

D35 Engine

Safety, Operation, Maintenance & Parts Manual

074237 Engine, D35 Tier2 Diesel **rev. B**

Safety is our #1 concern!

Form #2572

**FOR EXPORT ONLY
SINCE JANUARY 2015**

Used with mills *

	Beginning rev - current rev
LT30D35 OBS	rev. J9.03 - K3.01
LT30HDD35 OBS	rev. K1.03 - K4.01
International models:	
LT30D35N OBS	rev. J9.03 - K2.08
LT30HDD35N OBS	rev. K1.03 - K3.07
LT40D35N	rev. K4.05 - K5.04
LT40HDD35N	rev. K6.06 - K7.06
LT40HDD35N Super	rev. K3.14 - K4.03
LT40HDD35N-RA/RS Remote	rev. K3.14 - K4.03
LT40HDD35N-RA Super Wireless	rev. K3.14 - K4.03
LT50HDD35N	rev. A5.10 - A6.03
LT50HDD35N-RA Remote	rev. A5.10 - A6.03

* Includes Wide versions, if available.



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

California
Proposition 65 Warning



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

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

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



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

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

Active Patents assigned to Wood-Mizer, LLC

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

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SECTION 1 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.

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

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

D35 Tier2 Engine -- For sale *internationally only*

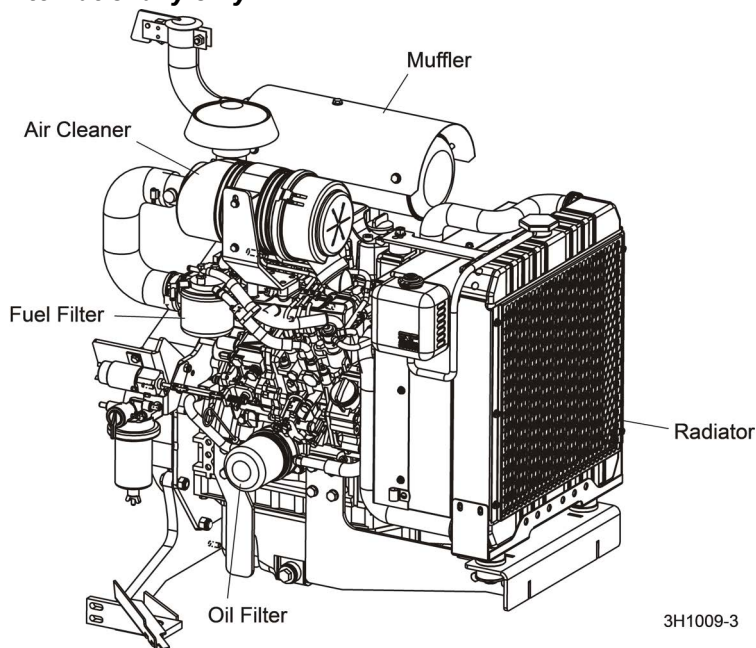







FIG. 1-1

SECTION 2 OPERATION

2.1 Starting The Engine

ENGINE CONTROL PANEL LIGHTS

-  **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.
-  **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.

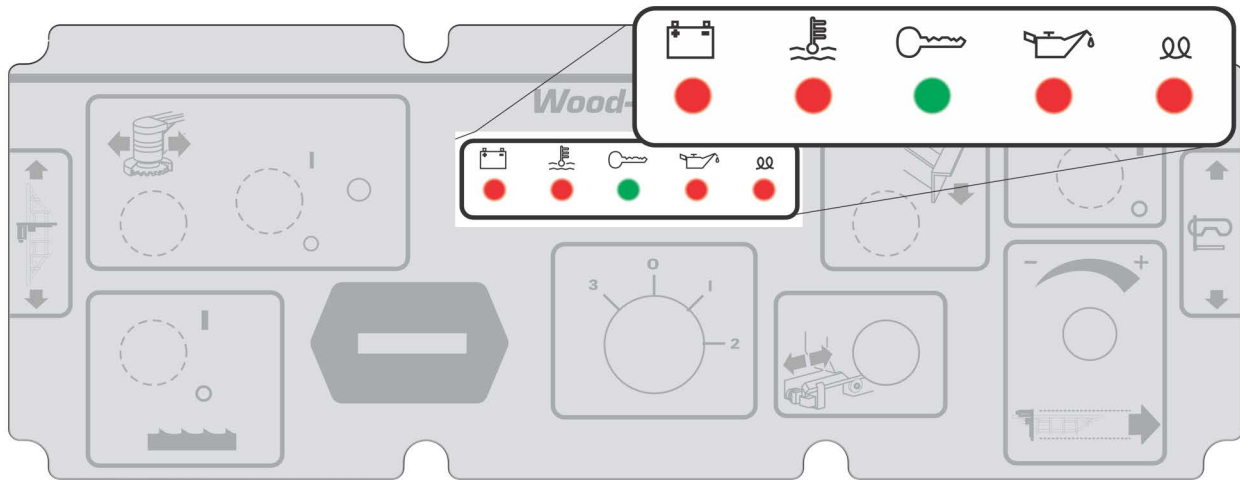


FIG. 2-1

NOTICE The glow plug sensing relay provides manual control of glow plug operation. 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

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 20 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 the temperature table.)
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 3 MAINTENANCE

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

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



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



3.1 Safety

Use caution when performing maintenance or service to the engine.



DANGER! 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.

3.2 Engine Oil & Filter

1. Check the oil level every 8 hours of operation.
2. Add oil as necessary.
3. See the engine manual for oil viscosity and grade recommendations.
4. Inspect the oil for indications of water in the oil.
 - a. If there is water present or the oil is cloudy, DO NOT start the engine.
 - b. Replace the oil and oil filter, run the engine at low idle for no more than 2 minutes and replace the oil and filter again.



CAUTION! Operating the engine with water in the engine oil will cause severe damage to the engine. Follow all maintenance procedures for checking oil level and oil/filter change intervals.

NOTICE The engine is equipped with a muffler rain cap to keep water out of the muffler and engine. If the sawmill is stored outside or transported during rainy weather, the muffler must be covered.

5. Change the engine oil and oil filter after the first 50 hours of operation, then every 250 hours of operation.

3.3 Cooling System

1. Clean the radiator fins every 8 hours of operation.
2. Spray the radiator with water from a hose or compressed air to clean sawdust from the radiator fins.
3. 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.

3.4 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.



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.

3.5 Alternator Belt

The alternator belt is self-tensioning and should not need adjustment.

If the battery continues to not charge properly or the belt continues to squeal after the initial belt adjustment, replace the belt.

