

D24 Engine for LX150

Safety, Operation, Maintenance, & Parts
Manual

011248 Engine Module

rev. A.0

Safety is our #1 concern!

May 2021

Form #2466

Used with:
LX150D24

rev. A3.02



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.



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.

SECTION 2 OPERATION

2.1 Starting The Engine

ENGINE CONTROL LIGHTS

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



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



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

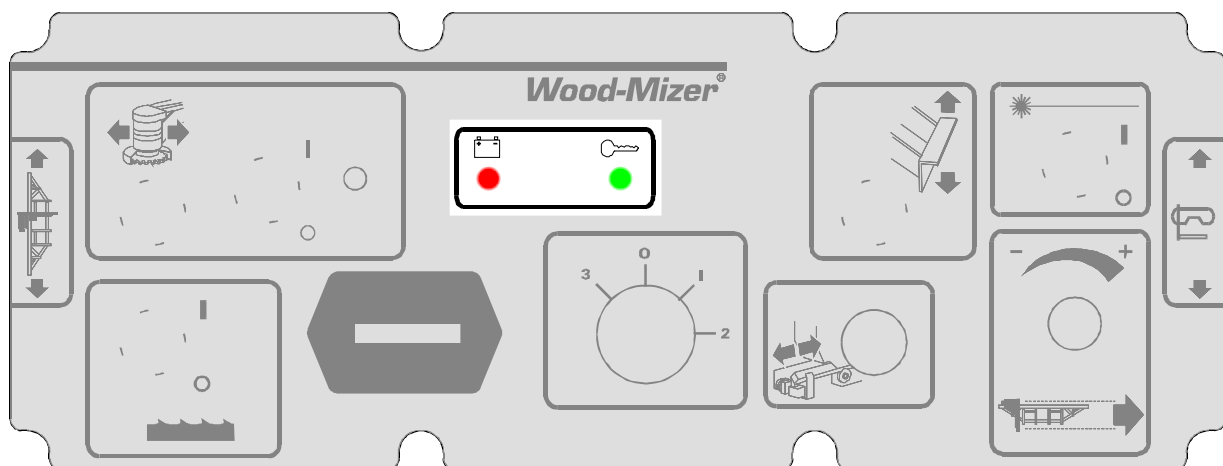


FIG. 2-1

ENGINE START



DANGER! Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine/motor. 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! Always relieve all fuel pressure inside the tank prior to filling or connecting fuel fittings. Failure to do so may result in fuel spillage.

CAUTION! Disconnect the fuel tank when not in use or during transportation. Failure to do so may result in engine flooding or fuel spillage.

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


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

ENGINE SHUTOFF

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

SECTION 3 MAINTENANCE

3.1 Cooling System


 Wash the engine or brush off sawdust and debris every 50 hours of operation.

Clean the grass screen, cooling fins, and external surfaces.


Remove any dust, dirt or oil.

See engine manual for further instructions.

3.2 Fuel Filter

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

3.3 Battery

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



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



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.

3.4 Alternator Belt

The belt tension should be checked:

- After the first 100 hours of operation,
- If the battery is not charging properly, or
- If 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. Lower the saw head to gain easy access to the alternator area.
2. Turn the key switch to OFF (0) and remove the key.
3. Remove the alternator drive belt cover.
4. Check the belt tension with the Tension Tester (part number 016309) supplied with your Wood-Mizer.
 - 1). Zero out the pounds indicator by sliding the small "O" ring against the yellow flange.
 - 2). Set the deflection indicator to the deflection depth.
 - 3). Place the gauge on the belt at the midpoint between the two pulleys.

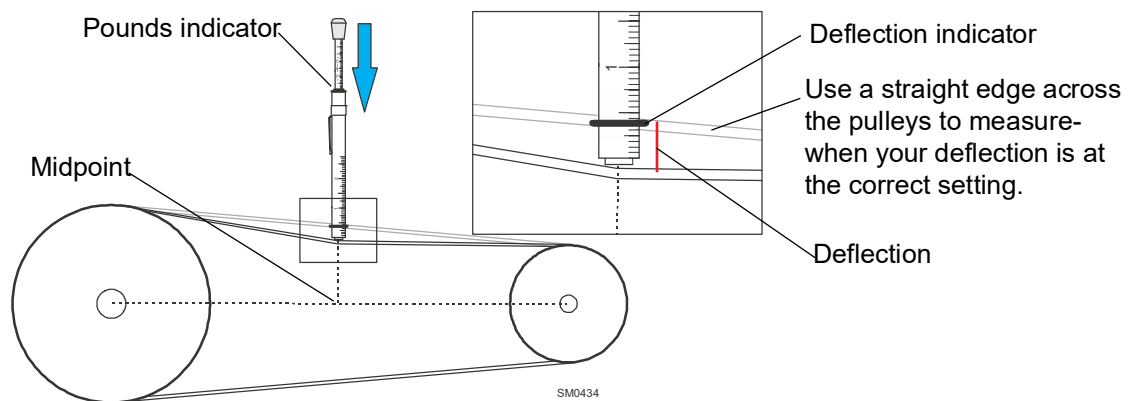


FIG. 3-1

- 4). Press down on the rubber boot while the bottom of the gauge is against the belt.
5. If the belt tension is less than $\frac{3}{16}$ " with 9 lb. of deflection, tighten the belt as described below:
 - 1). Loosen the alternator mounting and adjustment bolts.
 - 2). Turn the belt tension adjustment bolt clockwise to tighten the belt, counterclockwise to loosen the belt.

