

E15 Motor

Safety, Operation, Maintenance & Parts Manual

1992 LT30	rev. C4 - F3.00
1992 LT40	rev. C5 - F4.00
1992 LT30HD	rev. C7 - F7.00
1992 LT40HD	rev. C7 - F7.00



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

October 1994

Form #652

See Page 36 for

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

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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).

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 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 and transformer are 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 and transformer.

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

See Figure 1-1. See the wiring diagram to rewire the motor and transformer (208-480V). **NOTE:** This diagram shows the multi-tap transformer used since 2/00. If sawmill equipped with original transformer prior to 2/00, refer to diagram on transformer for voltage configurations.

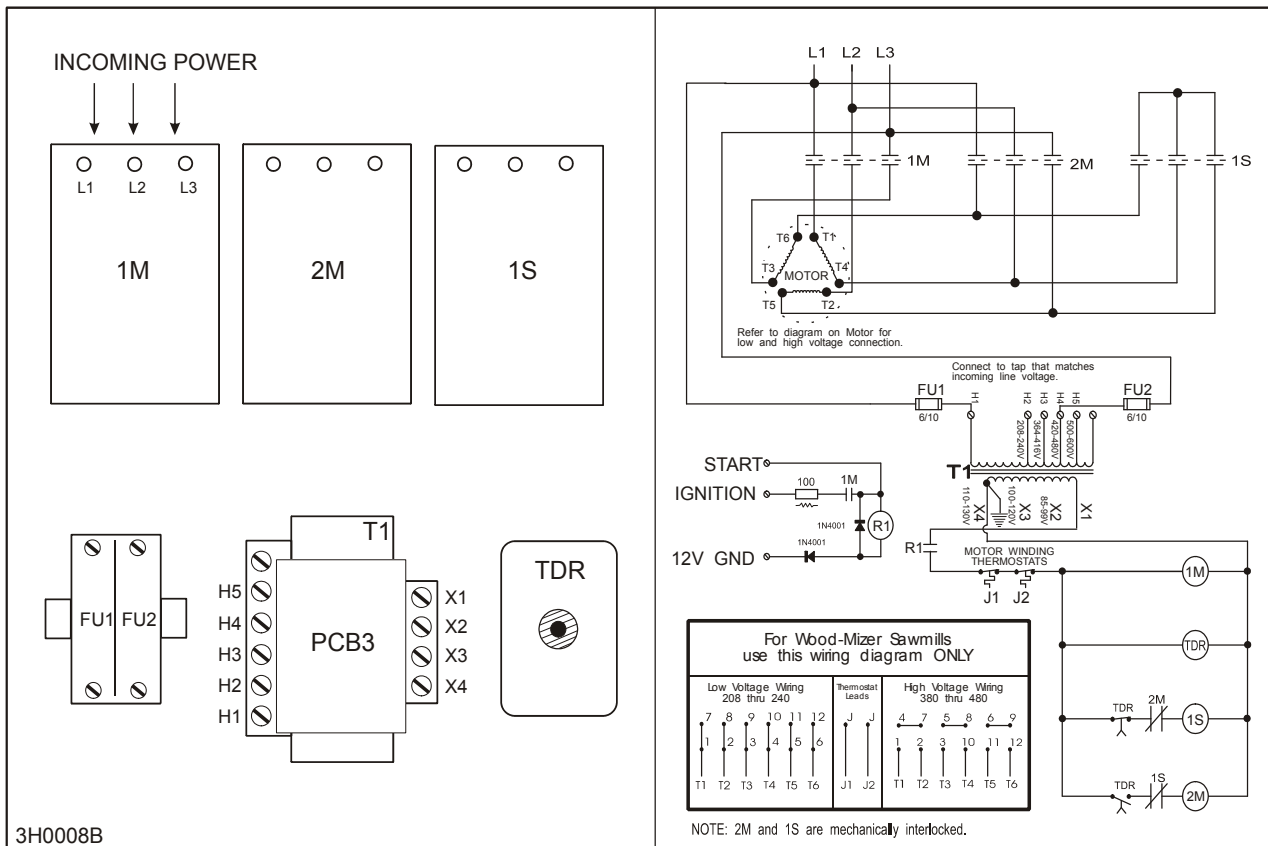
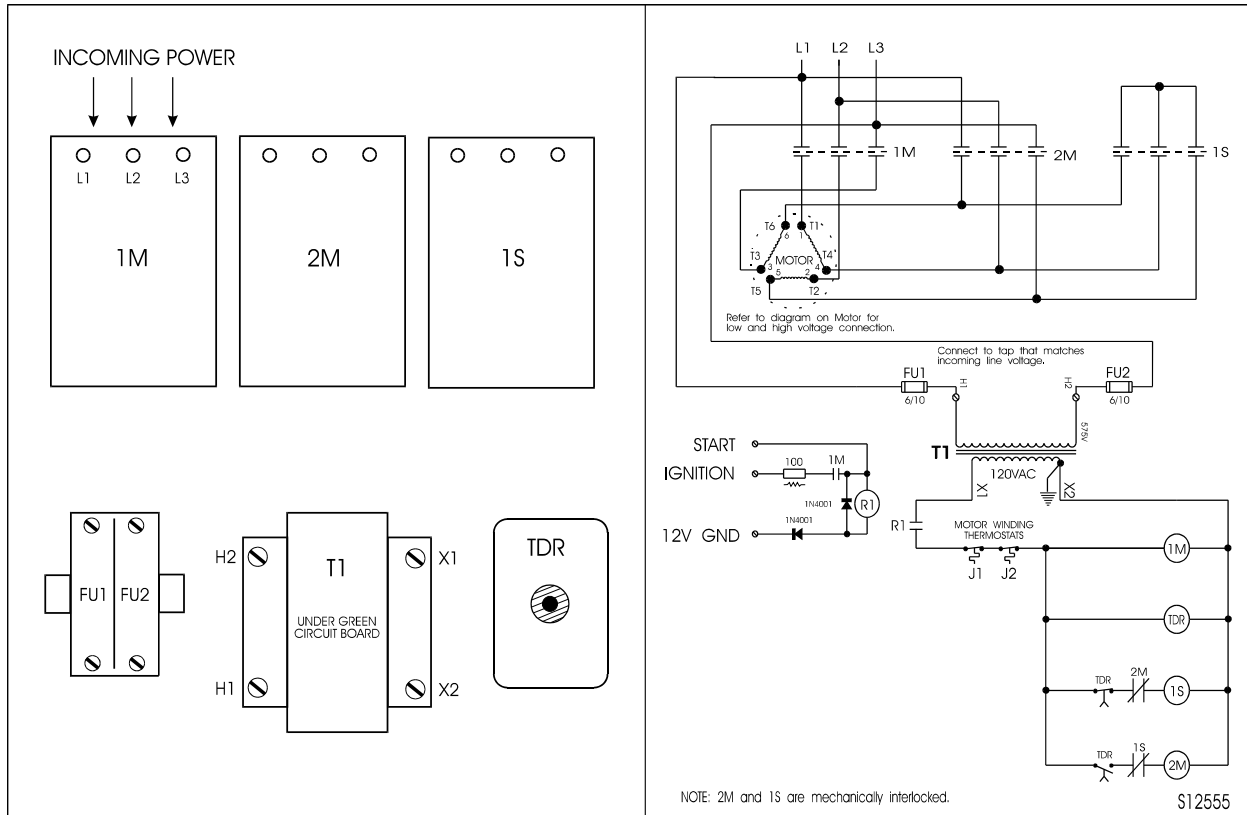


FIG. 1-1

See Figure 1-2. The wiring diagram for 575 Volt configurations is shown below.



3H0009

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	60 Amps	60 Amps	6AWG up to 100'
220 VAC	60 Amps	60 Amps	6AWG up to 100'
240 VAC	60 Amps	60 Amps	6AWG up to 100'
380 VAC	30 Amps	30 Amps	10AWG up to 50'
415 VAC	30 Amps	30 Amps	10AWG up to 50'
440 VAC	30 Amps	30 Amps	10AWG up to 50'
480 VAC	30 Amps	30 Amps	10AWG up to 50'
575 VAC	30 Amps	30 Amps	10AWG up to 50'

TABLE 1-1

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 1-2. 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 local electrical codes.

MAIN	ROTO-PHASE			WIRE
Disconnect	Fused Disconnect	Time Delay Fuse	Output of Roto-Phase	To Roto-Phase
200 AMP	100 AMP	80 AMP	60 AMP	3 AWG or larger

TABLE 1-2

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.

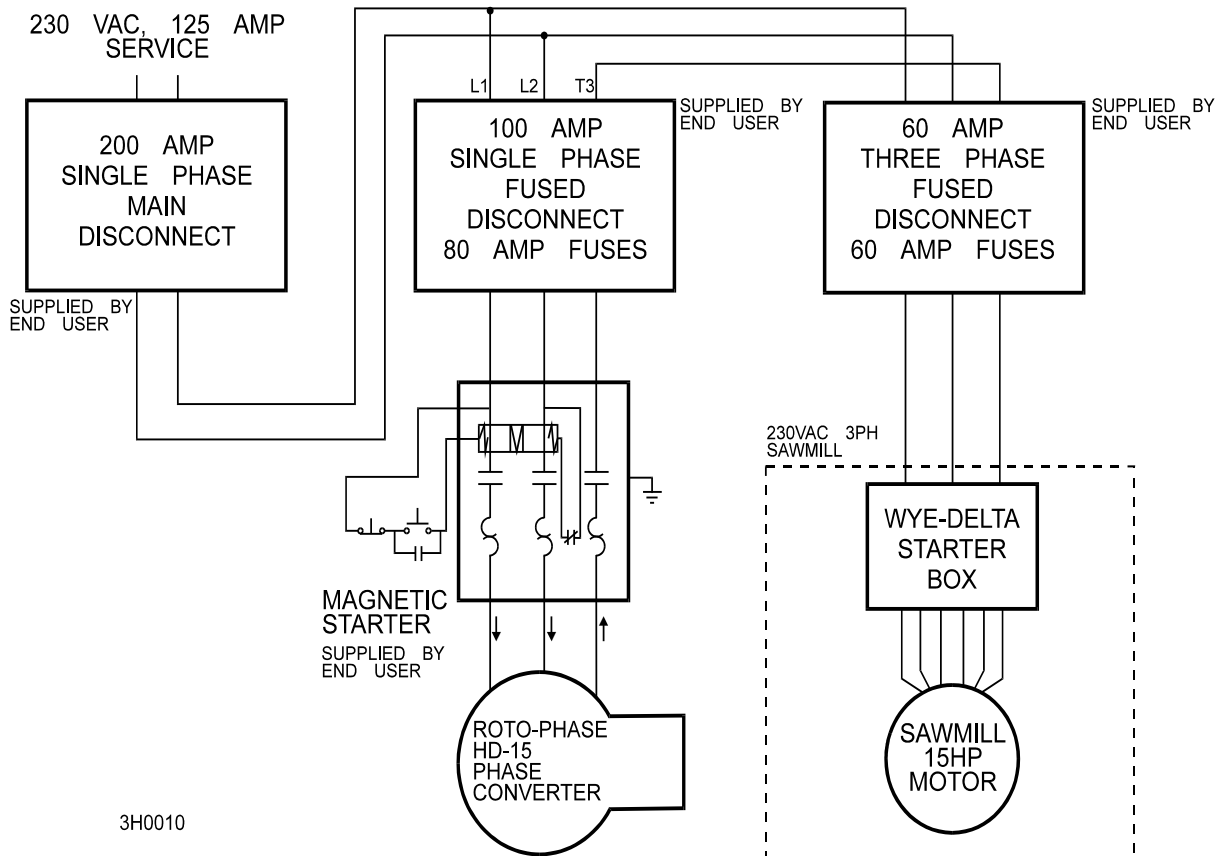


FIG. 1-3

SECTION 2 OPERATION

2.1 Starting The Motor

To start the motor:

Turn the key switch on the control panel to the START position and release.

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




WARNING! 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.

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. 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.

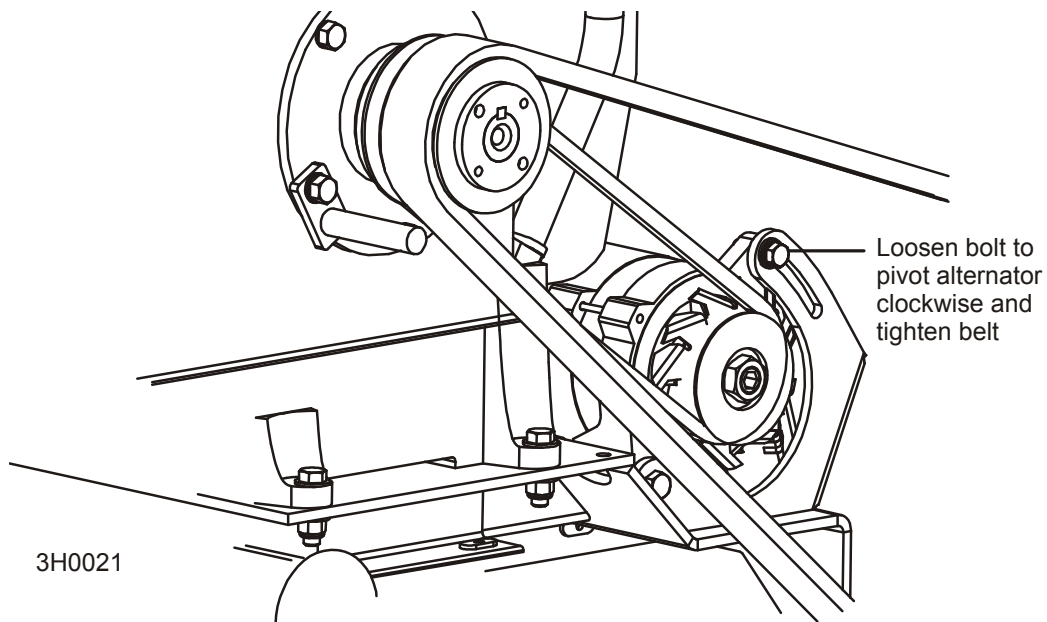


FIG. 3-1

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 14 lb. deflection force. Always be sure to check the drive belt support after adjusting drive belt tension.

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.

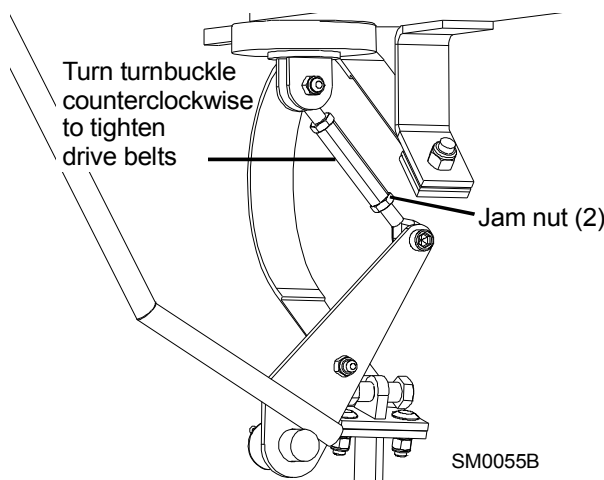


FIG. 3-2

NOTE: A longer turnbuckle is available as a retrofit for gas or electric sawmills built before 9/92. The longer turnbuckle will provide more adjustment for the drive belts.

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 3-3. To adjust the drive belt support:

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

2. Position the spider bracket so that the prongs are close to, but not touching, the drive belt with the clutch handle engaged. Prongs A and B should squeeze the drive belt just enough so the belt does not touch the motor pulley with the clutch handle disengaged.

With the blade clutch disengaged, start the motor. Check to see if the drive belt drags against the motor pulley. If the belt still touches the pulley, stop the motor and use a rubber mallet to bend the prongs so they squeeze the belt slightly more. Continue adjustments until the prongs do not touch the drive belt with the clutch handle engaged and the belt drags as little as possible on the motor pulley with the clutch handle disengaged.

3. Retighten the adjustment bolts.

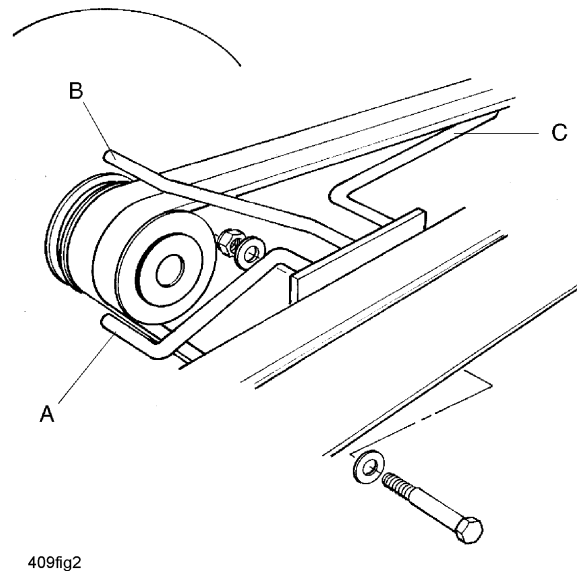


FIG. 3-3

NOTE: Drive belt support brackets are supplied on electric sawmills built after 1/92. The brackets can be retrofitted to older models. Replacing two drive belts with a single common-backed belt also will prevent belt jumping and increase belt life.

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	
1	Sample Part	F02222-22	1	
	Sample Subassembly (Includes All Indented Parts Below)	A03333	1	
2	Sample Part (◆ Indicates Part Is Only Available With A03333)	S04444-4	1	◆
	Sample Subassembly (Includes All Indented Parts Below)	K05555	1	
3	Sample Part (◆ Indicates Part Is Only Available With K05555)	M06666	2	◆
4	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.

