G20 Engine

Safety, Operation, Maintenance & Parts Manual

LT25/LT27 **rev. D5.00 - D9.00**

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

January 2000

Form #945

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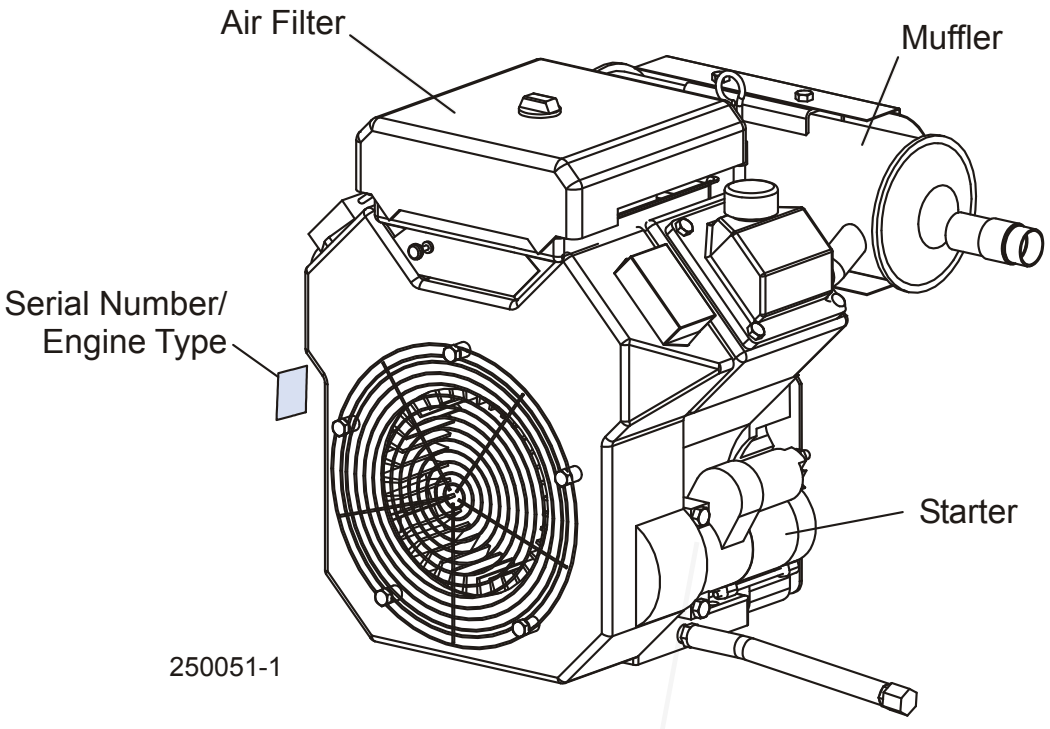
ABOUT THIS MANUAL

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 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! 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.

1. Close the engine choke by moving the choke lever to the start position.
2. Turn the key switch to the START position and release. Release the key switch to the RUN position after the engine starts.
3. When the engine starts, slowly open the choke all the way by moving the choke lever to the off position.

Engine Shutoff

1. Disengage the clutch handle to stop the blade if necessary.
2. Let the engine run for 15 seconds with no load, then turn the key switch to the OFF 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

50

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.

2.3 Air Filter & Pre-Cleaner

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

Service the pre-cleaner every four hours of operation. Service by gently shaking excess sawdust and debris from the foam piece.

Clean the air filter (air cleaner element) and pre-cleaner (element wrapper) every eight hours of operation. See the engine manual for further instructions.

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

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

2.4 Fuel Filter

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

2.5 Battery

50 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

2.6 RPM Adjustments

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

200 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
G20	3750	1800

TABLE 2-1

Before checking the RPM, make sure belt and brake strap tensions are correct (See Sawmill 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. Start the engine to measure the low-end RPM.

2. Refer to the engine manual to adjust the low-end RPM.

3. Engage the clutch handle to throttle the engine and measure the high-end RPM. The high-end RPM is factory-set at 3750. Readjust the throttle cable if necessary to increase or reduce the high-end engine speed.

   The engine should start to throttle as soon as you start moving the clutch handle down. If the engine dies instead, restart the engine and adjust the throttle linkage as far as possible without affecting low-end RPM. With the engine idling and the clutch disengaged, loosen the cable bolt and pull the throttle cable up to a point just below where it affects the low-end RPM. Retighten the cable bolt. **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.

