



D33 Engine

Safety, Operation, Maintenance & Parts Manual

LT30	rev. G9.00 - J7.04
LT40	rev. H1.00 - J8.05
LT30HD	rev. H3.00 - J8.05
LT40HD	rev. H3.00 - J9.06



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

January 2004

Form #915

Table of Contents

Section-Page

ABOUT THIS MANUAL		III
SECTION 1	OPERATION	1-1
1.1	Starting The Engine.....	1-1
SECTION 2	MAINTENANCE	2-1
2.1	Safety.....	2-1
2.2	Cooling System.....	2-2
2.3	Fuel Filter.....	2-3
2.4	Battery.....	2-4
2.5	Alternator Belt.....	2-5
2.6	RPM Adjustments.....	2-7
SECTION 3	REPLACEMENT PARTS	3-1
3.1	Fuel Tank.....	3-1
3.2	Engine Mount Assembly.....	3-2
3.3	Engine Assembly.....	3-3
3.4	Primary Fuel Filter.....	3-5
3.5	Throttle Assembly.....	3-6
3.6	Muffler Assembly.....	3-8
3.7	Drive Assembly.....	3-9
	<i>LT30 Rev. H5.00+</i>	
	<i>LT40 Rev. H6.00+</i>	
	<i>LT30HD Rev. H8.00+</i>	
	<i>LT40HD Rev. H8.00+</i>	
3.8	Drive Assembly.....	3-10
	<i>LT30 Rev. F7.00 - H4.00</i>	
	<i>LT40 Rev. F8.00 - H5.00</i>	
	<i>LT30HD Rev. G1.00 - H7.00</i>	
	<i>LT40HD Rev. G1.00 - H7.00</i>	
3.9	Radiator Assembly.....	3-11
	<i>LT30 Rev. H8.00+</i>	
	<i>LT40 Rev. H9.00+</i>	
	<i>LT30HD Rev. J2.00+</i>	
	<i>LT40HD Rev. J2.00+</i>	
3.10	Radiator Assembly.....	3-13
	<i>LT30 Rev. G9.00 - H7.00</i>	
	<i>LT40 Rev. H1.00 - H8.00</i>	
	<i>LT30HD Rev. H3.00 - J1.00</i>	
	<i>LT40HD Rev. H3.00 - J1.00</i>	
3.11	Alternator Assembly.....	3-15
3.12	Engine Pulley Guards.....	3-17
INDEX		I

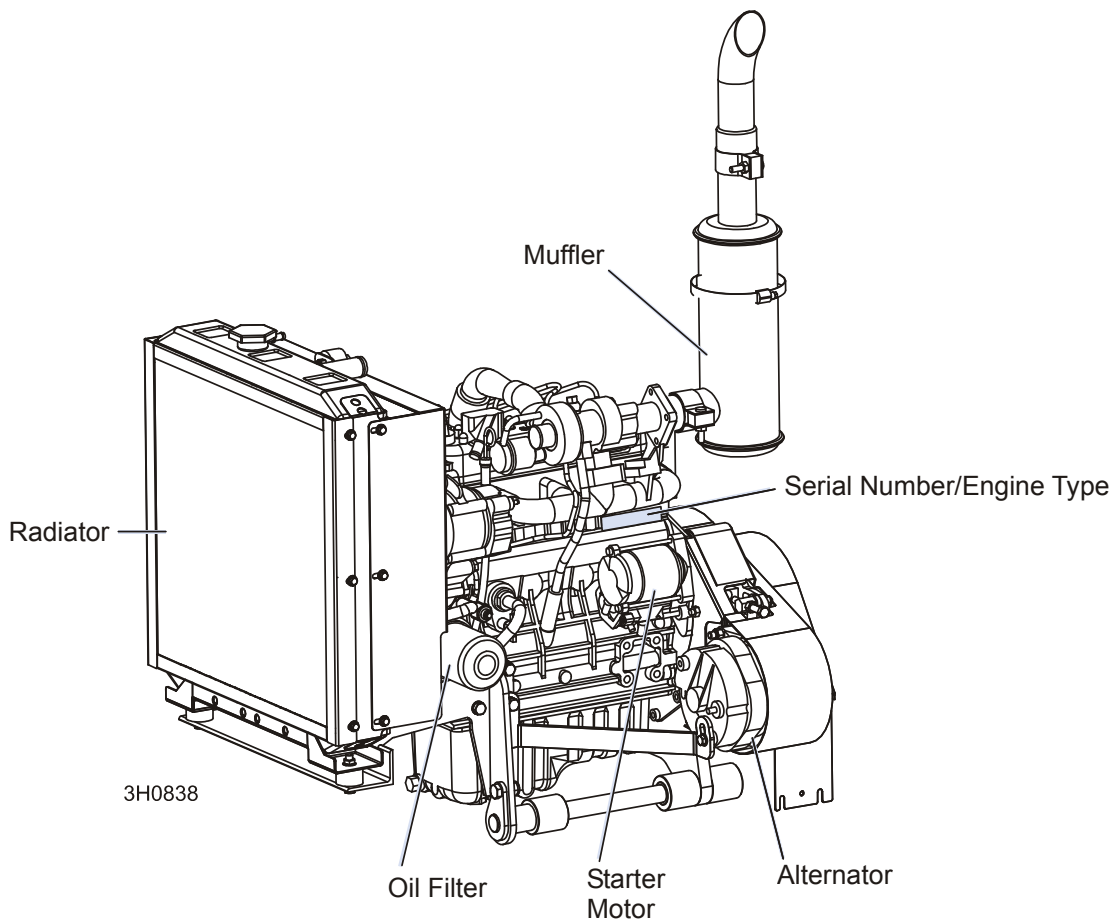
ABOUT THIS MANUAL

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



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

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



ENGINE COMPONENTS

SECTION 1 OPERATION

1.1 Starting The Engine

Engine Control Lights

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



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



Engine Temperature Indicator: Lights up if the engine is overheating. A circuit breaker assembly in the engine harness will shut the engine off if the engine overheats. Turn the key switch off and allow the engine to cool for a period of time before restarting. If the overheating condition persists, stop operating the engine until the condition is corrected. The engine will automatically switch to low idle if an overheating condition occurs.



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



Oil Indicator: Lights up if the oil pressure is too low. The engine will automatically switch to low idle if a low oil condition occurs.



Glow Plug Indicator: Lights up after the key has been turned to the on (#1) position.

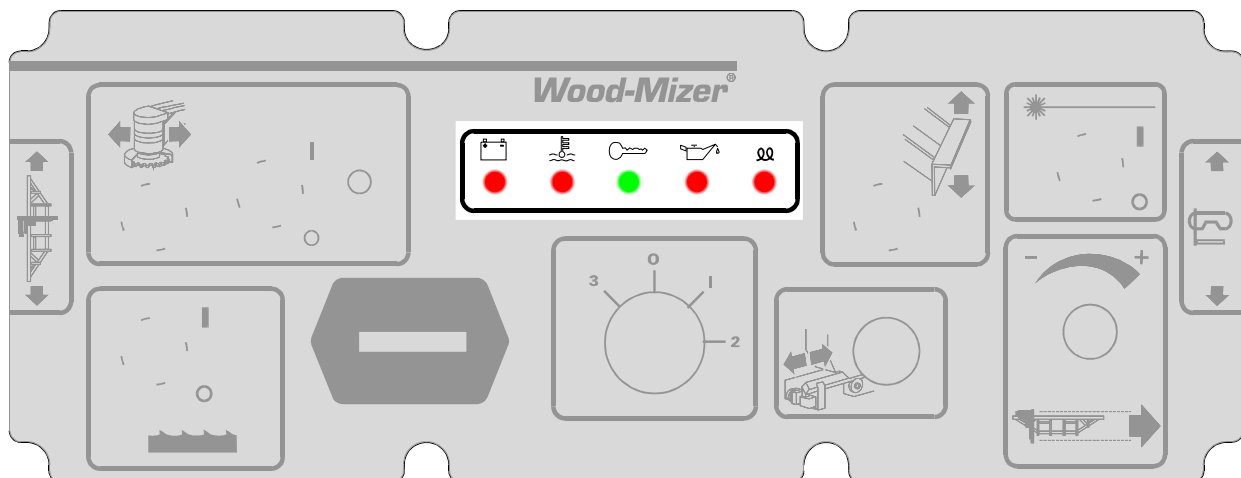


FIG. 1-1

See Table 1-1. IMPORTANT! The glow plug sensing relay was replaced on LT30 Rev. J4.06, LT40 Rev. J5.06, LT30HD Rev. J5.06 and LT40HD Rev. J6.07 to provide manual control of glow plug operation. Previous revisions can be modified to improve durability ([see form #1151](#)). See the table for recommended glow plug on times.

On Times For Manually Operated Glow Plugs	
Ambient Temperature	Suggested Glow Plug On Time
Less Than 32° F (0° C)	30 Seconds
32 - 60° F (0 -15° C)	25 Seconds
60 - 80° F (15 - 27° C)	15 Seconds
Above 80° F (27° C)	10 Seconds

TABLE 1-1

NOTE: The glow plug light will stay on indefinitely when the key is in the pre-start (1) position. The glow plug light will go out after the engine is started.