4.3 Motor Starter Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	STARTER ASSEMBLY, 15HP 3-PHASE 50/60HZ 3450RPM ELECTRIC MOTOR	A11890-W ¹	1	
	STARTER ASSEMBLY, 15HP 3-PHASE 60HZ 3450RPM 575V ELECTRIC MOTOR	A12553-W ¹	1	
	Box Assembly, Electric Motor Starter	A11737	1	
1	Box, Electric Motor Starter Enclosure	W11738	1	◆
2	Latch, Starter Box Door	P20048	1	
3	Nut, 1/4-20 Hex Self-Locking	F05010-9	10	
4	Screw, 1/4-20 X 1/2" Button Head Socket	F05005-62	2	
5	Plug, AS075 OilTite Painted	024250 ²	1	
6	Nut, 1/2" #141 Lock	E20461	1	
7	Ring, 1/2" Sealing	E20460	1	
8	Connector, SR507 Cord	E20456	1	
9	Connector, 1" Nylon	E20444	2	
10	Bolt, 1/4-20 x 1 1/4" Hex Head Full Thread	F05005-3	4	
11	Washer, 1/4" SAE Flat	F05011-11	4	
12	Panel, Starter Box Component Mounting	S10212	1	
13	Nut, 1/4-20 Self Locking	F05010-9	8	
14	Contact, 40A 3P 120VAC D-A Series	053600 ³	3	
15	Interlock, D40-D80 Mechanical Contactor	023171-1 ³	1	
16	ScREW #8-32 x 1/2" Slotted Hex Head	F05015-18	11	
17	Block, 2ps 600v Class CC Gould #30322R	E22712 ³	1	
18	Fuse, FNQ-R 6/10 Amp	E31337 ⁴	2	
	Fuse, FNQ-R 1/2Amp 575V Electric Motor	E31338 ⁴	2	
19	Screw, 8-32 x 3/4" Type F	F05015-23	4	
20	Transformer, 150VA Multi-Tap (LT30HD/LT40HD)	024775 ⁵	1	
	Transformer, 150VA 575-120VAC (LT30HD-C/LT40HD-C)	E23292	1	
21	Bracket, Relay Circuit Board Mount	S11769-N ⁵	4	
22	Nut, #10-24 Hex Self-Locking	F05010-14	8	
23	Circuit Board, Wye-Delta Relay	A20458	1	
24	Screw, #10-24 x 5/8" Unslotted Indented Hex Head	F05004-18	4	
25	Relay, Time Delay Sq-D #03254 Class 9050 Type JCK 11V20	E10215	1	
26	Screw, 6 x 1" Phillips Pan Head Type A Sheet Metal	F05004-42	2	
27	Socket, 8-pin Relay Sq-D #00605 Class 8501 Type NR52B	E10216	1	
28	Decal, Starter Wiring	S11768	1	
29	Conduit, 1" Maxi-Flex	R01627	5.5 Ft.	
	Terminal, #6 10-Gauge FRK INS	F05703-3	2	
	Terminal #6 14-Gauge FRK INS	F05703-1	1	
	Terminal, #8 14-Gauge NI Ring	F05092-11	16	
	Terminal, 1/4" 8-Gauge Non-Insulated Ring	F05092-5	1	
	Terminal, #8 8 AWG Ring	F05092-22	6	

4

Replacement Parts

Motor Starter Assembly

	Terminal, #8 12-Gauge NI Ring	F05092-12	1	
	Tie Wrap, .100" x 4"	F05089-2	12	
	Anchor, Wire Tie, ADHB	F05089-9	2	

¹ Starter Assemblies A11890-W & A12553-W modified 1/11 to accept DIN-rail mounted Contactors 053600 due to a change in vendor supply. Replacement of old-style contactors E23293 requires DIN rail 024474-10, three screws F05015-17, two clamps E22707 and new interlock 023171-1. Three 5/32" diameter holes in the mounting panel are required to mount DIN rail. A11890-W replaces starter assembly A11736-W (LT30 Rev. C5, LT40 Rev. C6, LT30HD Rev. C9, LT40HD Rev. C8431).

² Replaces E20570 unpainted plug.

³ Starter Assemblies A11890-W & A12553-W modified 1/11 to accept DIN-rail mounted Contactors 053600 due to a change in vendor supply. Replacement of old-style contactors E23293 requires DIN rail 024474-10, three screws F05015-17, two clamps E22707 and new interlock 023171-1. Three 5/32" diameter holes in the mounting panel are required to mount DIN rail. Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

⁴ Replaces P03152 ATQ-6/10Amp Fuse and E23267 1Amp 600Volt Class CC Fuse (10/95).

⁵ Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

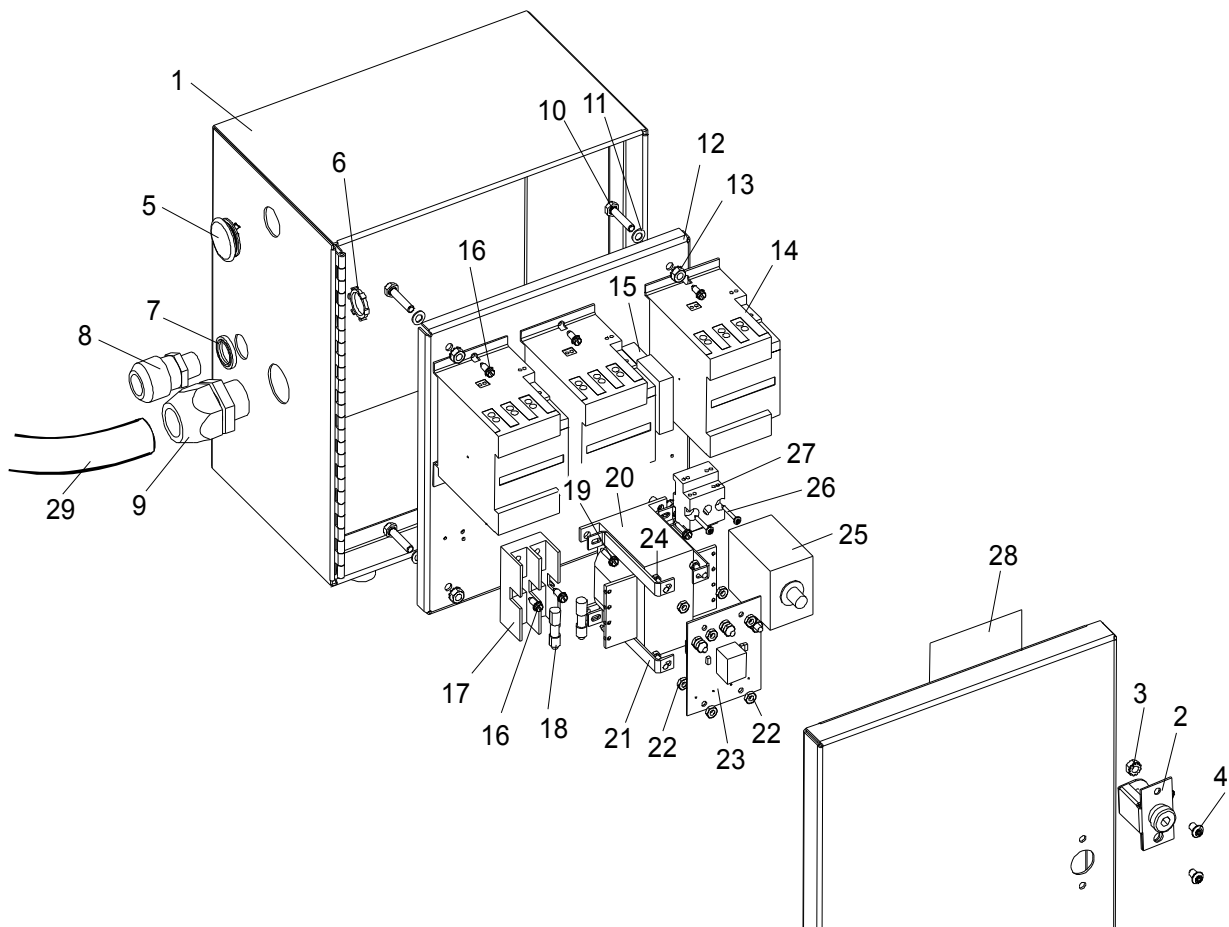


FIG. 4-1

4.4 Motor Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	MOTOR ASSEMBLY, 220/380/415-440V	A22902 ¹	1	
	Motor, 15HP 3PH 50/60HZ 3450RPM Custom 220/380/415-440V	P11813	1	◆
	Terminal, #8 Ring 14-16GA NI Loose	F05092-11	2	
	Terminal, #8 Ring 10-12GA NI Loose	F05092-12	12	
	MOTOR ASSEMBLY, 575V	A22902-575	1	
	Motor, 15HP 3PH 60HZ 3450RPM Custom 575V	P12552	1	◆
	Terminal, #8 Ring 10-12GA NI Loose	F05092-12	5	
2	PULLEY, 3-GROOVE MOTOR	S10435-W	1	
3	BUSHING, 1 3/8" SPLIT TAPER	P04864	1	
4	BELT, 2BX70 DRIVE	P04857-2 ²	1	
5	PLATE, ELECTRIC MOTOR ADAPTER	S11734	1	
6	SPACER, ELECTRIC MOTOR ADAPTER PLATE	S12284-W	8	
7	PLATE, MOTOR MOUNT LT30/40	W11543 ³	1	
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ⁴	2	◆
8	Bushing, Rubber Motor Mount Pivot	P12164	1	◆
9	Spacer, Motor Mount Pivot	P05041	1	
10	PLATE, MOTOR MOUNT PIVOT BUSHING	S04403	2	
11	BOLT, 5/16-18 X 2 1/2" 'U'	P05039	2	
12	NUT, 5/16-18 HEX LOCK	F05010-6	2	
13	BOLT, 3/8-16 X 1 1/4" CARRIAGE HEAD	F05007-11	8	
14	WASHER, 3/8" SAE FLAT	F05011-3	4	
15	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	4	
16	NUT, 3/8-16 HEX LOCK	F05010-25	4	
	KIT, ALTERNATOR WITH BRACE	K12801 ³	1	
17	Alternator, 105 Amp 12V	050287 ³	1	
	Brace, Alternator	W12761 ⁵	1	
	Bolt, 3/8-16 X 3 1/2" Hex Head Grade 8	F05007-6	1	
18	Bolt, 3/8-16 x 5 1/2" Hex Head Full Thread	F05007-34	1	
	Washer, 5/16" Split Lock	F05011-13	1	
19	Nut, 3/8-16 Hex Nylon Lock	F05010-10	1	
20	Bolt, M8 X 1.25" X 1" Hex Head Full Thread	F05004-40	2	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	
21	WASHER, 5/16" SAE FLAT	F05011-17	1	
22	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
23	PULLEY, 1979452 DELCO ALTERNATOR	P03806	1	
24	BELT, A30 ALTERNATOR	P11628	1	

4 Replacement Parts

Motor Assembly

BRACKET ASSEMBLY, DRIVE BELT 3-PRONG		A12063 ⁶	1	
25	Bracket, Drive Belt 3-Prong	W12050	1	◆
26	Bolt, 3/8-16 X 2 3/4" Hex Head	F05007-29	2	
27	Washer, 3/8" SAE Flat	F05011-3	4	
28	Nut, 3/8-16 Hex Nylon Lock	F05010-10	2	
Instruction Sheet, Drive Belt Support		A12063-409	1	

¹ Replaces motor assembly P10209 (LT30 Rev. C5, LT40 Rev. C6, LT30HD Rev. C9, LT40HD Rev. C8431). Replacement of motor requires modification of original harness to starter box A11736-W (shorten wires and conduit to use with new motor junction box location).

² One double belt P04857-2 replaces two single belts P04857 (LT30 Rev. D9, LT40 Rev. E1, LT30HD/LT40HD Rev. E3).

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.

⁵ Added to reinforce alternator (LT30 Rev. E5387, LT40 Rev. E6102, LT30HD Rev. E8329, LT40HD Rev. E8354).

⁶ Added to motor LT30 Rev. C7, LT40 Rev. C8, LT30HD/LT40HD Rev. D2.

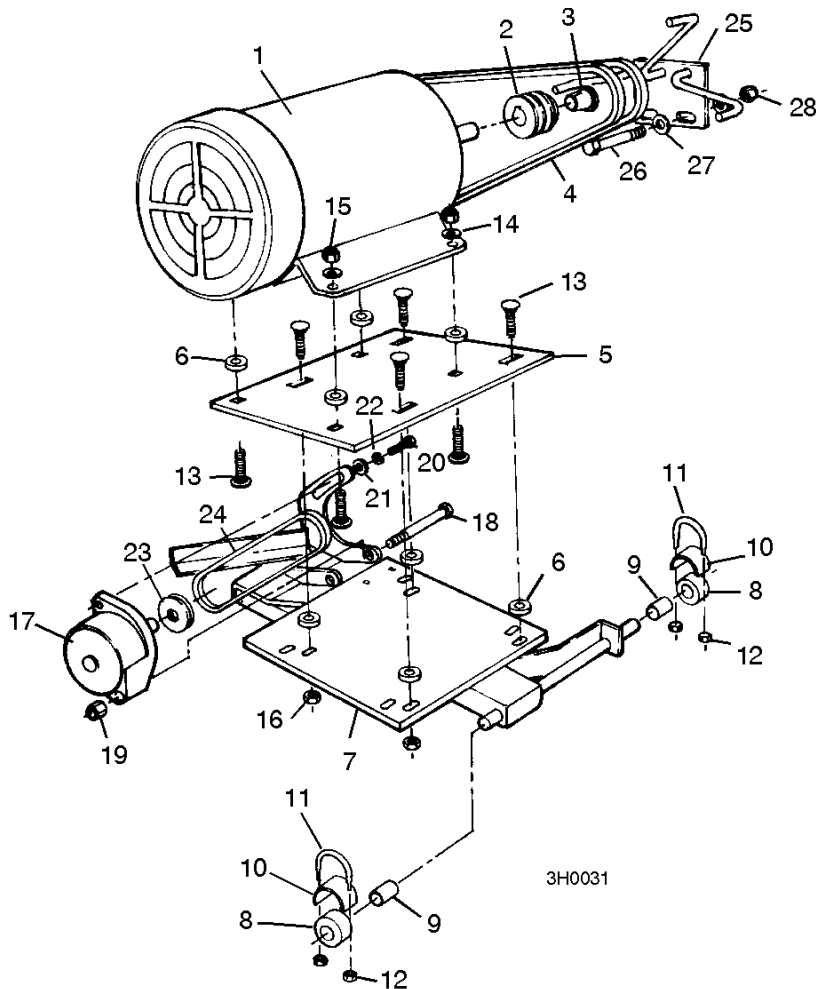
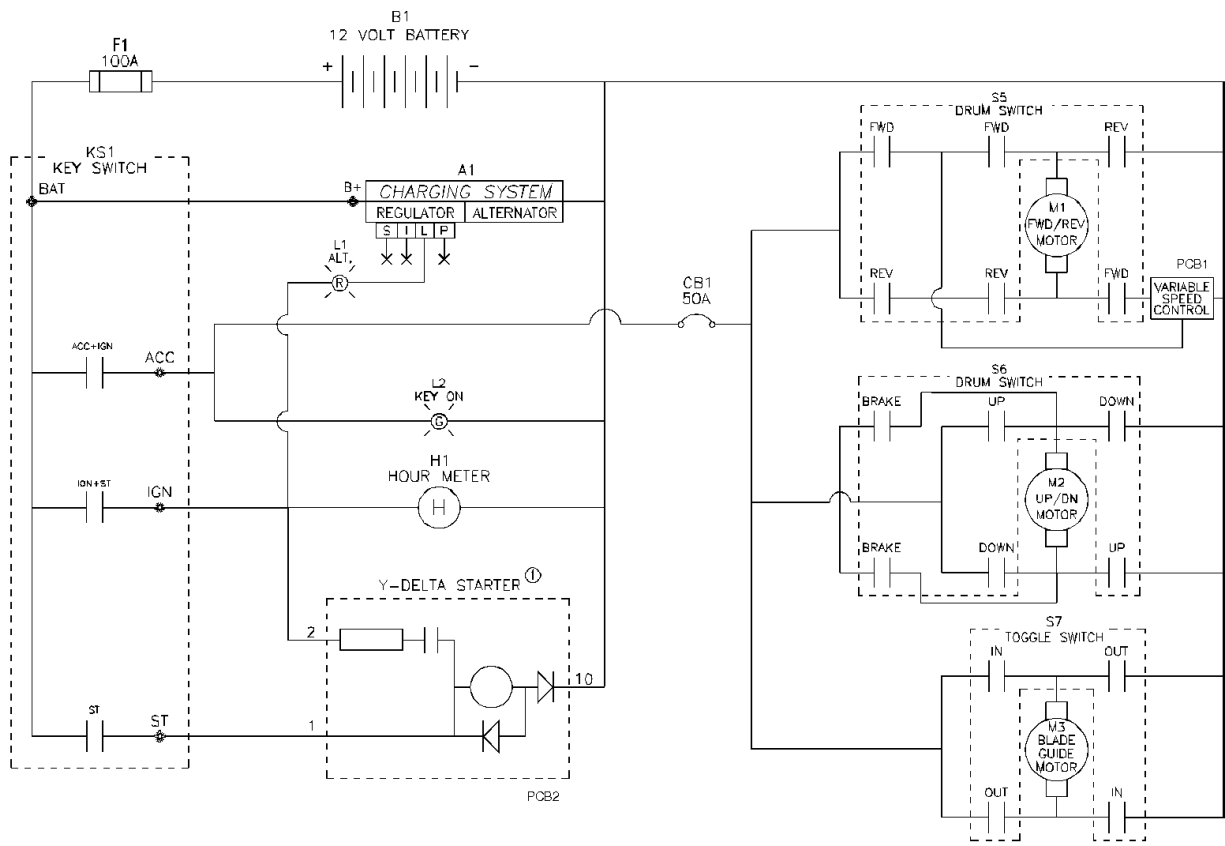