1. Turn the key switch to OFF (0) and remove the key.
2. Release the blade tension and remove the blade from the sawmill if necessary.
3. Remove the drive belt cover and alternator cover.
4. Pry the belt idler up and remove the belt from the alternator and engine pulleys.
5. While holding the idler up, install the new belt around the alternator and engine pulleys.
6. Release the idler on top of the belt and reinstall the alternator and drive belt covers.

3.6 Air Cleaner

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

3.7 RPM Adjustments



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

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

Engine	High End RPM	Low End RPM
D35	3000	1500

1. Inspect the belt and brake strap tensions are correct (See Sawmill Maintenance).
2. Check oil, fuel, and coolant levels.

3. Make sure the throttle solenoid linkage is adjusted properly.
 - a. With the clutch disengaged, the throttle linkage should rest against the idle adjustment screw.
 - b. With the clutch engaged, the linkage should rest against the high-end adjustment screw and leave 0" to 1/32" of play in the linkage.



CAUTION! Failure to properly adjust the throttle solenoid linkage may cause damage to the solenoid.

4. Disengage the clutch and loosen the solenoid mounting bolts to adjust the throttle solenoid linkage.
5. Adjust the solenoid as far to the right as possible and retighten the mounting bolts.
6. Engage the clutch and recheck the amount of play in the linkage.

If there is more than 1/32" of play in the linkage with the clutch engaged, disengage the clutch and turn the linkage turnbuckle.

7. Repeat adjustments to achieve 0"-1/32" of play in the linkage with the clutch engaged.

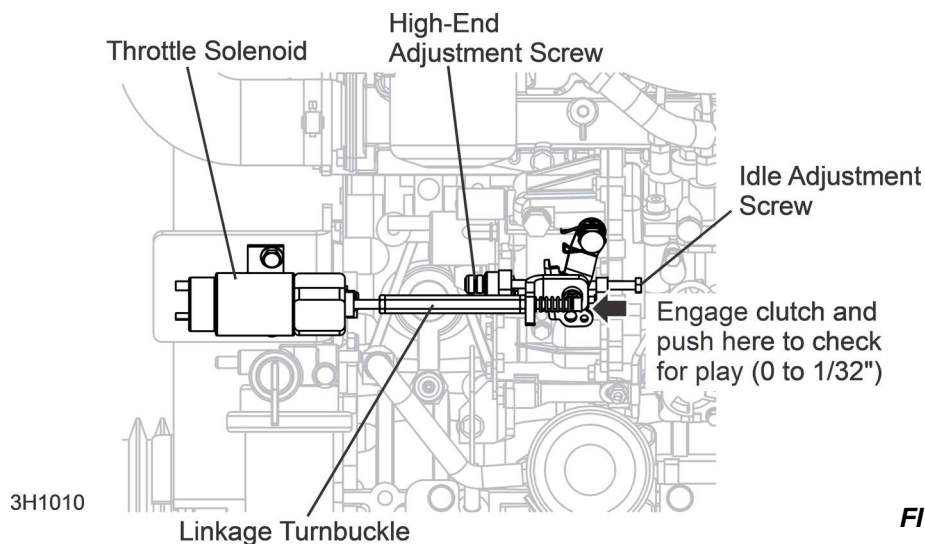
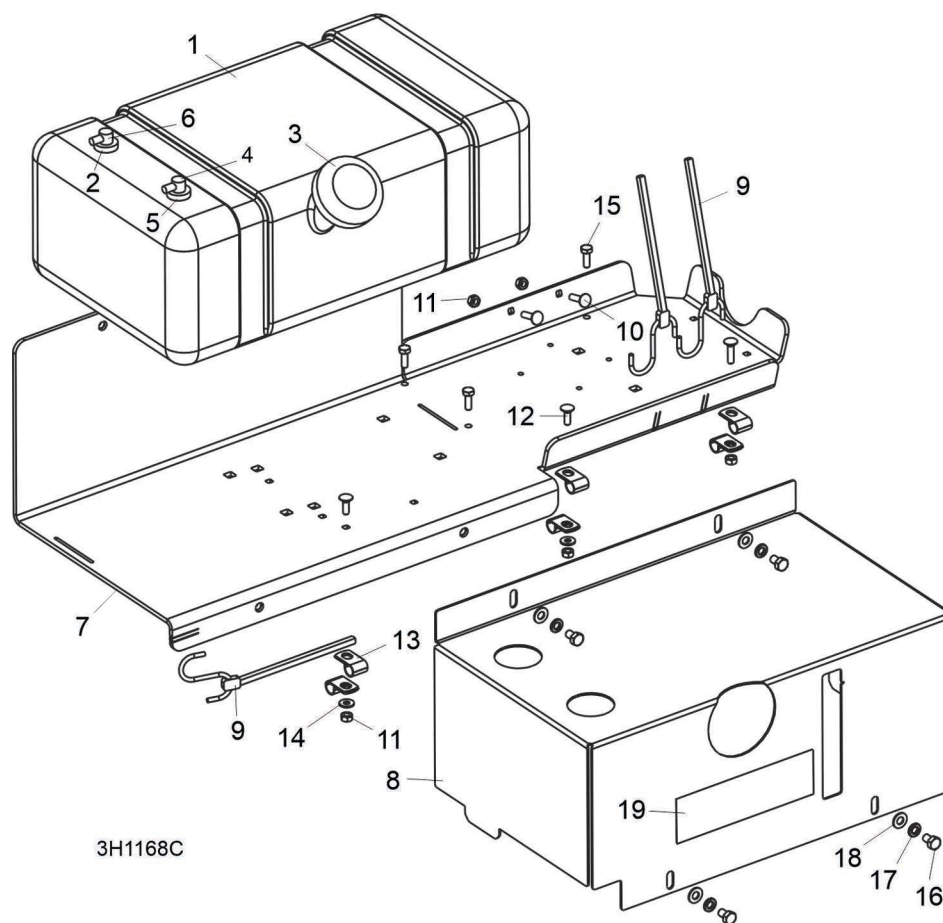


FIG. 3-1

8. Start the engine to measure the low-end RPM; let idle for 10 minutes.
9. With the engine at idle, adjust the low-end RPM to 1500.
10. To increase speed, tighten the **idle** adjustment screw. The high-end adjustment screw should not be adjusted.