3). Tighten the adjustment bolt when the proper belt tension is achieved.



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

6. Tighten the upper and lower mounting bolts.

7. Replace the belt cover.

3.5 RPM Adjustments

Check the RPM with a tachometer every **200 HOURS OF OPERATION**.

See **Table 3-1**.

Engine	High End RPM	Low End RPM
G25	3600	1500

TABLE 3-1

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 throttle solenoid is disengaged. Make sure the cable is not bent or kinked.

NOTE: It is important that the above components are aligned. Proper alignment allows any slack in the cable (when engine is idling) to slide down into the cable spring. This maintains free operation of the cable and prevents the cable from kinking. Make sure the shoulder bolt does not rub against the crankcase vent tube.

1. Start the engine to measure the low-end RPM.
2. Refer to the engine manual to adjust the low-end RPM.
3. Engage the throttle solenoid to throttle the engine and measure the high-end RPM. The high-end RPM is factory-set at 3600. Readjust the throttle cable if necessary to increase or reduce the high-end engine speed.

The throttle cable should be tensioned just enough so that the engine revs as soon as the clutch/brake handle is engaged. **NOTE:** A properly adjusted throttle will extend the cable spring 1/4" to 3/8" (6.4 - 9.5 mm) when running and have a slight amount of slack in the cable when idling.

3.6 Miscellaneous Maintenance

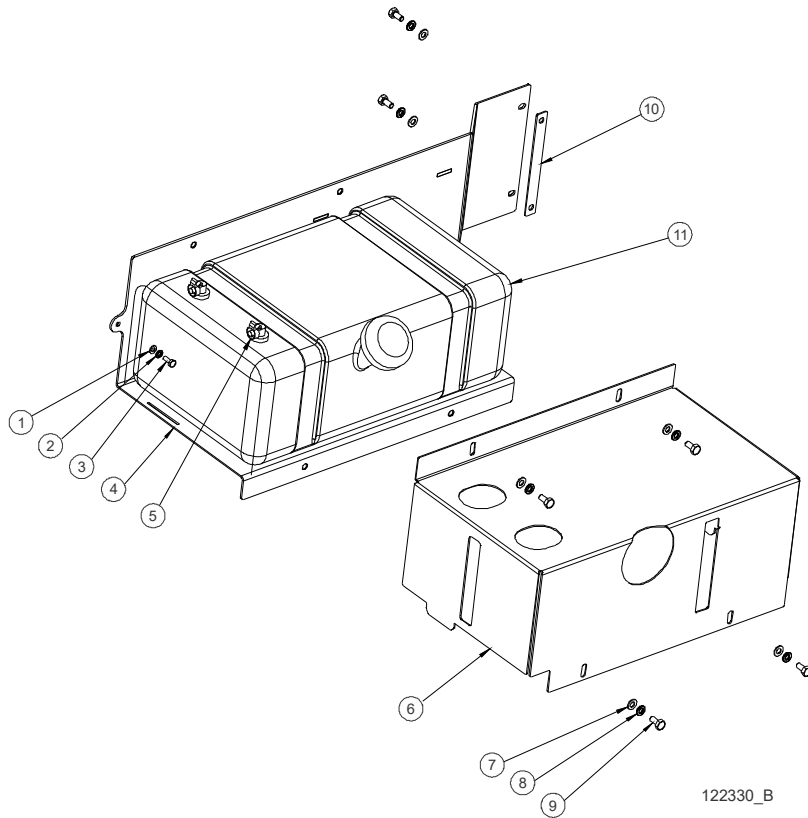


Clean and inspect the spark arrester every 50 hours of operation. Replace if damaged.

Review the manufacturer's engine manual for maintenance intervals.