FIG. 4-2

SECTION 5 ELECTRICAL INFORMATION

5.1 Electrical Symbol Diagram, LT30/LT40 E15

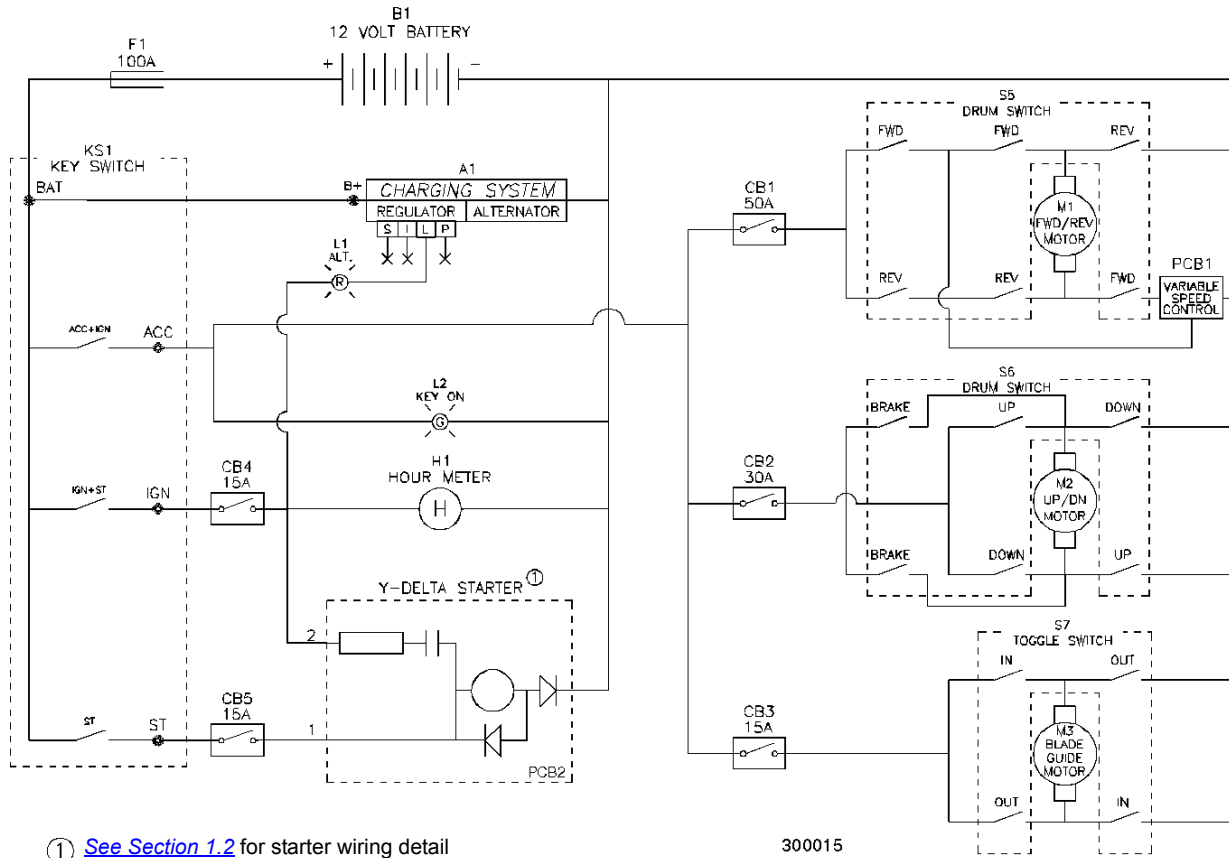


① See Section 1.2 for starter wiring detail;

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FIG. 5-1ELECTRICAL SYMBOL DIAGRAM, LT30/LT40 E15.

5.2 Electrical Symbol Diagram, LT30/LT40 E15s



① See Section 1.2 for starter wiring detail

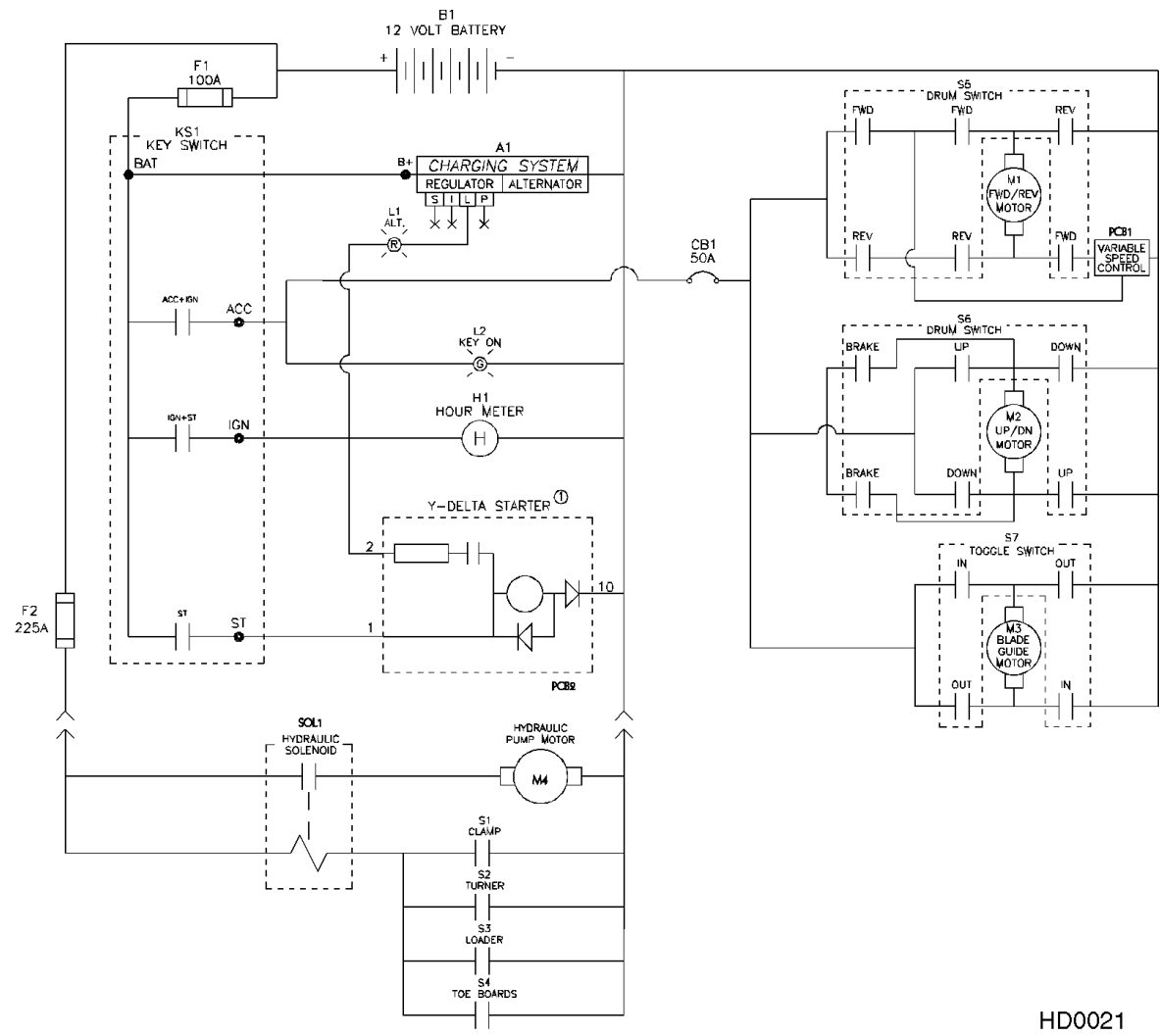
300015

FIG. 5-2

5 Electrical Information

Electrical Symbol Diagram, LT30HD/LT40HD E15 (Rev. C7 - E6)

5.3 Electrical Symbol Diagram, LT30HD/LT40HD E15 (Rev. C7 - E6)

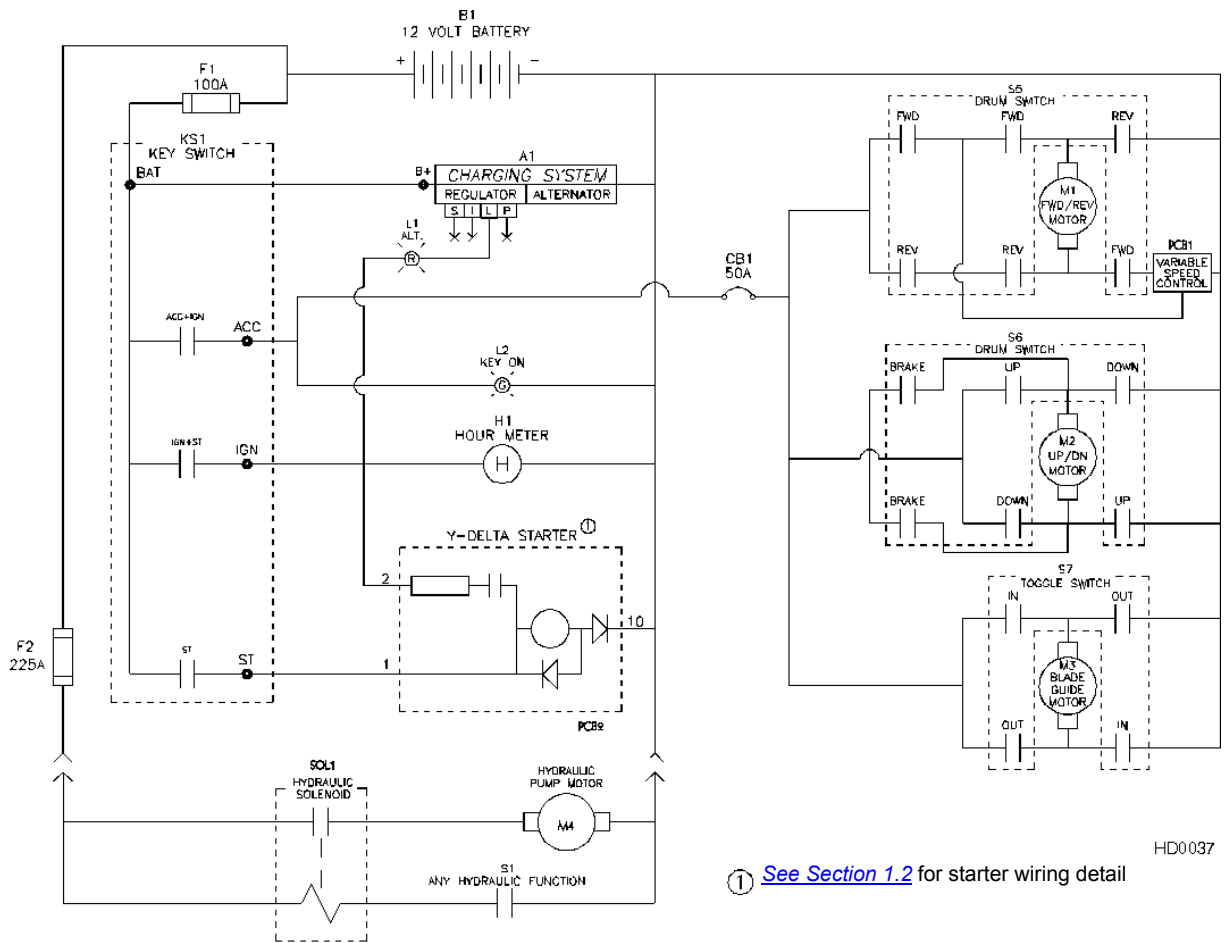


① See Section 1.2 for starter wiring detail 3.

HD0021

FIG. 5-3

5.4 Electrical Symbol Diagram, LT30HD/LT40HD E15 (Rev. E7-F7)

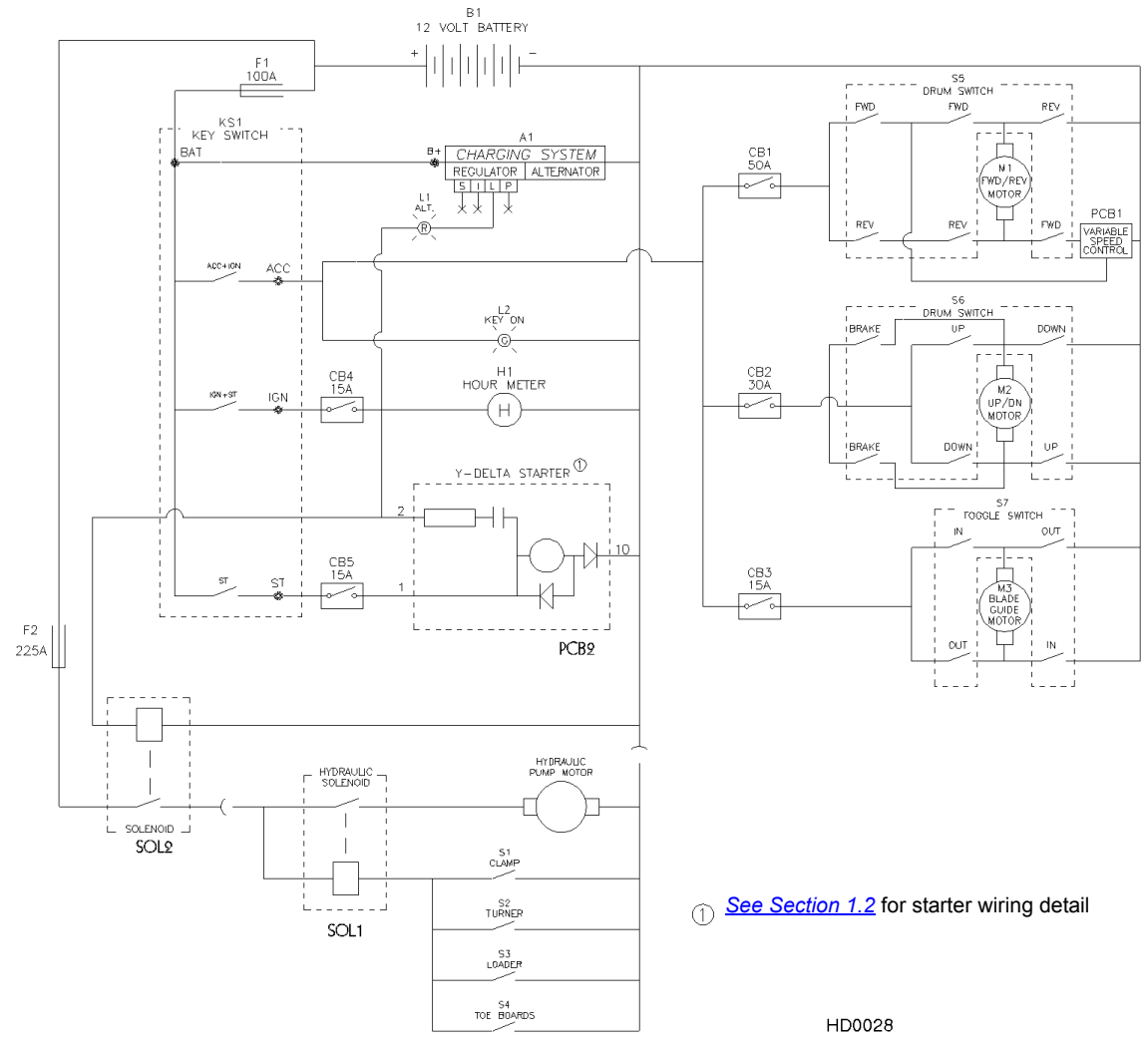


HD0037

① See Section 1.2 for starter wiring detail

FIG. 5-4

5.5 Electrical Symbol Diagram, LT30HD/LT40HD E15s (Rev. C7-E6)



① See Section 1.2 for starter wiring detail

HD0028

FIG. 5-5

5.6 Electrical Symbol Diagram, LT30HD/LT40HD E15s (Rev. E7-F7)

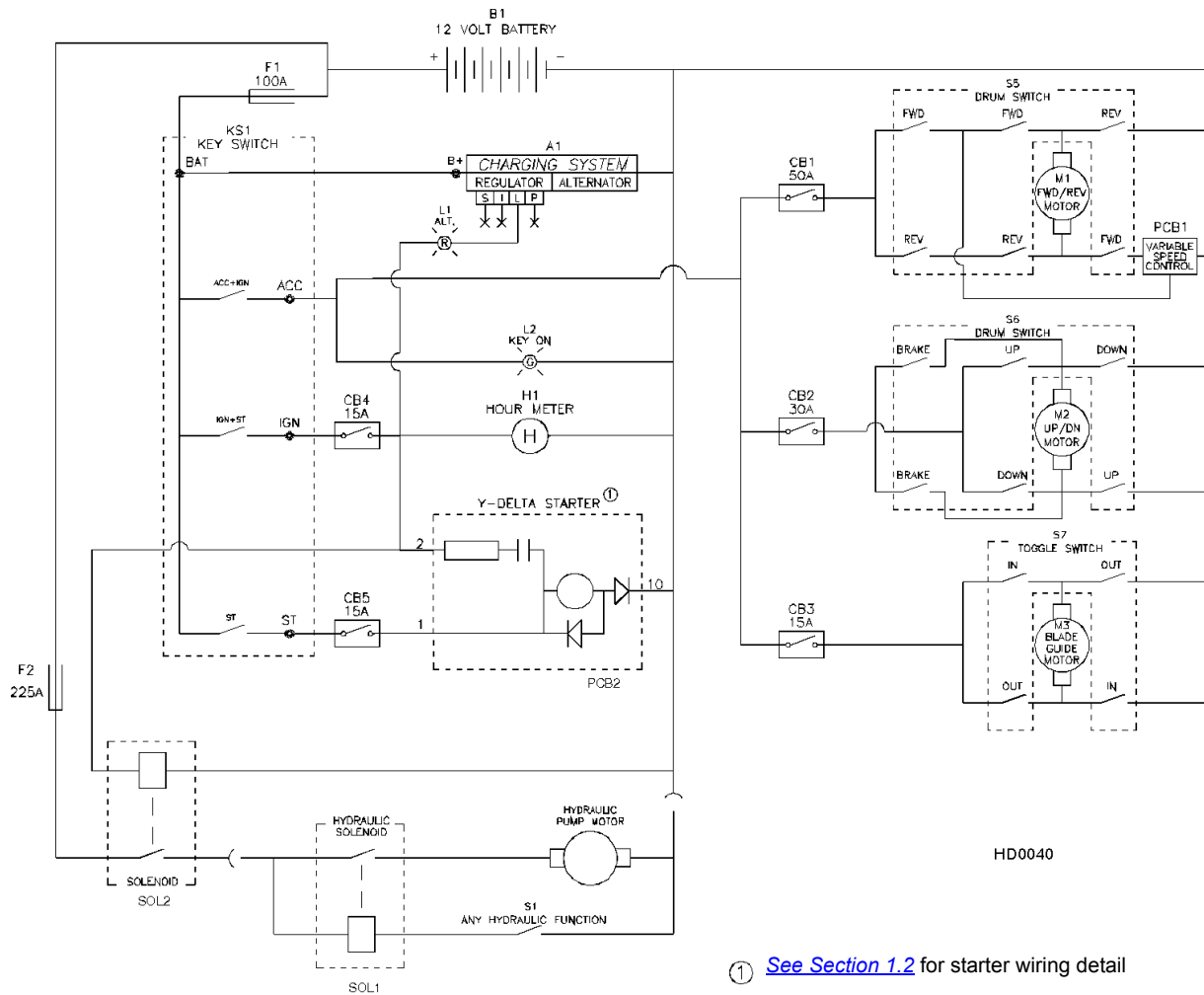


FIG. 5-6

5.7 Electrical Components, LT30/LT40 E15/E15s

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40AF7	Square D	053600 ¹	Contact, 40A 3P 120VAC D-A Series
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	524MFD	Deka	P09725-1	Battery, 12 Volt LT30/40 (See Section 5.10)
CB1	30128-30	Cole-Hersee	E20486 ³	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset (U.S.)
	30128-50	Cole-Hersee	E20434	Circuit Breaker, 50 Amp, 12 Volt, For Power Feed Motor, Auto Reset (G.S.)
CB1	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12 Volt, For Power Feed Motor, Manual Reset
CB2	123A30A2	Richard's Elec	E20431 ⁴	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ⁵	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ⁵	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ⁵	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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁶	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁷	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁸	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁹	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 ¹⁰	Circuit Board, Power Feed
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S5	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
T1	9070T150D50	Square D	024775 ¹¹	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