CAUTION! Avoid leaving the key in the pre-start (1) position for more than 30 seconds while the engine is not running. Doing so will drain the sawmill battery which may reduce its service life.

Engine Start



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

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

DANGER! Never operate an engine with a fuel or oil leak. The leaking fuel or oil could potentially come in contact with hot surfaces and ignite into flames.



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

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

serious injury or death.



CAUTION! Do not crank starter for more than 7 seconds at one time during starting attempts. Damage to the engine may result.

CAUTION! Let engine idle for 2 minutes before applying load to prevent engine damage.

1. See the engine manufacturer's manual for lubricating oil recommendations for specific temperature ranges.
2. Use #2 or better quality diesel fuel for above freezing starting. Use a #1 quality diesel fuel for below freezing starting.
3. Turn the key switch on the control panel to the on (#1) position.
4. Wait the recommended glow plug on time (See [TABLE 1-1](#))
5. Turn the key switch to the start (#2) position and release.

Engine Shutoff



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

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

SECTION 2 MAINTENANCE

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



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

2.1 Safety

Use caution when performing maintenance or service to the engine.



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

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



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

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



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

2.2 Cooling System



Clean the radiator fins every 8 hours of operation. Spray the radiator with water from a hose or compressed air to clean sawdust from the radiator fins. Do not use a pressure sprayer.



CAUTION! Failure to keep the radiator fins clear of sawdust and/or dirt may cause the engine to overheat resulting in damage to the engine.

2.3 Fuel Filter

1500

See Figure 2-1. Replace the primary fuel filter cartridge every 1500 hours or one year of operation. After replacing the filter cartridge, loosen the air bleed screw and operate the fuel pump bail until fuel begins to flow from the valve and is free of air bubbles. Tighten the bleed screw. Inspect the water separator bowl periodically and drain the bowl as required by turning the drain cap counterclockwise as viewed from the bottom.

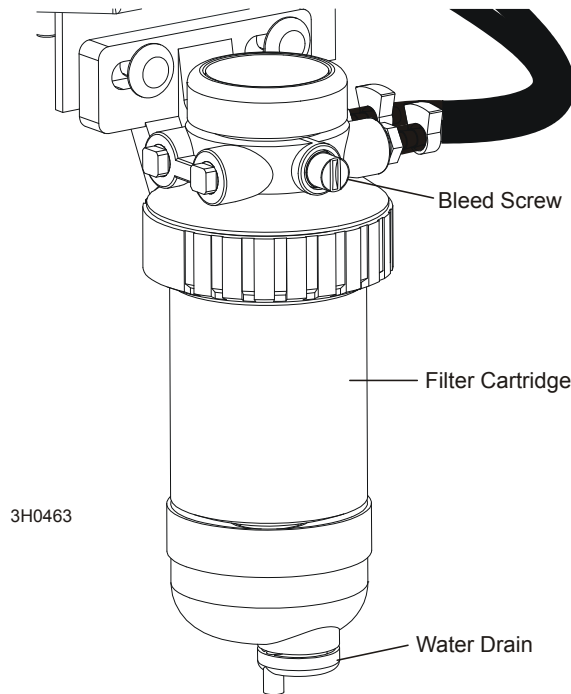


FIG. 2-1

2.4 Battery



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



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



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

1. Battery Council International, copyright 1987

2.5 Alternator Belt

AR

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

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

See Figure 2-2.

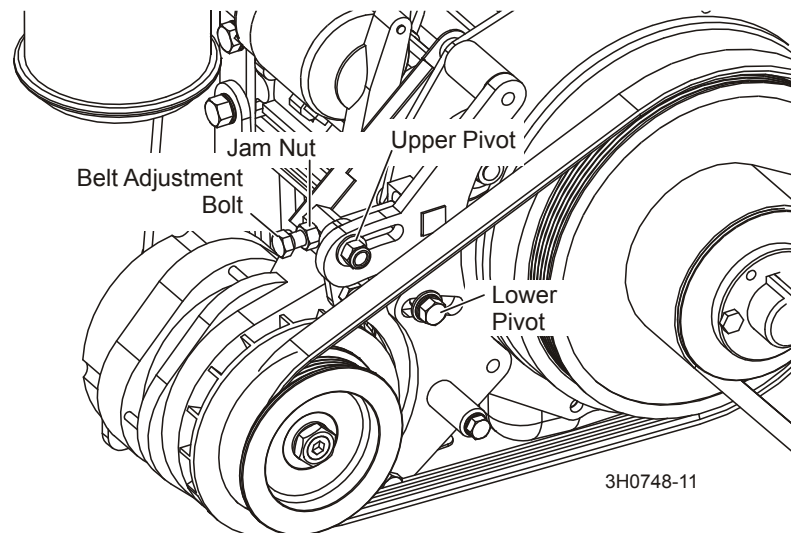


FIG. 2-2

3. Use a belt tension gauge to measure the belt tension. Place the gauge on the belt at the midpoint between the two pulleys. If the belt tension is less than 3/16" with 9 lb. of deflection, tighten the belt as described below.
4. Loosen the upper pivot, lower pivot and the adjustment bolt jam nut.
5. Turn the belt tension adjustment bolt clockwise to tighten the belt, counterclockwise to loosen the belt. Adjust the bolt until the proper belt tension is achieved.



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

2

Maintenance

Alternator Belt

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

2.6 RPM Adjustments



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



Check the RPM with a tachometer after the first 20 hours of operation and every 200 hours thereafter.

See Table 2-1.

Engine	High End RPM	Low End RPM
D33	3200	1500

TABLE 2-1

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

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

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



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

See Figure 2-3.

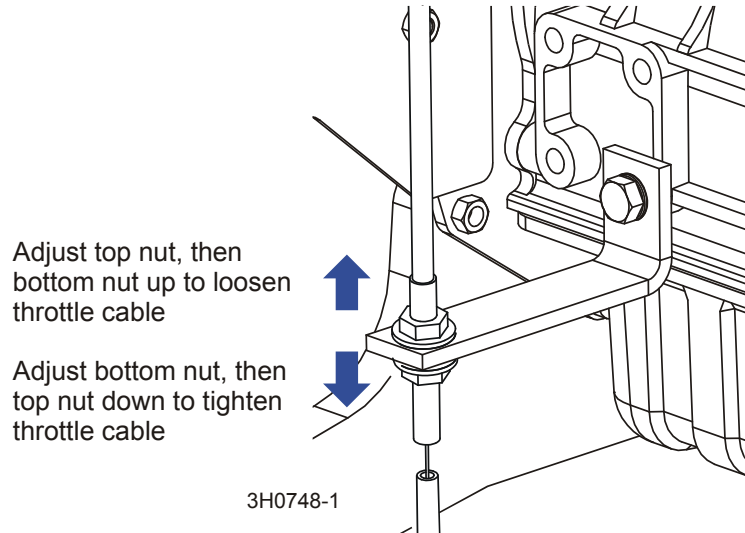


FIG. 2-3

2. Start the engine to measure the low-end RPM. Let idle for 10 minutes.
3. With the engine at idle, check the low-end RPM. Adjust to 1500. To decrease speed, loosen the idle adjustment screw. To increase speed, tighten the idle adjustment screw.

See Figure 2-4.

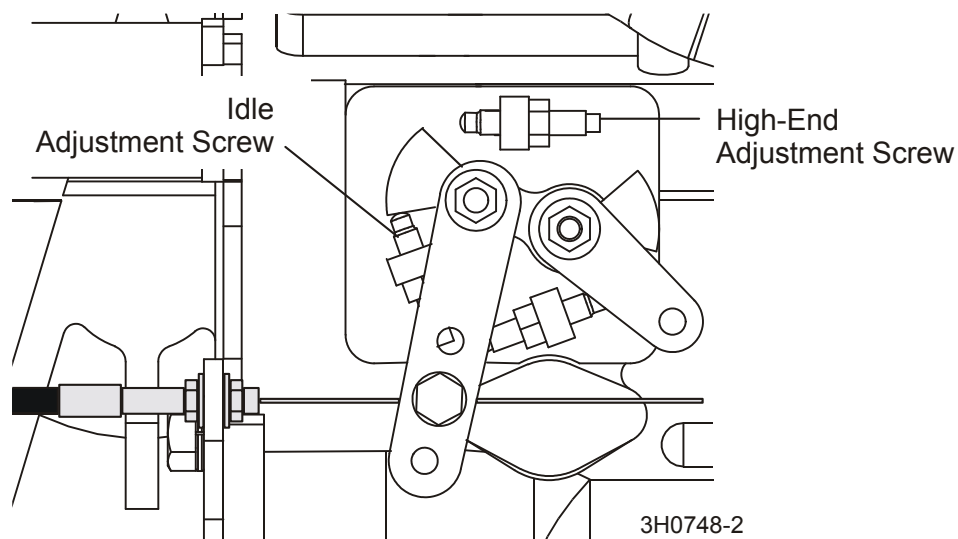


FIG. 2-4

4. Adjust the high-end RPM to 3200. To decrease speed, tighten the high-end adjustment screw. To increase speed, loosen the high-end adjustment screw.