SECTION 4 REPLACEMENT PARTS

4.1 Fuel Tank Assembly

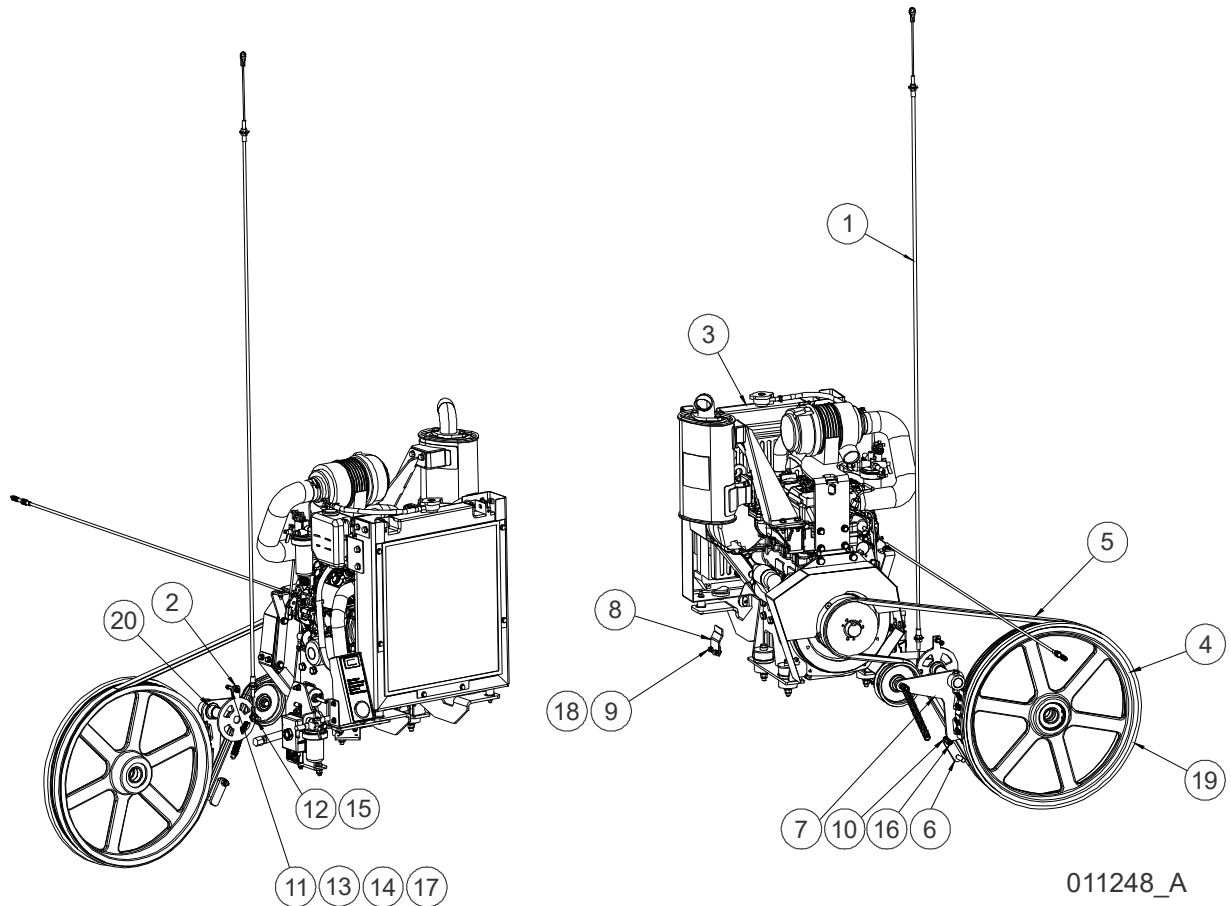


REF	PART #	DESCRIPTION	COMMENTS	QTY.
	122330	ASSY, LX150 DIESEL TANK TRAY		1
1	F05026-1	Washer, M6 Flat Class 4		1
2	F05026-2	Washer, M6 Split Lock		1
3	F05020-7	Bolt, M6-1 x 14 Class 8 HH		1
4	011283	Weldment, LX150 Fuel Tank Tray		1
5	P649	HOSE CLAMP, 7/32IN-5/8IN		12
6	103867	Cover, Fuel Tank		1
7	F05026-4	Washer, M8 Flat		6
8	F05011-45	Washer, M8 Split Lock		6
9	F05004-47	Bolt, M8x1.25x16mm HH		6
10	110359	Plate, LX150 Fuel Tray Spacer		1
11	103928	Tank, 5 Gallon Low Pro Diesel		1

