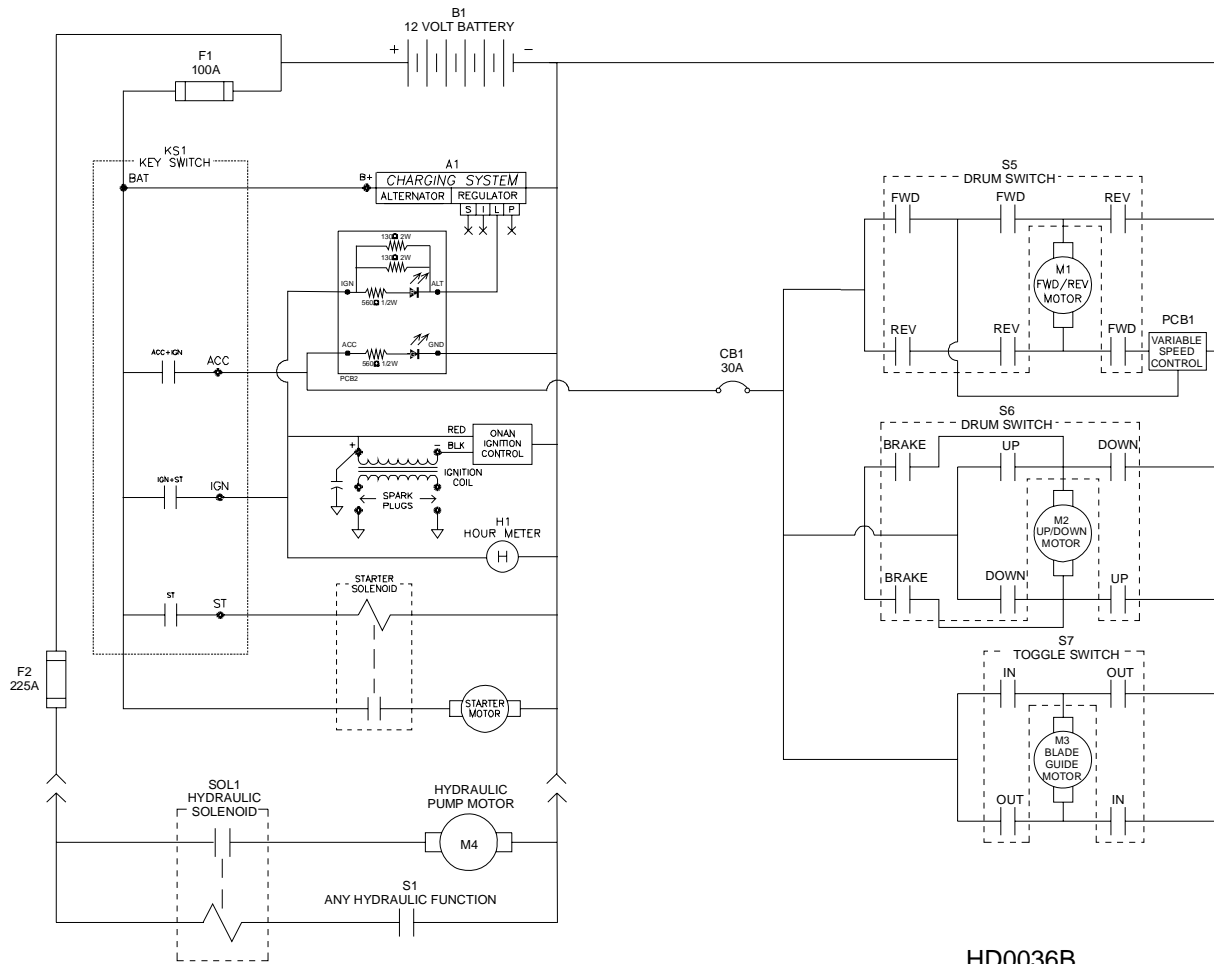


FIG. 5-2

5.3 Electrical Symbol Diagram, G24 LT30HD/LT40HD

LT30HD
LT40HD

F8522 - F9.01
F8395 - F9.01¹



HD0036B

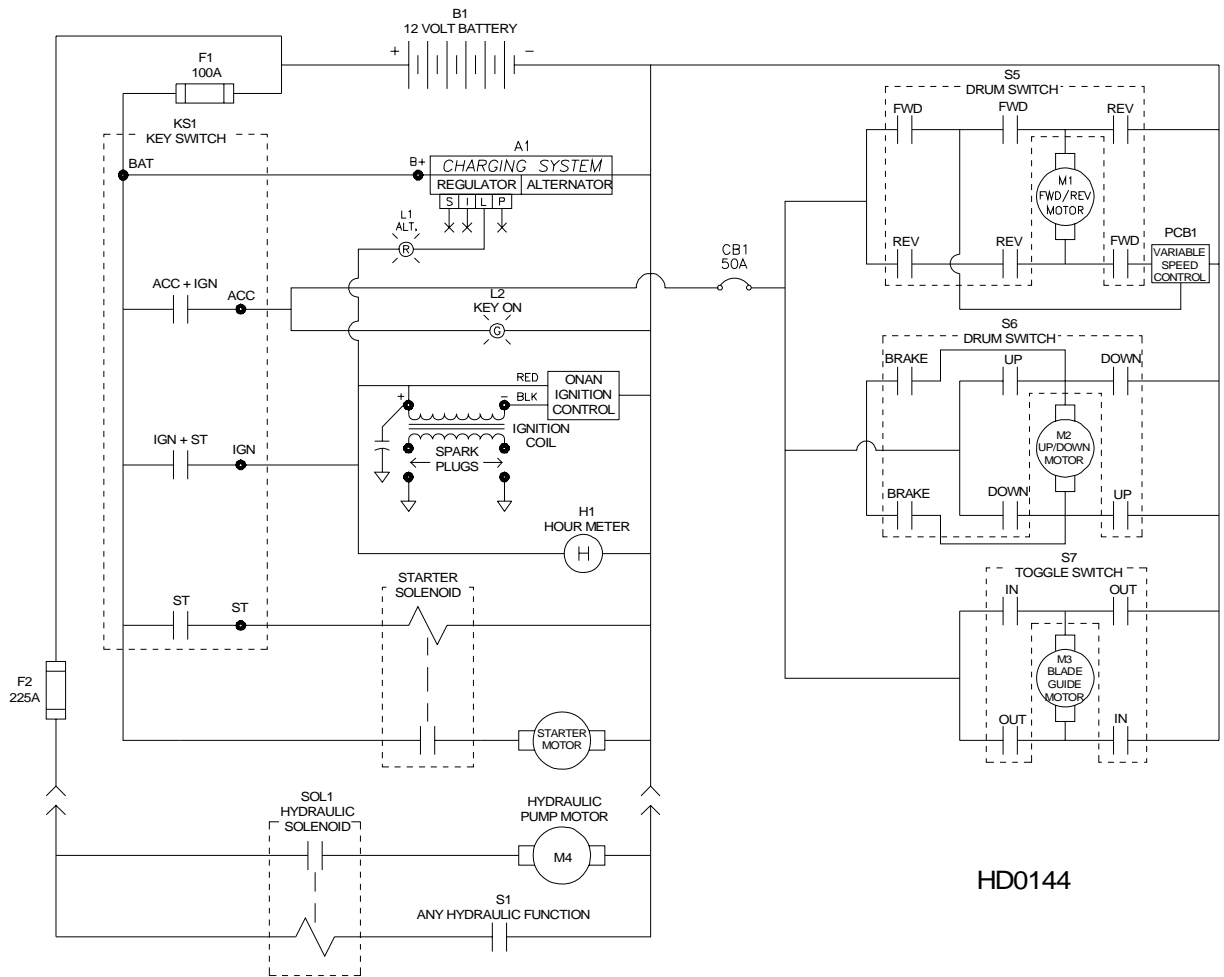
FIG. 5-3

¹ Except LT40HD Rev. #F8403. (See Section 5.4).

5.4 Electrical Symbol Diagram, G24 LT30HD/LT40HD

LT30HD
LT40HD

F8511 - F8521
F8334 - F8394, 403



HD0144

FIG. 5-4



Electrical Information

Electrical Components, G24 LT30/LT40

5.6 Electrical Components, G24 LT30/LT40

LT30
LT40

F4710 - F4722
F5565 - F5587, 592

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	Battery, 12 Volt (See Battery Specifications)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, Power Feed Motor, Auto Reset (U.S.)
	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12V, Power Feed Motor, Manual Reset (G.S.)
CB2	123A30A2	Richard's Elec	E20431 ²	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Blade Guide Motor, Manual 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)
L1	2128	General	P04986	Light, Red Warning, For Alternator Malfunction
L2	2129	General	P20436	Light, Green Indicator, For Key Switch In Acc Or Ign Position
M1	1149-001	Current App.	006747 ⁴	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁵	A04367	Motor, 12 Volt Up/Down
M3	P09698-1	Klauber	A10365	Motor, 12 Volt Blade Guide Arm 53:1 Gear
PCB1	024495	Wood-Mizer	024495 ⁶	Circuit Board, Power Feed
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
	2601-AF2-S10	Square D	N/A	Drum Switch, (G.S.), Power Feed Fwd/Reverse Motor
S6	2601-AF2-S12	Square D	E20440	Drum Switch, Up/Down Motor
S7	1121-0004	McGill	P10006	Toggle Switch, Blade Guide In/Out Motor

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (see parts section).

² Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).

³ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).

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 Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

⁶ 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.