SECTION 4 REPLACEMENT PARTS

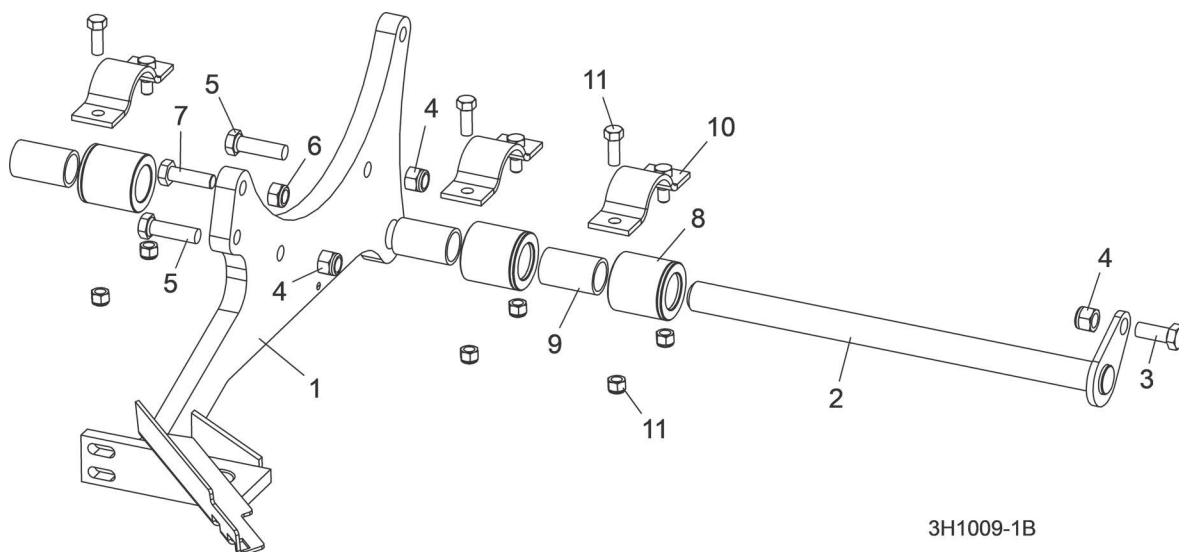
4.1 Fuel Tank



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	074830	TRAY ASSEMBLY, LT40/50 DIESEL TANK		1
1	103928	Tank, 5 Gallon Low Pro Diesel		1
2	061250	Grommet, Shut Off 046881		1
3	061257	Cap, Fuel Tank Diesel 080185BE		1
4	061256	Fitting, Return/tube Diesel 468489		1
5	061250	Grommet, Shut Off 046881		1
6	061255	Fitting, Pick-Up/Tube Diesel 468871A		1
7	103943	Tank Weldment, Fuel LT40/50		1
8	103867	Cover, Fuel Tank		1
9	P11668	Strap, 20" Rubber		3
10	F05005-34	Bolt, 1/4-20 X 1" Carriage Head		3
11	F05010-21	Nut, 1/4-20 Hex Lock		5
12	F05005-113	Bolt, 1/4-20 x 3/4" Carriage		2
13	P07584	Clamp, 1/2" EMT Coated		6
14	F05011-11	Washer, 1/4" SAE Flat		2
15	F05005-123	Bolt, 1/4-20 x 3/4" Hex Head Grade 5		3

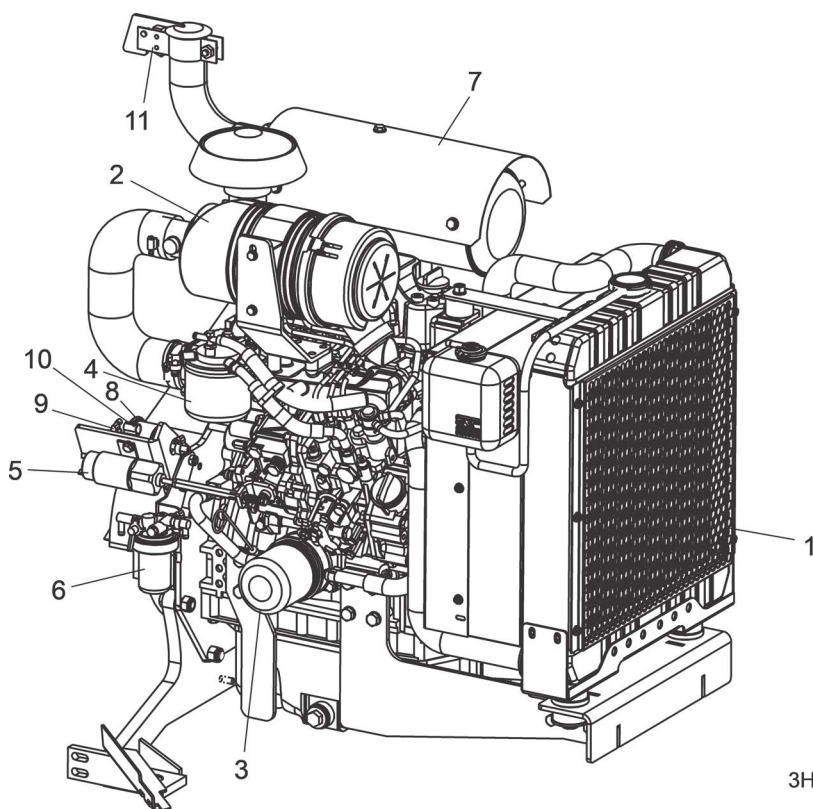
REF	PART #	DESCRIPTION	COMMENTS	QTY.
16	F05006-102	Bolt, 5/16-18x3/4 HH Gr5 Zinc		4
17	F05011-13	Washer, 5/16" Split Lock		4
18	F05011-17	Washer, 5/16" SAE Flat		4
19	133825	Decal, Fuel Warning		1
	R02423-3	Hose, Fuel 5/16" EPA 15G CARB		7 Ft.
	R02423-2	Hose, Fuel 1/4" EPA 15G CARB		8 Ft.