CAUTION! Do not adjust the high-end RPM above 3200. Doing so may cause damage to the engine.

5. After the RPM settings are made, shut the engine off. Tighten the throttle cable by engaging the clutch handle. Check the throttle cable at the upper cable mounting bracket. The cable should be centered in the cable housing. If necessary, loosen the upper bracket mounting bolts and adjust the bracket so the cable housing is centered around the cable. Retighten the upper cable bracket mounting bolts.

See Figure 2-5.

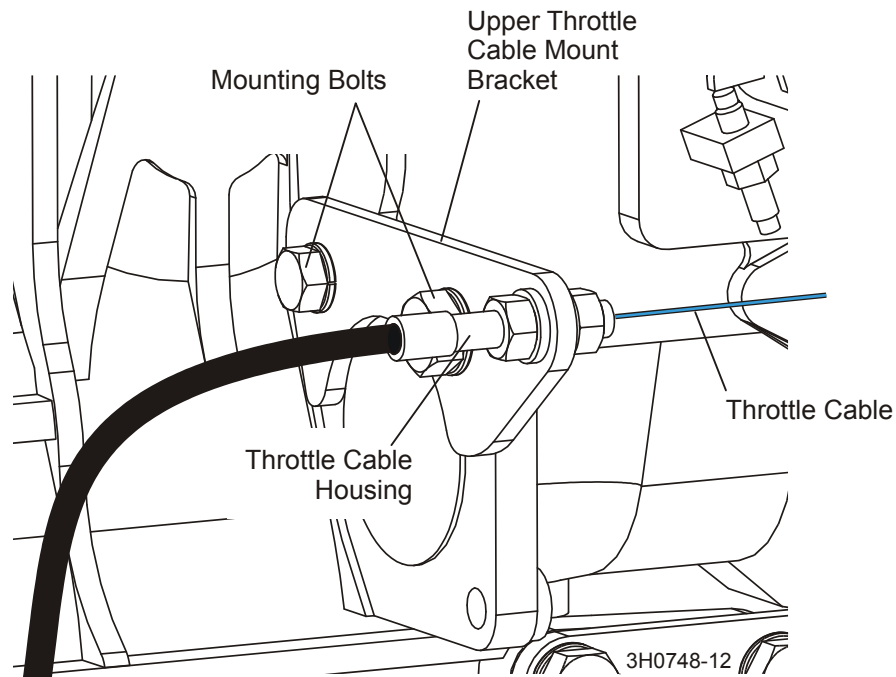


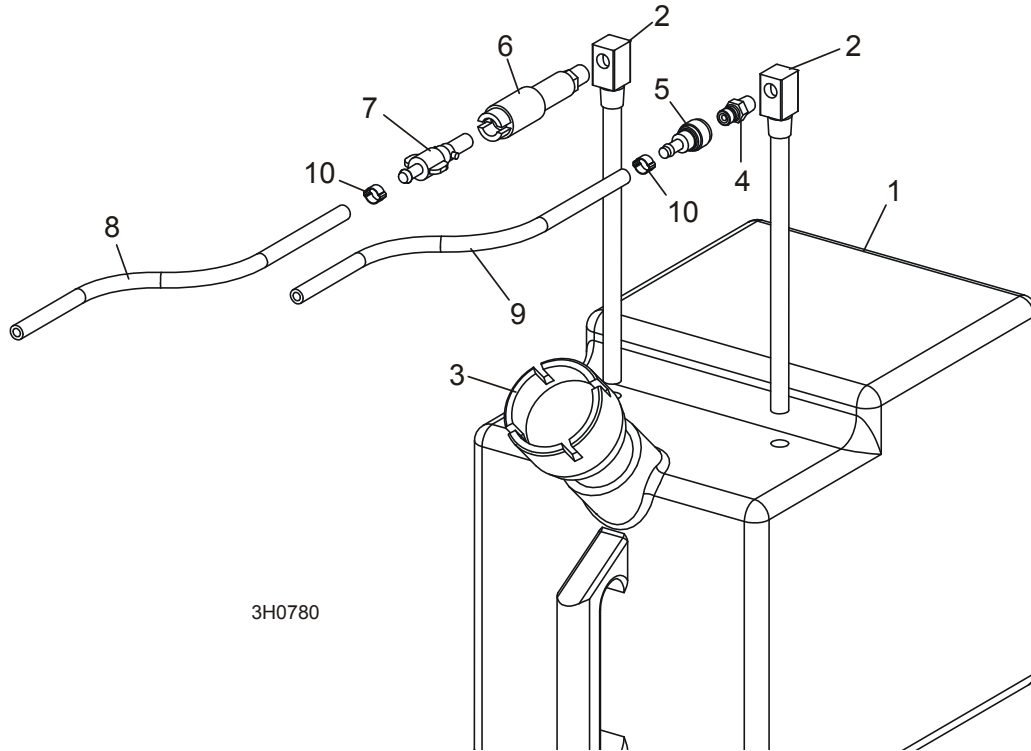
FIG. 2-5



CAUTION! Failure to properly center the throttle cable in the cable housing may result in premature cable wear.

SECTION 3 REPLACEMENT PARTS

3.1 Fuel Tank



3H0780

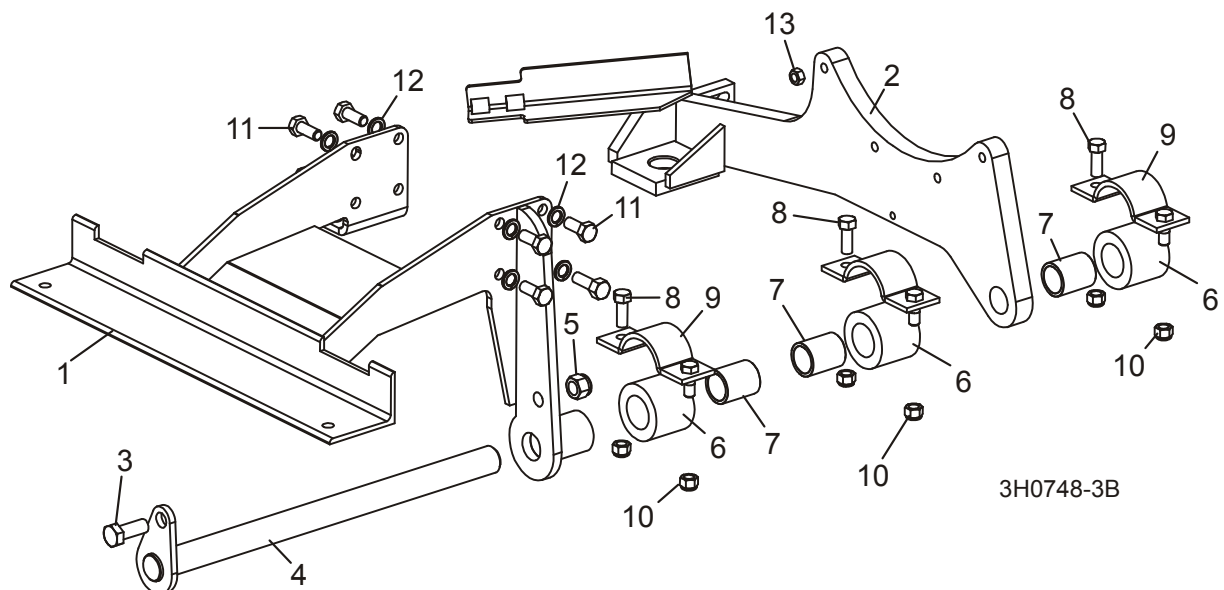
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	TANK ASSEMBLY, 5 GALLON GREEN DIESEL	A12132	1	
1	Tank, 5 Gallon Green Fuel	P12166	1	◆
2	Pickup, 9" Fuel	P12172	2	
3	Cap, 3/5 Gallon Fuel Tank	P09683	1	
4	Fitting, 1/4" NPT Male Quick Disconnect	015583	1	
5	Fitting, Female Quick Disconnect Barb	015582	1	
6	Fitting, 1/4" NPT Plastic Female Disconnect	P12175	1	
7	Fitting, 1/4" Barb Plastic Male Disconnect	P12176	1	
8	HOSE, 1/4" ID FUEL	P642	7.17 Ft	
9	HOSE, 5/16" ID FUEL	016338	9 Ft.	
10	CLAMP, 7/32 - 1/2 HOSE	P649	6	
	ADDITIVE, DIESEL FUEL 16OZ BOTTLE	004878 ¹	1	

¹ Stanadyne Performance Formula helps eliminate contaminants and water in fuel, prevents gelling in cold weather, and improves lubrication of fuel system parts. 16 oz. bottle treats 60 gallons of diesel fuel.