5.7 Electrical Components, G24 LT30HD/LT40HD

LT30HD

F8522 - F9.01

LT40HD

F8395 - F9.01¹

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
A1	CS-130	Delco-Remy	050287 ¹	Alternator, 12 Volt, 105 Amp Maximum
B1	8T24	Deka	P09853	Battery, 12 Volt Deep Cycle (See Battery Specifications)
CB1	30128-30	Cole-Hersee	E20486	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 ²	Motor, 12 Volt Power Feed
M2	N/A	Leeson ³	A04367	Motor, 12 Volt Up/Down
M3	P09698-1	Klauber	A10365	Motor, 12 Volt Blade Guide Arm 53:1 Gear
M4	08714	Monarch Hyd.	052807 ⁴	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ⁵	Circuit Board, Power Feed
PCB2	023041	Wood-Mizer	023041	Board, LED Circuit (U.S.)
S1	024198	Wood-Mizer	024198 ⁶	Switch, Hydraulic Pump Levers
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S6	2601-AF2-S12	Square D	E20440	Drum Switch, Up/Down Motor
S7	1121-0004	McGill	P10006	Toggle Switch, Blade Guide In/Out Motor
SOL1	586-902	Stancor	016371 ⁷	Solenoid, 200 Amp Hydraulic Pump Motor

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (see parts section).

² 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.

³ Replaces Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

⁴ 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.

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 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).

⁷ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.

¹ Except LT40HD Rev. #F8403. (See Section 5.8).

5.8 Electrical Components, G24 LT30HD/LT40HD

LT30HD
LT40HD

F8511 - F8521
F8334 - F8394, 403

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
A1	CS-130	Delco-Remy	050287 ¹	Alternator, 12 Volt, 105 Amp Maximum
B1	8T24	Deka	P09853	Battery, 12 Volt Deep Cycle (See Battery Specifications)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, Power Feed Motor, Auto Reset (U.S.)
	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12V, Power Feed Motor, Manual Reset (G.S.)
CB2	123A30A2	Richard's Elec	E20431 ²	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ³	Circuit Breaker, 15 Amp, 12 Volt, For Blade Guide Motor, Manual 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)
L1	2128	General	P04986	Light, Red Warning, For Alternator Malfunction
L2	2129	General	P20436	Light, Green Indicator, For Key Switch In Acc Or Ign Position
M1	1149-001	Current App.	006747 ⁴	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁵	A04367	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
S1	024198	Wood-Mizer	024198 ⁸	Switch, Hydraulic Pump Levers
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
	2601-AF2-S10	Square D	N/A	Drum Switch, (G.S.), Power Feed Fwd/Reverse Motor
S6	2601-AF2-S12	Square D	E20440	Drum Switch, Up/Down Motor
S7	1121-0004	McGill	P10006	Toggle Switch, Blade Guide In/Out Motor
SOL1	586-902	Stancor	016371 ⁹	Solenoid, 200 Amp Hydraulic Pump Motor
SOL2	120-943	Stancor	016372 ¹⁰	Solenoid, Low-Cost Multi-Purpose 12 Volt 3 Terminal (G.S. Only)

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (see parts section).

² Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).

³ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).

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 Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

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 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).
- ⁹ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.
- ¹⁰ Solenoid Kit 016372 replaces Solenoid P10449. Kit includes solenoid and replacement instructions.

5.9 Battery Specifications, G24 LT30/LT40

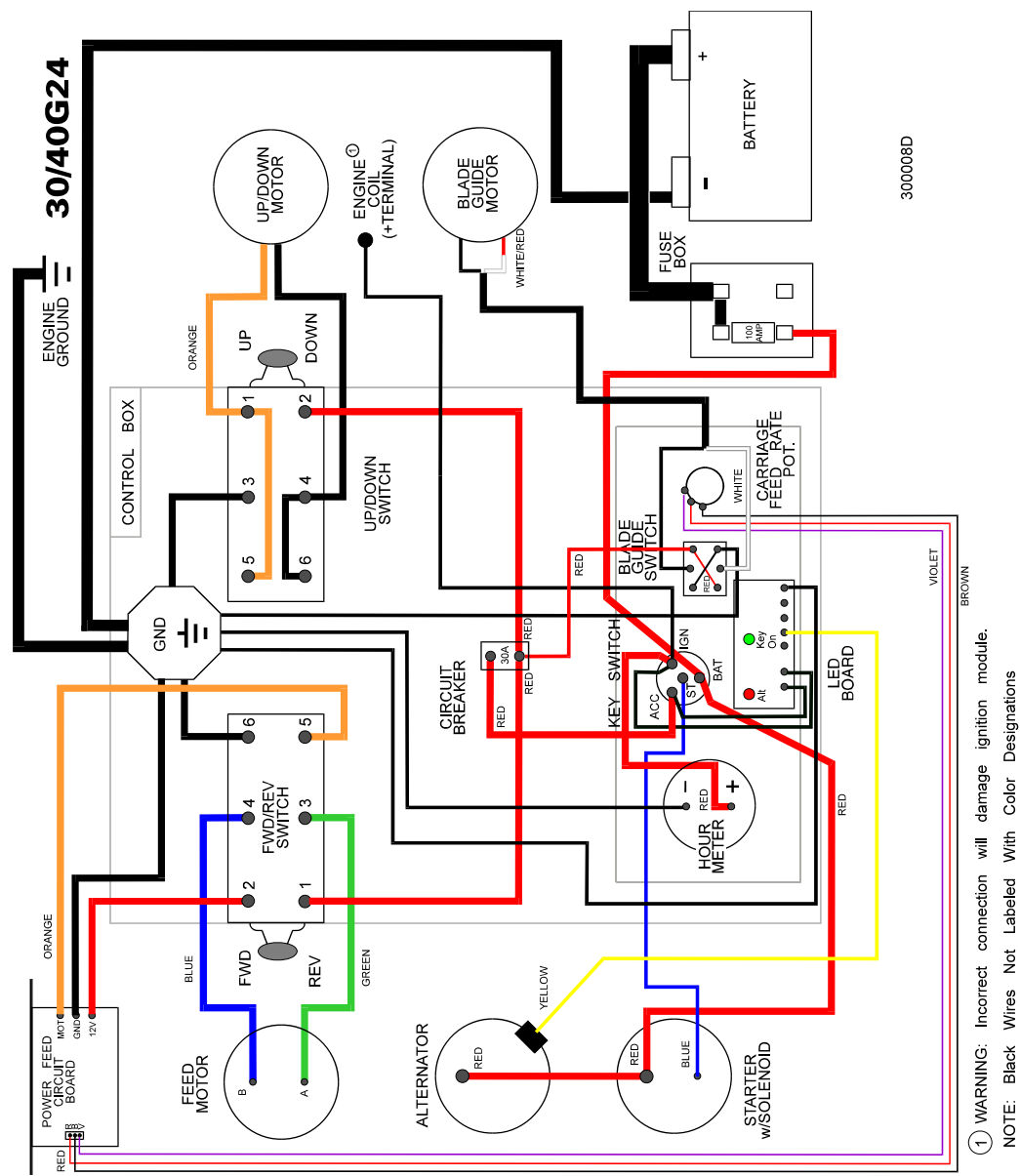
Group No.	Type No.	Performance Level		Quarts Of Acid	Approximate Weight		Maximum Overall Dimensions		
		Cranking Performance	Reserve Capacity		Wet	Dry	Length	Width	Height
24F	524MFD	510	90	6	36.5 lbs. (16.55 kg)	25.0 lbs. (11.34 Kg)	10.635 in. (270 mm)	6.75 in. (171.45 mm)	9.0 in. (229.0 mm)

5.10 Battery Specifications, G24 LT30HD/LT40HD

Group No.	Type No.	Plates Per Battery	Performance Level	Quarts Of Acid	Approximate Weight		Maximum Overall Dimensions		
			Minutes @ 23 Amp Draw		Wet	Dry	Length	Width	Height
24	8T24	66	125 Minutes	5	42 lb. (19.05 kg)	27.5 lbs. (12.47 kg)	10.25 in. (260.35 mm)	6.75 in. (171.45 mm)	9.875 in. (250.83 mm)

5.11 Wiring Diagram, G24 LT30/LT40

LT30 F4723 - F6.01
 LT40 F5588 - F7.01¹



300008D

① WARNING: Incorrect connection will damage ignition module.
 NOTE: Black Wires Not Labeled With Color Designations