   See Figure 2-1.

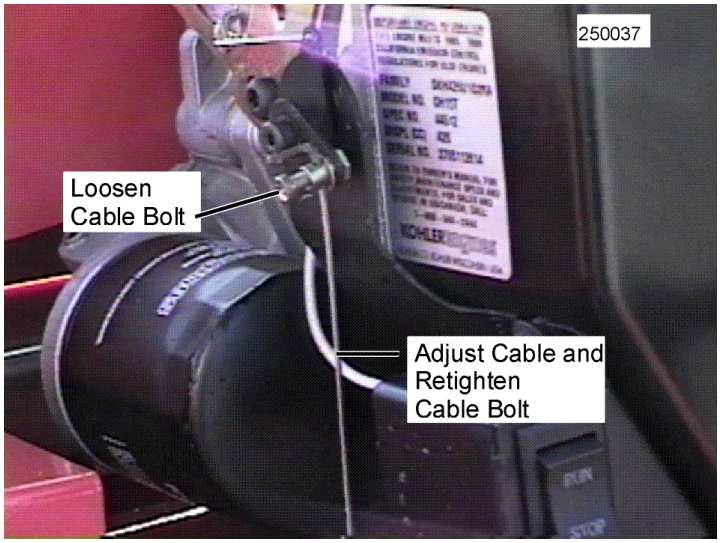

250037
Loosen
Cable Bolt
Adjust Cable and
Retighten
Cable Bolt

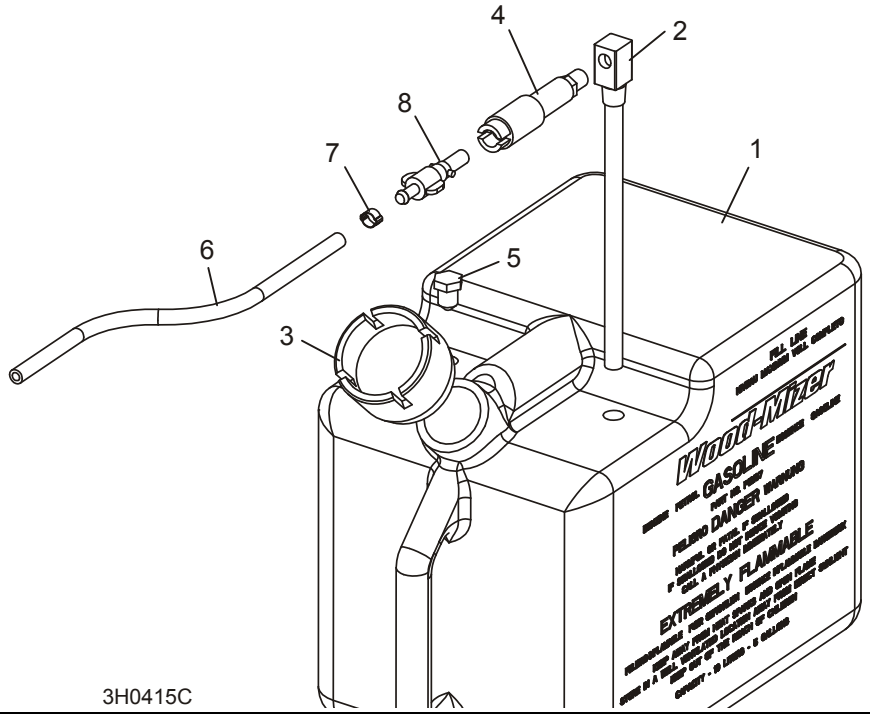
FIG. 2-1

2.7 Miscellaneous Maintenance

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

SECTION 3 REPLACEMENT PARTS

3.1 Fuel Tank

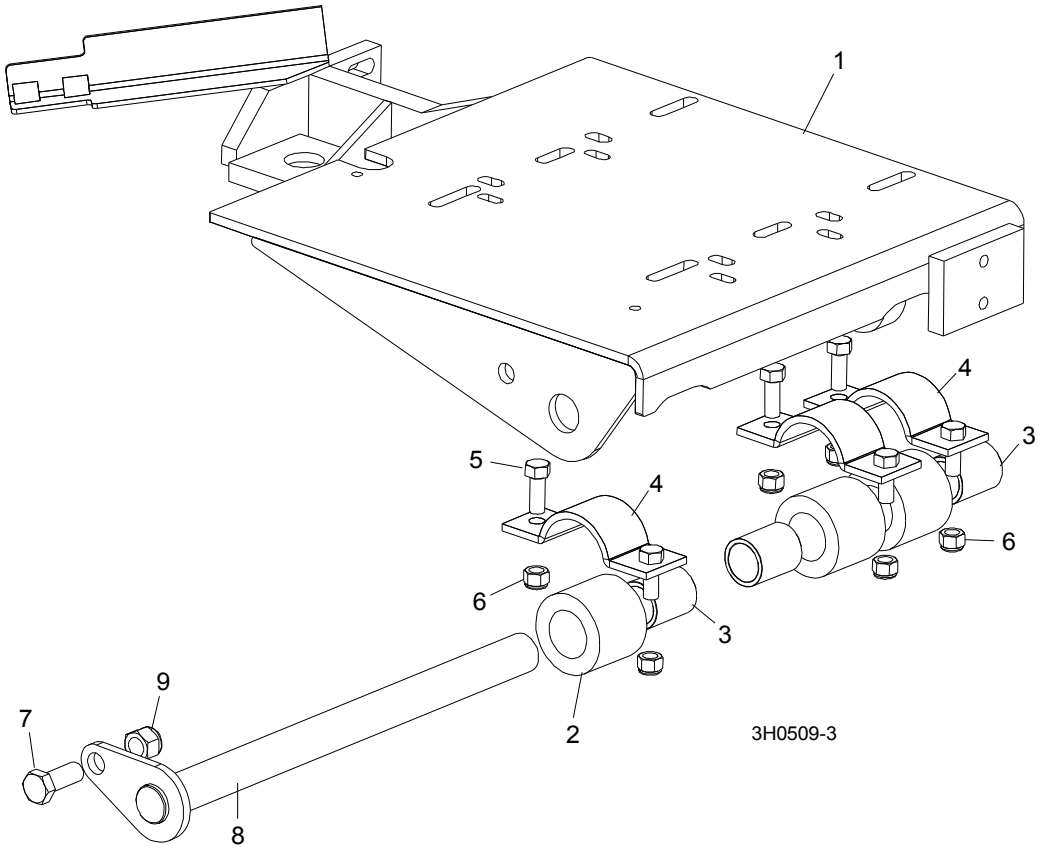


3H0415C

REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	TANK ASSEMBLY, 5-GALLON RED GASOLINE	A12285	1	
1	Tank, 5-Gallon Red Fuel	P12167	1	◆
2	Pickup, 9" Fuel	P12172	1	
3	Cap, 3 or 5-Gallon Fuel Tank	P09683	1	
4	Fitting, 1/4" NPT Plastic Female Disconnect	P12175	1	
5	Fitting, 3/8” NPT Hex Plug	P10367 [1]	1	
6	**HOSE, 1/4” ID FUEL**	P642	6.5 Ft	
7	**CLAMP, 7/32 - 1/2 HOSE**	P649	2	
8	**FITTING, 1/4" NPT PLASTIC MALE DISCONNECT**	P12176 [2]	1	