3 Replacement Parts

Engine Mount Assembly

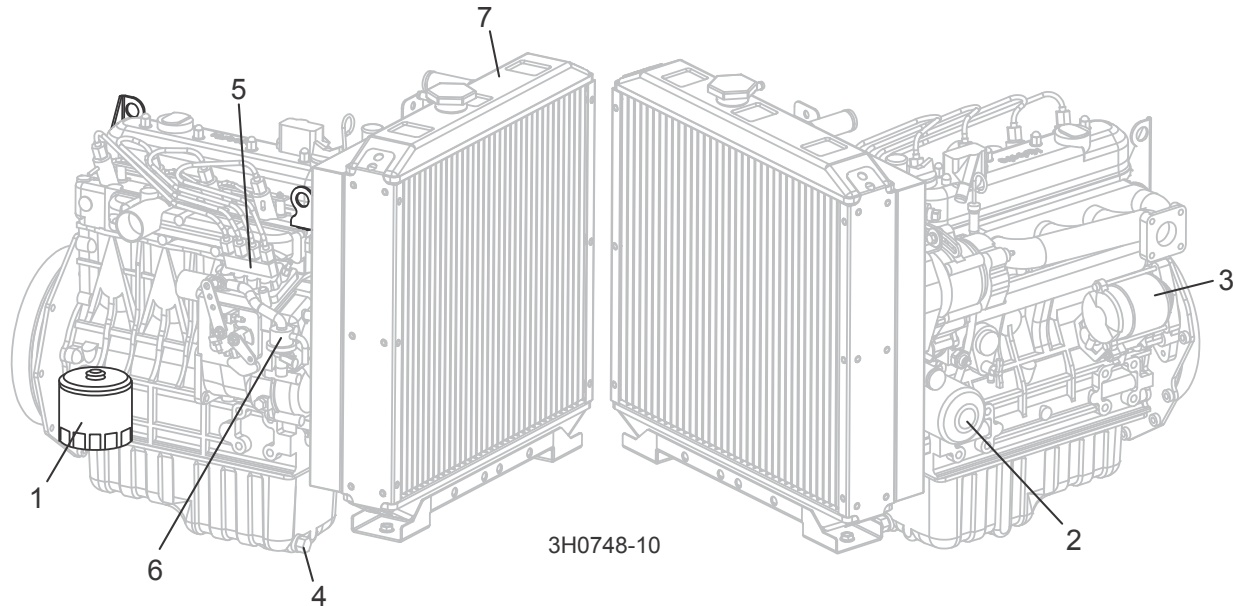
3.2 Engine Mount Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	MOUNT WELDMENT, FRONT KUBOTA ENGINE	015812	1	
2	MOUNT WELDMENT, REAR KUBOTA ENGINE	015815	1	
3	BOLT, 1/2-13 X 1 1/4" HEX HEAD GRADE 5	F05008-37	1	
4	PIN WELDMENT, KUBOTA ENGINE MOUNT PIVOT	015855	1	
5	NUT, 1/2-13 HEX NYLON LOCK	F05010-8	1	
	BUSHING ASSEMBLY, MOTOR MOUNT	016380 ¹	3	
6	Bushing, 2" OD x 2"	016378	1	◆
7	Bearing, 1" x 1 1/4" x 2"	016379	1	◆
8	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	3	
9	CLAMP WELDMENT, MOTOR MOUNT	014540	3	
10	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	6	
11	BOLT, M10X1.25X25MM HEX HEAD	F05009-52	8	
12	WASHER, 10MM SPLIT LOCK	F05011-88	8	
13	NUT, M8 HEX NYLON LOCK	F05010-132	1	

¹ New assembly 016380 replaces original rubber pivot bushing P12164 and bronze bushing P05041 supplied prior to LT30 Rev. G9.00, LT40 Rev. H1.00 and LT30HD/40HD Rev. H3.00. NOTE: When replacing original components with new assembly, it is best to replace all three assemblies at the same time.

3.3 Engine Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	ENGINE, KUBOTA 1505E	015920	1
	Belt, Kubota Fan #16282-97010	028514	1
	Filter, Kubota Air #15741-11080	028567	1
	Strap, Kubota Air Filter Holder #16296-1125-0	028589	1
	Cushion, Kubota Air Filter Holder #16296-1187-0	028590	1
1	Filter, Kubota Fuel #70000-43081	028560	1
2	Filter, Kubota Oil #16271-32090	018050	1
	Gasket Kit, Kubota Lower #07916-29265	028519	1
	Gasket Kit, Kubota Upper #16286-99352	028520	1
	Gasket, Kubota Exhaust #15263-12370	028513	1
	Gasket, Kubota Fuel Injector #15841-53622	028516	1
	Gasket, Kubota Fuel Transfer Pump #16264-52140	028518	1
	Gasket, Kubota Head #16282-03310	028541	1
	Gasket, Kubota Muffler #15263-12371	028549	1
	Gasket, Kubota Oil Drain Plug #15451-96670	028543	1
	Gasket, Kubota Stop Solenoid #16299-60150	028544	1
	Gasket, Kubota Thermostat #15313-7320	028545	1
	Gasket, Kubota Valve Cover #16241-14520	028524	1
	Gasket, Kubota Water Pump #16259-73430	028526	1
	Glow Plug, Kubota #16851-65512	028521	1
	Injector, Kubota Fuel #16032-53000	028515	1
3	Motor, Kubota Starter #37560-63010	028522	1
4	Plug, Kubota Oil Drain #16541-33750	028542	1

3

Replacement Parts

Engine Assembly

5	Pump, Kubota Fuel Injector #16060-51010	028540	1	
6	Pump, Kubota Fuel Transfer #16285-52032	028517	1	
	Pump, Kubota Water #16241-73032	028525	1	
7	Radiator Parts (See Section 3.9)			
	Sending Unit, Kubota Heat Sensor #TM9A230RQCG	028510	1	
	Solenoid Kit, Kubota Fuel Stop #17208-60012	046951 ¹	1	
	Switch, Kubota Oil Pressure #15841-39010	028547	1	
	Thermostat, Kubota #19434-73010	028546	1	
	Seal, Kubota Front Oil #16241-0421-2	038424	1	
	HARNESS ASSEMBLY, KUBOTA DIESEL ENGINE	050846 ²	1	
	HARNESS ASSEMBLY, KUBOTA DIESEL ENGINE	024594 ²	1	
	Breaker Assembly, Water Temp Max Circuit	024453	1	
	Relay, Glow Plug	023359 ³	1	
	Socket Kit, Glow Plug Relay	053048 ⁴	1	
	Fuse, 50A Kubota Glow Plug	024597	1	

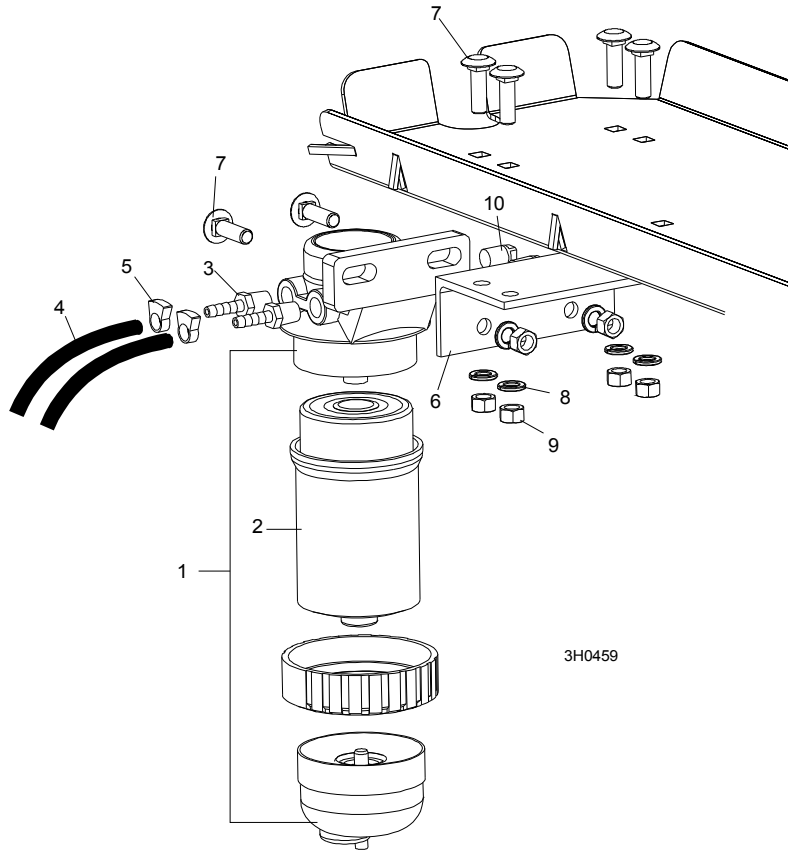
¹ Fuel Stop Solenoid Kit 046951 replaces 028523 supplied before 7/04. Three-wire Solenoid #17454-60010 no longer available. Kit includes Solenoid #17208-60012 and two-wire adaptor plug.

² Use 050846 harness for LT30 J4.02, LT40 Rev. J5.02+, LT30HD Rev. J5.02+ and LT40HD Rev. J6.02+ with new Kubota fuel solenoid. Use 024594 for previous revisions with old fuel solenoid.

³ Lombardini Glow Plug Relay 023359 replaces Bosch Relay 024598 to improve durability (LT30 J4.06, LT40 Rev. J5.06, LT30HD Rev. J5.06 and LT40HD Rev. J6.07). New relay requires manual operation of the glow plugs ([See Form #1151](#)).