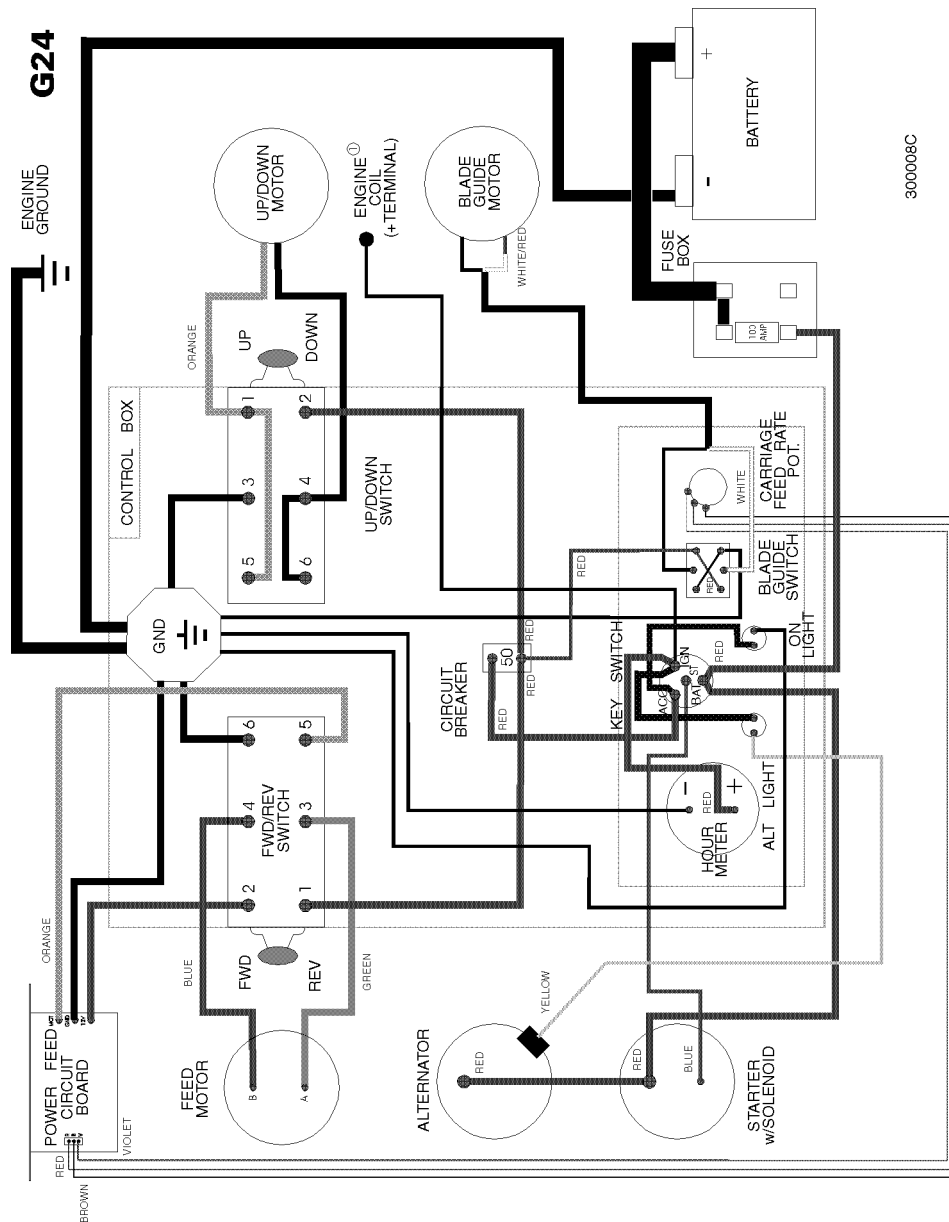
FIG. 5-5

¹ Except LT40 Rev. F5592 (See Section 5.12).

5.12 Wiring Diagram, G24 LT30/LT40

LT30
 LT40

F4710 - F4722
 F5565 - F5587, 592



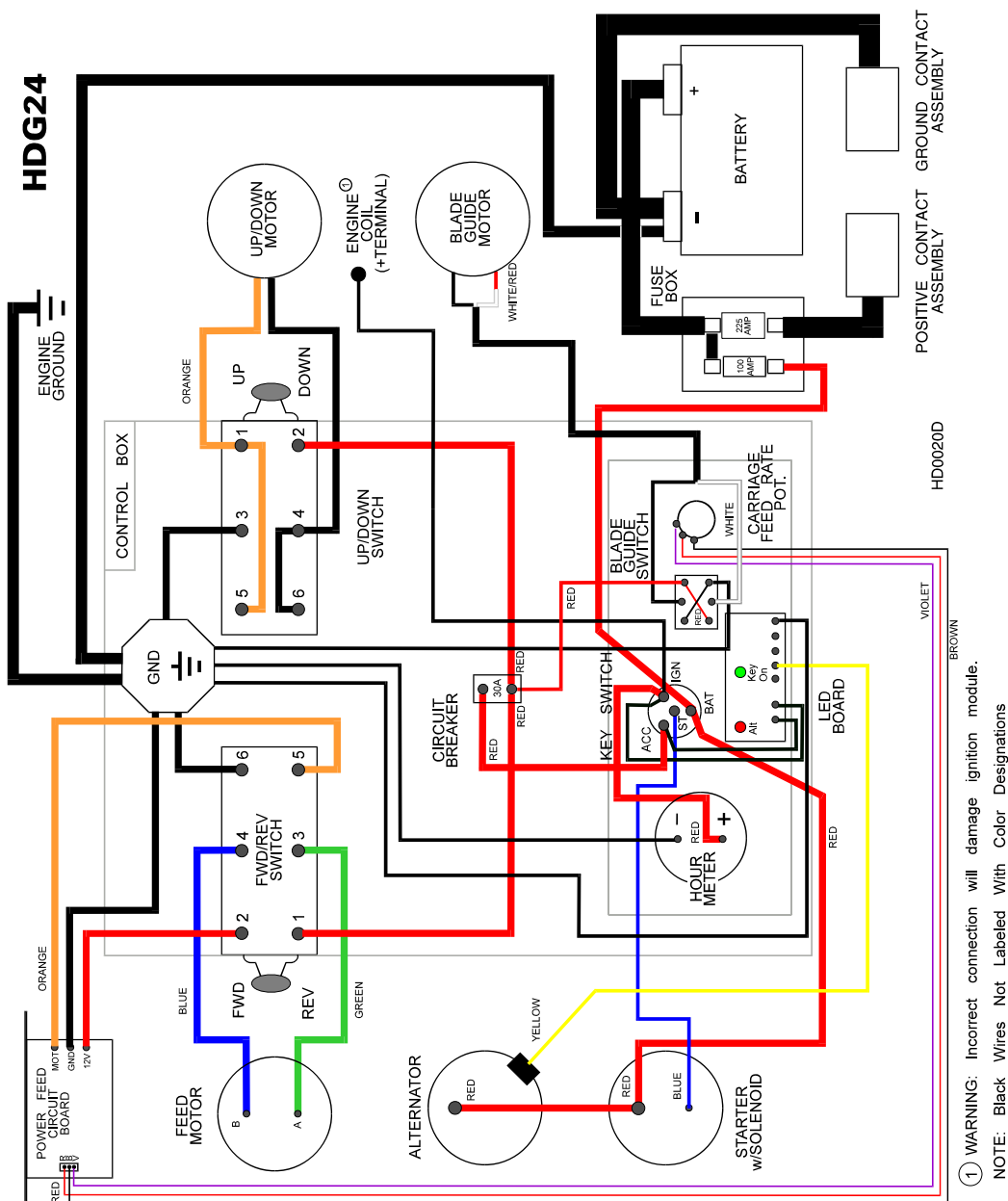
① WARNING: Incorrect connection will damage ignition module.
 NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-6

5.13 Wiring Diagram, G24 LT30HD/LT40HD

LT30HD
 LT40HD

F8522 - F9.01
 F8395 - F9.01¹



① WARNING: Incorrect connection will damage ignition module.
 NOTE: Black Wires Not Labeled With Color Designations

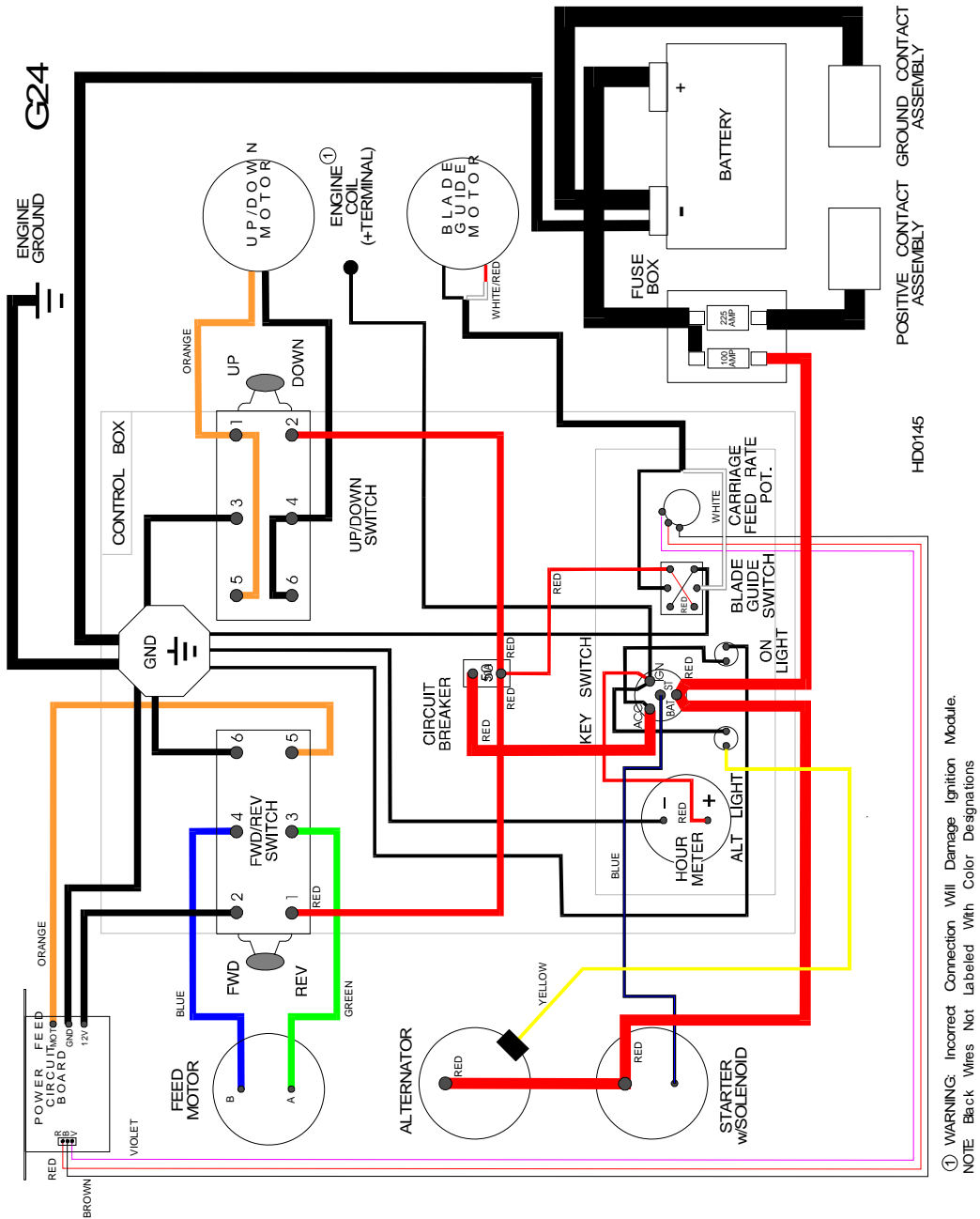
FIG. 5-7

¹ Except LT40HD Rev. #F8403. (See Section 5.14).