4.2 Engine Mount Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
1	057452	Mount Weldment, LT30/40 Yanmar Engine		1
2	015855	Pin Weldment, Kubota Engine Mount Pivot		1
3	F05008-37	Bolt, 1/2-13 x 1 1/4" Hex Head Grade 5		1
4	F05010-8	Nut, 1/2-13 Hex Nylon Lock		3
5	F05008-88	Bolt, 1/2-13 x 1 3/4" Hex Head Grade 5		2
6	F05010-209	Nut, M12 x 1.75 Hex Nylon Lock		1
7	F05004-250	Bolt, M12 x 1.75 x 90mm Hex Head Full Thread		1
	016380	Bushing Assembly, Motor Mount		3
8	016378	Bushing, 2" OD x 2"	Available in assemblies only.	1
9	016379	Bearing, 1" x 1 1/4" x 2"	Available in assemblies only.	1
10	014540	Clamp Weldment, Motor Mount		3
11	F05007-7	Bolt, 3/8-16 x 1" Hex Head		3
12	F05010-10	Nut, 3/8-16 Hex Nylon Lock		6

4.3 Engine Assembly

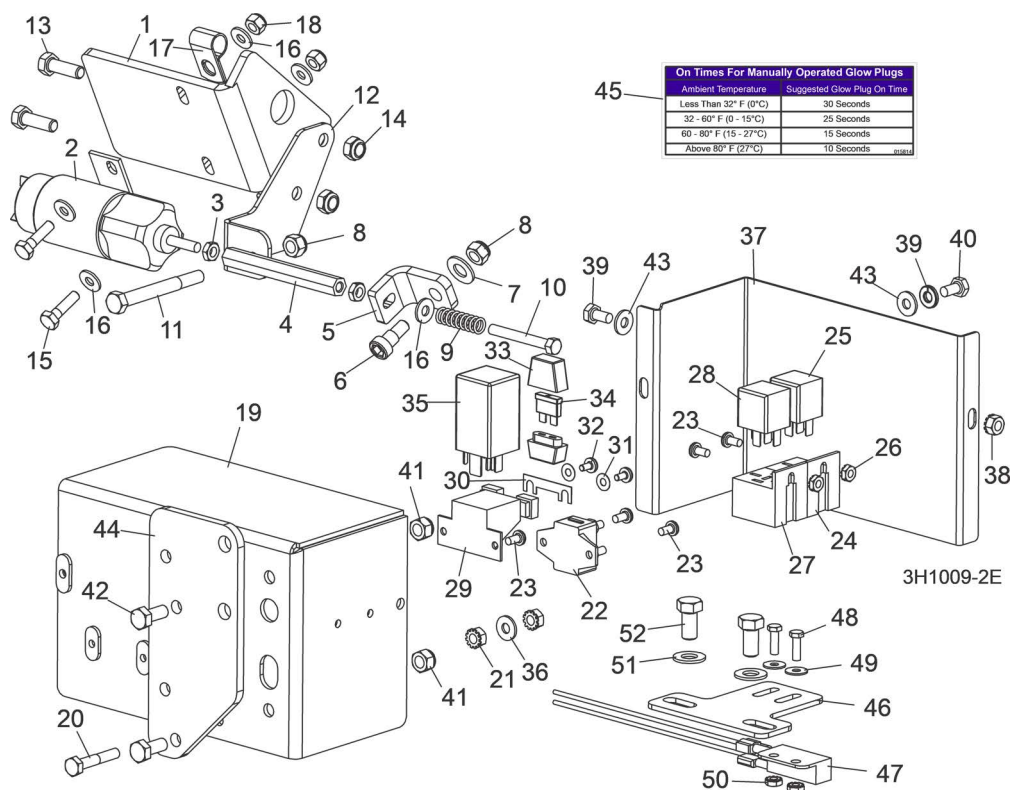


3H1009-4B

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	CED34	Cover, Engine		1
	074236	Engine, 35.9HP Yanmar Diesel	Tier2 Engine For Outside U.S. Only as of 8/17	1
1		Radiator Parts	(See Section 3.8)	
2	006541	Air Cleaner Assembly, 35.9HP Yanmar		1
	028597	Air Filter, E1 Primary Element Enginaire		1
	061100	Cap, Air Filter Assembly Yanmar		1
3	057935	Filter, Oil #129150-35153-12		1
4	057933	Filter, Fuel #119802-55801		1
5		Throttle/Fuel Pump Parts	(See Section 4.9)	
6	040345	Filter Assembly, Fuel/Water Separator		1
	006561	Bracket, Fuel/Water Separator Mount		1
	061099	Filter, Water Separator Yanmar		1
7	006543	Muffler Assembly, 35.9HP Yanmar Diesel		1
8	061074	Pump, Yanmar Fuel Feed		1
9	P649	Hose Clamp, 7/32"-5/8"		4
10	P07584	Clamp, 1/2" EMT Coated		1
11	061073	Cap, Yanmar D35 Rain #129087-13530		1
		Drive Parts	(See Section 4.11)	
		Alternator Parts	(See Section 3.8)	
		Bearing Support Parts	(See Section 3.10)	
		Engine Mount Parts	(See Section 4.5)	
	061773	Gasket, Yanmar Bonnet #129004-11310		1
	057931	Gasket Set, Yanmar Engine #719823-92960		1

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	057932	Seal, Yanmar Front Main #119934-01800		1
	057934	Injector Assembly, Yanmar #729604-53200		1
	057936	Switch, Yanmar Oil Pressure #114250-39450		1
	057057	Seal, Yanmar Rear Main #129120-01780		1
	057937	Starter Motor, Yanmar #129242-77010		1
	057938	Thermostat, Yanmar #129155-49801		1
	044652	Gasket, Yanmar Thermostat #129795-49551		1
	057939	Pump, Yanmar Water #129004-42001		1
	057940	Gasket, Yanmar Water Pump #129486-42021		1
	044655	Sender, Yanmar Water Temperature #121250-44901		1
	044656	Solenoid, Yanmar Fuel #119653-77950		1
	044657	Diode, Yanmar Solenoid Relay #119643-66900		1
	057941	Timer, Yanmar Air Heater #128300-77920		1
	AP0114	Fan, Engine 7 Blade 360mm #121267-44741		1
	057942	Gasket, Yanmar Head #129001-01340		1
	057943	Plug, Yanmar Oil Drain #119640-01640		1
	057944	Seal, Yanmar Oil Drain #22190-220002		1
	057945	Plug, Yanmar Glow #129008-77800		1
	057946	Dip Stick, Yanmar Oil #129004-34802		1
	044668	Belt, Yanmar Fan #25132-003600		1
	057947	Pipe, Yanmar Fuel Return #129004-49610		1
	061053	Spring, Governor Yanmar #129573-61700		1
	056587	Strainer, Yanmar Fuel		1
	061078	Heater, Yanmar Engine Block #171015-77900		1
	061226	Cable, Heater Engine Block D35/D47		1