⁴ Replaces 024554 originally supplied. Kit includes pre-assembled socket with applicable wires, terminals and fuse.

3.4 Primary Fuel Filter

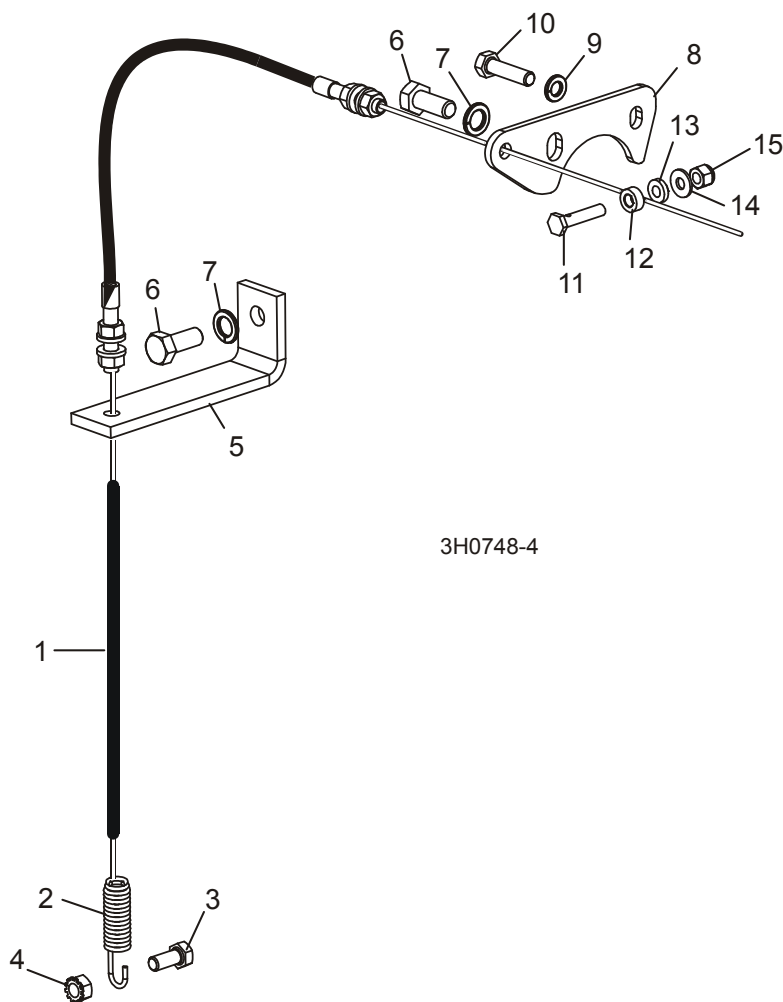


REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	FILTER ASSEMBLY, STANDADYNE FUEL #33816	015897	1
2	Filter, Standadyne Fuel Cartridge #31865	015898	1
3	FITTING, 1/4" NPT TO 3/8" HOSE BARB	014685	2
4	HOSE, 5/16" ID FUEL	016338	9 Ft
5	CLAMP, 7/32 - 1/2 HOSE	P649	2
6	BRACKET, DIESEL FUEL FILTER MOUNT	015905	1
7	BOLT, 3/8-16 X 1 1/4" CARRIAGE HEAD	F05007-11	6
8	WASHER, 3/8" SPLIT LOCK	F05011-4	6
9	NUT, 3/8-16 HEX	F05010-1	6
10	FITTING, 1/4" NPT PLUG	P05498	2

3 Replacement Parts

Throttle Assembly

3.5 Throttle Assembly



3H0748-4

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	CABLE, KUBOTA THROTTLE	015857	1
2	Spring, Throttle	016033	1
3	BOLT, 5/16-18 X 3/4" HEX HEAD	F05006-5	1
4	NUT, 5/16-18 HEX SELF-LOCKING	F05010-20	1
5	BRACKET, LOWER THROTTLE CABLE MOUNT	015853	1
6	BOLT, M10-1.5 X 25MM HEX HEAD FULL THREAD GRADE 5	F05009-52	2
7	WASHER, 10MM SPLIT LOCK	F05011-88	2
8	BRACKET, UPPER THROTTLE CABLE MOUNT	019009	1
9	WASHER, 5/16" SPLIT LOCK	F05011-13	1
10	BOLT, M8-1.25 X 1" HEX HEAD	F05004-40	1
11	BOLT, THROTTLE CABLE	015985	1
12	WASHER, .266 X .50 X .28 AL-BRONZE	015986	1

Replacement Parts
Throttle Assembly

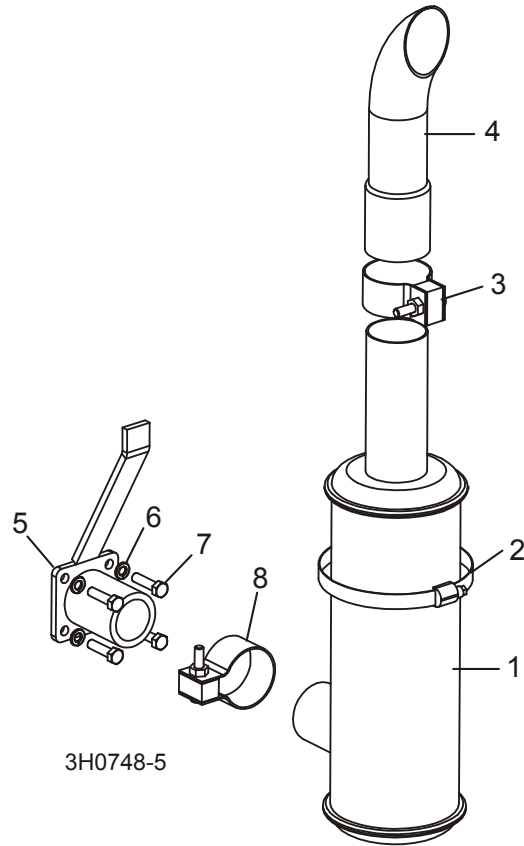
3

13	BOSS, 1/4 X 1/2 X .26" AL-BRONZE	016339	1	
14	WASHER, .25ID X .62OD X .06THK, PLATED	016175	1	
15	NUT, 1/4-20 NYLON LOCK	F05010-69	1	

3 Replacement Parts

Muffler Assembly

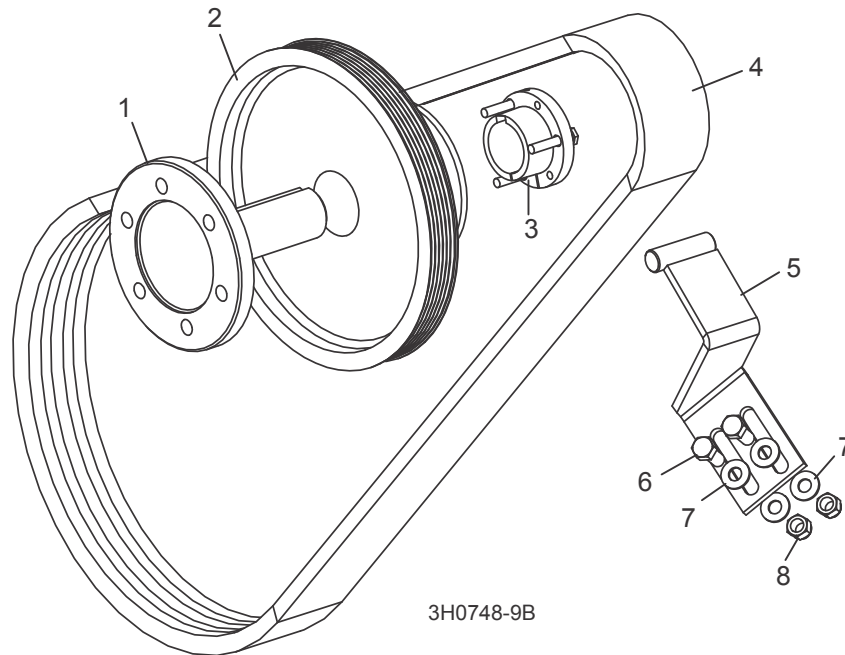
3.6 Muffler Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	MUFFLER	014093	1
2	CLAMP, 5" WORM	014096	1
3	CLAMP, MUFFLER	014095	1
4	STACK, MUFFLER	014094	1
5	BRACKET WELDMENT, D33 MUFFLER MOUNT	015868	1
6	WASHER, 5/16" SPLIT LOCK	F05011-13	4
7	BOLT, M8-1.25 X 1" HEX HEAD	F05004-40	4
8	CLAMP, MUFFLER 2" NELSON 90869A	014205	1

3.7 Drive Assembly

LT30 Rev. H5.00+
 LT40 Rev. H6.00+
 LT30HD Rev. H8.00+
 LT40HD Rev. H8.00+



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	SHAFT, KUBOTA POWER	015866	1
2	SHEAVE, 5V X 4.46" POLY V (GAS/DIESEL)	016533	1
3	BUSHING, SH X 1 7/16"	016535	1
4	BELT, 3/5VL750	006672 ¹	1
5	BRACKET, DRIVE BELT SUPPORT	016364	1
6	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	2
7	WASHER, 3/8" SAE FLAT	F05011-3	4
8	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2