- ¹ DIN rail-mount contactors 053600 replaces panel-mount contactors E23293 originally supplied prior to 1/11 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 mounting panel are required to mount DIN rail. Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.
- ² 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.
- ³ 30 Amp breaker replaces E20434 50 Amp breaker 10/9/95.
- ⁴ Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).
- ⁵ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).
- ⁶ Replaces P03152 ATQ-6/10Amp Fuse (10/95).
- ⁷ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).
- ⁸ 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.
- ⁹ Leeson motor replaces Owosso motor #PV-28147Q originally supplied.
- ¹⁰ 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.
- ¹¹ Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

5.8 Electrical Components, LT30HD/LT40HD E15/E15s (Rev. C7 - E6)

Component	Mfg. Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40AF7	Square D	053600 ¹	Contact, 40A 3P 120VAC D-A Series
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	DP24M ³	Deka	P09853-1	Battery, 12 Volt LT30HD/40HD (See Section 5.11)
CB1	30128-30	Cole-Hersee	E20486 ⁴	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset (U.S.)
	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12 Volt, For Power Feed Motor, Manual Reset (G.S.)
CB2	123A30A2	Richard's Elec	E20431 ⁵	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ⁶	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ⁶	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ⁶	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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁷	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁸	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁹	Motor, 12 Volt Power Feed
M2	N/A	Leeson ¹⁰	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 ¹¹	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ¹²	Circuit Board, Power Feed
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
S1	03721	Monarch Hyd.	P09593	Switch, Hydraulic Pump Lever
S2	03721	Monarch Hyd.	P09593	Switch, Hydraulic Pump Lever
S3	03721	Monarch Hyd.	P09593	Switch, Hydraulic Pump Lever
S4	03721	Monarch Hyd.	P09593	Switch, Hydraulic Pump Lever
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S5	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	3336	Monarch Hyd.	P09595	Solenoid, Hydraulic Pump Motor
SOL2	120-943	Stancor	016372 ¹³	Solenoid, Low-Cost Multi-Purpose 12 Volt 3 Terminal

T1	9070T150D50	Square D	024775 ¹⁴	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

¹ DIN rail-mount contactors 053600 replaces panel-mount contactors E23293 originally supplied prior to 1/11 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 mounting panel are required to mount DIN rail. Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

² 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.

³ Replaces 8T24 originally supplied.

⁴ 30 Amp breaker replaces E20434 50 Amp breaker 10/9/95.

⁵ Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).

⁶ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).

⁷ Replaces P03152 ATQ-6/10Amp Fuse (10/95).

⁸ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).

⁹ 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.

¹⁰ Leeson motor replaces Owosso motor #PV-28147Q originally supplied.

¹¹ 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.

¹² 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.

¹³ Solenoid Kit 016372 replaces Solenoid P10449. Kit includes solenoid and replacement instructions.

¹⁴ Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

5.9 Electrical Components, LT30HD/LT40HD E15/E15s (Rev. E7+)

Component	Mfg. Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40AF7	Square D	053600 ¹	Contactora, 40A 3P 120VAC D-A Series
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	DP24M ³	Deka	P09853-1	Battery, 12 Volt LT30HD/40HD (See Section 5.11)
CB1	30128-30	Cole-Hersee	E20486 ⁴	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset (U.S.)
	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12 Volt, For Power Feed Motor, Manual Reset (G.S.)
CB2	123A30A2	Richard's Elec	E20431 ⁵	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ⁶	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ⁶	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ⁶	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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁷	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁸	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁹	Motor, 12 Volt Power Feed
M2	N/A	Leeson ¹⁰	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 ¹¹	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ¹²	Circuit Board, Power Feed
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
S1	024198	Wood-Mizer	024198 ¹³	Switch, Hydraulic Pump Levers
S5	2601-AF2-S11	Square D	E20439	Drum Switch, (U.S.), Power Feed Fwd/Reverse Motor
S5	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 ¹⁴	Solenoid, 200 Amp Hydraulic Pump Motor
SOL2	120-943	Stancor	016372 ¹⁵	Solenoid, Low-Cost Multi-Purpose 12 Volt 3 Terminal
T1	9070T150D50	Square D	024775 ¹⁶	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

- ¹ DIN rail-mount contactors 053600 replaces panel-mount contactors E23293 originally supplied prior to 1/11 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 mounting panel are required to mount DIN rail. Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.
- ² 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.
- ³ Replaces 8T24 originally supplied.
- ⁴ 30 Amp breaker replaces E20434 50 Amp breaker 10/9/95.
- ⁵ Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).
- ⁶ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).
- ⁷ Replaces P03152 ATQ-6/10Amp Fuse (10/95).
- ⁸ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).
- ⁹ 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.
- ¹⁰ Leeson motor replaces Owosso motor #PV-28147Q originally supplied.
- ¹¹ 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.
- ¹² 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.
- ¹³ 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).
- ¹⁴ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.
- ¹⁵ Solenoid Kit 016372 replaces Solenoid P10449. Kit includes solenoid and replacement instructions.
- ¹⁶ Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

5.10 Battery Specifications, LT30/LT40 E15/E15s

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

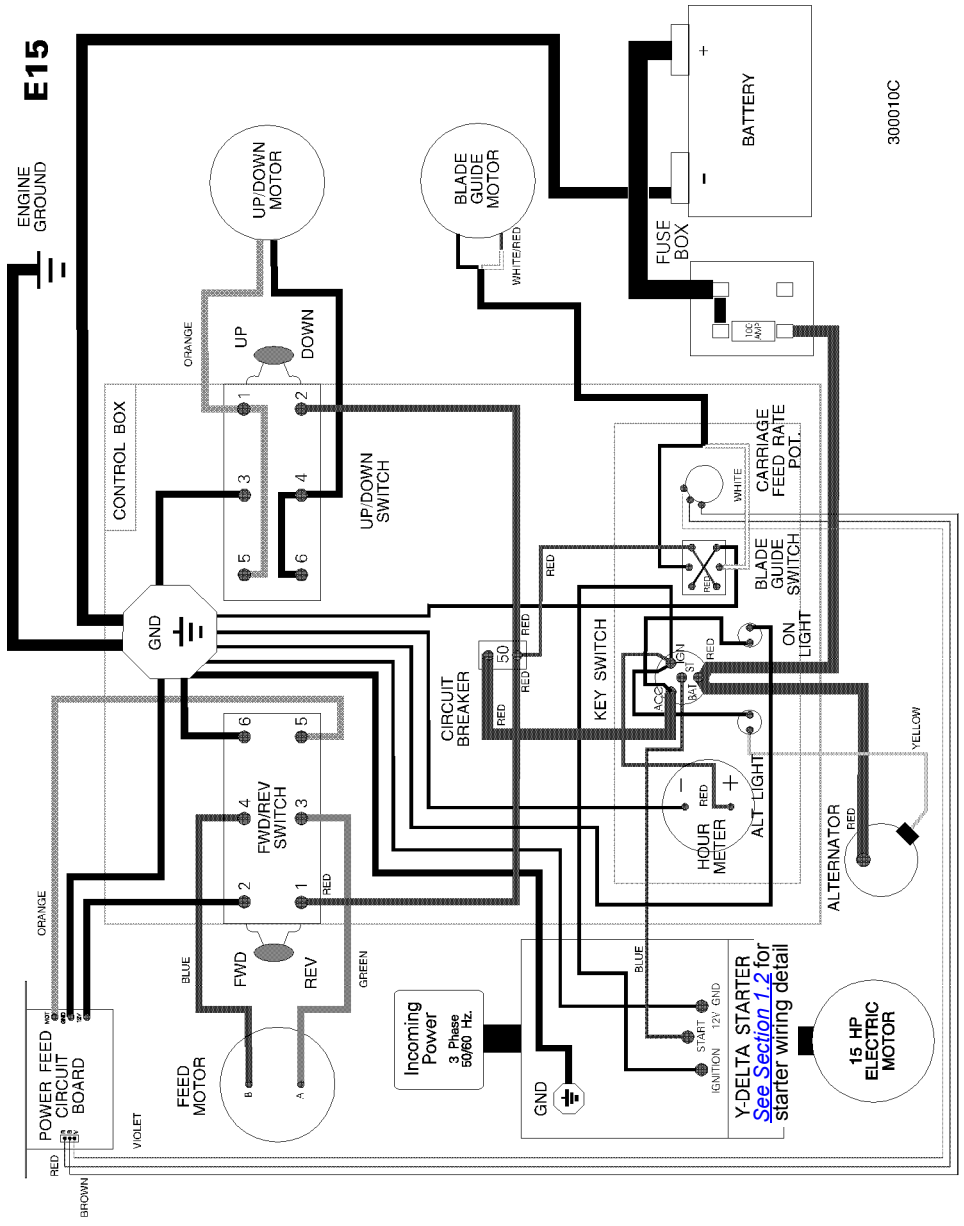
5.11 Battery Specifications, LT30HD/LT40HD E15/E15s

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.