4 Replacement Parts

Engine Assembly

4.2 Engine Assembly



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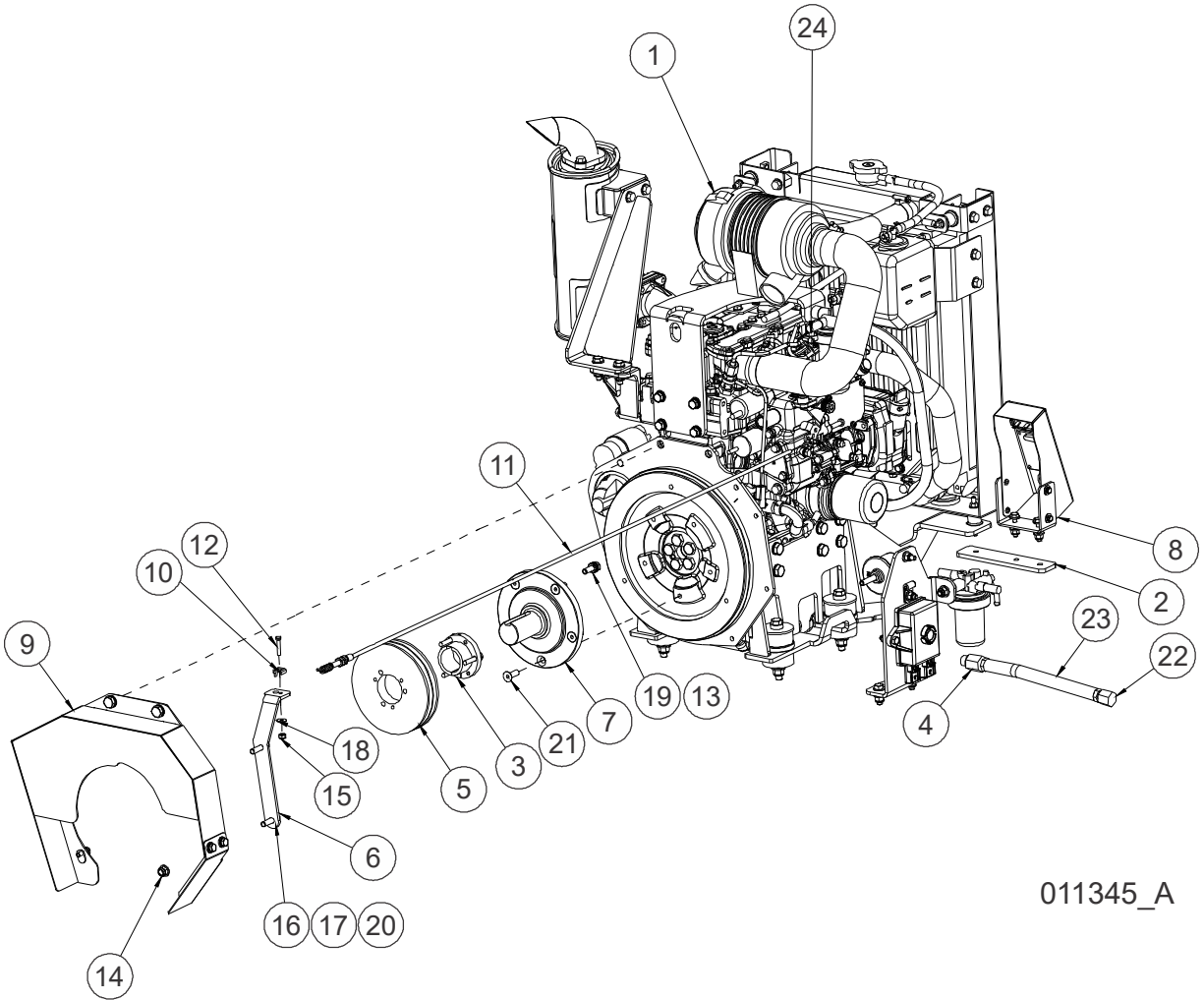
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	011248	ENGINE MODULE, LX150D24		1
1	011131	Cable, .140"x69" Clutch		1
2	011187	Weldment, LX150 Clutch/Brake Pivot		1
3	011345	Assy, LX150D24 Yanmar Tier4 Final Engine	See Section 4.3	1
4	036657	Wheel Assy, LT15 3V Drive	(See LX150 Manual)	1
5	047751	Belt, 2/3VFL900 Drive		1
6	048237	Support Weldment, LT15G25 Belt		1
7	065874	Assy, Brake/Clutch	See Section 4.5	1
8	122018	Weldment, D24 Belt Enhancement		1
9	F05004-219	Screw, M6x1.0x16mm 8.8 HH		2
10	F05004-270	Nut, M10-1.50 Hex Nyl Lock		1
11	F05004-284	Bolt, M6-1.0x40mm SHCS		1
12	F05010-10	Nut, 3/8-16 Hex Nyloc		1
13	F05010-200	Nut, M6-1.0 Nylon Lock		1
14	F05010-226	Nut, M6 x 1 Hex Jam		1

REF	PART #	DESCRIPTION	COMMENTS	QTY.
15	F05011-3	Washer, 3/8 Flat SAE		1
16	F05022-12	Bolt, M10-1.5x25 SHC		1
17	F05026-1	Washer, M6 Flat Class 4		4
18	F05026-2	Washer, M6 Split Lock		2
19	P04185	Belt, B57 Blade Wheel		1
20	P737	Bushing, 1x1 1/4x3/4 Flg Bronze		2
	052370-060	Fuse, 60A Mega		1
	052370-150	Fuse, 150A Mega		1
	052371	Fuseholder, Mega Fuse		2

4 Replacement Parts

Final Engine Assembly

4.3 Final Engine Assembly



011345_A

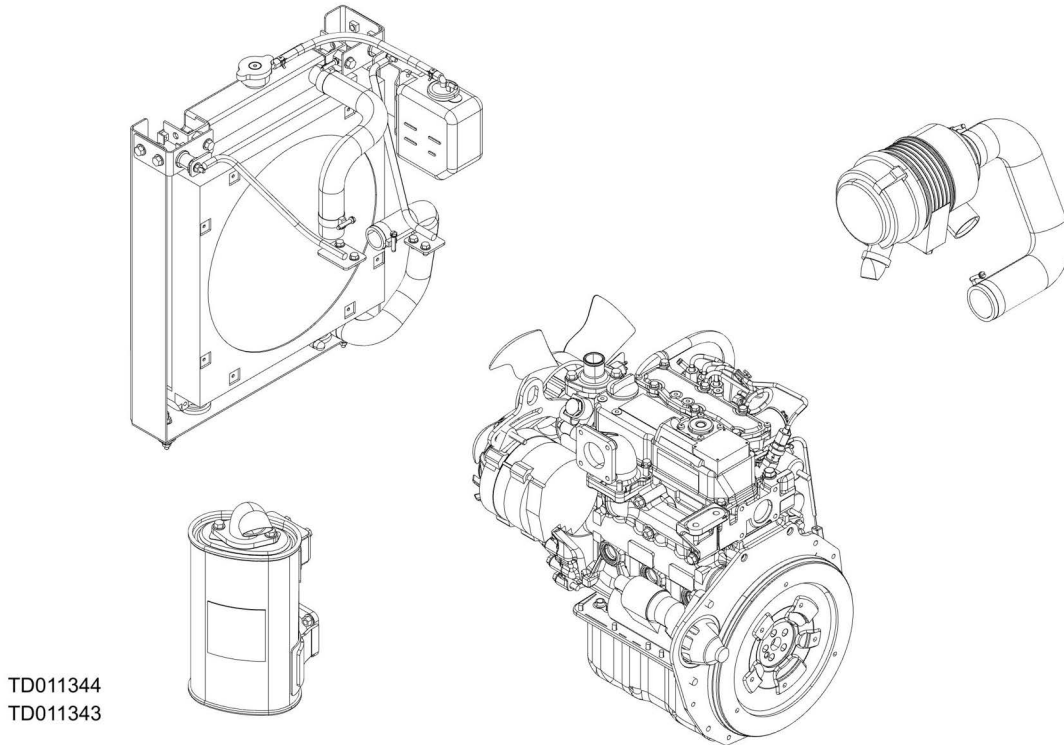
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	011345	ASSY, LX150D24 YANMAR TIER4 FINAL ENGINE		1
1	011344	Assy, D24 Yanmar Tier4 Final Base Engine		1
2	011359	Plate, Yanmar KP7 Control Panel Mount		1
3	016535	Bushing, SHx1 7/16		1
4	046025	Fitting, M16-3/8 NPT		1
5	047742	Sheave, 3V5.6x2-SH		1
6	074795	Plate, D24 Throttle Cable Mount		1
7	074969	Shaft, 1-7/16 Yanmar D24 Short Stub		1
8	079077	Assy, LT35D24 Control Panel		1
9	079081	Assy, LT35D24 Flywheel Cover		1
10	079082	Clamp, Throttle Cable		1