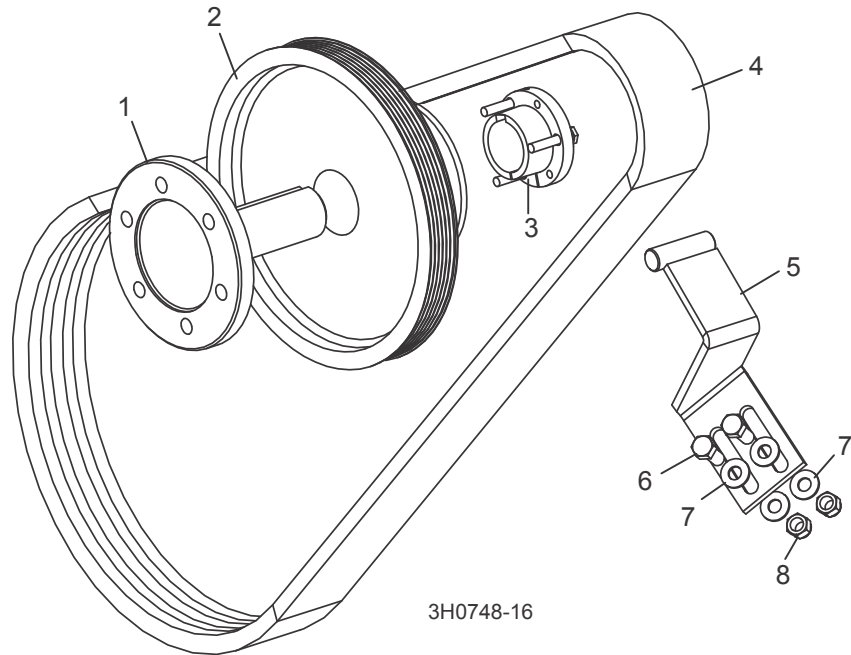
¹ Cog-style belt 006672 replaces 016556 originally supplied prior to 7/08 to reduce slippage. If sawmill equipped with 3 3/4" turnbuckle supplied prior to 9/03, replace with a revised 3 1/2" turnbuckle assembly A11576 to allow proper tensioning of belt. (Turnbuckle information does not apply to sawmills with Autoclutch.)

3 Replacement Parts

Drive Assembly

3.8 Drive Assembly

LT30 Rev. F7.00 - H4.00
LT40 Rev. F8.00 - H5.00
LT30HD Rev. G1.00 - H7.00
LT40HD Rev. G1.00 - H7.00

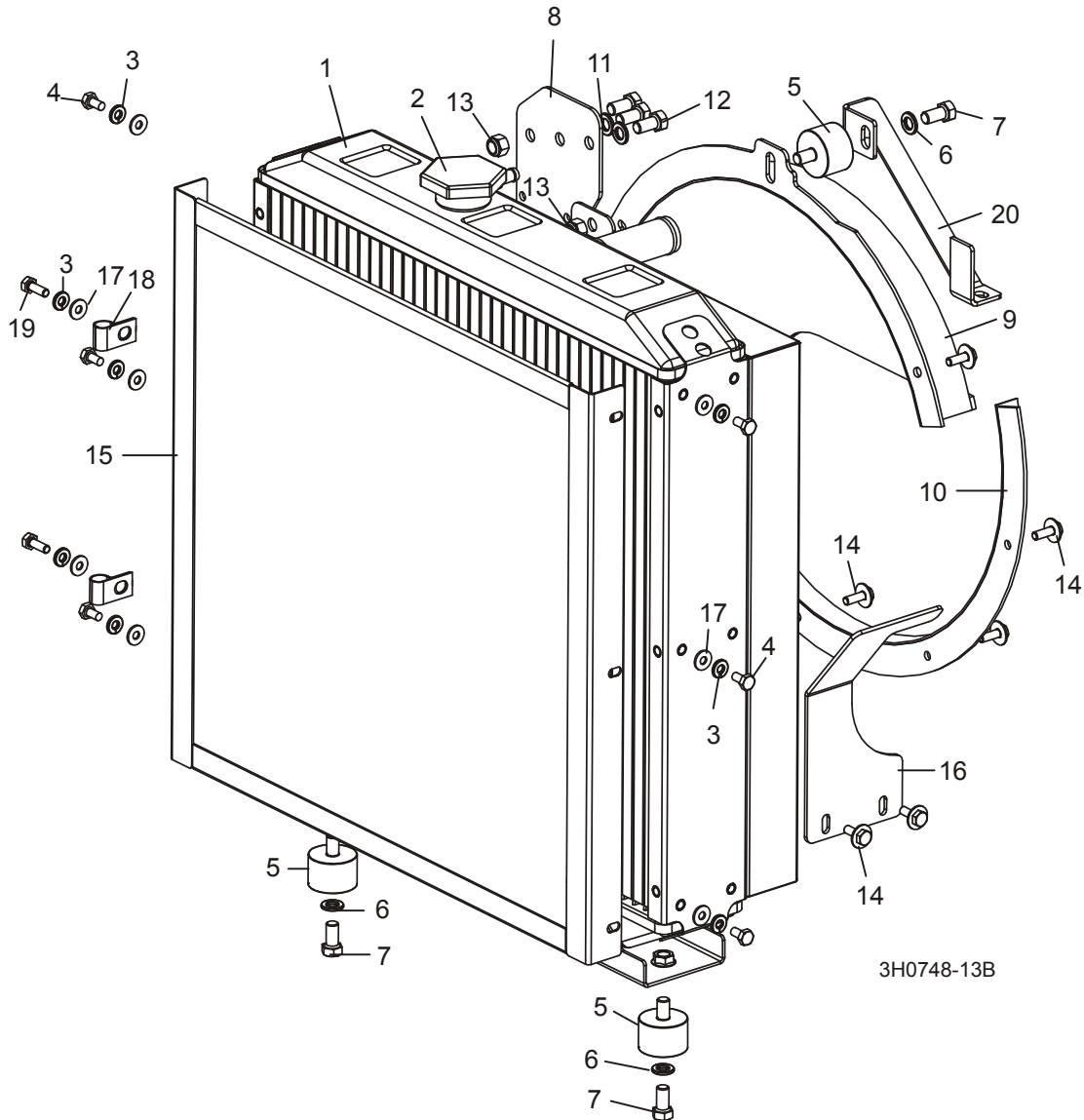


REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	SHAFT, KUBOTA POWER	015866	1
2	PULLEY, ENGINE POLY GROOVE	015349 ¹	1
3	BUSHING, P1 1 7/16" W/KEY AND BOLTS	014460	1
4	BELT, 3BX72 DRIVE	014085	1
5	BRACKET, DRIVE BELT SUPPORT	016364	1
6	BOLT, 3/8-16 X1" HEX HEAD	F05007-7	2
7	WASHER, 3/8" SAE FLAT	F05011-3	4
8	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2

¹ 015349 engine pulley is not longer available. Sawmill needs to be converted to 3/5V style pulleys. The following parts are required for D33 conversion: 016557 Drive Belt, 016531 Brake Combo Sheave, 016533 Engine Pulley and 016535 Split Taper Bushing.

3.9 Radiator Assembly

LT30 Rev. H8.00+
 LT40 Rev. H9.00+
 LT30HD Rev. J2.00+
 LT40HD Rev. J2.00+



3H0748-13B

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	RADIATOR, KUBOTA TURBO #A99-060	028569	1
2	Cap, Kubota Radiator #15272-72020	028529	1
	TANK KIT, COOLANT RECEIVER KUBOTA #19059-92090 (NOT SHOWN)	028558	1
	HOSE, LOWER RADIATOR MODIFIED (D33 KUBOTA - NOT SHOWN)	016375	1