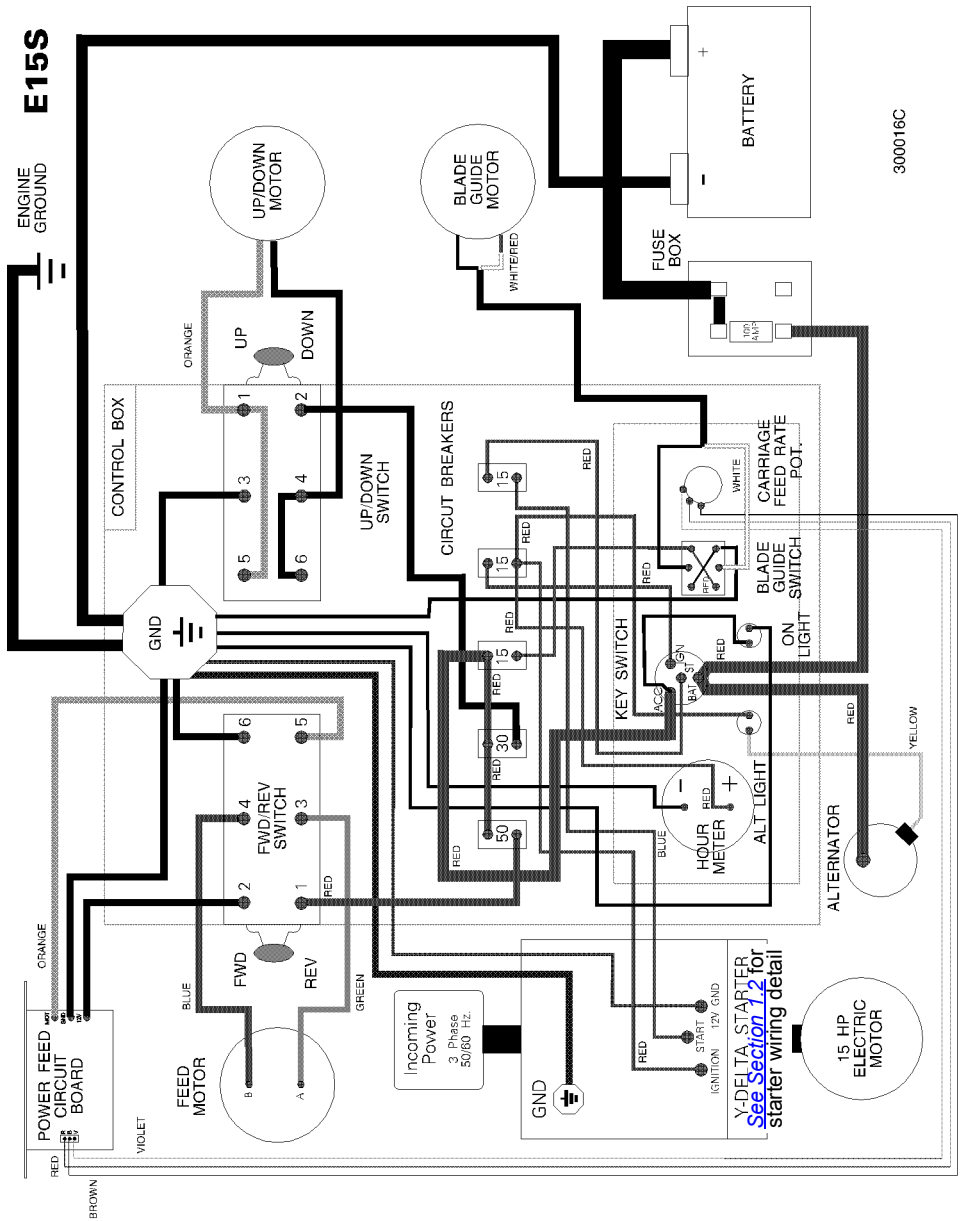
5.12 Wiring Diagram, LT30/LT40 E15



NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-7

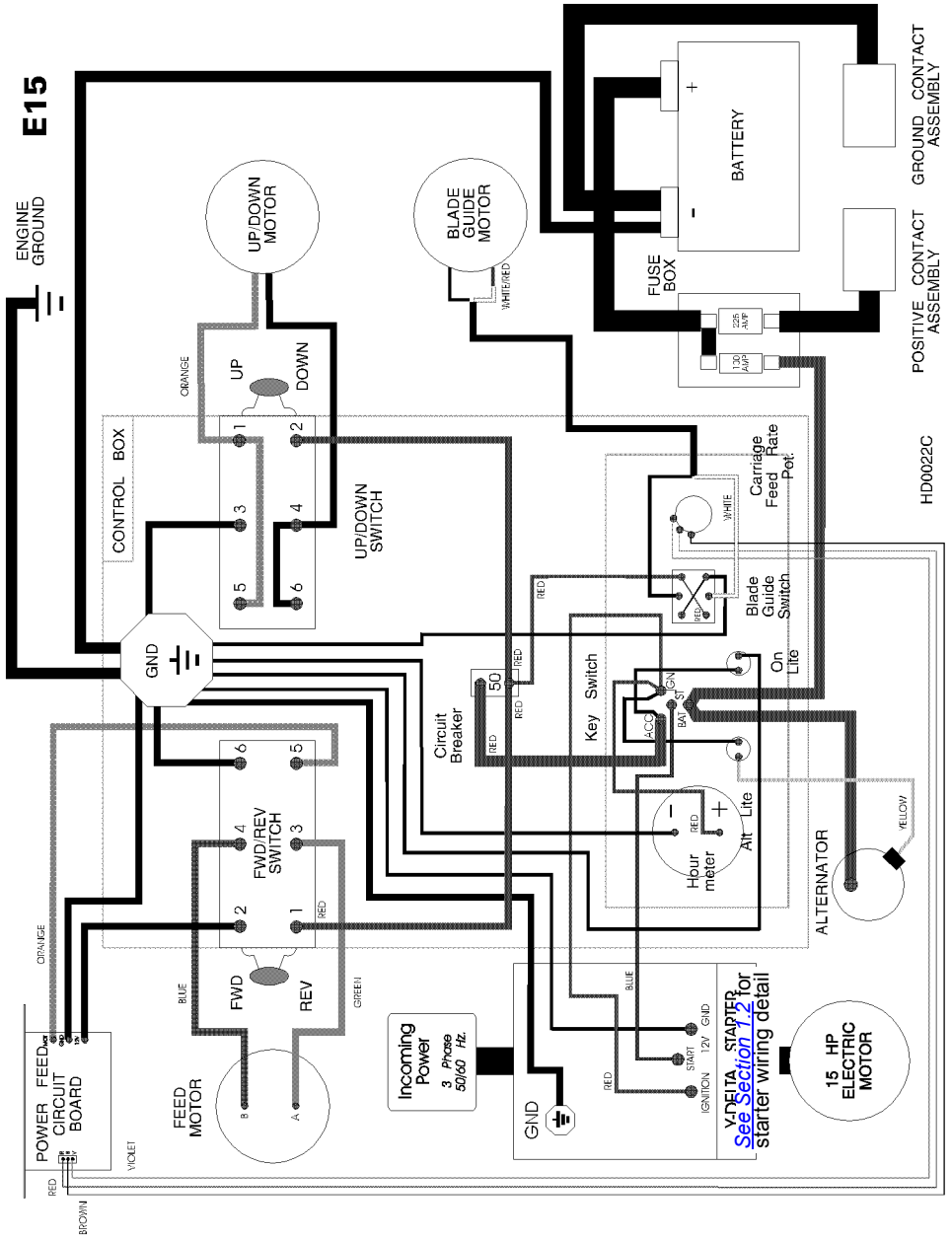
5.13 Wiring Diagram, LT30/LT40 E15s



NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-8

5.14 Wiring Diagram, LT30HD/LT40HD E15



NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-9

5.15 Wiring Diagram, LT30HD/LT40HD E15s

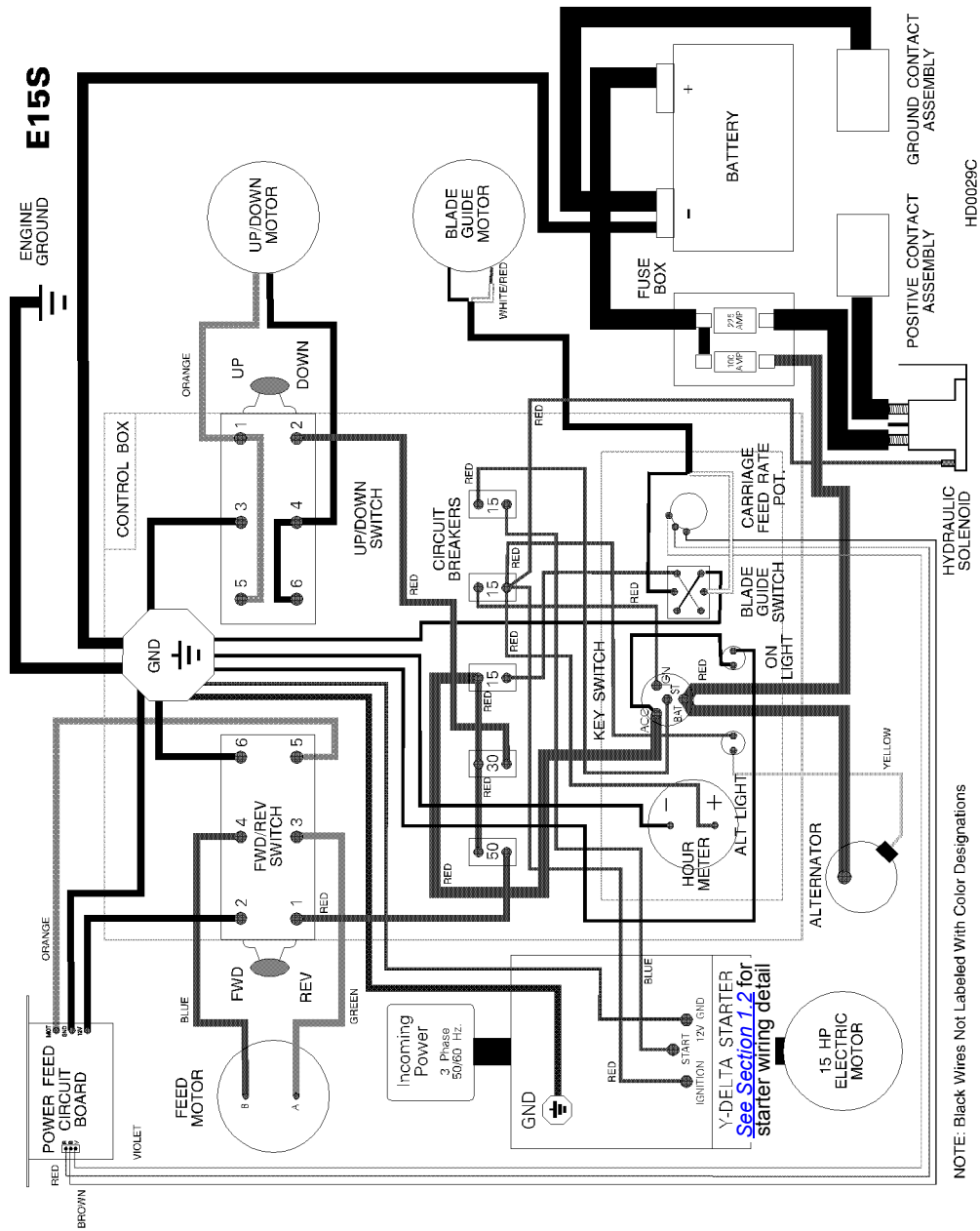


FIG. 5-10

E15 Motor

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.

February 1996

Form #609

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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5.12	Wiring Diagram, E15 LT30/LT405-15 <i>LT30 F4710 - F4722</i> <i>LT40 F5565 - F5587, 592</i>	
5.13	Wiring Diagram, E15 LT30HD/LT40HD5-16 <i>LT30HD F8522 - F9.01</i> <i>LT40HD F8395 - F9.01</i>	
5.14	Wiring Diagram, E15 LT30HD/LT40HD.....5-17 <i>LT30HD F8511 - F8521</i> <i>LT40HD F8334 - F8394, 403</i>	

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 and transformer are 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 and transformer.

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

See Figure 1-1. See the wiring diagram to rewire the motor and transformer (208-480V). **NOTE:** This diagram shows the multi-tap transformer used since 2/00. If sawmill equipped with original transformer prior to 2/00, refer to diagram on transformer for voltage configurations.

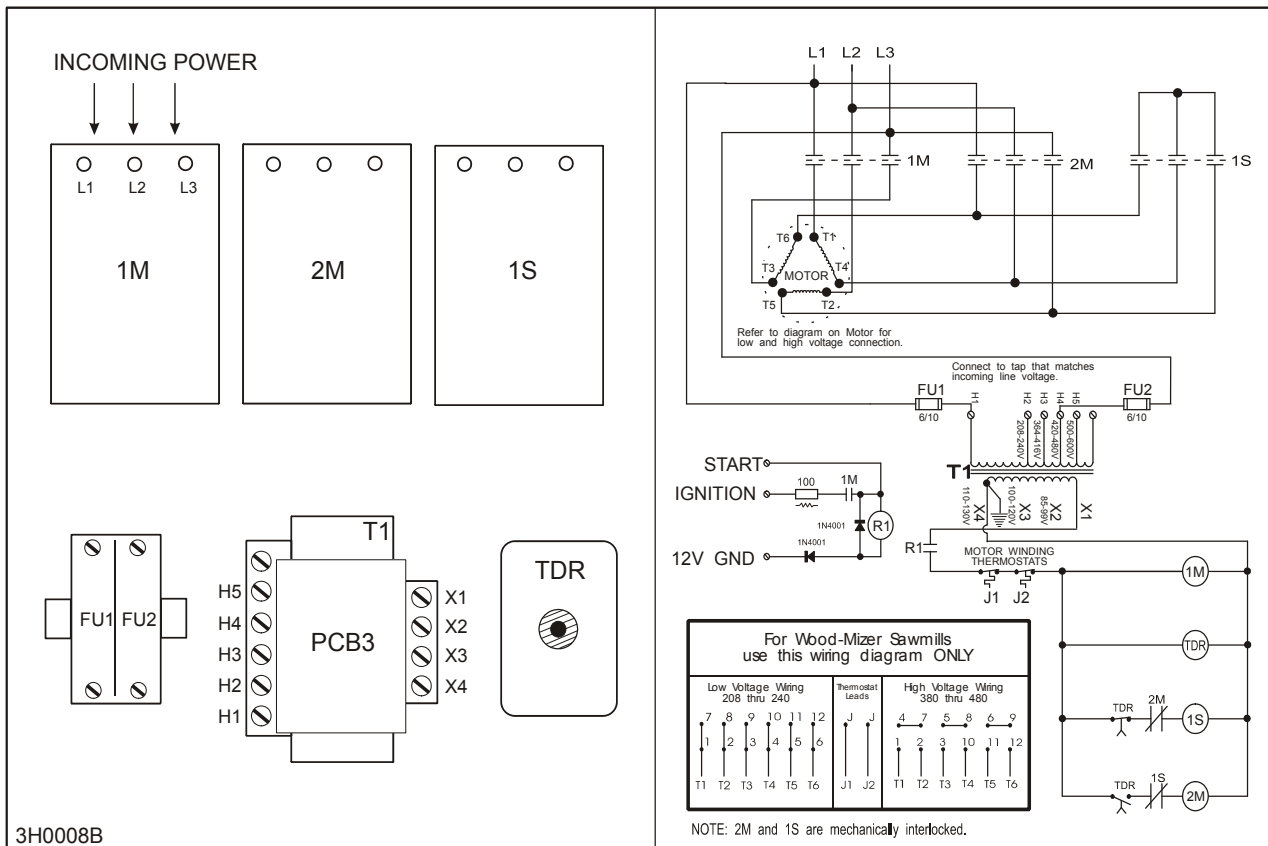
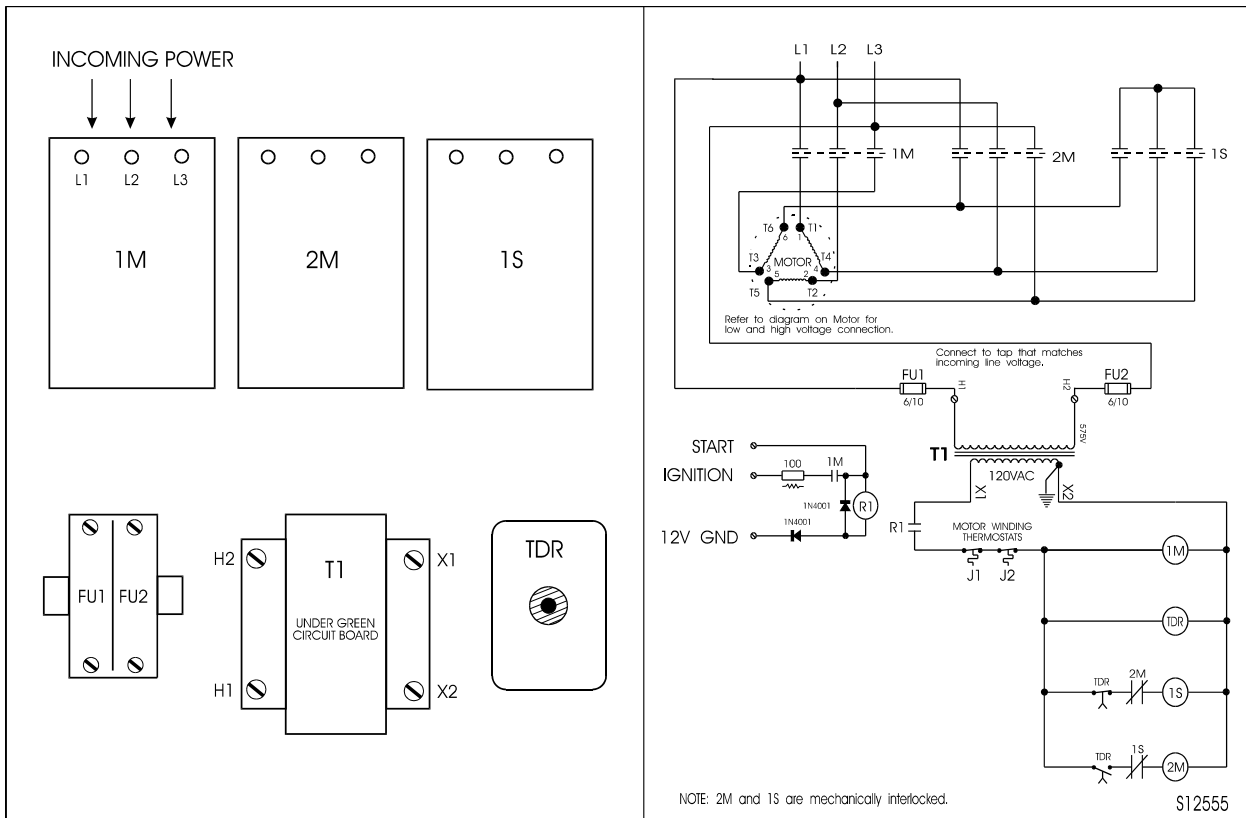


FIG. 1-1

See Figure 1-2. The wiring diagram for 575 Volt configurations is shown below.



3H0009

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	60 Amps	60 Amps	6AWG up to 100'
220 VAC	60 Amps	60 Amps	6AWG up to 100'
240 VAC	60 Amps	60 Amps	6AWG up to 100'
380 VAC	30 Amps	30 Amps	10AWG up to 50'
415 VAC	30 Amps	30 Amps	10AWG up to 50'
440 VAC	30 Amps	30 Amps	10AWG up to 50'
480 VAC	30 Amps	30 Amps	10AWG up to 50'
575 VAC	30 Amps	30 Amps	10AWG up to 50'

TABLE 1-1

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 1-2. 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 local electrical codes.

MAIN	ROTO-PHASE			WIRE
Disconnect	Fused Disconnect	Time Delay Fuse	Output of Roto-Phase	To Roto-Phase
200 AMP	100 AMP	80 AMP	60 AMP	3 AWG or larger

TABLE 1-2

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.

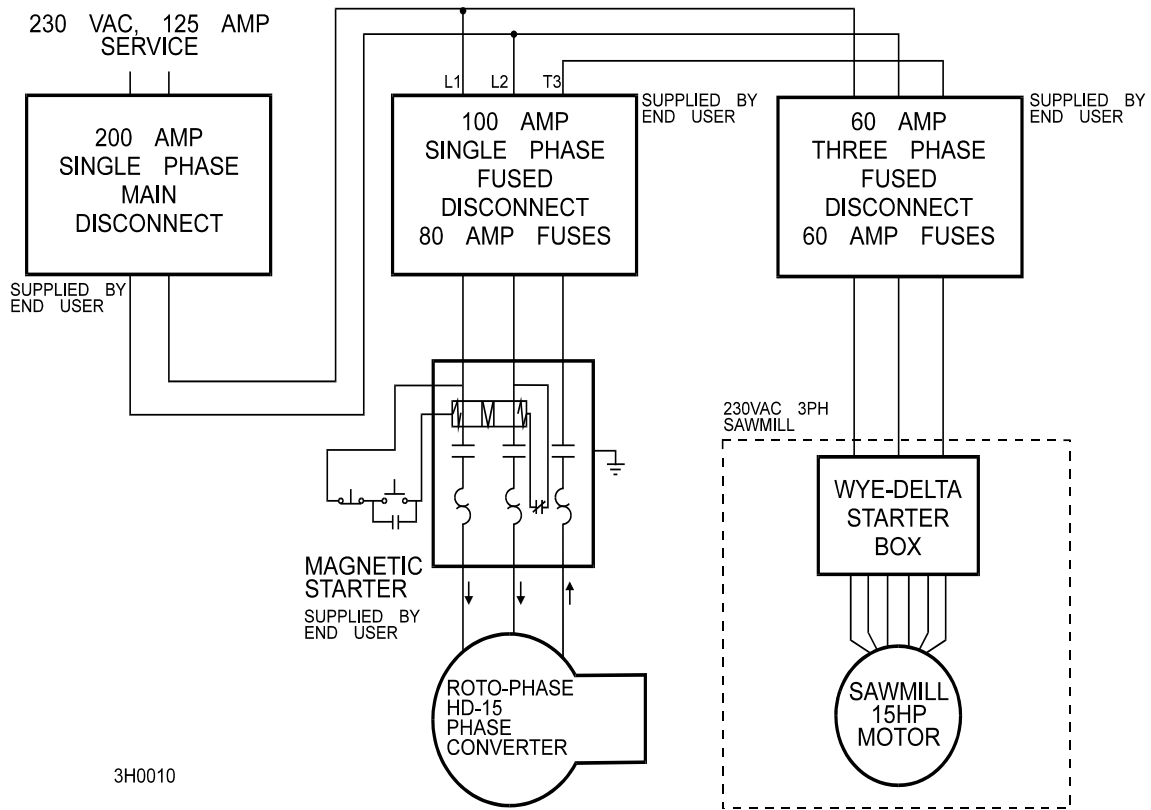




FIG. 1-3

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 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.

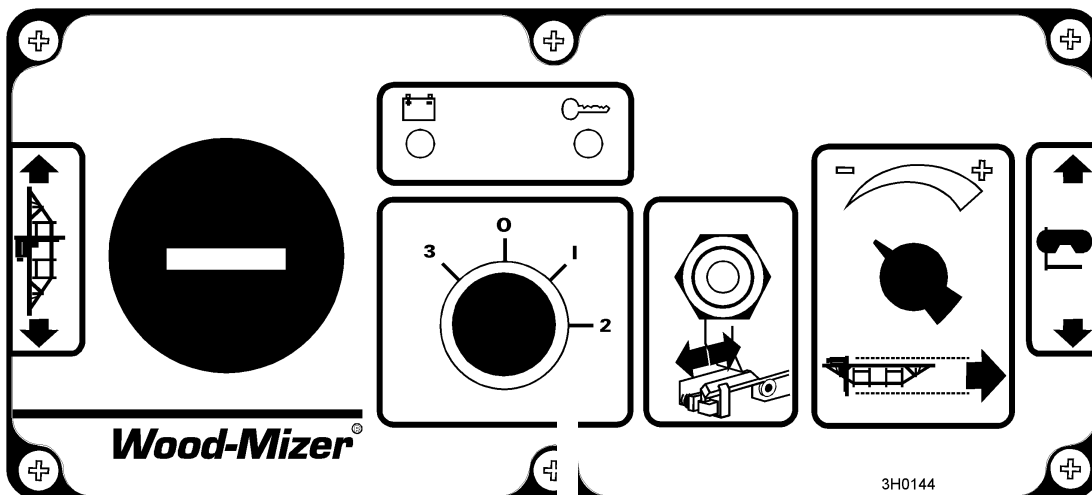


FIG. 2-1

2 **Operation** *Starting The Motor*

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. 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.