REF	PART #	DESCRIPTION	COMMENTS	QTY.
11	122019	Cable, .047"x50" Clutch		1
12	F05004-156	Bolt, #10-24x1 Unslotted HH Gr2		1
13	F05004-40	Bolt, M8x1.25x25mm C/S 8.8 Din 933 HH		1
14	F05010-132	Nut, M8-1.25 Hex Nylock		1
15	F05010-160	Nut, 10-24 Hex Nylock->		1
16	F05011-13	Washer, 5/16 Split Lock		3
17	F05011-17	Washer, 5/16 SAE Flat		3
18	F05011-18	Washer, #10 SAE Flat		1
19	F05011-33	Washer, 5/16 Star ET->		1
20	F05021-11	Screw, M8-1.25x30 HHC		2
21	F05021-59	Screw, M8-1.25x22mm FS C/S BO CL12.9	Torque: 28Nm / 21ft/lbs	5
22	P04332	Cap, 3/8 Pipe Galvanize		1
23	P10082	Hose, 3/8NPTx9 5/8 Rubber		1
24	P649	HOSE CLAMP, 7/32IN-5/8IN		7

4 Replacement Parts

Engine Service Parts

4.4 Engine Service Parts



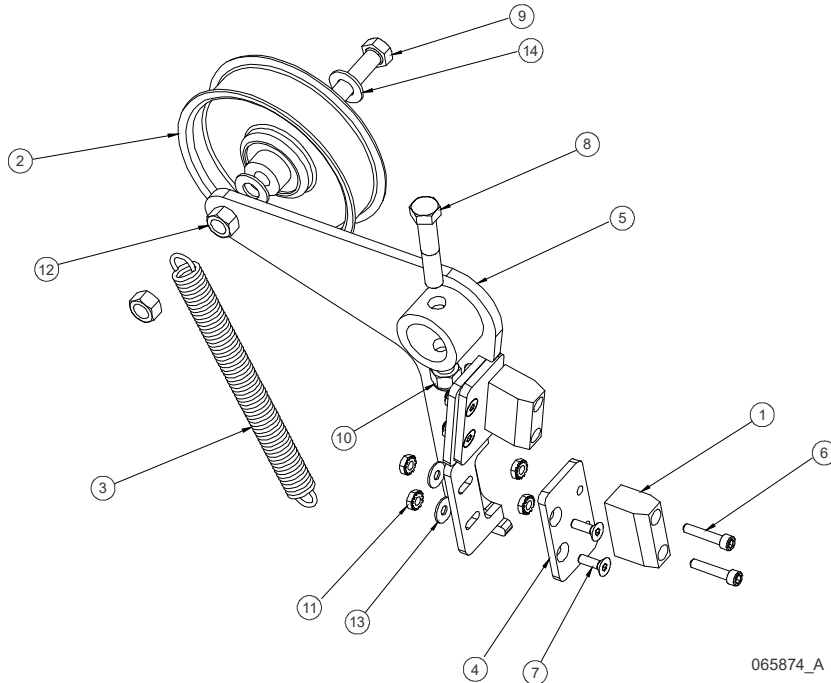
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	011343	Engine, D24HP Yanmar Tier4		1
	114220	Harness, Yanmar D24 Engine		1
	044647	Filter, Oil, Yanmar, 3TNV70-ASA #119305-35151		1
	057936	Oil Pressure Switch, Yanmar TNV88 #114250-39450		1
	061204	Belt, Yanmar Fan #25132-003500		1
	044655	Switch, Temp WM Installed/Plug on wires #121250-44901		1
	061299	Bracket, Alternator D24		1
	061211	Solenoid, Fuel Shut Off D24 #119233-77932		1
	061212	Gasket, Water Temp Switch D24 #124465-44950		1
	061214	Starter Assembly, D24 #119515-77010		1
	061215	Relay, Pre-Heat Crank Fuel D24 #119650-77911		3
	061216	Radiator, D24 #KR13		1
	061217	Cap, Radiator D24 #129107-44590		1