3

Replacement Parts

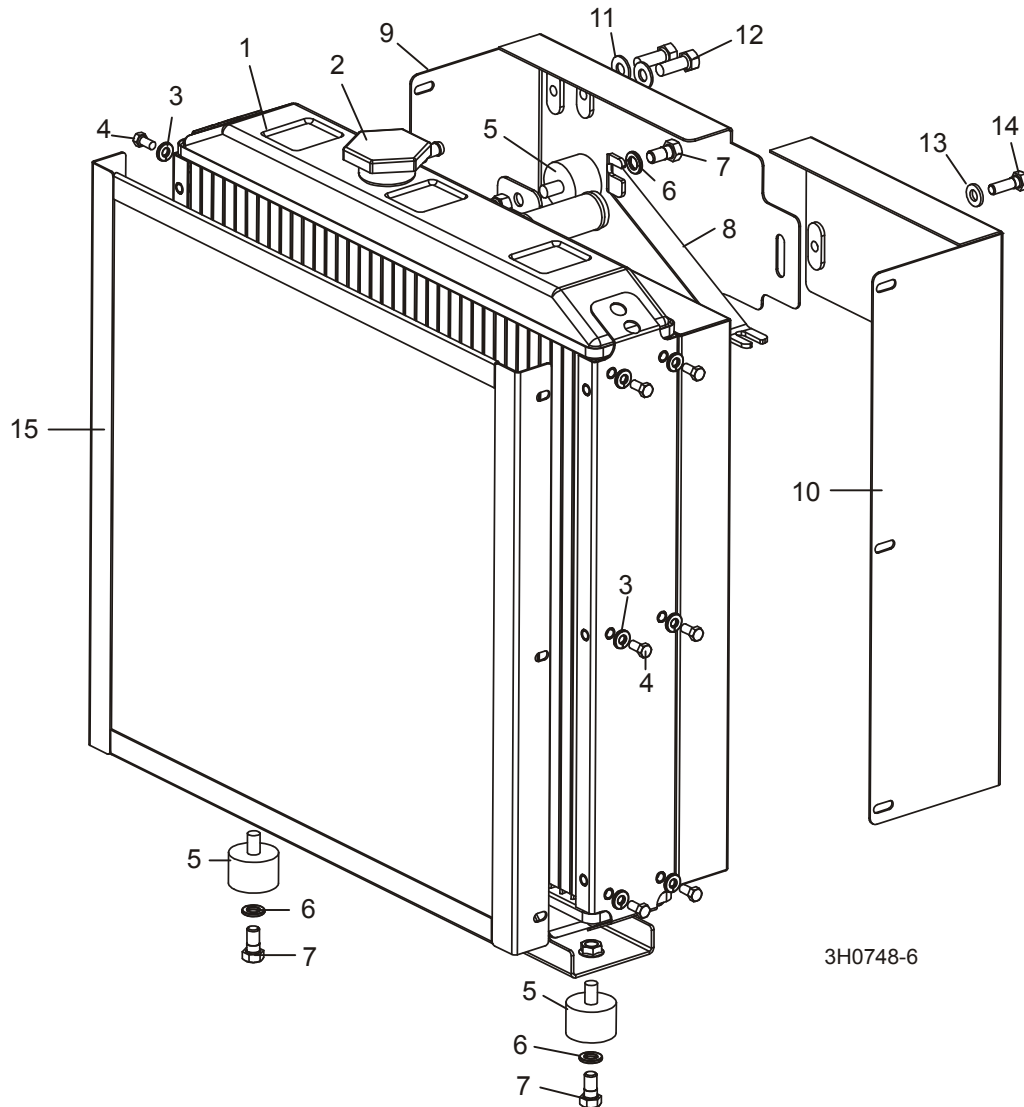
Radiator Assembly

	HOSE, UPPER RADIATOR KUBOTA #16626-72940 (NOT SHOWN)	028533	1	
3	WASHER, 1/4" SPLIT LOCK	F05011-14	8	
4	BOLT, 1/4-20 X 1/2" HEX HEAD	F05005-15	6	
5	BUSHING, RUBBER RADIATOR MOUNT	028217	3	
6	WASHER, 3/8" SPLIT LOCK	F05011-4	3	
7	BOLT, 3/8-16 X 3/4" HEX HEAD GRADE 5	F05007-147	3	
8	PLATE, OVERFLOW MOUNT	016708	1	
9	GUARD WELDMENT, KUBOTA FAN	033304 ¹	1	
10	GUARD WELDMENT, KUBOTA SMALL FAN	033310 ¹	1	
11	WASHER, 3/8" SAE FLAT	F05011-3	2	
12	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	3	
13	NUT, 3/8-16 NYLON LOCK	F05010-10	2	
14	BOLT, 1/4-20 X 3/4" CONICAL WASHER HEAD	F05005-134	8	
15	GUARD, RADIATOR	015864	1	
16	GUARD, KUBOTA LEFT BELT	033313 ¹	1	
17	WASHER, 1/4" SAE FLAT	F05011-11	8	
18	CLAMP, 1/2" EMT	P07584	2	
19	BOLT, 1/4-20 X 3/4" FULL THREAD HEX HEAD	F05005-1	2	
20	BRACKET, RADIATOR TOP SUPPORT	016406	1	

¹ Fan guards replace original guards supplied prior to LT30 Rev. H8.00, LT40 Rev. H9.00 and LT30HD/40HRev. J2.00. New guarding prevents sawdust from entering radiator fins.

3.10 Radiator Assembly

LT30 Rev. G9.00 - H7.00
 LT40 Rev. H1.00 - H8.00
 LT30HD Rev. H3.00 - J1.00
 LT40HD Rev. H3.00 - J1.00



3H0748-6

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	RADIATOR, KUBOTA TURBO #A99-060	028569 ¹	1
2	Cap, Kubota Radiator #15272-72020	028529	1
	TANK KIT, COOLANT RECEIVER KUBOTA #19059-92090 (NOT SHOWN)	028558	1
	HOSE, LOWER RADIATOR MODIFIED (NOT SHOWN)	016375 ²	1
	HOSE, LOWER RADIATOR MODIFIED (NOT SHOWN)	016341 ²	1

3

Replacement Parts

Radiator Assembly

	HOSE, UPPER RADIATOR KUBOTA #16626-72940 (NOT SHOWN)	028533 ³	1	
	HOSE, UPPER RADIATOR MODIFIED (NOT SHOWN)	016376 ³	1	
3	WASHER, 1/4" SPLIT LOCK	F05011-14	12	
4	BOLT, 1/4-20 X 1/2" HEX HEAD	F05005-15	12	
5	BUSHING, RUBBER RADIATOR MOUNT	028217	3	
6	WASHER, 3/8" SPLIT LOCK	F05011-4	3	
7	BOLT, 3/8-16 X 3/4" HEX HEAD GRADE 5	F05007-147	3	
8	BRACKET, RADIATOR SUPPORT	018788 ⁴	1	◆
9	GUARD WELDMENT, FAN RIGHT	029390 ⁵	1	
10	GUARD WELDMENT, FAN LEFT	029389 ⁵	1	
11	WASHER, 3/8" SAE FLAT	F05011-3	2	
12	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	2	
13	WASHER, 5/16" SAE FLAT	F05011-17	1	
14	BOLT, 5/16-18 X 1" HEX HEAD	F05006-1	1	
15	GUARD, RADIATOR	015864	1	

¹ Replaces 028570 Radiator (Kubota #A98-190) supplied prior to LT30 Rev. H2.00, LT40 H3.00 and LT30HD/40HD Rev. H5.00. Replacement of original radiator requires Upper Hose 028533 and Lower Hose 016375.

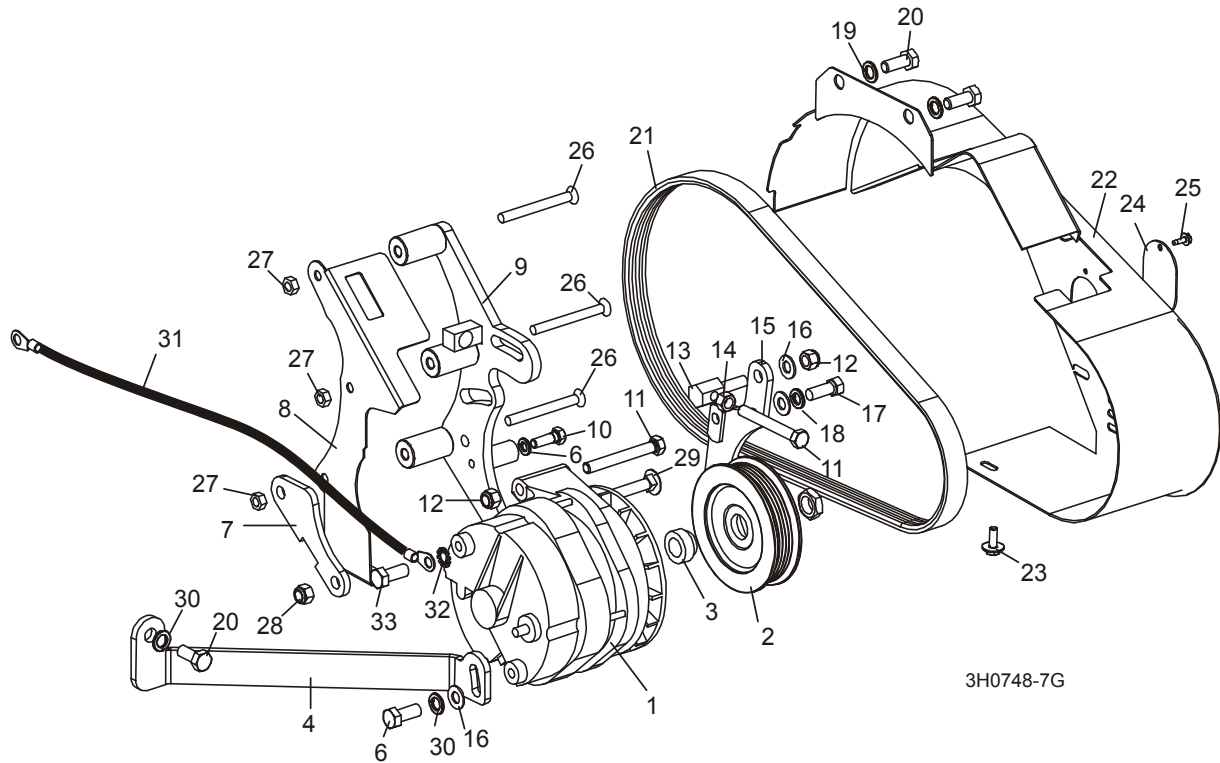
² Use 016375 Lower Hose for Kubota Radiator #A99-060 supplied after LT30 Rev. H2.00, LT40 H3.00 and LT30HD/40HD Rev. H5.00. Use 016341 for Kubota Radiator A98-190 supplied on previous revisions.