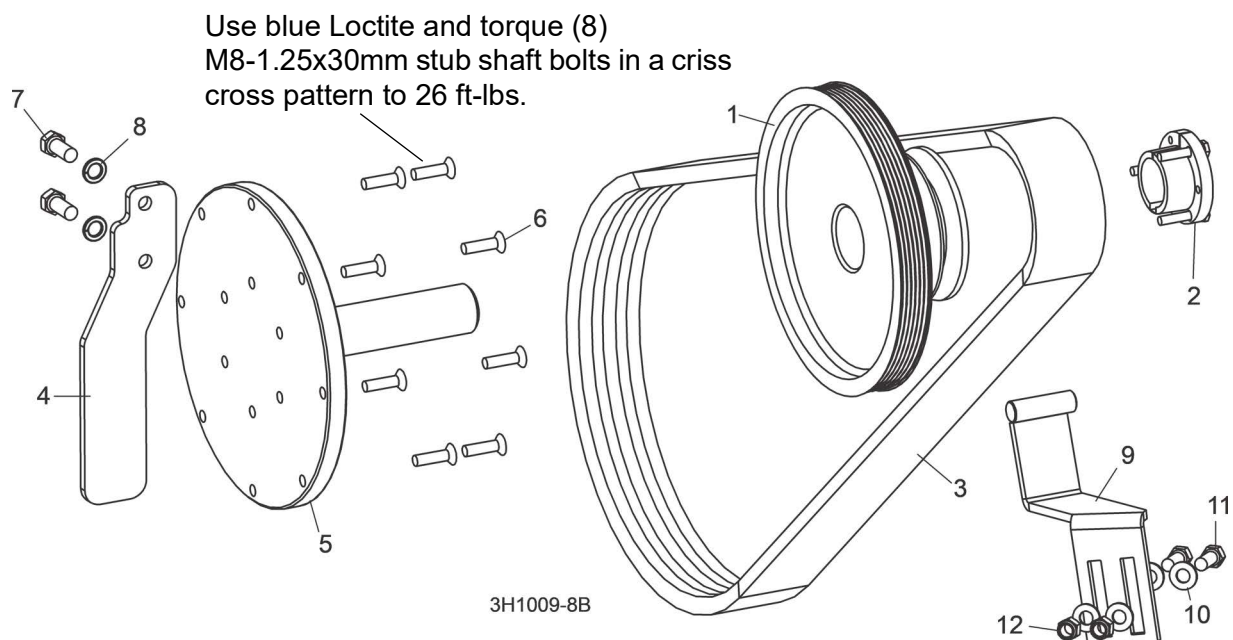
4.4 Relay/Throttle Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	074248	Pump Assembly, 35.9HP Throttle/Fuel		1
1	006566	Plate, Yanmar Throttle Solenoid Mount		1
	074475	Solenoid Kit, Throttle, Yanmar/Cat		1
2	045848	Solenoid, Throttle		1
	074475-2058	Instruction Sheet, Solenoid Adjustment		1
3	F05010-113	Nut, 1/4-28 Hex Jam		2
4	045850	Link, Throttle Actuator		1
5	006567	Plate, Short Throttle Connecting		1
6	F05007-159	Bolt, 3/8" X 5/16-18" Socket Head Shoulder		1
7	F05011-3	Washer, 3/8" SAE Flat		1
8	F05010-58	Nut, 5/16-18 Hex Nylon Lock		2
9	P11644	Spring, .42" x 1.34" x .061"		1
10	F05005-188	Bolt, 1/4-28 x 2" Hex Head Grade 5		1
11	F05006-62	Bolt, 5/16-18 x 3" Hex Head Grade 5		1
12	006561	Bracket, Fuel/Water Separator Mount		1
13	F05004-40	Bolt, M8-1.25 x 1mm Hex Head		2
14	F05010-132	Nut, M8 Hex Nylon Lock		2
15	F05005-101	Bolt, 1/4-20 x 1" Hex Head Grade 5		2
16	F05011-11	Washer, 1/4" Sae Flat		5
17	P07584	Clamp, 1/2" EMT Coated		1
18	F05010-69	Nut, 1/4-20 Hex Nylon Lock		2
	074232	Relay Assembly, Yanmar w/Cover		1
	069625	Bracket Assembly, Yanmar Relay (2012)		1
19	036269	Bracket Weldment, Glow Plug Relay Mount		1