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	061219	Assembly, Muffler D24 #KM11		1
	061220	Cap, Rain D24 #119749-13600		1
	061221	Tank, Coolant Reservoir D24 #121468-44520		1
	061218	Filter, Air D24 #2S-E1		1
	061225	Heater, Engine Block D24		1
	044642	Gasket, Valve Cover, 3TNV70-ASA #119515-11310		1
	061196	Seal, Yanmar Front Main #119717-01800		1
	061197	Injector Assy, Yanmar #119C10-53000		1
	061198	Seal, Yanmar Rear Main #119734-02220		1
	061213	Thermostat, D24 #119717-49800		1
	044652	Thermostat Gasket, Yanmar TNV # 129795-49551		1
	061199	Pump Assembly, Yanmar Water # 119027-42000		1
	044654	Gasket, Water Pump, Yanmar, 3TNV70-ASA # 119515-42020		1
	061307	Solenoid, Power #119C00-61900		1
	044657	Diode, Solenoid Relay, Yanmar 3TNV88/70 # 119643-66900		1
	044658	Timer, Yanmar, 3TNV70-ASA #129211-77920		1
	044659	Gasket, Exhaust Yanmar 3TNV70-ASA # 119515-13200		1
	061200	Fan, Yanmar Radiator #119258-44740		1
	061201	Gasket, Yanmar Head #119C10-01330		1
	044663	Plug, Oil Drain, Yanmar, 3TNV70-ASA # 105425-01690		1
	044664	Seal, Oil Drain, Yanmar, 3TNV70-ASA # 22190-160002		1
	061202	Plug, Yanmar Glow #119717-77801		3
	044666	Gasket, Manifold, Yanmar, 3TNV70-ASA # 119717-13110		1
	061203	Dipstick, Yanmar #119025-34800		1
	061205	Pipe, Yanmar Fuel Return #119D00-59540		1
	061206	Radiator Kit, Yanmar #119515-44500		1
	061207	Bottle Assy, Yanmar #121468-44520		1
	061306	Pump, Fuel Injection D24 #719D25-51310		1
	061295	Filter Assembly, Fuel 119833-55621		1
	061099	Filter, Fuel Yanmar #119810-55650		1