³ Use 028533 Upper Hose for Kubota Radiator #A99-060 supplied after LT30 Rev. H2.00, LT40 H3.00 and LT30HD/40HD Rev. H5.00. Use 016376 for Kubota Radiator A98-190 supplied on previous revisions (replaces 028563).

⁴ Support Bracket 018788 replaced with 016406 (12/99). New bracket is stronger to prevent breakage.

⁵ Fan guard parts replaced with new design 1/01 to prevent sawdust from entering radiator fins ([See Section 3.9](#)).

3.11 Alternator Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	WIRE ASSEMBLY, 61/140 AMP ALTERNATOR PLUG	015969	1
	ALTERNATOR ASSEMBLY, 140 AMP	023730	1 ◆
1	Alternator, 140 Amp	023695	1
	Pulley Assembly, 140 Amp Alternator	036572 ¹	1
2	Pulley, 140 Amp Alternator	023694	1 ◆
3	Spacer, Alternator Pulley	036571	1
4	BRACKET, ALTERNATOR SUPPORT	015923	1
5	WASHER, 5/16" SPLIT LOCK	F05011-13	1
6	BOLT, M10-1.5X25MM HEX HEAD GRADE 8.8	F81003-11 ²	1
7	PLATE, REAR ALTERNATOR MOUNT	023759	1
8	GUARD WELDMENT, REAR ALTERNATOR	015924	1
9	BRACKET WELDMENT, ALTERNATOR MOUNT	015872 ³	1
10	BOLT, 5/16-18 X 1" HEX HEAD GRADE 2	F05006-1	1
11	BOLT, 3/8-16 X 3" HEX HEAD FULL THREAD	F05007-1	2
12	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	2
13	STUD, ALTERNATOR BELT TENSION ADJUSTMENT	023764	1
14	NUT, 3/8-16 HEX	F05010-1	1

3

Replacement Parts

Alternator Assembly

15	PLATE WELDMENT, ALTERNATOR PIVOT	015875	1	
16	WASHER, 3/8" SAE FLAT	F05011-3	3	
17	BOLT, 3/8-16 X 1" HEX HEAD	F05007-7	1	
18	WASHER, 3/8" SPLIT LOCK	F05011-4	1	
19	WASHER, 7/16" SPLIT LOCK	F05011-48	2	
20	BOLT, M10-1.25 X 25MM HEX HEAD	F05009-52	3	
21	BELT, 6PK425 FIBERGLASS ALTERNATOR	023709	1	
22	GUARD WELDMENT, ALTERNATOR BELT	015830	1	
23	BOLT, 1/4-20 X 3/4" HEX CONICAL WASHER HEAD	F05005-134	1	
24	PLATE, ALTERNATOR BELT ACCESS COVER	015925	1	
25	SCREW, #10-24 X 1/2" SELF-TAPPING	F05015-7	1	
26	BOLT, M8 X 1.25 X 80MM FLAT HEAD CAP GRADE 8	F05004-169 ³	3	
27	NUT, M8 X 1.25 FREE ZINC PLATE	F05010-162	3	
28	NUT, 3/8-16 HEX NYLON LOCK	F05010-10	1	
29	BOLT, 3/8-16 X 3 1/2" CARRIAGE HEAD BOLT	F05007-161 ³	1	
30	WASHER, 10MM SPLIT LOCK	F05011-88	2	
	WIRE KIT, ALTERNATOR GROUND RETROFIT	051294 ⁴	1	
31	Wire Assembly, Engine-To-Alternator Ground	050941	1	◆
32	Washer, 3/8" External Star Lock	F05011-36 ⁵	1	
33	Bolt, M10 x 1.5 x 25mm Hex Head Grade 8.8	F81003-11	1	
	Washer, M10 Split Lock	F05011-88	1	

¹ Pulley Assembly 036572 replaces Pulley 023694 and Spacer 016279 supplied prior to 7/04. Pulley Assembly with pressed Spacer 036571 provides improved positioning relative to drive pulley.

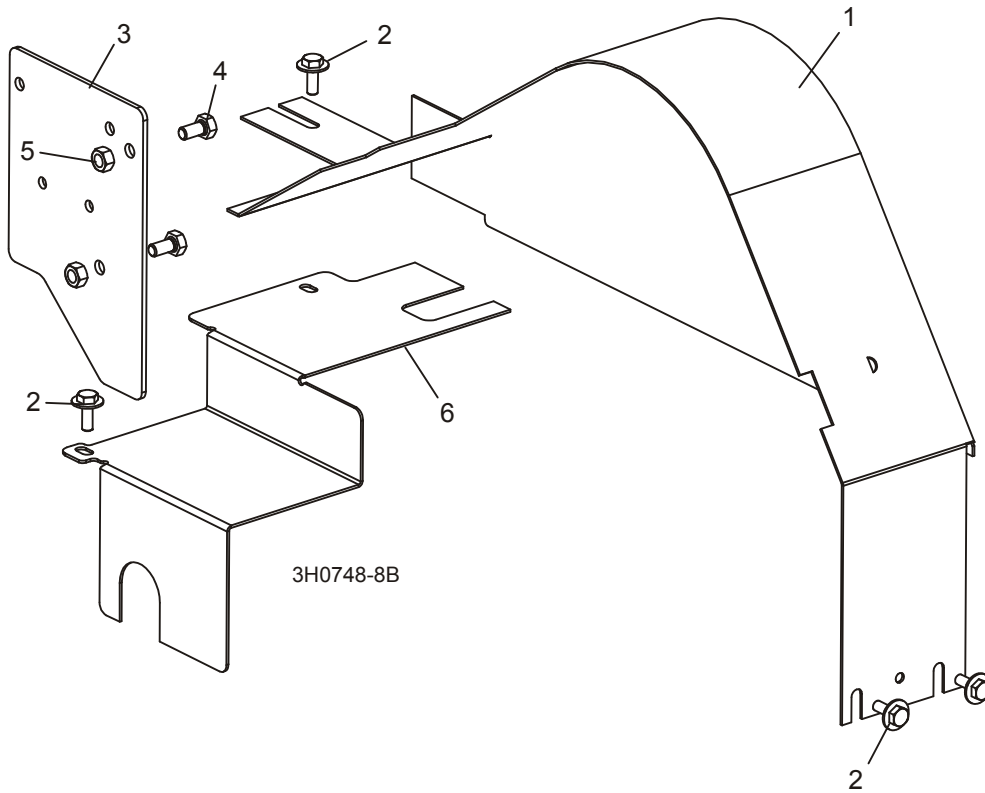
² Use metric bolt F81003-11 instead of F05004-40 incorrectly shown previously.

³ Bracket modified to accept three F05004-169 Flat Head Bolts and one F05007-161 Carriage Head Bolt. Bolts replace hex head bolts originally supplied prior to LT30 Rev. H1.00, LT40 Rev. H2.00 and LT30HD/40HD Rev. H4.00. New bolts eliminate interference with alternator belt.

⁴ Ground wire added LT30 Rev. J4.03, LT40 Rev. J5.03, LT30HD Rev. J5.03, LT40HD Rev. J6.03, LT30 Super Rev. H9.04, LT40 Super Rev. H1.04 and LT30HD/40HD Super Rev. J5.04. Use kit 051294 to retrofit previous revisions. Kit includes wire, mounting bolt, lock washers and installation instructions (Form [#1147](#)).

⁵ Star lock washers added to improve grounding contact (LT30 Rev. J3.00, LT40 Rev. J4.00, LT30HD Rev. J4.00 and LT40HD Rev. J5.00).

3.12 Engine Pulley Guards



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	GUARD WELDMENT, KUBOTA ENGINE PULLEY	015876	1	
2	BOLT, 1/4-20 X 3/4" HEX HEAD WITH CONICAL WASHER	F05005-134	4	
3	PLATE, RELAY BOX COVER	015854	1	
4	BOLT, M8X125X16MM HEX HEAD	F05004-47	2	
5	NUT, M8 HEX NYLON LOCK	F05010-132	2	
6	GUARD, SIDE ENGINE PULLEY	016152	1	

INDEX

M

maintenance 2-1
 air cooling system 2-2
 alternator belt 2-5
 battery 2-4
 fuel filter 2-3
 RPM adjustments 2-7

P

parts list
 alternator assembly (140A) 3-15
 engine assembly 3-3
 engine mount assembly 3-2
 fuel filter 3-5
 fuel tank 3-1
 muffler assembly 3-8
 pulley guards 3-17
 radiator assembly 3-11, 3-13

S

starting 1-1