5.14 Wiring Diagram, G24 LT30HD/LT40HD

LT30HD
LT40HD

F8511 - F8521
F8334 - F8394, 403



① WARNING: Incorrect Connection Will Damage Ignition Module.
NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-8

G24 Engine

Safety, Operation, Maintenance & Parts Manual

1997 LT30	rev. F7.00 - G2.02
1997 LT40	rev. F8.00 - G3.02
1997 LT30HD	rev. G1.00 - G5.02
1997 LT40HD	rev. G1.00 - G5.02



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

June 1997

Form #768

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SECTION 1 SAFETY & GENERAL INFORMATION



IMPORTANT! This manual is provided as a supplement to the equipment manufacturer's manuals. This manual takes into account the specific use of engines on the Wood-Mizer sawmill. Only safety, maintenance, and operating procedures that are not provided by the manufacturer are supplied in this manual. Refer to the manufacturer's manual before attempting to operate this equipment.



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** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this equipment and observe all safety warnings!

1.1 Refueling



WARNING! Store gasoline away from sawdust and other flammable materials. Failure to do so may result in serious injury.

1.2 Engine Operation



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



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.

WARNING! Do not for any reason adjust the engine drive belts or belt support bracket with the engine running. Doing so may result in serious injury.

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

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.



IMPORTANT! Always dispose of coolant, oil, fuel, oil filters and fuel filters in a responsible manner and in conformance with local, state and federal regulations.

1.3 Battery Handling



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

WARNING! Use extreme care to avoid spilling or splashing electrolyte (which is dilute sulfuric acid) as it can destroy clothing and burn the skin. If electrolyte is spilled or splashed on clothing or the body, it should be neutralized immediately and then rinsed with clean water. A solution of baking soda, or household ammonia, and water may be used as a neutralizer.

Electrolyte splashed into the eyes is extremely dangerous. If this should happen, force the eye open and flood it with cool, clean water for approximately fifteen minutes. A doctor should be called immediately when the accident occurs and “on-the-spot” medical attention given if possible. If a doctor cannot come to the scene of the accident immediately, follow his instructions concerning actions to take. Do not add eye drops or other medication unless advised to do so by the doctor. Do not place a battery or acid within the reach of children. If acid (electrolyte) is taken internally drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call a physician immediately.

If electrolyte is spilled or splashed on any surface of the machine, it should be neutralized and rinsed with clean water.¹

1. Battery Council International, copyright 1987

SECTION 2 OPERATION

2.1 Starting The Engine

Engine Control Lights

See **Figure 2-1**. 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 (#1) or accessory (#3) position.

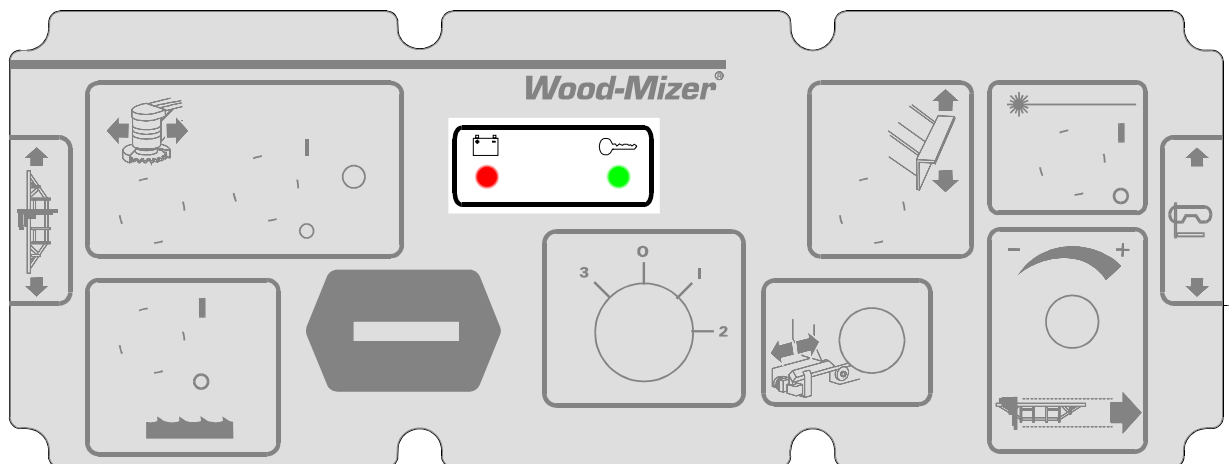


FIG. 2-1

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 or motor. Failure to do so will result in serious injury.



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.

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

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

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

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

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

SECTION 3 MAINTENANCE



IMPORTANT! This manual only provides information about additional procedures or procedures to be performed at different time intervals than found in the engine manufacturer's manuals. Refer to the [manufacturer's manual](#) for complete maintenance instructions.



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



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.

3.1 Air Filter & Pre-Cleaner



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.



Service the pre-cleaner every four hours of operation. Service 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. See the engine manual for further instructions.



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

3 Maintenance

Fuel Filter

3.2 Fuel Filter



Replace the fuel filter every 100 hours of operation.

3.3 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

3.4 Miscellaneous Maintenance



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



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

1. Battery Council International, copyright 1987

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 after the first 20 hours of operation and every 200 hours thereafter. High-end RPM should be 3400-3600RPM and low-end RPM should be 1800 (± 100).

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

1. Start the engine to measure the low-end RPM.

Make sure that the throttle linkage is not affecting the engine RPM while the clutch/brake handle is disengaged. Make sure the cable is not bent or kinked. If necessary, rotate the clamp on bracket B until the cable spring, cable guide, cable, and throttle brackets are aligned. **NOTE:** It is important that the above components are aligned. Proper alignment allows any slack in the cable (when engine is idling) to slide down into the cable spring. This maintains free operation of the cable and prevents the cable from kinking. Make sure the shoulder bolt does not rub against the crankcase vent tube.

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.

3

Maintenance RPM Adjustments

See Figure 3-1. To adjust the high-end RPM, lower or raise the cable guide in the throttle cable bracket until the cable spring extends 1/4" - 3/8" (6.4 - 9.5 mm) when the engine is at 3400-3600 RPM. Bend the high speed stop on bracket B down until it touches bracket A. This will prevent over-revving the engine when tightening the belt adjustment. To adjust for low-end RPM, adjust the idle screw on bracket B until the RPM is 1800 (± 100). **NOTE:** A properly adjusted throttle will extend the cable spring 1/4" to 3/8" (6.4 - 9.5 mm) when running and have a slight amount of slack in the cable when idling.

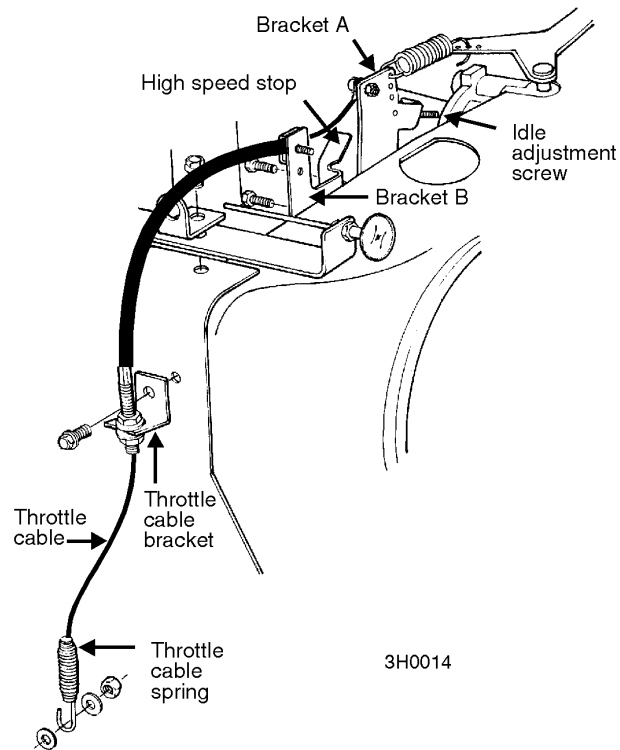


FIG. 3-1

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

See Figure 3-2.

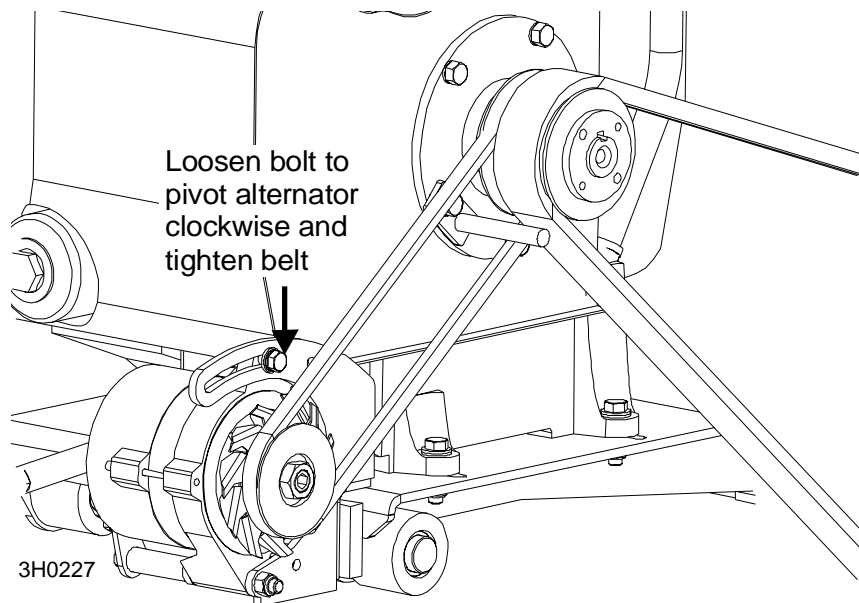


FIG. 3-2

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

Fuel Tank Assembly

4.3 Fuel Tank Assembly

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	TANK ASSEMBLY, 5-GALLON RED GASOLINE	A12285	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 ¹	1
	HOSE, FUEL LINE WITH PRIMER BULB	014497	1
	Bulb Kit, Fuel Primer Replacement	014496	1
6	Bulb, Fuel Primer	014481	1 ◆
7	Clamp, 7/32 - 1/2 Hose	P649 ²	2
	Instruction Sheet, Fuel Primer Bulb Replacement	014496-590	1
8	Hose, 1/4" ID Fuel	P642 ²	6.5 Ft
9	Clamp, 7/32 - 1/2 Hose	P649 ²	2
10	FITTING, 1/4" NPT PLASTIC MALE DISCONNECT	P12176 ³	1

¹ Plug fitting P10367 added 11/03. Hole added to fuel tank to accommodate return line for fuel injected engines.