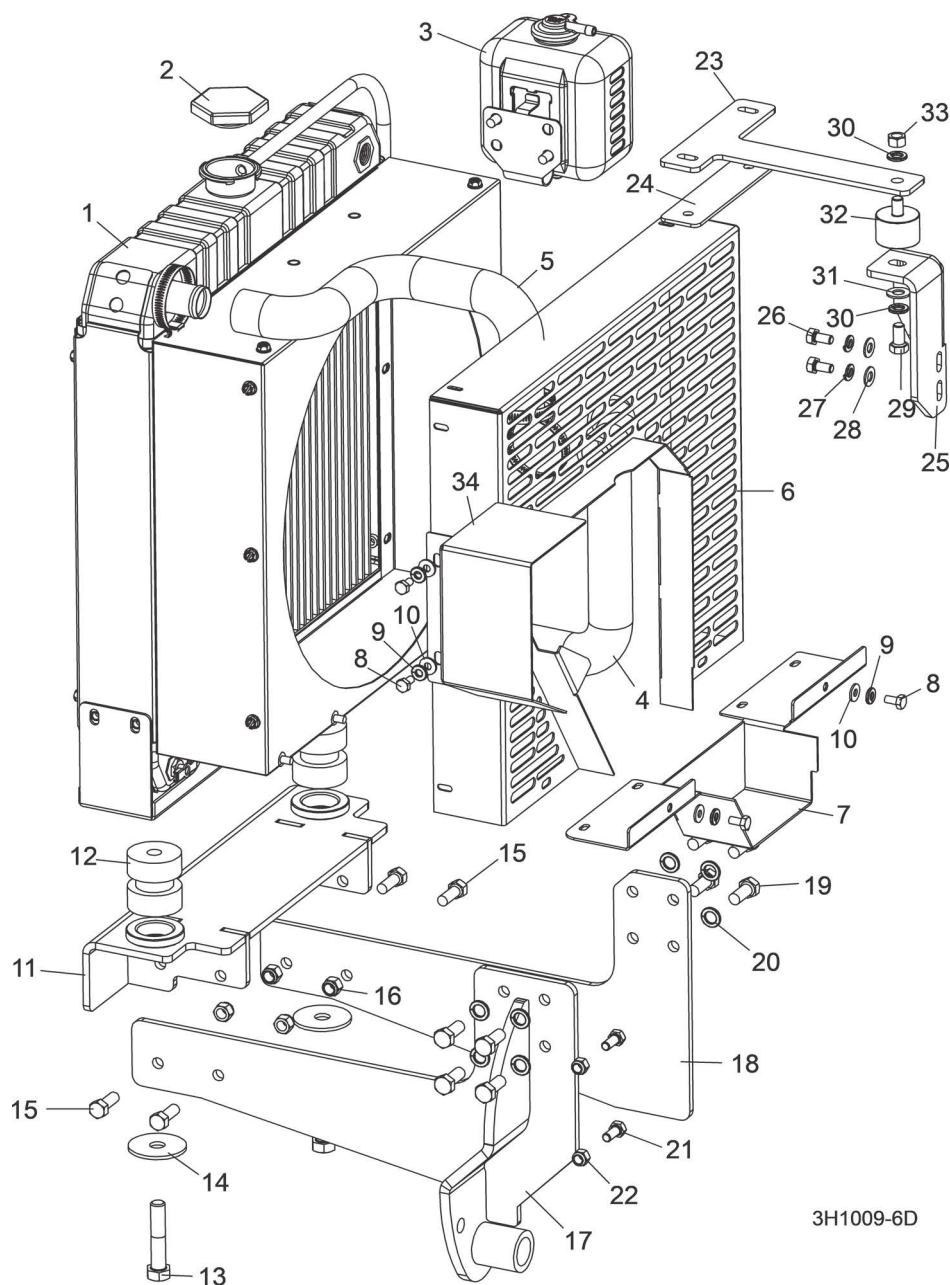
REF	PART #	DESCRIPTION	COMMENTS	QTY.
20	F05005-31	Bolt, 1/4-20 x 1 1/2" Hex Head Full Thread		1
21	F05010-9	Nut, 1/4-20 Self-Locking Hex		2
22	E20430	Breaker, 15A Manual Reset Circuit		1
23	F05004-3	Screw, #10-24 x 3/8" Phillips Head		6
	053234	Relay Assembly, Yanmar Throttle (2008)		1
24	050033	Socket, Relay Plug		1
25	051335	Relay, ISO 12V Coil w/Diode		1
26	F05010-14	Nut, #10-24 Hex		2
	053233	Relay Assembly, Yanmar Starter (2008)		1
27	050033	Socket, Relay Plug		1
28	051335	Relay, ISO 12V Coil w/Diode		1
	069624	Relay Assembly, Yanmar Glow Plug (2012)		1
29	024554	Socket, Glow Plug Relay w/Fuse Holder		1
30	024597	Fuse Link, 50 Amp		1
31	F81052-4	Washer, M5 Wave		2
32	F81000-14	Screw, M5-0.8 x 8mm Phillips Head Black Oxide		2
33	024555	Fuseholder, In-Line 3-20A ATC w/Cover		1
34	024150-4	Fuse, 4AATO Blade (Pink)		1
	052662	Resistor Assembly, 3K Cat Glow Plug Wire		1
35	023359	Relay, Diesel Glow Plug		1
36	F05011-11	Washer, 1/4" SAE Flat		1
37	045824	Cover, Relay Assembly		1
38	F05010-9	Nut, 1/4-20 Self-Locking Hex		1
39	F05011-14	Washer, 1/4" Split Lock		1
40	F05005-15	Bolt, 1/4-20 X 1/2" Hex Head		2
41	F05010-58	Nut, 5/16-18 Hex Nylon Lock		2
42	F05006-5	Bolt, 5/16-18 x 3/4" Hex Head		2
43	F05011-11	Washer, 1/4" SAE Flat		2
44	006523	Plate, Glow Plug Relay Mount Adaptor		1
45	015814	Decal, Glow Plug Operation		1
46	016617	Bracket, Sensor Mount		1
47	051436-1	Sensor Assy, Throttle	051436-1 replaced 051436 after 1/14/2021 per ECN 38178.	1
	051436	Sensor, Caterpillar Throttle		1
48	F05004-18	Bolt, #10-24 x 5/8" Hex Head		2
49	F05011-18	Washer, #10 SAE Flat		2
50	F05010-14	Nut, #10-24 Self-Locking Hex		2
51	F05011-3	Washer, 3/8" SAE Flat		2
52	F05007-27	Bolt, 3/8-16 x 3/4" Hex Head		2

4.5 Drive Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
1	016533	Sheave, 5V x 4.46" Poly V (Gas/Diesel)		1
2	016535	Bushing, SH x 1 7/16"		1
3	046571	Belt, 3/5VL770		1
4	006620	Plate, Yanmar Engine Stop		1
5	071326	Shaft, Yanmar Large Drive Stub (long)		1
6	F05004-245	Bolt, M8-1.25 x 30mm Flat Socket Head	Torque: 28 Nm / 26 ft/lbs	8
7	F81003-11	Bolt, M10-1.5 x 25mm Head Head Grade 8.8		2
8	F05011-88	Washer, 10mm Split Lock		2
9	016364	Bracket, Drive Belt Support		1
10	F05011-3	Washer, 3/8" SAE Flat		4
11	F05007-7	Bolt, 3/8-16 x 1" Hex Head		2
12	F05010-10	Nut, 3/8-16 Hex nylon Lock		2