4 Replacement Parts

Brake/Clutch Assembly

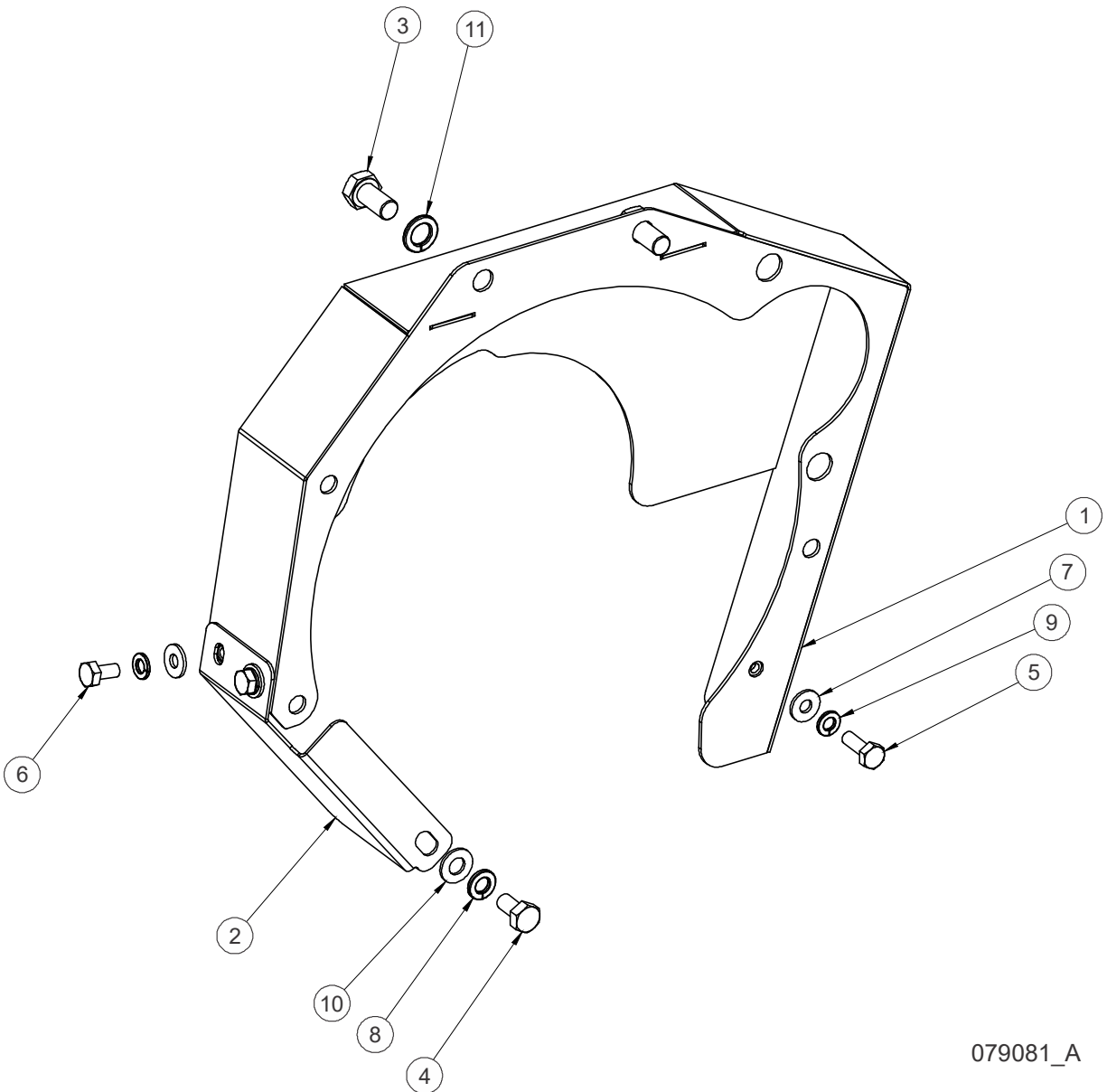
4.5 Brake/Clutch Assembly



065874_A

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	065874	ASSY, BRAKE/CLUTCH		1
1	016488	Block, LT15 Brake		2
2	034602	Idler, 4" O.D.x 3/8 Bore		1
3	034810	Spring, Idler Arm LT15/D/E/G		1
4	065872	Plate, Brake Adjustment		2
5	065873	Weldment, Clutch/Brake Arm		1
6	F05004-2	Bolt, 10-24x1 BO SHC		4
7	F05004-282	Screw, 10-24x5/8 FSHC BO		4
8	F05007-124	Bolt, 3/8-16X2 HH GR5		1
9	F05007-230	Bolt, 3/8-16x2 3/4 FT Gr5		1
10	F05010-10	Nut, 3/8-16 Hex Nyloc		1
11	F05010-14	Nut, #10-24 Keps->		8
12	F05010-25	Nut, 3/8-16 Swaged Lock		2
13	F05011-18	Washer, #10 SAE Flat		4
14	F05011-3	Washer, 3/8 Flat SAE		2

4.6 Flywheel Cover



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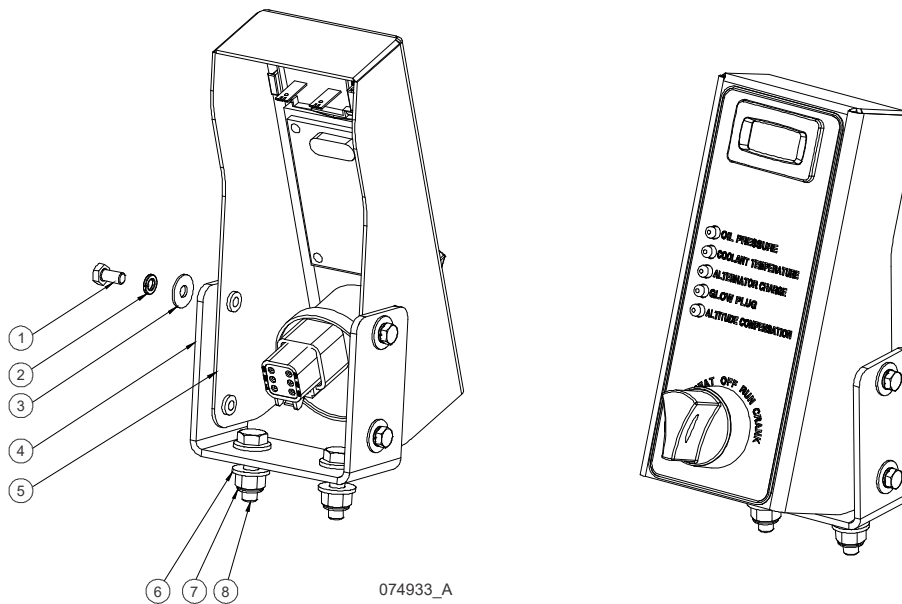
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	079081	ASSY, LT35D24 FLYWHEEL COVER		1
1	074984	Weldment, LT35D24 Yanmar Flywheel Cover		1
2	079064	Plate, LT35D24 Lower Flywheel Guard		1
3	F05004-207	Bolt, M10-1.50x20mm HH FT 8.8		2
4	F05004-47	Bolt, M8x1.25x16mm HH		1
5	F05005-1	Bolt, 1/4-20x3/4 FT HHC		1

4 Replacement Parts

Flywheel Cover

REF	PART #	DESCRIPTION	COMMENTS	QTY.
6	F05005-15	Bolt, 1/4-20x1/2 HH->		2
7	F05011-11	Washer, 1/4 SAE Flat		3
8	F05011-13	Washer, 5/16 Split Lock		1
9	F05011-14	Washer, 1/4 Split Lock		3
10	F05011-17	Washer, 5/16 SAE Flat		1
11	F05011-88	Washer, 10mm Split Lock		2