² Fuel Line P642 replaces R01890-1 originally supplied. Hose Clamp P649 replaces plastic clamp P12374 and 015584 previously supplied.

³ Replacement requires qty. 1 hose clamp (P649).

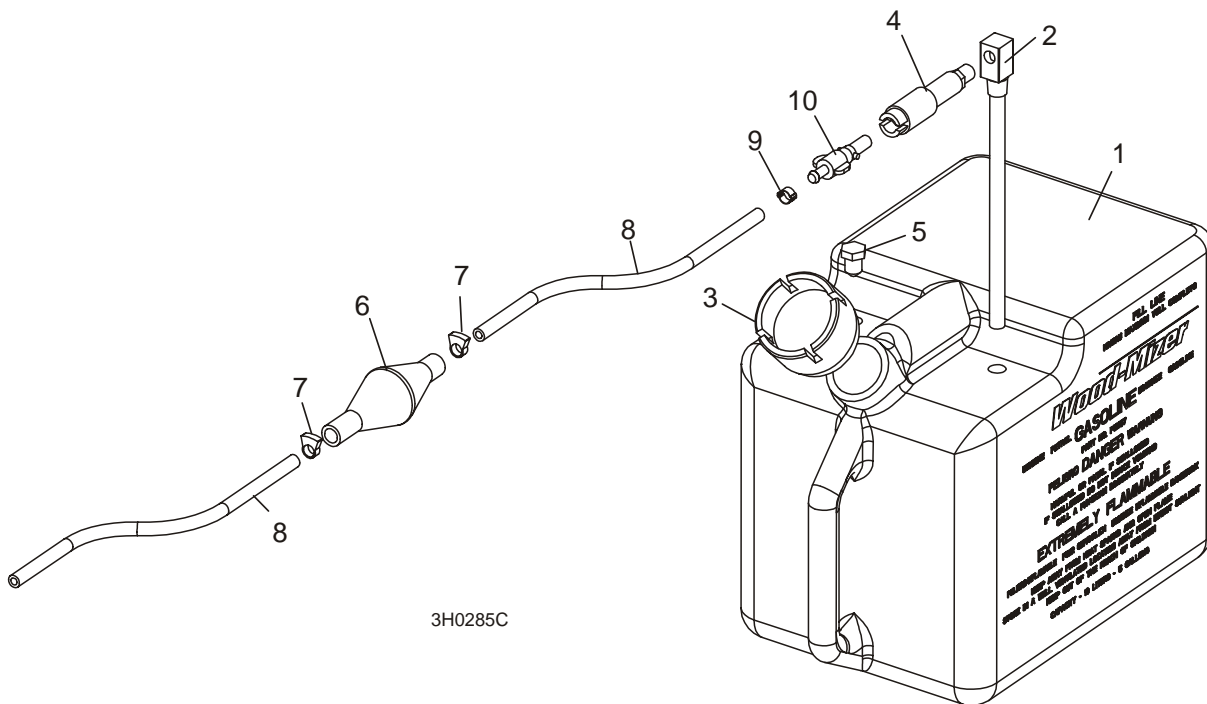


FIG. 4-1

4.4 Engine Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	◆
	ENGINE ASSEMBLY, 24HP ONAN P224G	A11631	1	◆
1	Engine, 24Hp Onan P224 (See Form #202 for complete list of engine parts)	P11463	1	◆
2	Filter, Onan 20/24Hp Air	P07566	1	
3	Pre-Cleaner, Onan 20/24Hp Air	P07961	1	
4	Plug, Onan Spark (Champion #RS17YX)	P06819	2	
5	Filter, Onan 24Hp Oil	P09881	1	
6	Filter, In-Line Fuel	P07570	1	
7	Starter Motor, Onan	P06830	1	
	Muffler Retrofit, P224 Onan 24Hp Single	K12372	1	
	Muffler Replacement Kit, P224 Onan 24HP	K12746	1	
8	Muffler, Onan 24Hp Single-Type #541-0315	P12369	1	◆
9	Spark Arrester, Onan 24HP Single-Type #155-2429-05	P12370	1	
10	Oil Fill, Extended W/Dipstick Replacement	P12371	1	
	Instruction Sheet, Onan P224 Muffler Upgrade	K12372-135	1	
11	Guard, Onan P224G Engine	P11936	1	
12	Screw, #10-24 X 1" Phillips Head Type 23	F05015-27	4	
13	Coil, Onan P224 Ignition	055005 ¹	1	
14	Spring, Onan Governor	P04497	1	
	Spring, Onan Governor Surge Control	014541	1	
	Cables Retro, Onan Throttle and Front Pull Choke	K12319	1	
15	Cable, Onan 24hp Throttle	P12313	1	
	Spring, Throttle	016033	1	
16	Bracket, Throttle Cable Mount	S12312	1	
17	Bolt, 1/4" x 3/8" Shoulder (#10-24 Thread)	F05004-57	1	
18	Washer, 1/4" SAE Flat	F05011-11	1	
19	Nut, #10-24 Self-Locking	F05010-14	1	
20	Linkage Assembly, 24HP P224 Onan Throttle	P12329	1	
	Nut, 1/4-20 Self-Locking (for shipping purposes only)	F05010-9	2	
	Instruction Sheet, Onan Throttle Upgrade	K12319-418	1	
	Upgrade Kit, Onan Rear to Front Pull Choke	K12953	1	
21	Bracket, Front Pull Choke	S12937	1	
22	Wire, Onan Front Pull Choke	P12916	1	
23	Bolt, 1/4-20 x 3/4" Hex Head Full Thread	F05005-1	2	
24	Washer, 1/4" Split Lock	F05011-14	2	
25	Linkage Assembly, 24HP P224 Onan Choke	P12952	1	
	Instruction Sheet, Onan Choke Upgrade	K12953-446	1	
26	Hose, 7" Oil Drain	P10082	1	
27	Cap, Oil Drain 3/8" Pipe	P04332	1	
	Oil, 10W30 Type CD	L04869-1	.5 Gal	◆
28	Pulley, 3-Groove Motor	S10435	1	

4

Replacement Parts

Engine Assembly

29	Bushing, 1 1/8" Split Taper	P04306	1	
30	BELT, 2BX74 DRIVE	P10277-2	1	
31	PLATE, MOTOR MOUNT	014514	1	
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ²	2	◆
32	Bushing, Rubber Motor Mount Pivot	P12164	1	
33	Spacer, Motor Mount Pivot	P05041	1	
34	CLAMP WELDMENT, MOTOR MOUNT PIVOT BUSHING	014540	3	
35	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	3	
36	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	6	
37	BOLT, 3/8-16 X 1 1/2" HEX HEAD GRADE 2	F05007-3	4	
38	WASHER, 3/8" SAE FLAT	F05011-3	12	
39	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	4	
	KIT, ALTERNATOR WITH BRACE	K12801 ³	1	
40	Alternator, 105A 12V	050287 ³	1	
41	Brace, Alternator	W12761	1	
42	Washer, 3/8" SAE Flat	F05011-3	1	
43	Bolt, 3/8-16 x 5 1/2" Hex Head Full Thread	F05007-34	1	
44	Nut, 3/8-16 Hex Nylon Lock	F05010-10	1	
45	Washer, 5/16" SAE Flat	F05011-17	1	
46	Washer, 5/16" Split Lock	F05011-13	1	
47	Bolt, M8 X 1.25" X 1" Hex Head Full Thread	F05004-40	1	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	
48	WASHER, 5/16" SAE FLAT	F05011-17	1	
49	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
50	BOLT, M8 X 1.25" X 1" HEX HEAD FULL THREAD	F05004-40	1	
51	PULLEY, ALTERNATOR	P03806 ⁴	1	
52	BELT, AX36 ALTERNATOR	016083 ⁵	1	
	BRACKET ASSEMBLY, DRIVE BELT SUPPORT SINGLE-PRONG	A12243	1	
53	Bracket Weldment, Drive Belt Support Painted	015963 ⁶	2	◆
54	Washer, 3/8" Split Lock	F05011-4	1	
	Instruction Sheet, Drive Belt Support Single-Prong	A12243-420	1	
55	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	1	
56	PIN WELDMENT, ENGINE MOUNT PIVOT	014154	1	
57	NUT, 1/2-13 NYLON LOCK	F05010-8	1	
58	BRACKET, ALTERNATOR MOUNT	014509 ³	1	
59	WASHER, 3/8" SAE FLAT	F05011-3	2	
60	WASHER, 3/8" SPLIT LOCK	F05011-4	2	
61	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	2	
62	GUARD, ALTERNATOR BELT	014499	1	
63	SPACER, 5/16" X 7/16" X 1 15/16" TUBE	014424	1	
64	WASHER, 1/4" SAE FLAT	F05011-11	2	
65	BOLT, 1/4-20 X 2 1/4" HEX HEAD	F05005-7	2	

- ¹ Coil kit P06827 no longer available from vendor. If replacing original coil, order mount parts: Screw 055000, Nut 055001, Screw 055002, Clamp 055003 & Bracket 055004 in addition to Coil 055005. If coil is mounted on top of manifold, order coil 055005 only.
- ² A04127 no longer available. Purchase individual component parts P12164 and P05041.
- ³ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014509).
- ⁴ Pulley changed from 2" ID to 1 3/4" ID to prevent belt from bottoming out and slipping (2/98).
- ⁵ 016083 AX36 Belt replaces 014523 A36 Belt originally supplied.
- ⁶ Drive Belt Support Bracket 015963 replaces support bracket W12237 originally supplied; bracket weldment provides improved belt support.