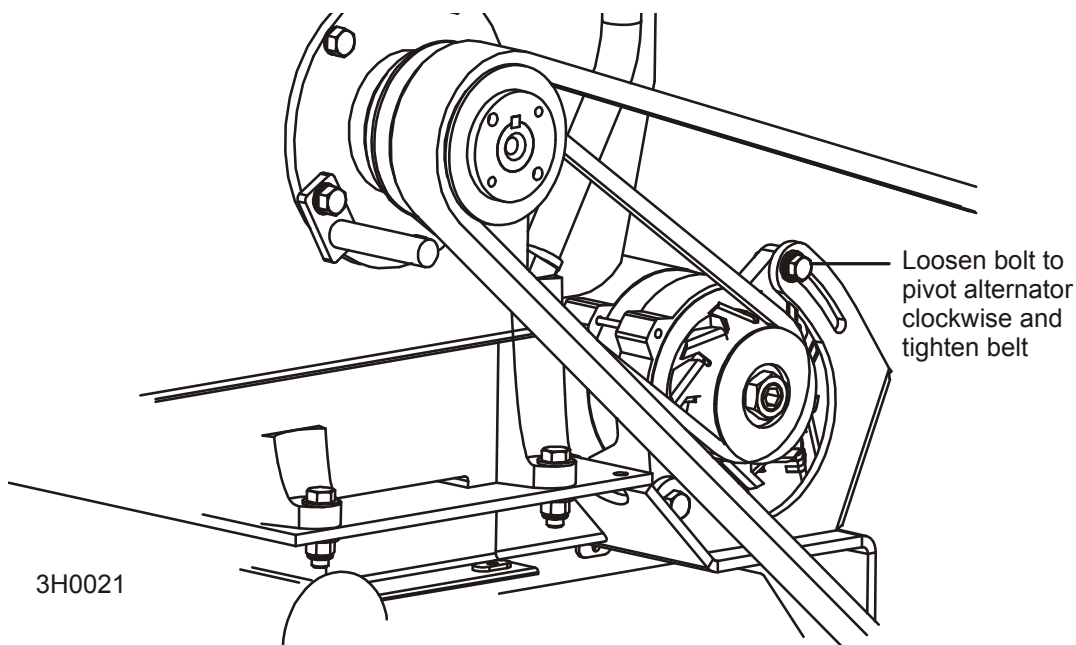


FIG. 3-1

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 14 lb. deflection force. Always be sure to check the drive belt support after adjusting drive belt tension.

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.

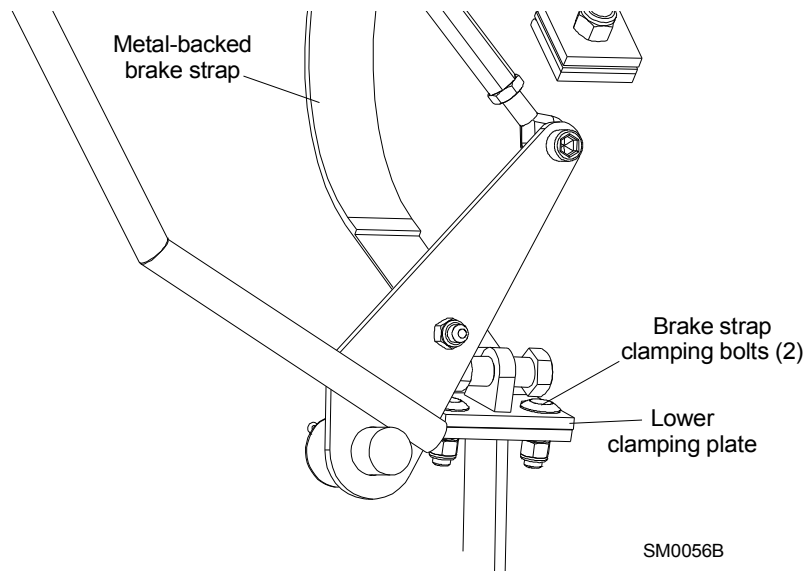


FIG. 3-2

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 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 3-3. To adjust the drive belt support:

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

3

Maintenance

Drive Belt Adjustment

2. Position the spider bracket so that the prongs are close to, but not touching, the drive belt with the clutch handle engaged. Prongs A and B should squeeze the drive belt just enough so the belt does not touch the motor pulley with the clutch handle disengaged.

With the blade clutch disengaged, start the motor. Check to see if the drive belt drags against the motor pulley. If the belt still touches the pulley, stop the motor and use a rubber mallet to bend the prongs so they squeeze the belt slightly more. Continue adjustments until the prongs do not touch the drive belt with the clutch handle engaged and the belt drags as little as possible on the motor pulley with the clutch handle disengaged.

3. Retighten the adjustment bolts.

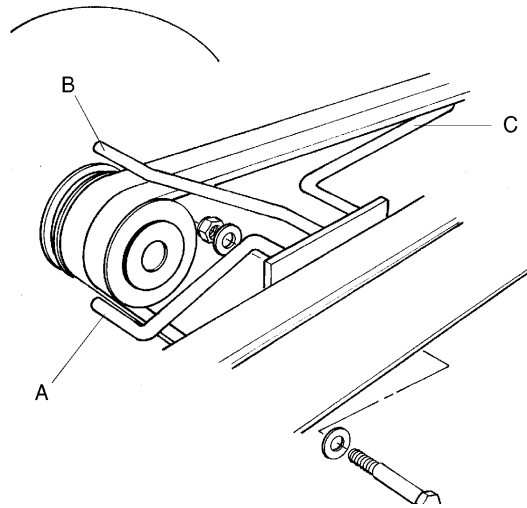


FIG. 3-3

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 Assembly

4.3 Motor Starter Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	STARTER ASSEMBLY, 15HP 3-PHASE 50/60HZ 3450RPM ELECTRIC MOTOR	A11890-W	1	
	STARTER ASSEMBLY, 15HP 3-PHASE 60HZ 3450RPM 575V ELECTRIC MOTOR	A12553-W	1	
	Box Assembly, Electric Motor Starter	A11737	1	
1	Box, Electric Motor Starter Enclosure	W11738	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	
5	Connector, 1" Nylon	E20444	2	
6	Conduit, 1" Maxi-Flex	R01627	5.5 Ft.	
7	Plug, AS075 OilTite Painted	024250 ¹	1	
8	Connector, SR507 Cord	E20456	1	
9	Ring, 1/2" Sealing	E20460	1	
10	Nut, 1/2" #141 Lock	E20461	1	
11	Decal, Starter Wiring	S11768	1	
12	Panel, Starter Box Component Mounting	S10212	1	
13	Contact, 40 Amp IEC 120V 50/60Hz Tele LC1 D4011f7	E23293	3	
14	Interlock, LC1 Dxx Contactor Tele La9 D09978	E23406	1	
15	Transformer, 150VA Multi-Tap (LT30HD/LT40HD)	024775 ²	1	
	Transformer, 150VA 575-120VAC (LT30HD-C/LT40HD-C)	E23292	1	
16	Relay, Time Delay Sq-D #03254 Class 9050 Type JCK 11V20	E10215	1	
17	Socket, 8-pin Relay Sq-D #00605 Class 8501 Type NR52B	E10216	1	
18	Block, 2ps 600v Class CC Gould #30322R	E22712	1	
19	Fuse, FNQ-R 6/10 Amp	E31337	2	
	Fuse, FNQ-R 1/2Amp 575V Electric Motor	E31338	2	
20	Circuit Board, Wye-Delta Relay	A20458	1	
21	Bracket, Relay Circuit Board Mount	S11769-N	4	
22	Nut, #10-24 Hex Self-Locking	F05010-14	8	
	Bolt, 1/4-20 x 1 1/4" Hex Head Full Thread	F05005-3	4	
	Washer, 1/4" SAE Flat	F05011-11	4	
	Terminal, #6 10-Gauge FRK INS	F05703-3	2	
	Terminal #6 14-Gauge FRK INS	F05703-1	1	
	ScREW #8-32 x 1/2" Slotted Hex Head	F05015-18	4	
	Nut, #8-32 Self-Locking	F05010-41	11	
	Terminal, #8 14-Gauge NI Ring	F05092-11	16	
	Terminal, 1/4" 8-Gauge Non-Insulated Ring	F05092-5	1	
	#6 x 1 PHL PH SMS	F05004-42	2	
	Terminal, #8 8 AWG Ring	F05092-22	6	
	Bolt, 5/8-18 x 3" Hex Head Full Thread	F05009-18	4	
	Terminal, #8 12-Gauge NI Ring	F05092-12	1	
	Tie Wrap, .100" x 4"	F05089-2	12	

4

Replacement Parts Motor Starter Assembly

Anchor, Wire Tie, ADHB	F05089-9	2
------------------------	----------	---

¹ Replaces E20570 unpainted plug.

² Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

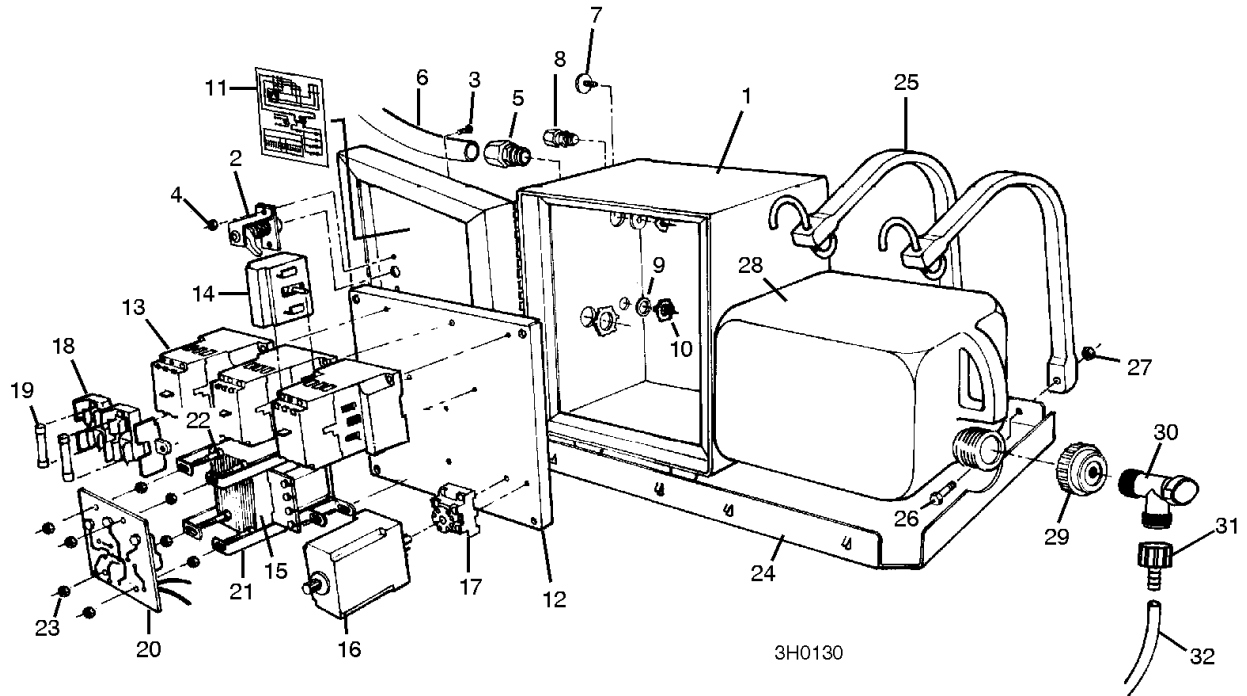


FIG. 4-1

4

Replacement Parts

Motor Assembly

4.4 Motor Assembly				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	MOTOR ASSEMBLY, 220/380/415-440V	A22902	1	
	Motor, 15HP 3PH 50/60HZ 3450RPM Custom 220/380/415-440V	P11813	1	◆
	Terminal, #8 Ring 14-16GA NI Loose	F05092-11	2	
	Terminal, #8 Ring 10-12GA NI Loose	F05092-12	12	
	MOTOR ASSEMBLY, 575V	A22902-575	1	
	Motor, 15HP 3PH 60HZ 3450RPM Custom 575V	P12552	1	◆
	Terminal, #8 Ring 10-12GA NI Loose	F05092-12	5	
2	PULLEY, 3-GROOVE MOTOR	S10435	1	
3	BUSHING, 1 3/8" SPLIT TAPER	P04864	1	
4	BELT, 2BX70 DRIVE	P04857-2	1	
5	PLATE, ELECTRIC MOTOR ADAPTER	S11734	1	
6	SPACER, ELECTRIC MOTOR ADAPTER PLATE	S12284	8	
7	PLATE, MOTOR MOUNT LT30/40	W11543 ¹	1	
	BUSHING ASSEMBLY, MOTOR MOUNT PIVOT	A04127 ²	2	◆
8	Bushing, Rubber Motor Mount Pivot	P12164	1	◆
9	Spacer, Motor Mount Pivot	P05041	1	
10	PLATE, MOTOR MOUNT PIVOT BUSHING	S04403	2	
11	BOLT, 5/16-18 X 2 1/2" 'U'	P05039	2	
12	NUT, 5/16-18 HEX LOCK	F05010-6	2	
13	BOLT, 3/8-16 X 1 1/4" CARRIAGE HEAD	F05007-11	8	
14	WASHER, 3/8" SAE FLAT	F05011-3	4	
15	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	4	
16	NUT, 3/8-16 HEX LOCK	F05010-25	4	
	KIT, ALTERNATOR WITH BRACE	K12801 ¹	1	
17	Alternator, 105A 12V	050287 ¹	1	
	Brace, Alternator	W12761	1	
18	Bolt, 3/8-16 x 5 1/2" hex head full thread	F05007-34	1	
	Washer, 5/16" Split Lock	F05011-13	1	
19	Nut, 3/8-16 Hex Nylon Lock	F05010-10	1	
20	Bolt, M8 X 1.25" X 1" Hex Head Full Thread	F05004-40	2	
	WIRE ASSEMBLY, 61/105 AMP ALTERNATOR PLUG	015969	1	
21	WASHER, 5/16" SAE FLAT	F05011-17	1	
22	WASHER, 5/16" SPLIT LOCK	F05011-13	1	
23	PULLEY, 1979452 DELCO ALTERNATOR	P03806	1	
24	BELT, A30 ALTERNATOR	P11628	1	

BRACKET ASSEMBLY, DRIVE BELT 3-PRONG		A12063	1	
25	Bracket, Drive Belt 3-Prong	W12050	1	◆
26	Bolt, 3/8-16 X 2 3/4" Hex Head	F05007-29	2	
27	Washer, 3/8" SAE Flat	F05011-3	4	
28	Nut, 3/8-16 Hex Nylon Lock	F05010-10	2	
	Instruction Sheet, Drive Belt Support	A12063-409	1	

¹ 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.

² A04127 no longer available. Purchase individual component parts P12164 and P05041.

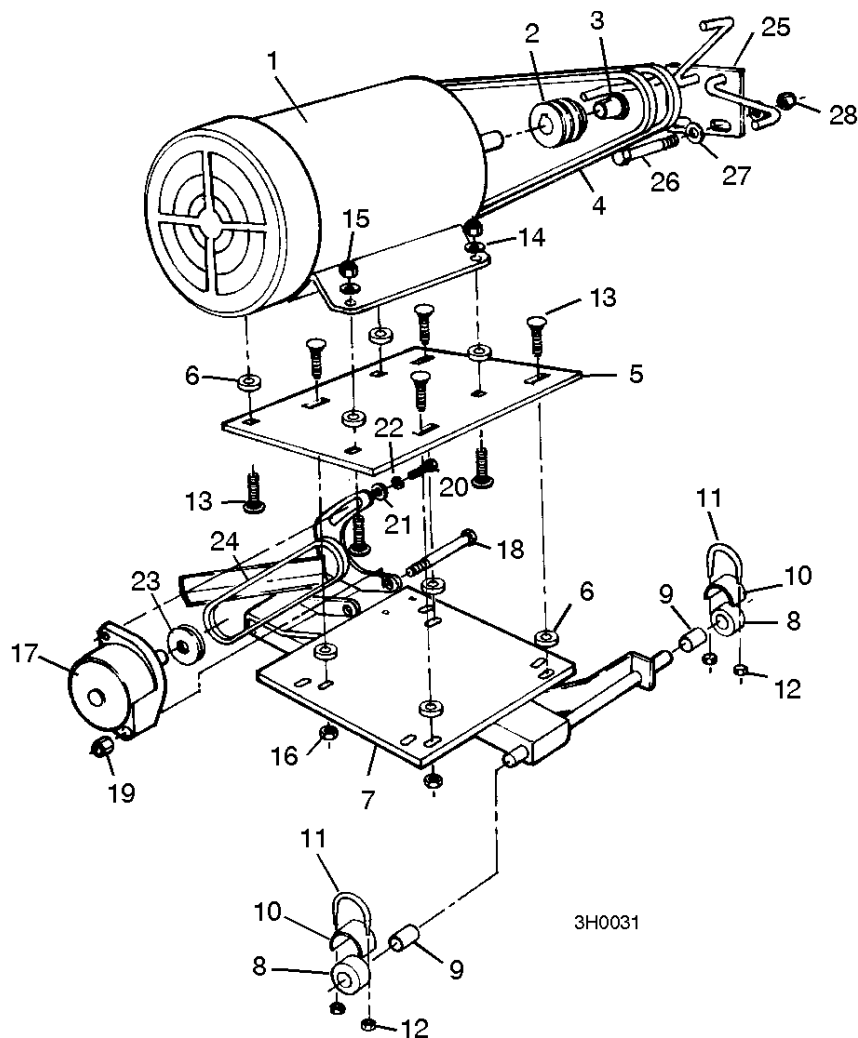


FIG. 4-2

SECTION 5 ELECTRICAL INFORMATION

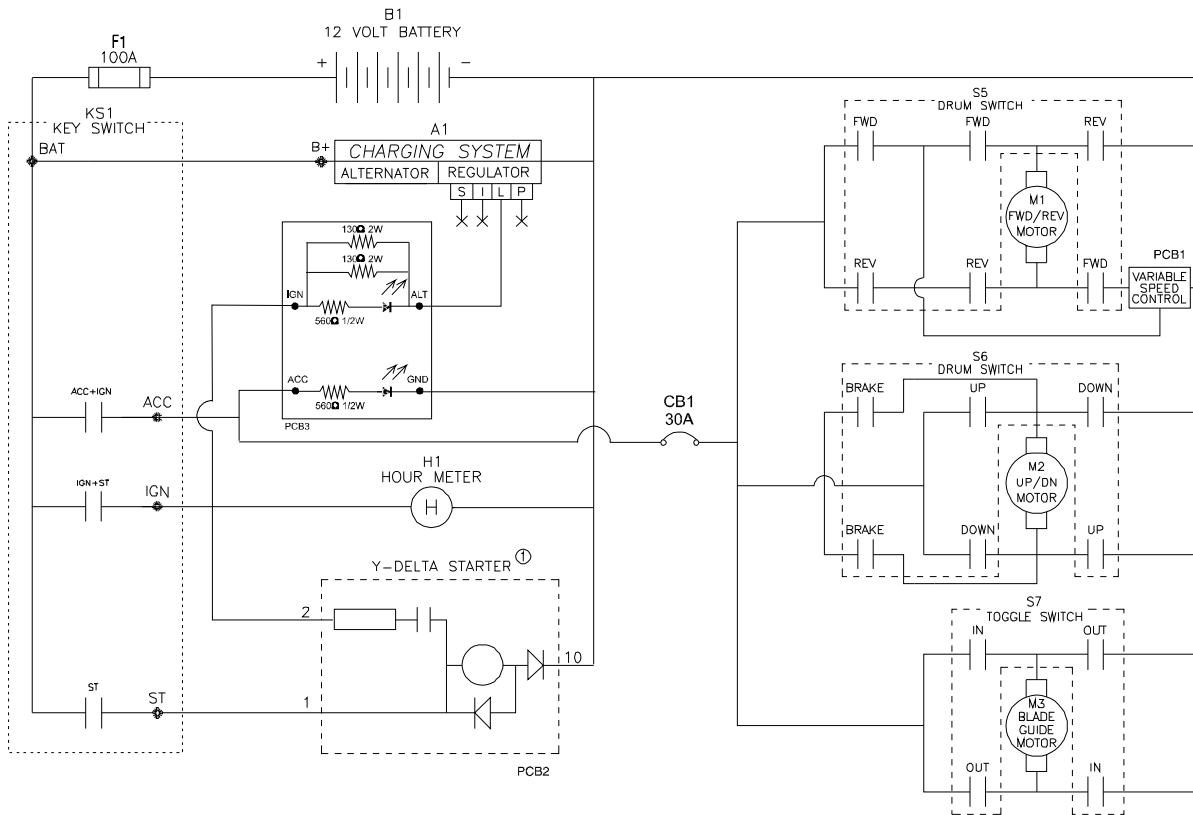
5.1 Electrical Symbol Diagram, E15 LT30/LT40