4.7 Control Panel

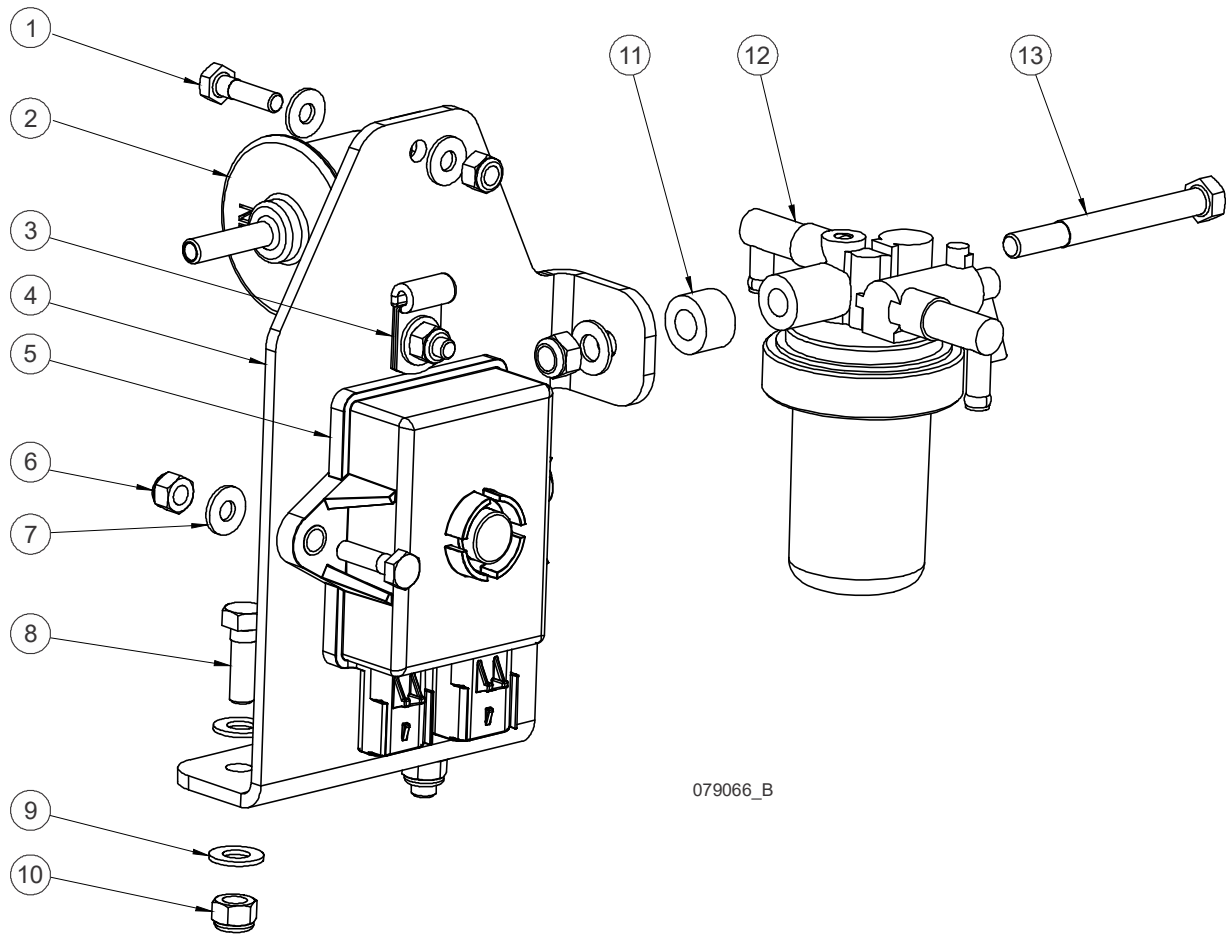


REF	PART #	DESCRIPTION	COMMENTS	QTY.
	074933	ASSY, D24 KEY SWITCH/CONTROL PANEL		1
1	F05004-60	Bolt, #10-32x1/2 HH		4
2	F05011-20	Washer, #10 Split Lock		4
3	F05011-18	Washer, #10 SAE Flat		4
4	074797	Plate, D24 Key Switch/Control Mount		1
5	074934	Assy, KP7 Key Switch/Control Panel (supplied with purchased engine)		1
6	F05011-11	Washer, 1/4 SAE Flat		4
7	F05010-69	Nut, 1/4-20 Nylock		2
8	F05005-101	Bolt, 1/4-20x1 HH Gr5		2

4 Replacement Parts

Fuel Pump Assembly

4.8 Fuel Pump Assembly



079066_B

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	079066	ASSY, LT35D24 FUEL PUMP/PRESSURE SENSOR		1
1	F05005-101	Bolt, 1/4-20x1 HH Gr5		4
2	061174	Pump, Yanmar Fuel Feed (supplied with purchased engine)		1
3	079083	Clamp, 3/16 Wire 13/32 Mounting Hole		1
4	079065	Plate, D24 Yanmar Fuel Pump Mnt		1
5	074900	Driver, Pressure Sensor/Solenoid (supplied with purchased engine)		1
6	F05010-69	Nut, 1/4-20 Nylock		4
7	F05011-11	Washer, 1/4 SAE Flat		6
8	F05006-1	Bolt, 5/16-18x1 HH		2
9	F05011-17	Washer, 5/16 SAE Flat		5
10	F05010-58	Nut, 5/16-18 Nylok Hex		3
11	S22625	Spacer, 25/64IDx3/4ODx1/2Long		1

Replacement Parts 4

Fuel Pump Assembly

REF	PART #	DESCRIPTION	COMMENTS	QTY.
12	040345	Filter Assy, Yanmar Fuel/Water Separator (supplied with purchased engine)		
13	F05006-133	Bolt, 5/16-18x3 1/4 HH Gr5		1