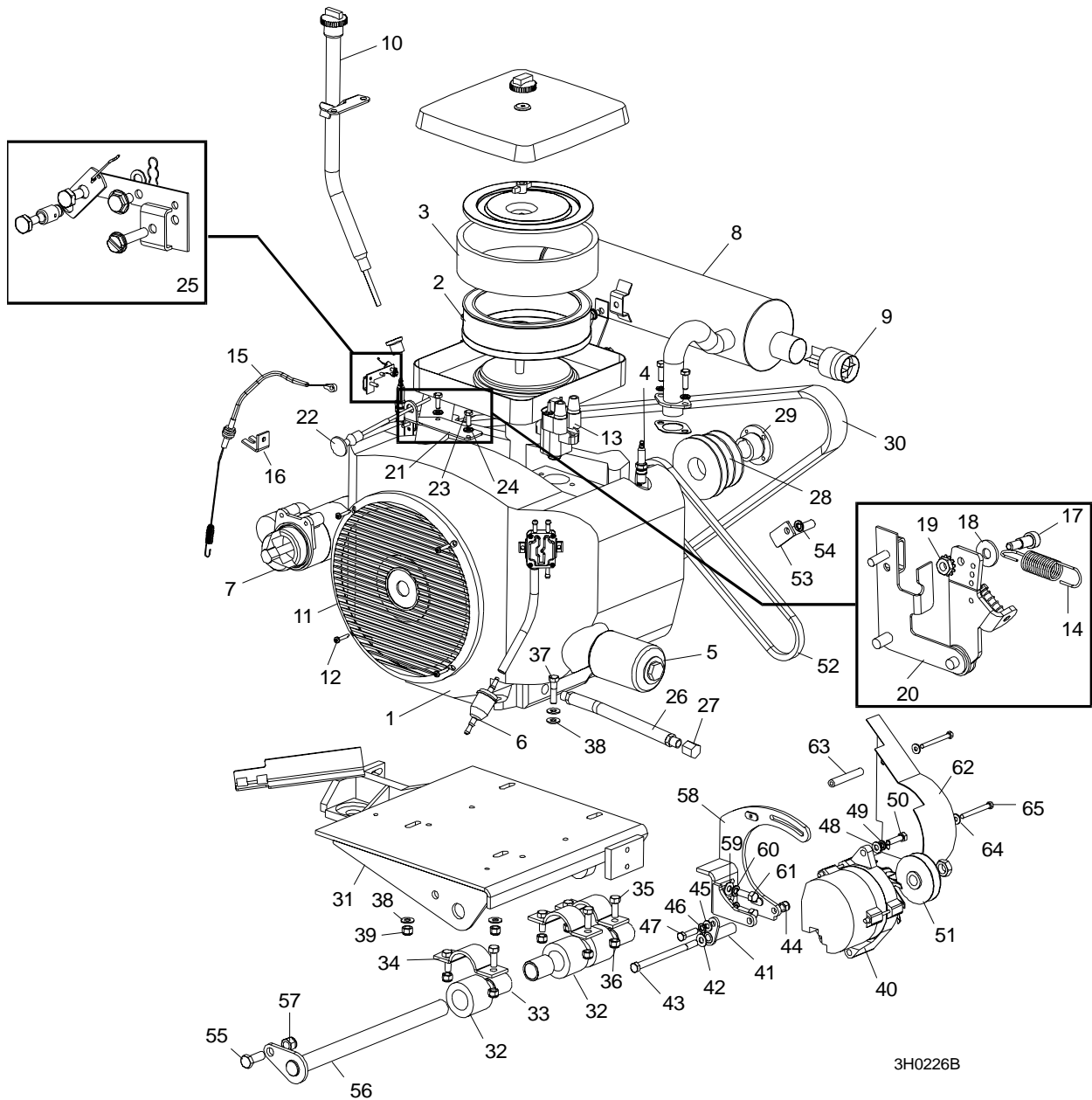


FIG. 4-2

4

Replacement Parts

Engine Pulley Guards

4.5 Engine Pulley Guards

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	GUARD WELDMNT, G24 ENGINE PULLEY	014498	1
2	GUARD, G24 SIDE ENGINE PULLEY	015568	1
3	WASHER, 1/4" SAE FLAT	F05011-11	4
4	BOLT, 1/4-20 X 3/4" HEX HEAD FULL THREAD	F05005-1	4

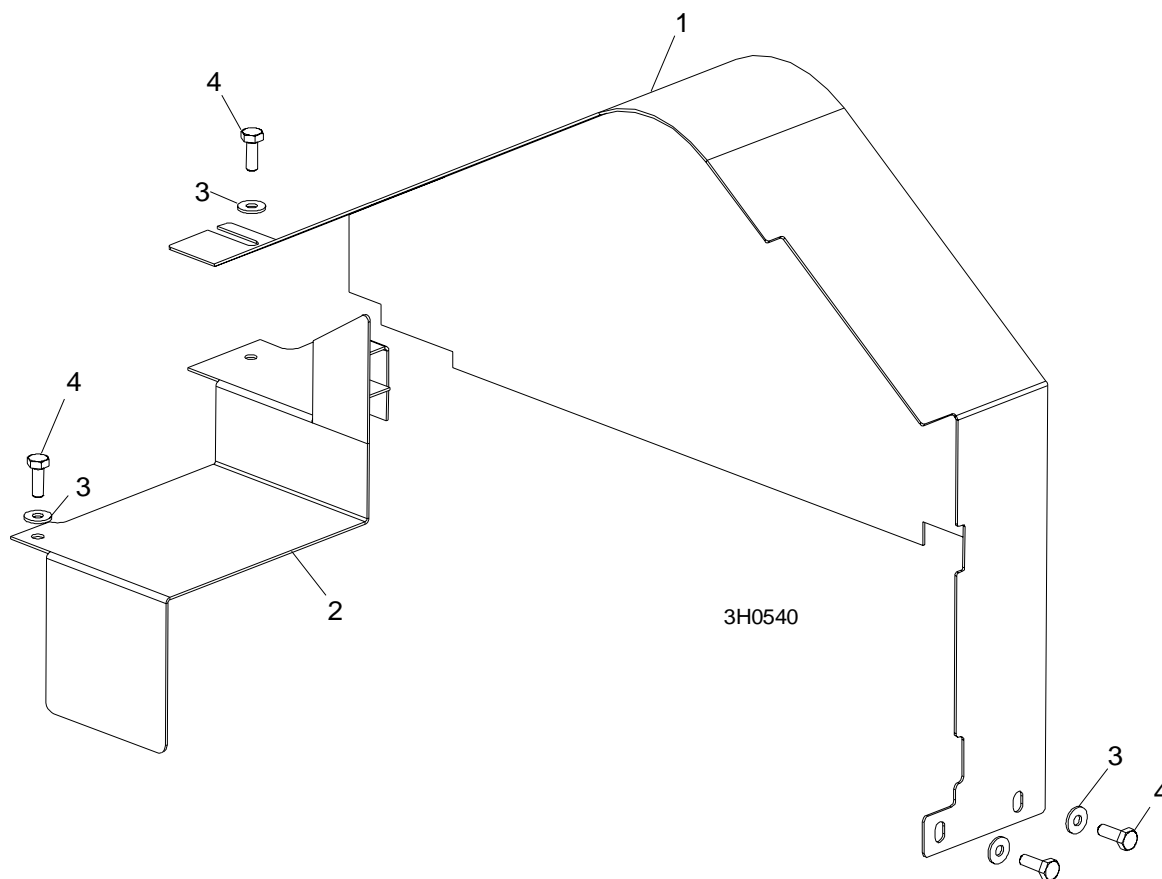


FIG. 4-3

Form #202

Onan Engine Service Parts (● indicates part is applicable to specified model)

Description	WM Part No.	Onan Part No.	18HP P218G	20HP B48G	20HP P220G	24HP T260G	24HP P224G
Cap, Crankcase Breather	P06828	123-0954	●	N/A	●	●	●
Carburetor, Onan	P06825	146-0662	146-659	146-0495 (Spec B-C) 146-0660 (Spec D+)	146-0660	●	●
Carburetor Kit, Onan Repair	P06826	146-0500	● (Spec A-F) 146-0657 (Spec G+)	146-0292 (Spec B-C) 146-0356 (Spec D+)	● (Spec A-F)	●	● (Spec A-F) 146-0657 (Spec G+)
Cleaner, Onan 4C Carburetor	014385	326-5278	●	●	●	●	●
Clip, Onan Linkage #004	P09580	518-0004	●	●	●	●	●
Clip, Onan Linkage #406	P09581	518-0406	●	●	●	●	●
Coil, Onan Ignition	P10358	166-0772	N/A	●	N/A	● (Spec A-E)	N/A
Coil, Onan Ignition (Electronic)	055005 ^a	166-0820	●	N/A	●	● (Spec F+)	●
Condenser, Onan Elec. Ignition	P06820	312-0256	●	N/A	●	312-0255 (Spec F+)	●
Condenser, Kit w/Points	K12503	160-1183/312-0246	N/A	●	N/A	● (Spec A-E)	N/A
Filter, Onan Air	P07566	140-2628-01	●	●	●	●	●
Filter, Onan Air Pre-Cleaning	P07961	140-1496-01	●	●	●	●	●
Filter, Onan Inline Fuel	P07570	149-2206-01	●	●	●	●	●
Filter, Onan Oil	P09881	122-0469	●	●	●	●	●
Gasket Kit, Complete Engine	P06815	168-0191	168-0187	168-0187	168-0187	●	●
Gasket Kit, B48/P218/P220 Decarbon	014629	168-0189	●	●	●	N/A	N/A
Gasket Kit, T260/P224 Decarbon	P06822	168-0190	N/A	N/A	N/A	●	●
Gasket Kit, T260/P224 Valve Adjust	014604	110-3575/154-2219/ 154-2747 (2 ea)	N/A	N/A	N/A	●	●
Jet, P218 High Altitude Carburetor	014630	146-0652	●	N/A	N/A	N/A	N/A
Jet P224 High Altitude Carburetor	014631	146-0695	N/A	N/A	N/A	N/A	●
Jet, Onan Carburetor Idle	P09624	146-0426	●	146-0337	●	●	● (Spec A-G)
Plug, RS17YC Spark	P06819	167-0272	●	●	●	●	●
Pump, Onan Fuel	P07978	149-1982	●	●	●	●	149-2187-02
Regulator, 20 Amp	P07932	191-2106	●	●	●	N/A	N/A
Regulator, 35 Amp	P09679	191-1847	N/A	N/A	N/A	●	N/A
Spring, Onan Governor	P04497	150-1214	●	●	●	N/A	●
Spring, Onan Governor (T260)	014610	150-1831	N/A	N/A	N/A	●	N/A

Spring, Onan Governor Rod	014311	N/A	N/A	N/A	N/A	N/A	●
Spring, Onan Governor Surge	014541	150-1755	N/A	N/A	N/A	150-2550	●
Starter, Onan Engine	P06830	191-1949-04	●	191-1567	●	191-1949-01	●

^a Coil kit P06827 (541-0523) no longer available from vendor. If replacing original coil, order mount parts: Screw 055000, Nut 055001, Screw 055002, Clamp 055003 & Bracket 055004 in addition to Coil 055005. If coil is mounted on top of manifold, order coil 055005 only.