LT30

F4723 - F6.01

LT40

F5588 - F7.01 ¹



① See Section 1.2 for electrical requirements

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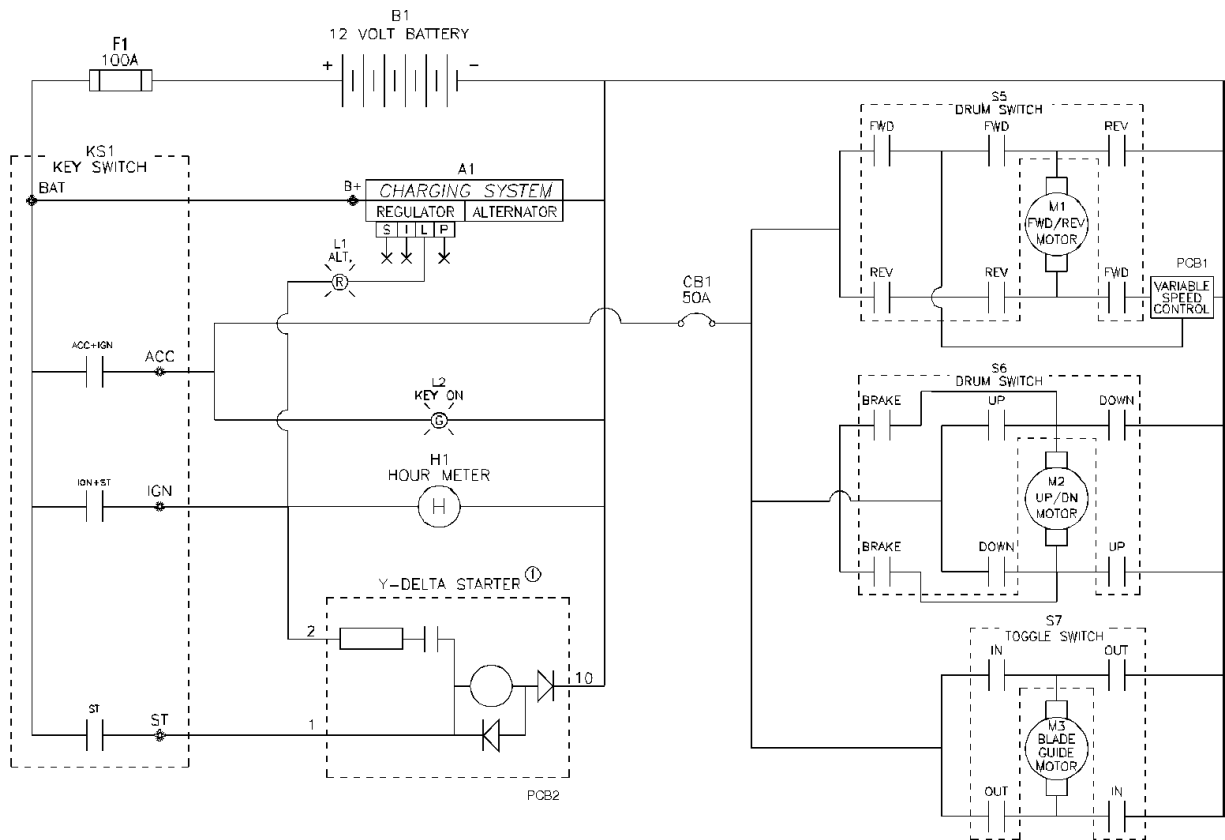
FIG. 5-1

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

5.2 Electrical Symbol Diagram, E15 LT30/LT40

LT30
LT40

F4710 - F4722
F5565 - F5587, 592



① See Section 1.2 for electrical requirements

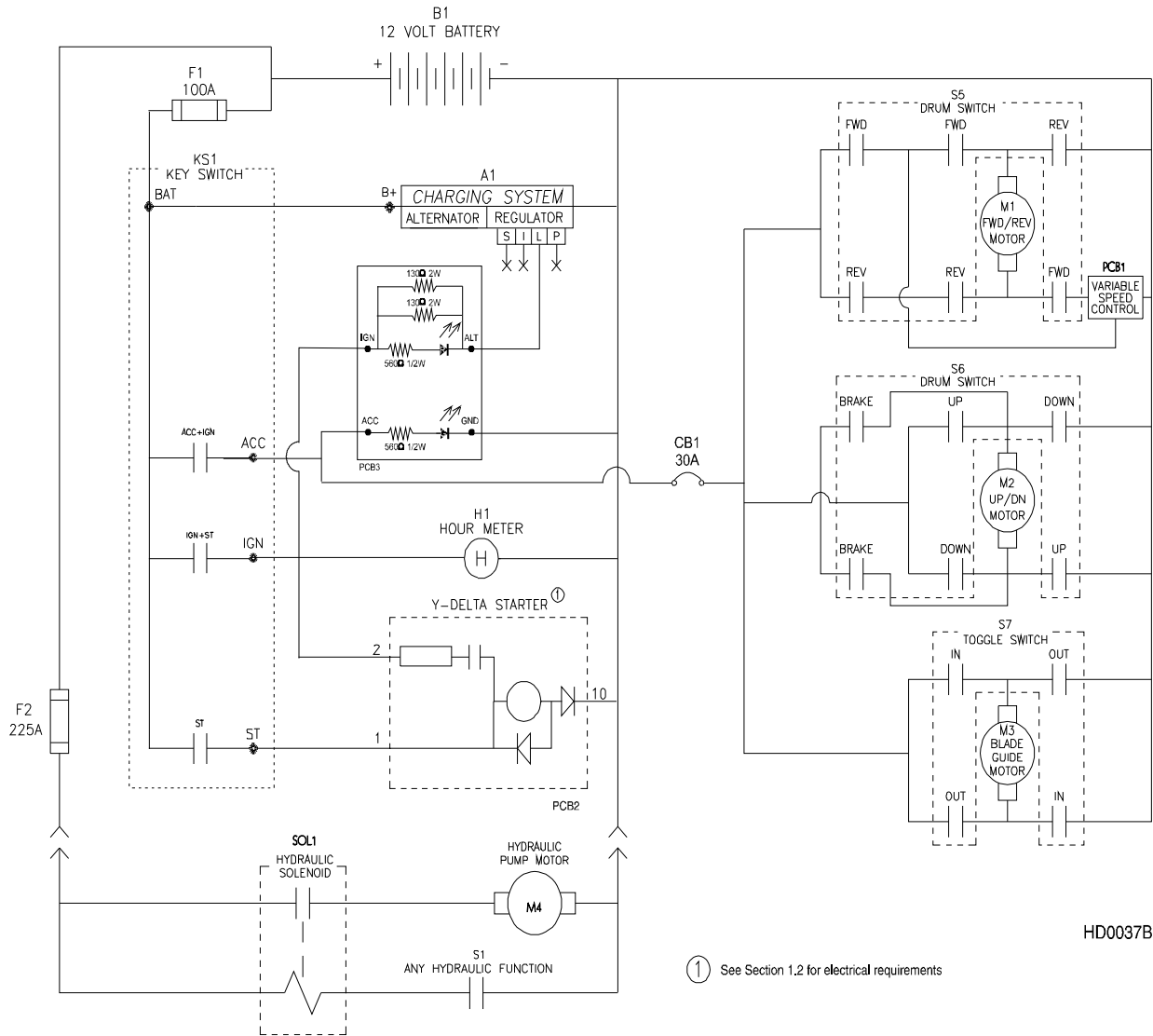
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FIG. 5-2

5.3 Electrical Symbol Diagram, E15 LT30HD/LT40HD

LT30HD
LT40HD

F8522 - F9.01
F8395 - F9.01¹



HD0037B

① See Section 1.2 for electrical requirements

FIG. 5-3

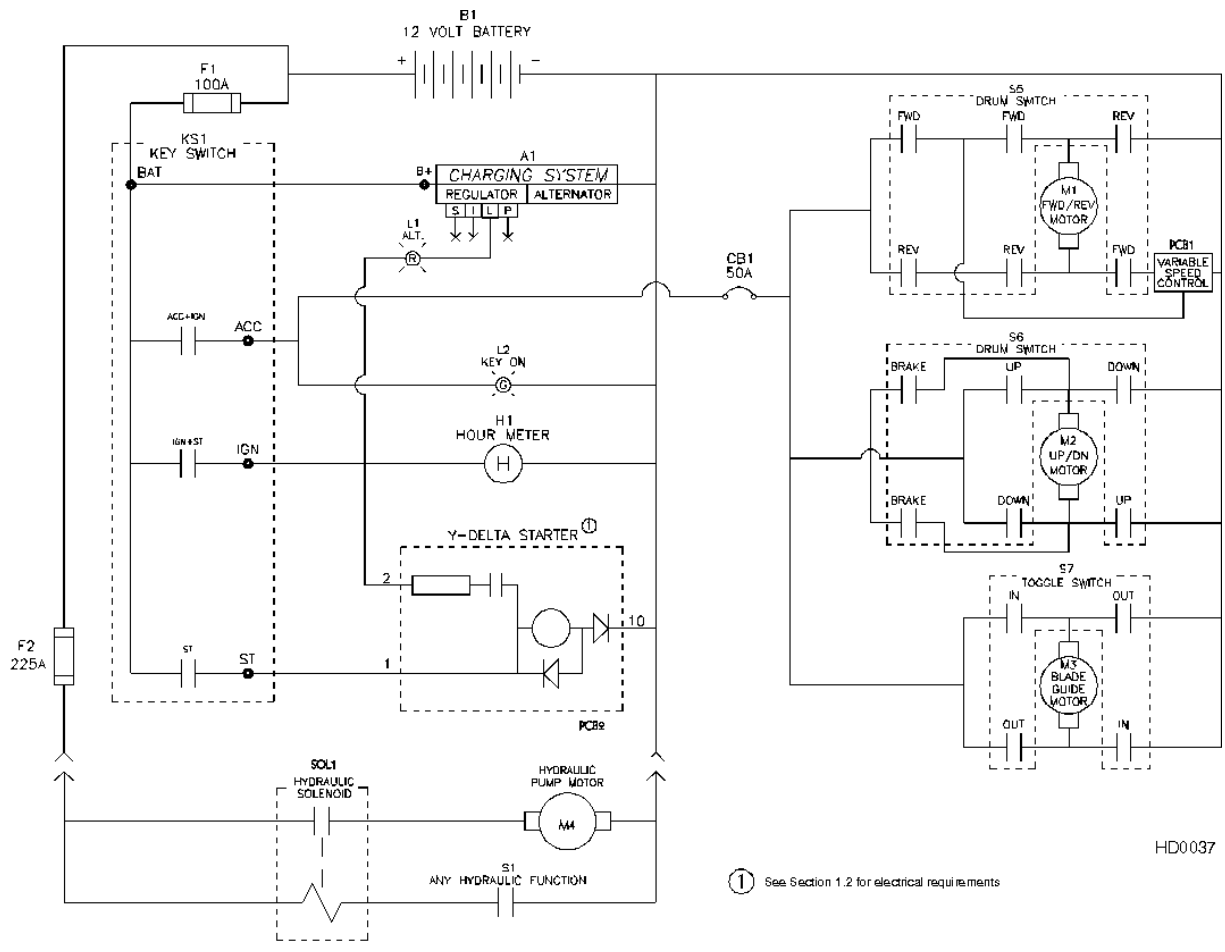
¹ Except LT40HD Rev. #F8403. (See Section 5.4).

5 Electrical Information

Electrical Symbol Diagram, E15 LT30HD/LT40HD

5.4 Electrical Symbol Diagram, E15 LT30HD/LT40HD

LT30HD F8511 - F8521
 LT40HD F8334 - F8394, 403



① See Section 1.2 for electrical requirements

HD0037

FIG. 5-4

5.5 Electrical Components, E15 LT30/LT40

LT30

F4723 - F6.01

LT40

F5588 - F7.01¹

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40F7	Square D	E23293 ¹	Contact, 40A 120VAC IEC
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	524MFD	Deka	P09725-1	Battery, 12 Volt LT30/40 (See Section 5.9)
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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ³	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁴	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁵	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁶	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 ⁷	Circuit Board, Power Feed
PCB2	023041	Wood-Mizer	023041	Board, LED Circuit (U.S.)
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
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
T1	9070T150D50	Square D	024775 ⁸	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

¹ Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

² 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.

³ Replaces P03152 ATQ-6/10Amp Fuse (10/95).

⁴ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).

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

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 Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

¹ Except LT40 Rev. F5592 ([See Section 5.6](#)).

5.6 Electrical Components, E15 LT30/LT40

LT30
LT40

F4710 - F4722
F5565 - F5587, 592

Component	Manufacturer Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40F7	Square D	E23293 ¹	Contact, 40A 120VAC IEC
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	524MFD	Deka	P09725-1	Battery, 12 Volt LT30/40 (See Section 5.9)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, For Power Feed Motor, Auto Reset (U.S.)
	30407-50	Cole-Hersee	E20432	Circuit Breaker, 50 Amp, 12 Volt, Power Feed Motor, Manual Reset (G.S.)
CB2	123A30A2	Richard's Elec	E20431 ³	Circuit Breaker, 30 Amp, 12 Volt, For Up/Down Motor, Manual Reset
CB3	123A15A2	Richard's Elec	E20430 ⁴	Circuit Breaker, 15 Amp, 12 Volt, For Ignition Circuit, Manual Reset
CB4	123A15A2	Richard's Elec	E20430 ⁴	Circuit Breaker, 15 Amp, 12 Volt, For Start Circuit, Manual Reset
CB5	123A15A2	Richard's Elec	E20430 ⁴	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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁵	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁶	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁷	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁸	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 ⁹	Circuit Board, Power Feed
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
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
T1	9070T150D50	Square D	024775 ¹⁰	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

¹ Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

² 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.

³ Circuit Breaker Changed from Cole-Hersee #CH30407-30 to Richard's Electric #123A30A2 to improve durability and reduce cost (11/06).

⁴ Circuit Breaker Changed from Cole-Hersee #CH30407-15 to Richard's Electric #123A15A2 to improve durability and reduce cost (11/06).

⁵ Replaces P03152 ATQ-6/10Amp Fuse (10/95).

⁶ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).

⁷ 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.

⁸ Replaces Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

⁹ 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.

¹⁰ Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

5.7 Electrical Components, E15 LT30HD/LT40HD

LT30HD

F8522 - F9.01

LT40HD

F8395 - F9.01¹

Component	Mfg. Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40F7	Square D	E23293 ¹	Contactora, 40A 120VAC IEC
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	DP24M ³	Deka	P09853-1	Battery, 12 Volt LT30HD/40HD (See Section 5.10)
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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁴	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁵	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁶	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁷	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 ⁸	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ⁹	Circuit Board, Power Feed
PCB2	023041	Wood-Mizer	023041	Board, LED Circuit (U.S.)
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
S1	024198	Wood-Mizer	024198 ¹⁰	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 ¹¹	Solenoid, 200 Amp Hydraulic Pump Motor
T1	9070T150D50	Square D	024775 ¹²	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

¹ Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

² 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.

³ Replaces 8T24 originally supplied.

⁴ Replaces P03152 ATQ-6/10Amp Fuse (10/95).

⁵ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).

⁶ 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.