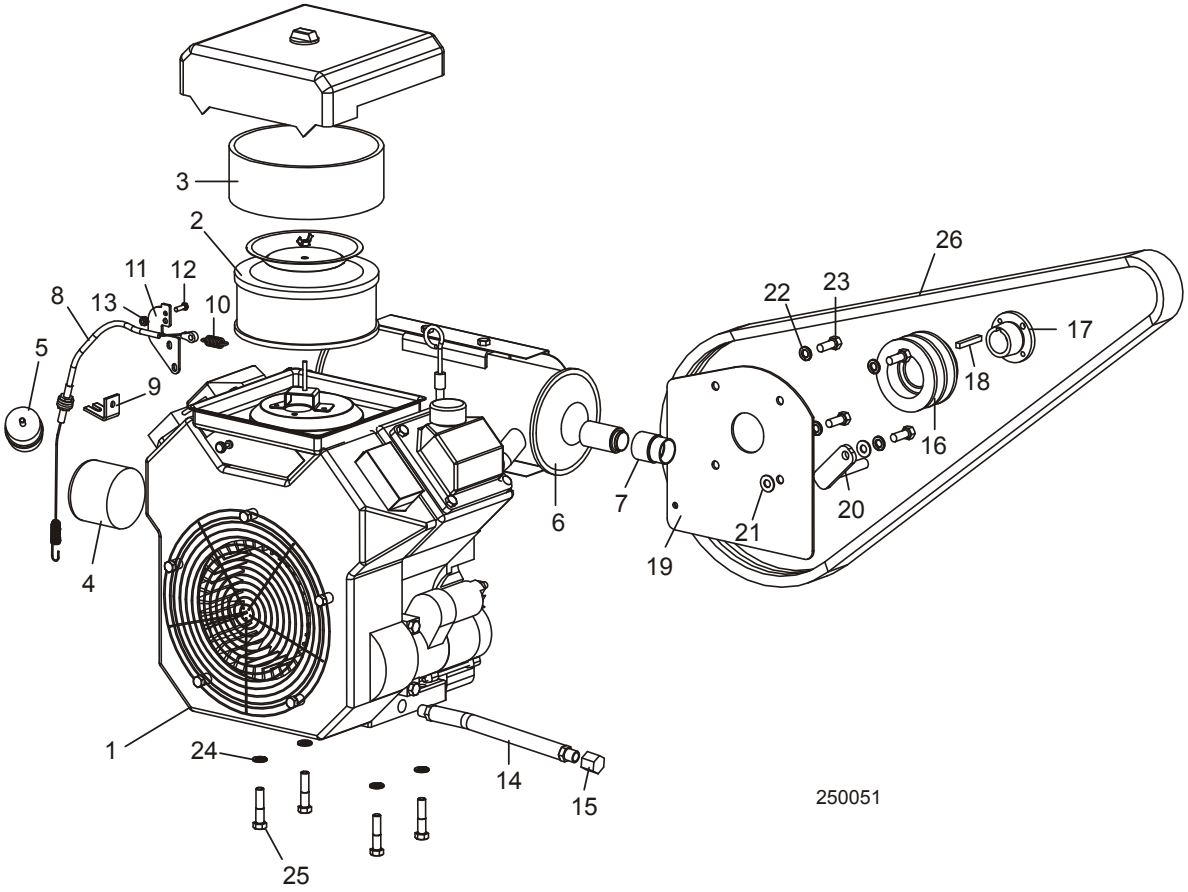
[1] Plug fitting P10367 added 11/03. Hole added to fuel tank to accommodate return line for fuel injected engines.
[2] Replacement requires qty. 1 hose clamp (P649).

3.2 Engine Mount Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	MOUNT KIT, KOHLER ENGINE	016319	1	
1	Mount Weldment, Kohler Engine	014514	1	◆
	BUSHING ASSEMBLY, MOTOR MOUNT	016380	3	
2	Bushing, 2” OD x 2”	016378	1	◆
3	Bearing, 1” x 1 1/4” x 2”	016379	1	◆
4	**CLAMP WELDMENT , MOTOR MOUNT PIVOT BUSHING**	014540	3	
5	**BOLT, 3/8-16 X 1” HEX HEAD**	F05007-7	3	
6	**NUT, 3/8-16 HEX NYLON LOCK**	F05010-10	6	
7	**BOLT, 1/2-13 X 1 1/4” HEX HEAD GRADE 5**	F05008-37	1	
8	**PIN WELDMENT, ENGINE MOUNT PIVOT**	014154	1	
9	**NUT, 1/2-13 NYLON LOCK**	F05010-8	1	