SECTION 5 ELECTRICAL INFORMATION

5.1 Electrical Symbol Diagram, G24 LT30/LT40

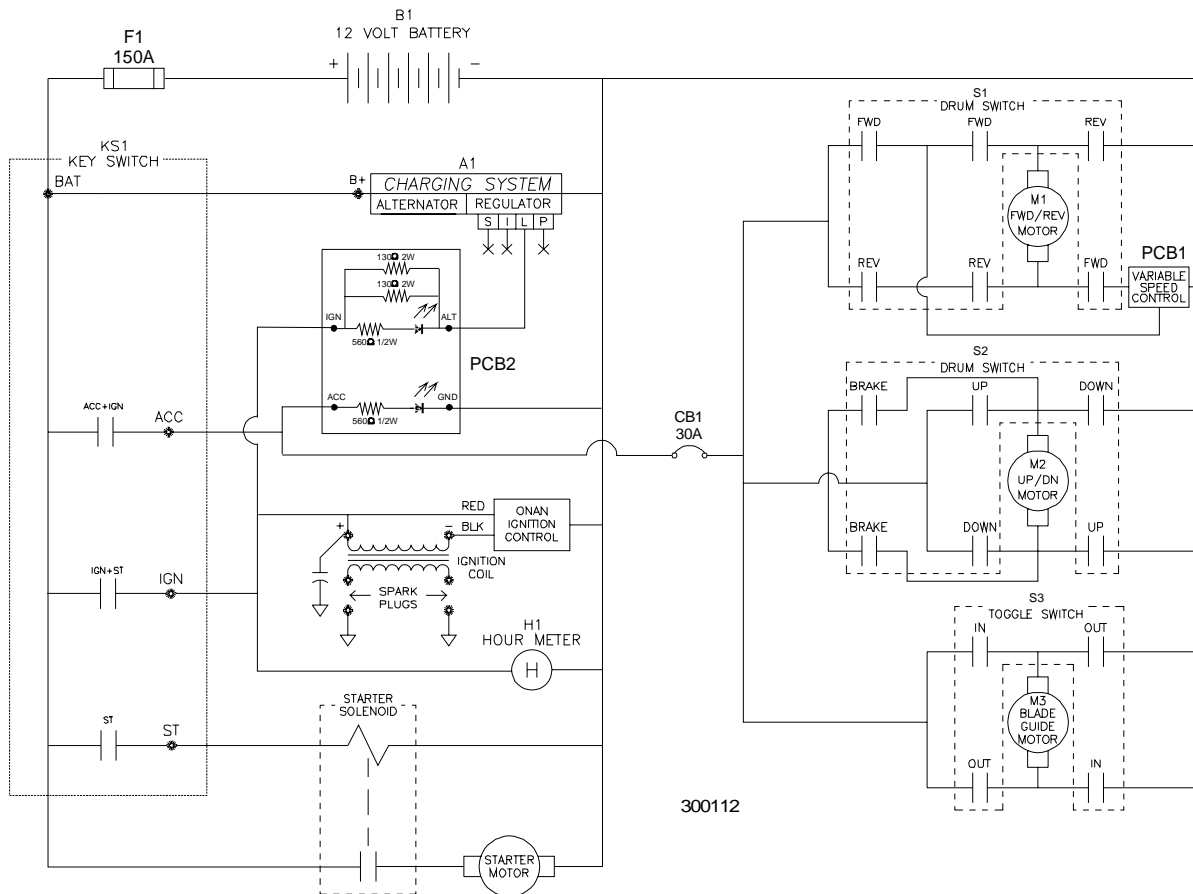


FIG. 5-1

5.2 Electrical Symbol Diagram, G24 LT30HD/LT40HD

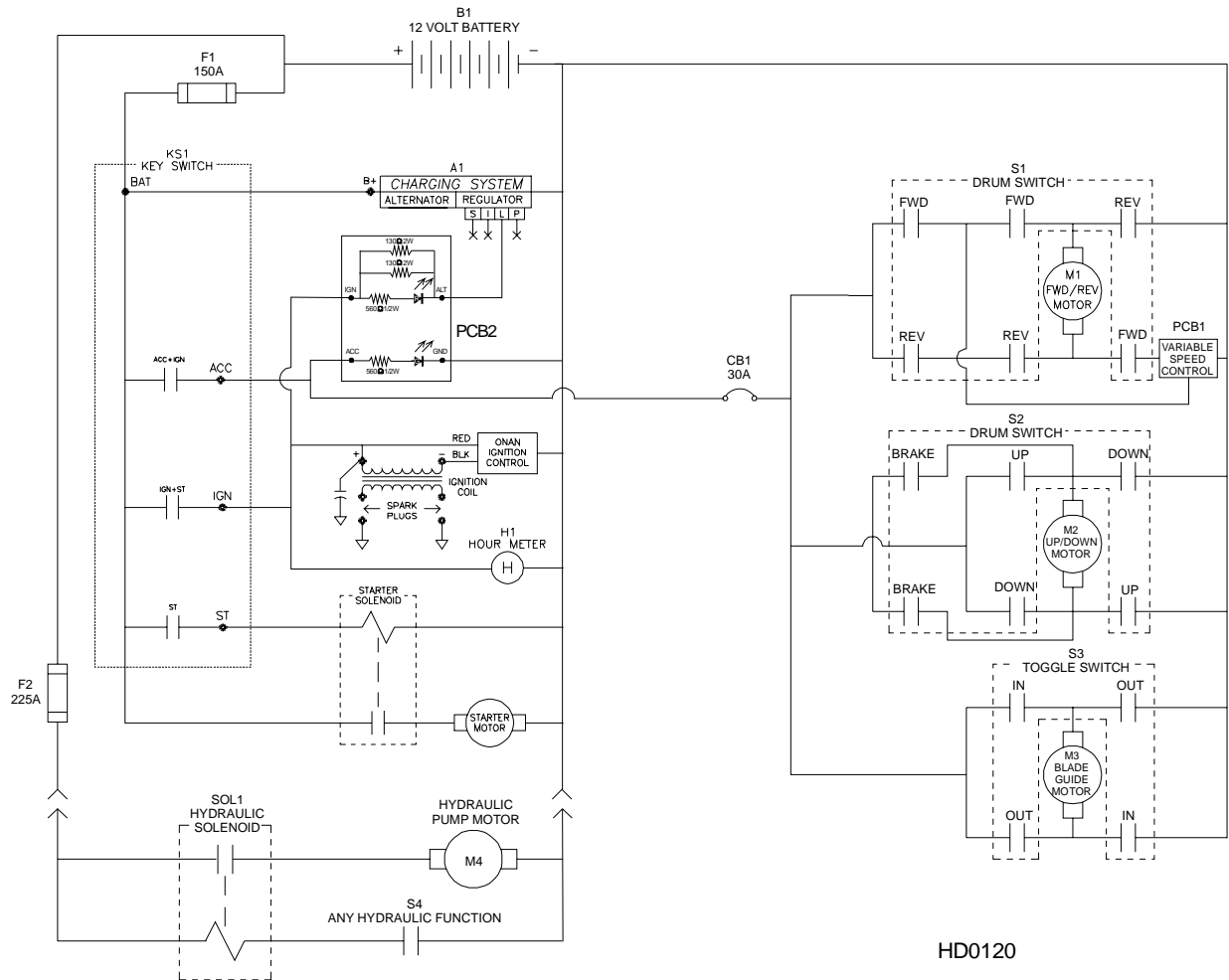


FIG. 5-2

5.3 Electrical Components, G24 LT30/LT40

Item	Manufacturer 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 LT30/40 (See Section 5.4)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset
F1	RL-150	Gould	023361	Fuse Link, 150 Amp, 250 Volt For Main + 12 Volt Starter, Alternator
H1	T14BH517BC9	ENM Corp.	015401	Hour Meter, 12 Volt, Low Power T14 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	015410	Wood-Mizer	015410	Circuit Board, Control Box
PCB2	015416	Wood-Mizer	015416	Circuit Board, LED Circuit (Gas/Elec)
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	34-591Q	Pollak	024200 ⁵	Toggle Switch, Blade Guide In/Out Motor

TABLE 5-1

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014509).

² Replaces 8T24 originally supplied.

³ Motor 006747 replaced 014359 supplied until 11/08.

⁴ Motor 006747 replaced P04140 and Service Kit A07974 supplied until 5/09 (Replacement requires new Mount Bracket 014073).

⁵ Applies to LT30 rev. F9, LT40 rev. G1 and later. Use P10006 toggle switch for previous revision mills.

5.4 Battery Specifications, G24 LT30/LT40

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.