⁷ Replaces Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

- ⁸ 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.
- ⁹ 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.
- ¹⁰ 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).
- ¹¹ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.
- ¹² Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

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

5.8 Electrical Components, E15 LT30HD/LT40HD

LT30HD
LT40HD

F8511 - F8521
F8334 - F8394, 403

Component	Mfg. Part No.	Manufacturer	Wood-Mizer Part No.	Description
1M-2M, 1S	LC1D40F7	Square D	E23293 ¹	Contactora, 40A 120VAC IEC
A1	CS-130	Delco-Remy	050287 ²	Alternator, 12 Volt, 105 Amp Maximum
B1	DP24M ³	Deka	P09853-1	Battery, 12 Volt LT30HD/40HD (See Section 5.10)
CB1	30128-30	Cole-Hersee	E20486	Circuit Breaker, 30 Amp, 12 Volt, Power Feed Motor, Auto Reset (U.S.)
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
FU1 - FU2	KLDR.600	Richard's Elec	E31337 ⁴	Fuse, 6/10A 600V FNQ-R Time Delay (208-480V Only)
	KLDR.500	Richard's Elec	E31338 ⁵	Fuse, 1/2A 600V Class KLDR (575V Only)
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 ⁶	Motor, 12 Volt Power Feed
M2	N/A	Leeson ⁷	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 ⁸	Motor, 12 Volt Hydraulic Pump
PCB1	024495	Wood-Mizer	024495 ⁹	Circuit Board, Power Feed
PCB3	A20458	Wood-Mizer	A20458	Circuit Board, Wye-Delta Relay
S1	024198	Wood-Mizer	024198 ¹⁰	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 ¹¹	Solenoid, 200 Amp Hydraulic Pump Motor
T1	9070T150D50	Square D	024775 ¹²	Transformer, 150VA Multi-Tap (208-480V Only)
	9070T150D5	Square D	E23292	Transformer, 150VA 575-120 VAC (575V Only)
TDR	9050JCK11V20	Square D	E10215	Relay, Time Delay Class 9050 Type JCK 11V20

¹ Telemecanique Contactor E23293, Interlock E23406, and Fuse Block E22712 replace SqD Contactor E10213, Auxiliary Contact E10225, Interlock E10214, Fuse Block P03043, Fuse End P03044, and Fuse P03152 originally supplied prior to LT30 Rev. E2, LT40 Rev. E3 and LT30HD/40HD Rev. E5. Interlinked SqD contactors must be replaced with Telemecanique contactors as a pair with interlock E23406.

² 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.

³ Replaces 8T24 originally supplied.

⁴ Replaces P03152 ATQ-6/10Amp Fuse (10/95).

⁵ Replaces E23267 1Amp 600Volt Class CC Fuse (10/95).

⁶ 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.

⁷ Replaces Leeson motor #S.I. 2917-A (10/01) and Owosso motor #PV-28147Q originally supplied (12/00).

- ⁸ 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.
- ⁹ 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.
- ¹⁰ 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).
- ¹¹ Solenoid Kit 016371 replaces Solenoid 015470. Kit includes solenoid and replacement instructions. If replacing original P09595 100 amp solenoid, order retrofit kit 015783.
- ¹² Replaces transformer E10217 discontinued by vendor 2/00. New transformer requires PCB mounting bracket 024776 and wiring decal S11768.

5.9 Battery Specifications, E15 LT30/LT40 E15

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

5.10 Battery Specifications, E15 LT30HD/LT40HD

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)

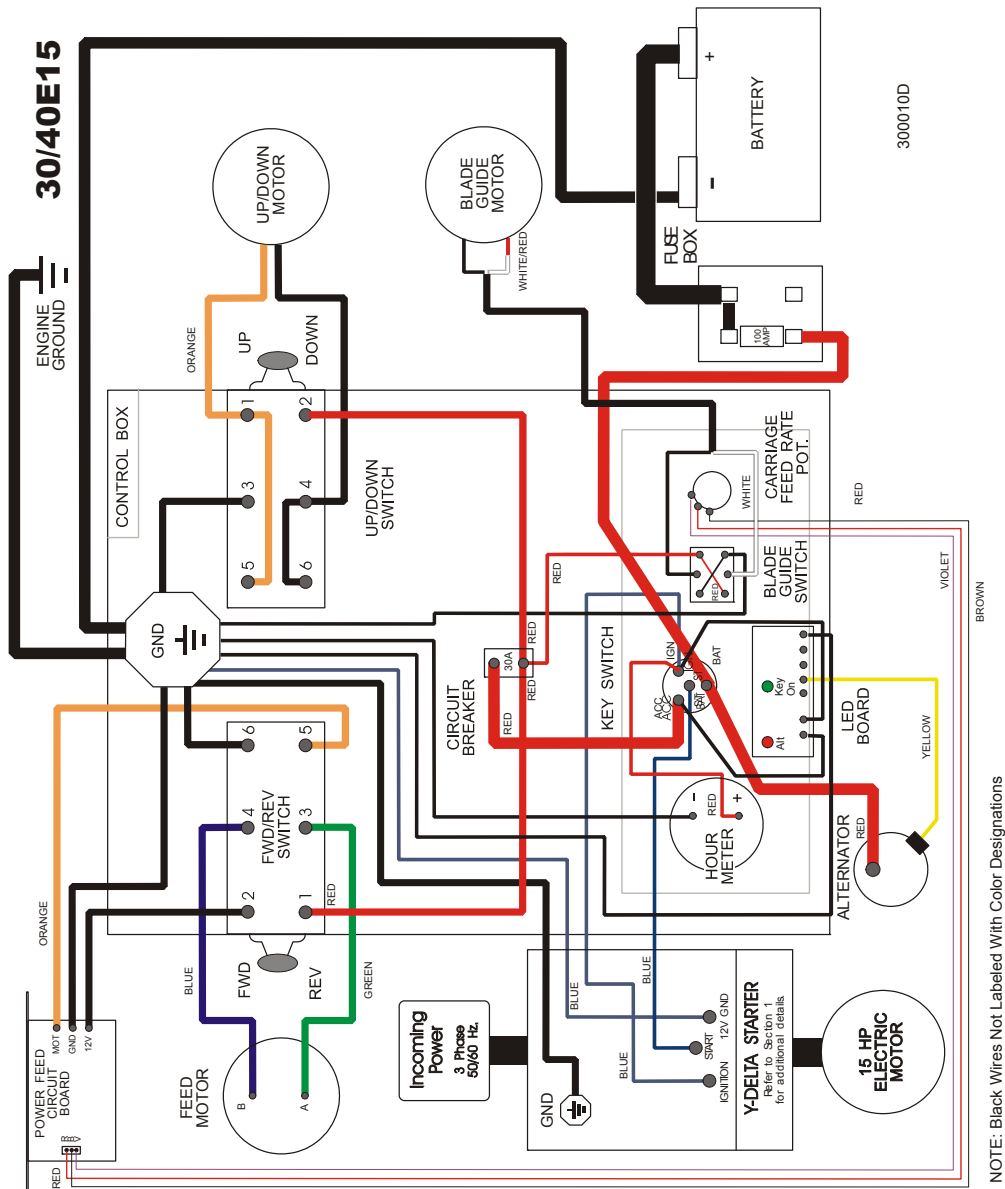
TABLE 5-2

¹ Replaces 8T24 originally supplied.

5.11 Wiring Diagram, E15 LT30/LT40

LT30
 LT40

F4723 - F6.01
 F5588 - F7.01¹



NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-5

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

5.12 Wiring Diagram, E15 LT30/LT40

LT30
 LT40

F4710 - F4722
 F5565 - F5587, 592

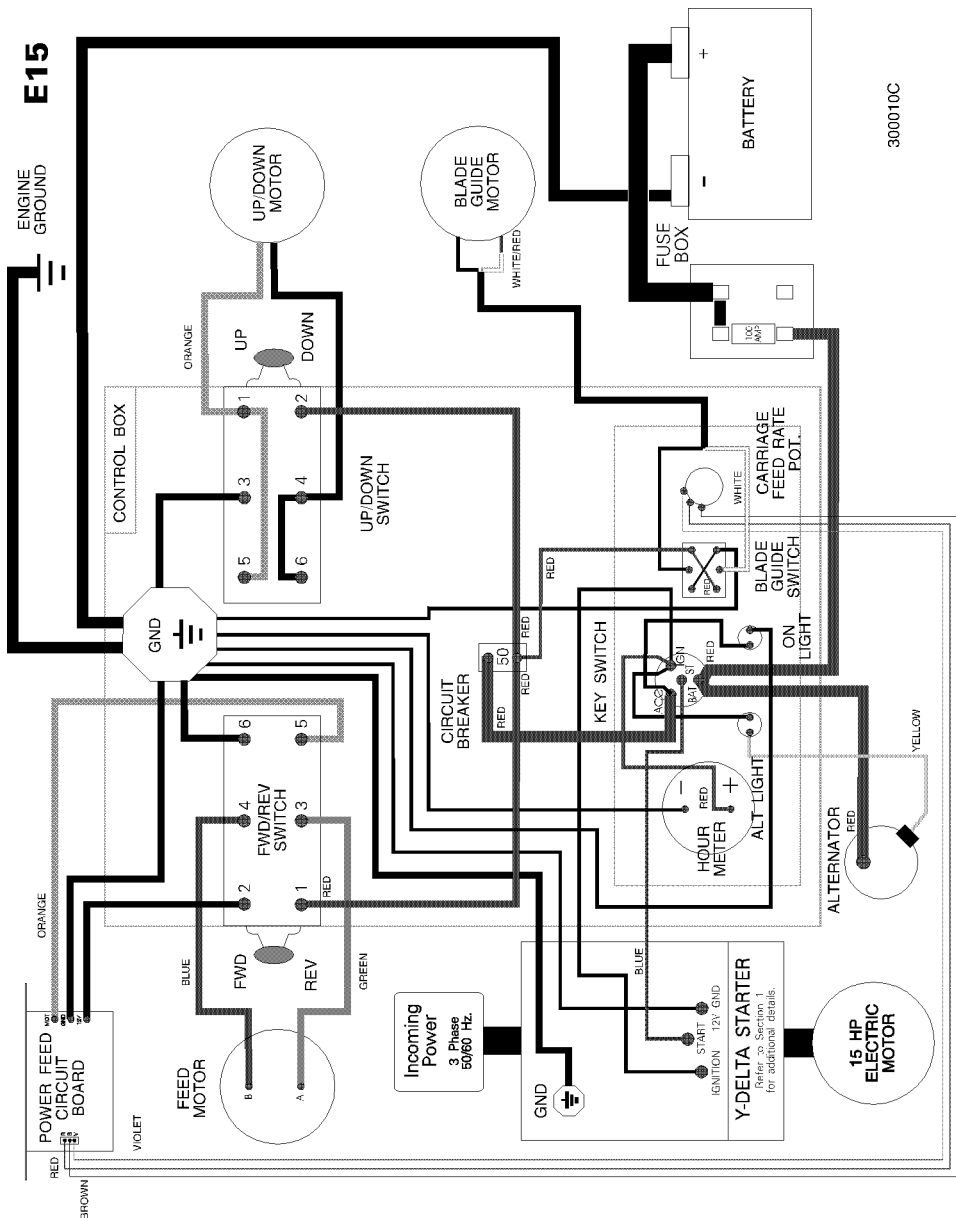
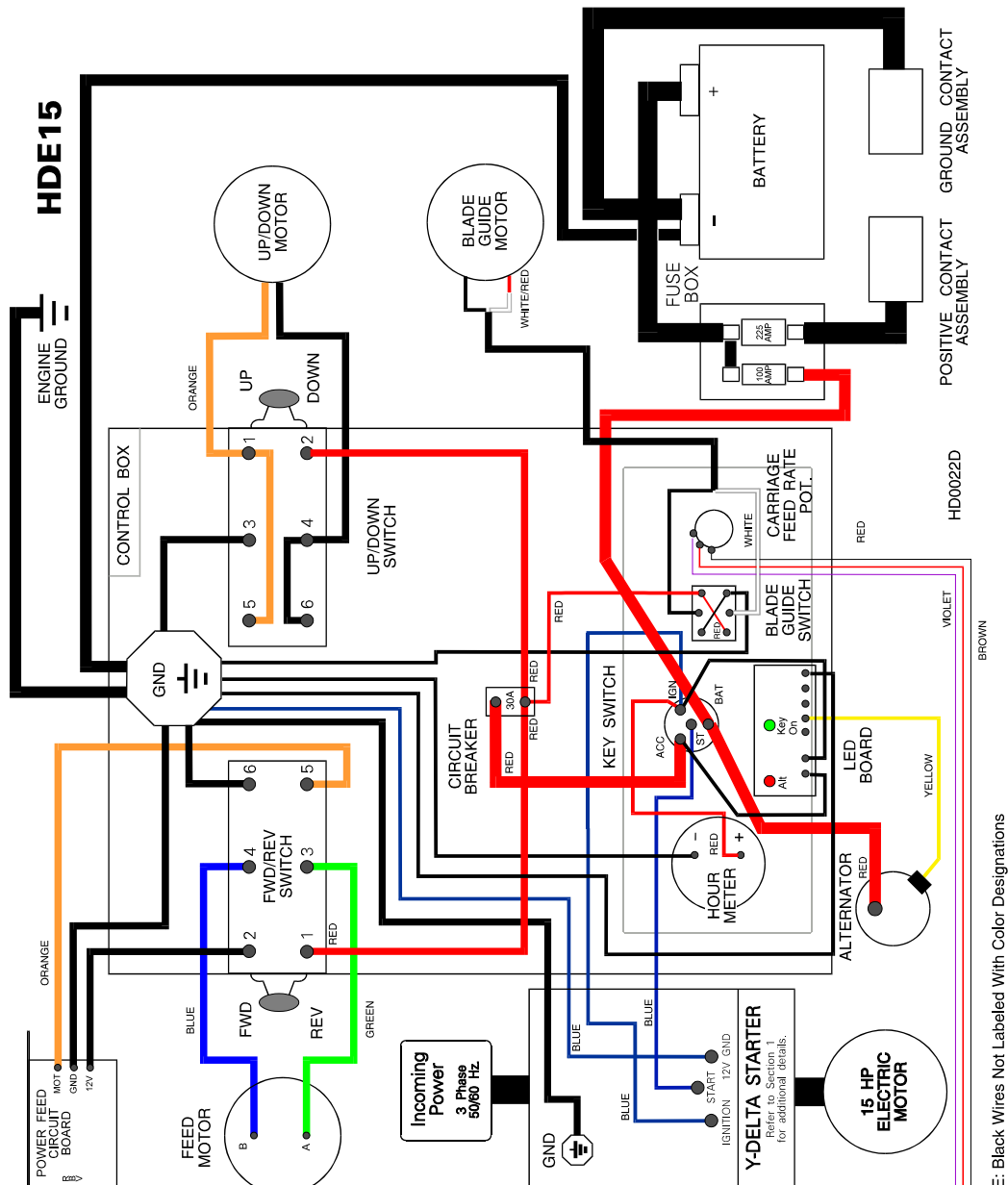


FIG. 5-6

5.13 Wiring Diagram, E15 LT30HD/LT40HD

LT30HD
 LT40HD

F8522 - F9.01
 F8395 - F9.01¹



∴ Black Wires Not Labeled With Color Designations

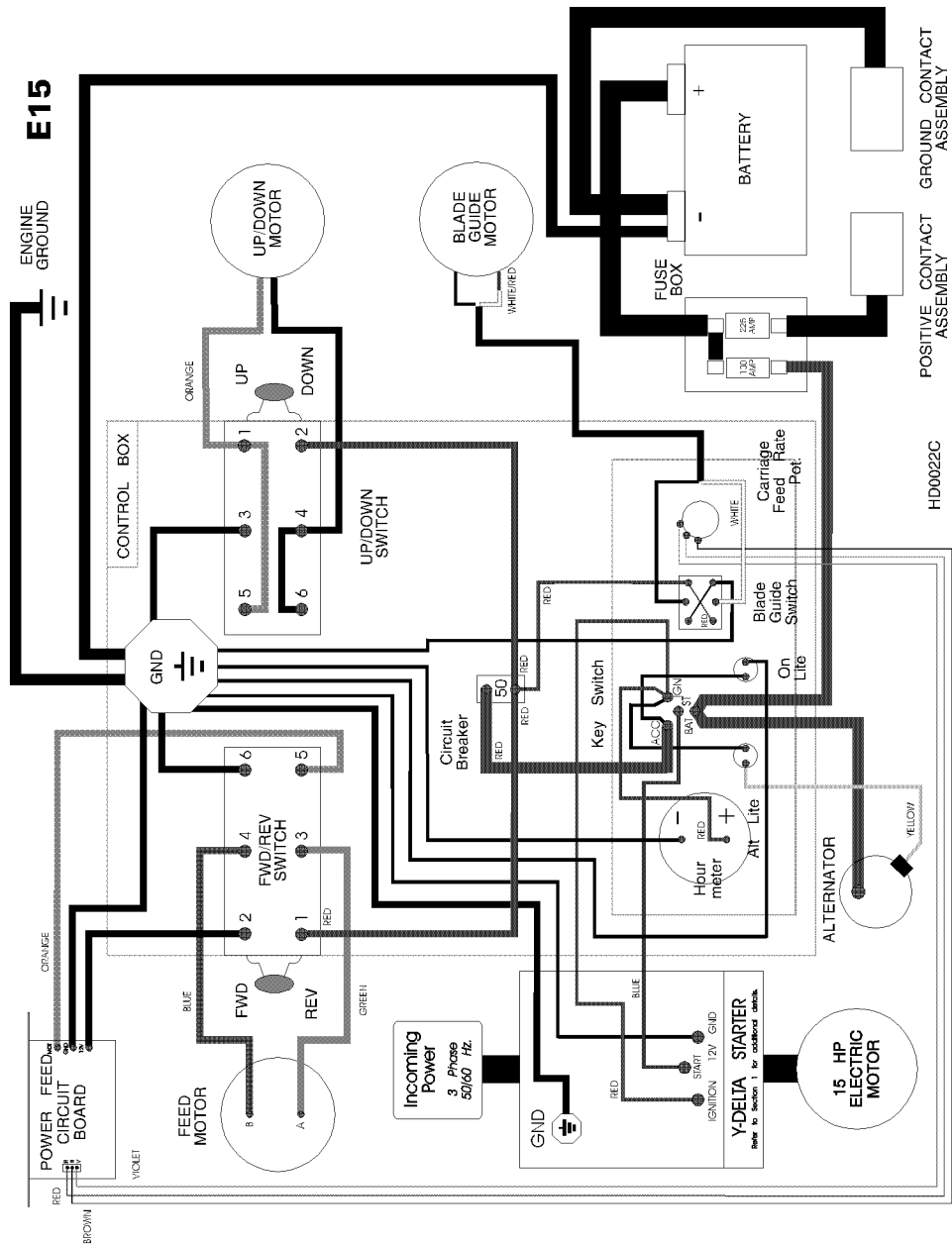
FIG. 5-7

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

5.14 Wiring Diagram, E15 LT30HD/LT40HD

LT30HD
 LT40HD

F8511 - F8521
 F8334 - F8394, 403



NOTE: Black Wires Not Labeled With Color Designations

FIG. 5-8