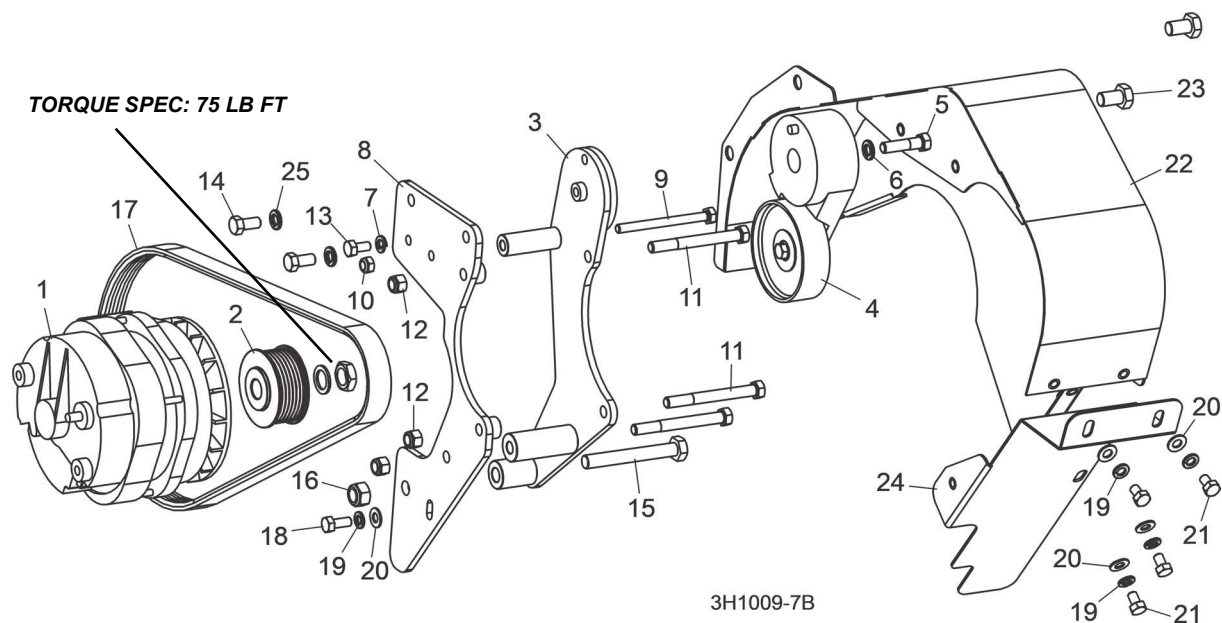
4.6 Radiator Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	044804	Radiator kit, Yanmar #KR2		1
1	057949	Radiator, Diesel Engines #129689-44510		1
2	044660	Cap, Yanmar Radiator #129987-44570		1
3	040387	Bottle Assembly, Yanmar #123987-43600		1
4	057950	Hose, Yanmar Lower Radiator #129689-49020		1
5	057951	Hose, Yanmar Upper Radiator #129687-49010		1
6	006607	Cover Weldment, Radiator		1
7	006604	Cover Weldment, Radiator Lower		1
8	F05005-15	Bolt, 1/4-20 x 1/2" Hex Head		4
9	F05011-14	Washer, 1/4" Split lock		4
10	F05011-11	Washer, 1/4" SAE Flat		4

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	074229	Mount Assembly, Yanmar Lower Radiator		1
11	006530	Mount Weldment, Yanmar Radiator		1
12	018734	Bushing, Rubber Mount		2
13	F05008-144	Bolt, 1/2-13 x 2 3/4 Hex Head Grade 5		2
14	018751	Washer, Engine Mount		2
15	F05007-7	Bolt, 3/8-16 x 1" Hex Head		4
16	F05010-10	Nut, 3/8-16 Hex Nylon Lock		4
17	058725	Mount Weldment, Yanmar Front		1
18	058714	Plate, Yanmar Front Engine Mount		1
19	F81003-11	Bolt, M10-1.5 x 25mm Hex Head Grade 8.8		8
20	F05011-88	Washer, 10mm Split Lock		8
21	F05006-5	Bolt, 5/16-18 x 3/4" Hex Head		2
22	F05010-58	Nut, 5/16-18 Hex Nylon Lock		2
	074228	Mount Assembly, 35.9HP Upper Radiator		1
23	006531	Plate, Yanmar Top Radiator support		1
24	006557	Plate, Top Radiator Mount Spacer		1
25	006558	Plate, Yanmar Top Radiator Mount		1
26	F05004-47	Bolt, M8 x 125 x 16mm Hex Head		2
27	F05011-45	Washer, 8mm Split Lock		2
28	F05011-17	Washer, 5/16" SAE Flat		2
29	F05007-27	Bolt, 3/8-16 x 3/4" Hex Head Grade 2		1
30	F05011-4	Washer, 3/8" Split Lock		2
31	F05011-3	Washer, 3/8" SAE Flat		1
32	028217	Bushing, Rubber Radiator Mount		1
33	F05010-1	Nut, 3/8-16 Hex		1
34	008913	Cover, Yanmar 35HP Alternator		1

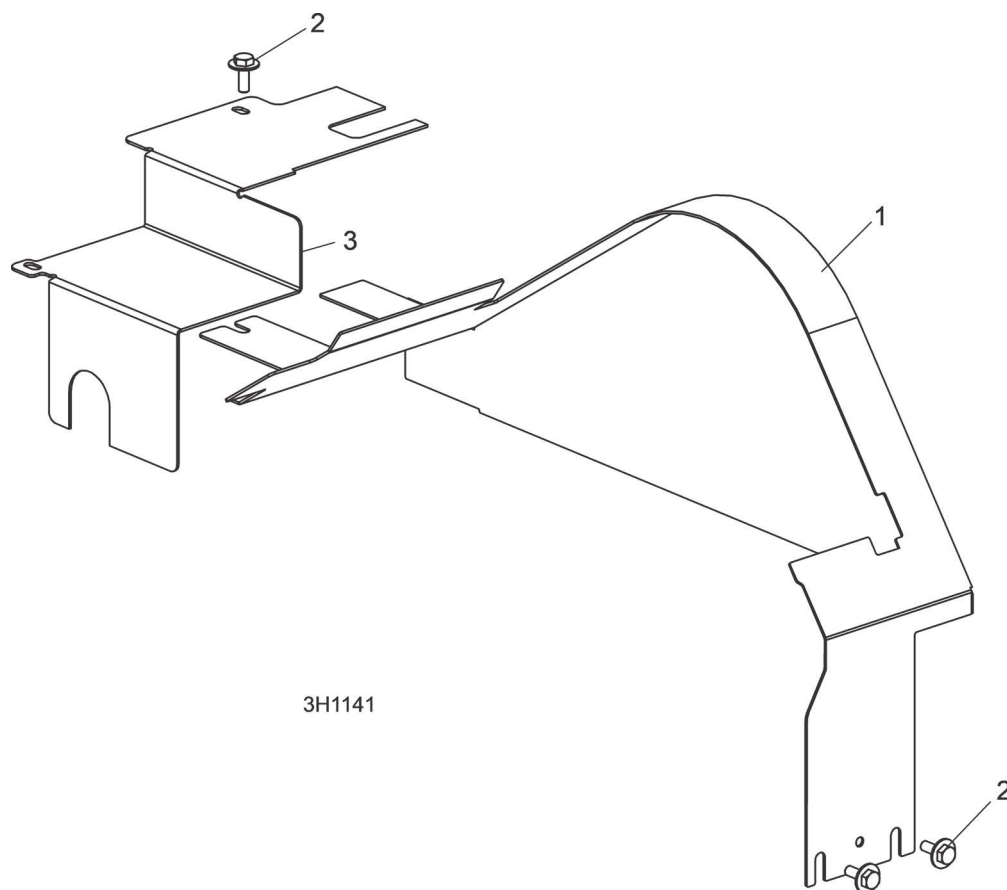
4.7 Alternator Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	024308	Wire Assembly, Starter to Alternator		1
	050941	Wire Assembly, Engine to Alternator Ground		1
	074234	Alternator Assembly, Yanmar		1
	046429	Alternator Assembly, 140 Amp	Available in assemblies only.	1
1	023695	Alternator, 140 Amp		1
2	046402	Pulley, 2 3/4" Dia. Alternator	Torque pulley nut to 75 lb ft	1
3	057493	Mount Weldment, Yanmar Alternator Tensioner		1
4	034464	Tensioner, Alternator Belt		1
5	F05007-78	Bolt, 3/8-16 x 1 1/2" Hex Head Grade 5		1
6	F05011-4	Washer, 3/8" Split Lock		1
7	F05011-45	Washer, 8mm Split Lock		1
8	058708	Mount Weldment, Yanmar Alternator		1
9	F05004-247	Bolt, M8 x 1.25 x 90mm Hex Head Full Thread		1
10	F05010-132	Nut, M8 Hex Nylon Lock		1
11	F05004-123	Bolt, 3/8-16 x 3 1/2" Hex Head Grade 5		3
12	F05010-10	Nut, 3/8-16 Hex Nylon Lock		3
13	F05004-47	Bolt, M8 x 125 x 16mm Hex Head		1
14	F05007-27	Bolt, 3/8-16 x 3/4" Hex Head Grade 2		2
15	F05004-249	Bolt, M12 x 1.75 x 90mm Hex Head Full Thread		1
16	F05010-209	Nut, M12 x 1.75 Hex Nylon Lock		1
17	006524	Belt, 6PK1145		1
	074233	Cover Assembly, Yanmar Alternator		1
18	F05006-5	Bolt, 5/16-18 x 3/4" Hex Head		1
19	F05011-13	Washer, 5/16 Split Lock		5
20	F05011-17	Washer, 5/16 SAE Flat		5