5.5 Electrical Components, G24 LT30HD/LT40HD

Item	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
A1	CS-130	Delco-Remy	050287 ¹	Alternator, 12 Volt, 105 Amp Maximum
B1	24M-7 ²	Deka	P12315	Battery, 12 V Deep Cycle LT30HD/40HD (See Section 5.6)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset
F1	RL-150	Gould	023361	Fuse Link, 150 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	T14BH517BC9	ENM Corp.	015401	Hour Meter, 12 Volt, Low Power T14 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
M4	08714	Monarch Hyd.	052807 ⁵	Motor, 12 Volt Hydraulic Pump
PCB1	015410	Wood-Mizer	015410	Circuit Board, Control Box Power Feed
PCB2	015416	Wood-Mizer	015416	Circuit Board, LED Circuit (Gas/Elec)
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	34-591Q	Pollak	024200 ⁶	Toggle Switch, Blade Guide In/Out Motor
S4	024198	Wood-Mizer	024198 ⁷	Switch, Hydraulic Pump Levers
SOL1	586-902	Stancor	015470	Solenoid, 200A 12V SPST Hydraulic Pump Motor

TABLE 5-3

¹ 105A Alternator 050287 replaces 61A alternator P03804 originally supplied (no longer available from vendor). Requires replacement of mounting bracket (014509).

² Replaces 724MFD originally supplied.

³ Motor 006747 replaced 014359 supplied until 11/08.

⁴ Motor 006747 replaced P04140 and Service Kit A07974 supplied until 5/09 (Replacement requires new Mount Bracket 014073).

⁵ Bosch motor P09955 replaced by vendor with Iskra motor 1/06. Use Motor Kit 052807 to replace P09955. Use brush kit P09585 to service Bosch motor, 038682 to service Iskra motor.

⁶ Applies to LT30HD/40HD rev. G3 and later. Use P10006 toggle switch for previous revision mills.

⁷ 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).

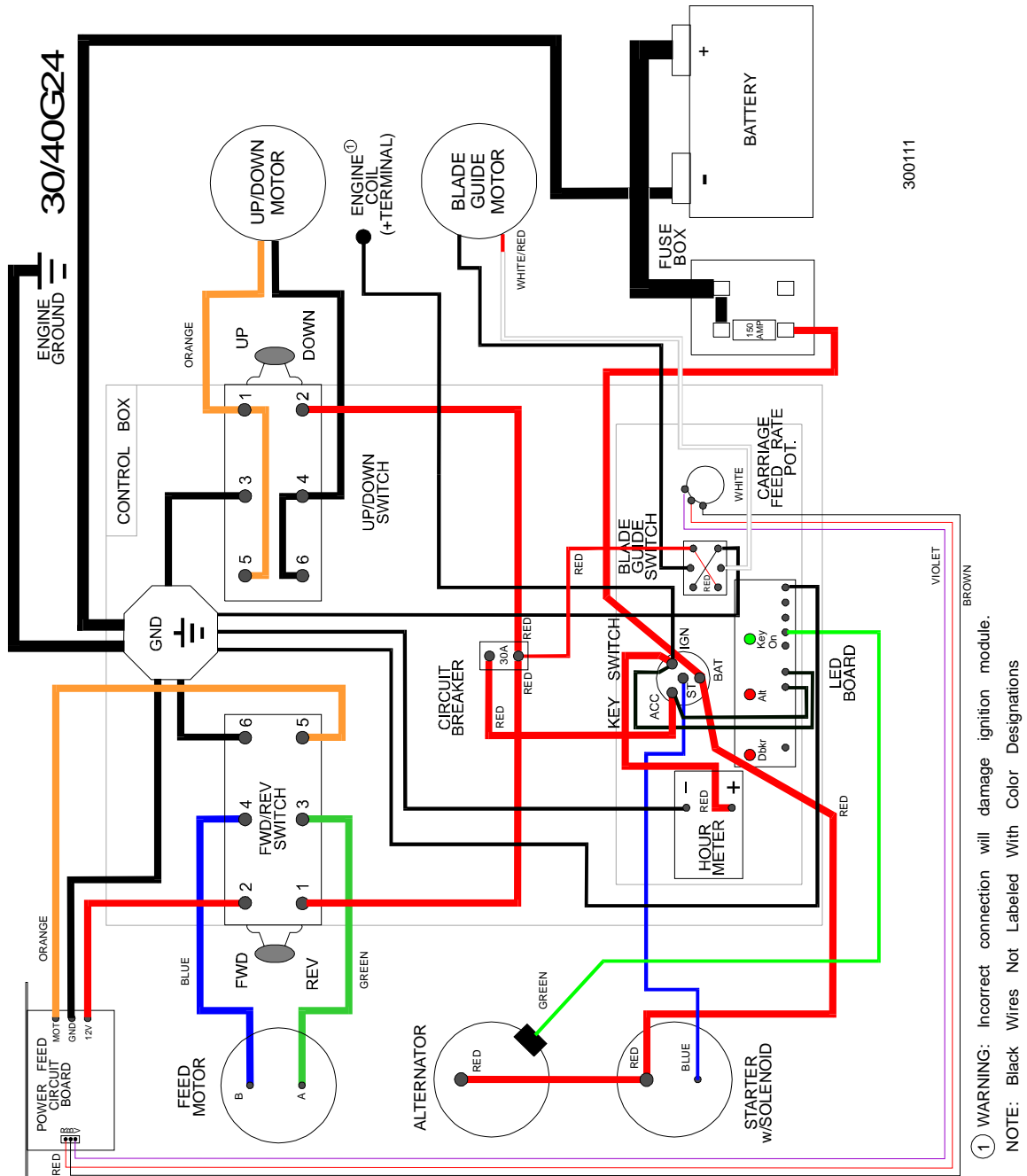
5.6 Battery Specifications, G24 LT30HD/LT40HD

Group No.	Type No.	Performance Level		Approximate Weight	Maximum Overall Dimensions		
		Cranking Performance	Reserve Capacity	Wet	Length	Width	Height
24	24M-7 ¹	875CC	120	45.0 lb. (20.41 kg)	10.75 in. (273 mm)	6.75 in. (171 mm)	9.875 in. (251 mm)

TABLE 5-4

¹ Replaces 724MFD originally supplied.

5.7 Wiring Diagram, G24 LT30/LT40



① WARNING: Incorrect connection will damage ignition module.
 NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-3

5.8 Wiring Diagram, G24 LT30HD/LT40HD

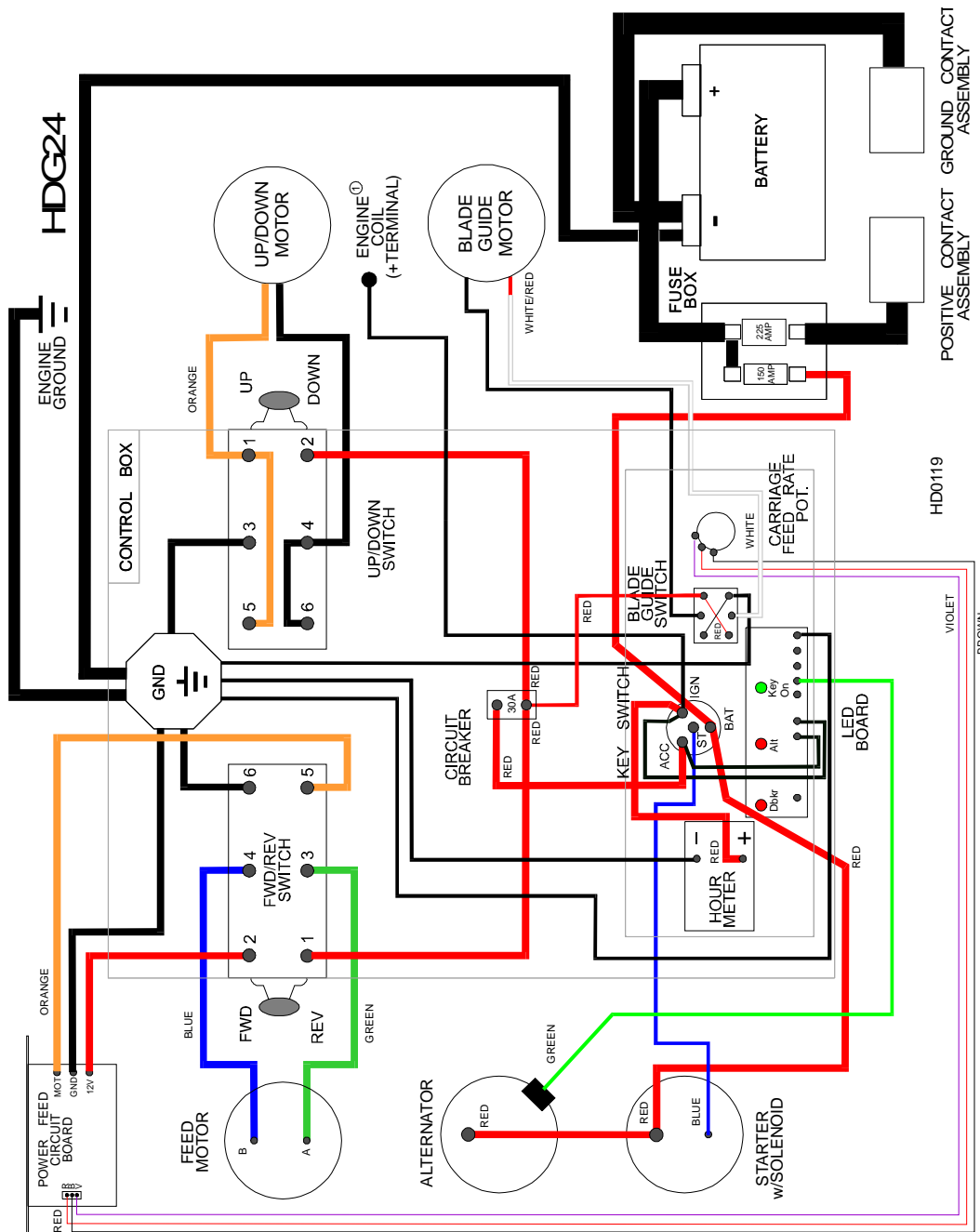


FIG. 5-4