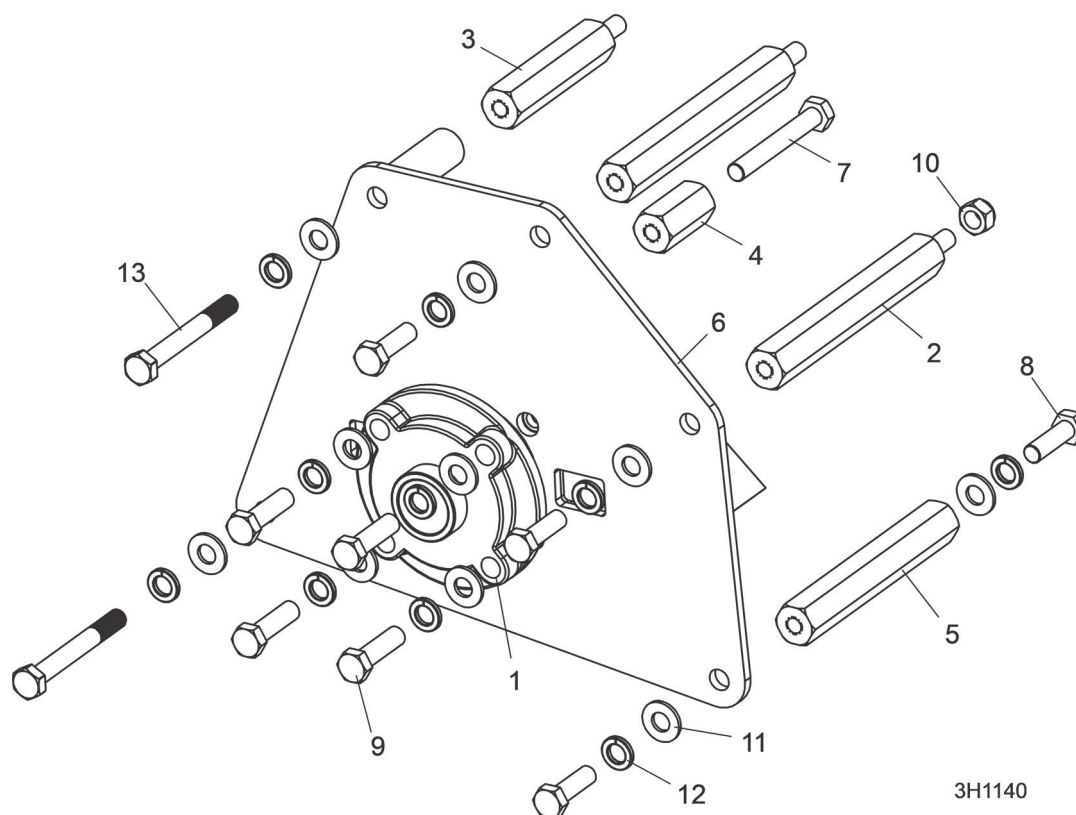
REF	PART #	DESCRIPTION	COMMENTS	QTY.
21	F05006-15	Bolt, 5/16-18 x 1/2" Hex Head Grade 5		4
22	058704	Cover Weldment, Yanmar Alternator		1
23	F05007-27	Bolt, 3/8-16 x 3/4" Hex Head Grade 2		2
24	058712	Cover Weldment, Lower Yanmar Alternator		1
25	F05011-4	Washer, 3/8" Split Lock		2

4.8 Engine Pulley Guards



REF	PART #	DESCRIPTION	COMMENTS	QTY.
1	075542	Guard Weldment, Yanmar Engine Top Pulley		1
2	F05005-134	Bolt, 1/4-20 x 3/4" Hex Head With Conical Washer		3
3	016152	Guard, Side Engine Pulley		1

4.9 Bearing Support



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	074226	Support Assembly, Yanmar Bearing		1
1	071491	Bearing, 1-7/16 4-Bolt Flange		1
2	071493	Spacer, 1 Hex x 7.31		2
3	071499	Spacer, 1 Hex x 4.38		1
4	075103	Spacer, 1 Hex x 2.03		1
5	075104	Spacer, 1 Hex x 6.63		1
6	075538	Weldment, Yanmar Bearing Support		1
7	F05004-249	Bolt, M12 x 1.75 x 90mm Hex Head Full Thread Cl10.9 Zinc		1
8	F05004-250	Bolt, M12 x 1.75 x 40mm Hex Head Full Thread Cl10.9 Zinc		4
9	F05008-102	Bolt, 1/2-13x2 HH Gr5		4
10	F05010-209	Nut, M12 x 1.75 Hex Nylock Zinc		1
11	F05011-2	Washer, 1/2" SAE Flat		10
12	F05011-9	Washer, 1/2" Split Lock		10
13	F05023-7	Bolt, M12-1.75 x 100 Grade 8.8 Hex Head		2