3.3 Engine Assembly

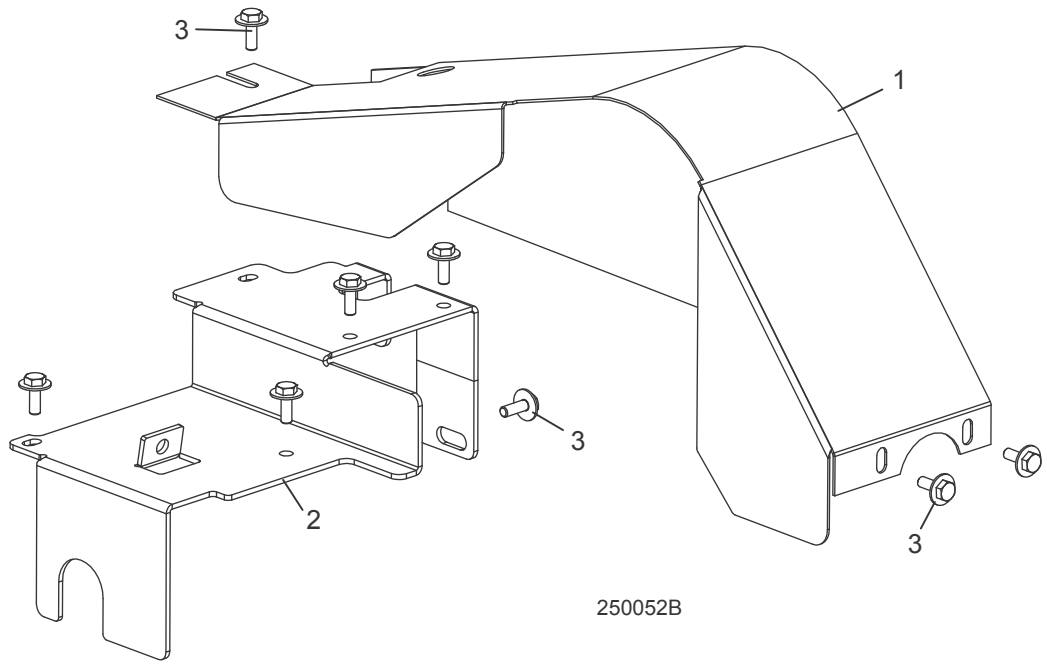


REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	ENGINE ASSEMBLY, 20HP KOHLER	016422	1	
1	Engine, 20HP Kohler #PH64642	033383	1	◆
	Filter Kit, Kohler Air/Pre #24-883-03-S1	P12734	1	
2	Filter, Kohler Air #24-083-03	P12736	1	◆
3	Pre Cleaner, Kohler #24-083-05	P12737	1	◆
	Plug, RC12YC Kohler Spark #12-132-02	P12757	2	
4	Filter, Kohler Oil #52-050-02	014717	1	
5	Filter, Kohler Fuel #24-050-13	P12758 [1]	1	
	Muffler Assembly, Kohler 25HP Engine	016206	1	
6	Muffler, Kohler #24-786-12	016207	1	◆
7	Arrestor, Kohler Spark #25-189-01	016142	1	
8	Cable, 18” Throttle	P12313	1	
	Spring, Throttle	016033	1	
9	Bracket, Throttle Cable Mount	S12312	1	

10	Spring, .5” x .08” x 1 3/8” Extension	015952	1	
11	Bracket, G25 Throttle	015964	1	
12	Bolt, #10-24 x 5/8” Hex Head	F05004-18	1	
13	Nut, #10-24 Self-Locking	F05010-14	1	
14	Hose, 7" Oil Drain	P10082	1	
15	Cap, Oil Drain 3/8" Pipe	P04332	1	
	Oil, 10W30 Type CD	L04869-1	.5 Gal	◆
16	Bushing, 1 1/8” Split Taper	P04306	1	
17	Pulley, 2BK36H Engine	015973	1	
18	Key, 1/4" x 1/4" x 1 11/16"	S04124	1	
19	Plate, G20 Rear Engine Guard	016420	1	
20	Bracket Weldment, Drive Belt Support Painted	015963	1	
21	Washer, 3/8” SAE Flat	F05011-3	2	
22	Washer, 3/8” Split Lock	F05011-4	4	
23	Bolt, 3/8-16 x 1” Hex Head	F05007-7	4	
	HARNESS ASSEMBLY, BATTERY TO ENGINE	024718	1	
24	**WASHER, 3/8” SPLIT LOCK**	F05011-4	4	
25	**BOLT, 3/8-16 X 1 3/4” HEX HEAD**	F05007-119	4	
26	**BELT, 2BXF71 DRIVE**	036163 [2]	1	

[1] Kohler #24-050-13 9-12 micron filter replaces #240-050-10 8-10 micron filter originally supplied.
[2] 036163 Kevlar 2BXF71 belt replaces P12949 2BX71 belt supplied prior to 9/03. Kevlar belt reduces stretch and provides greater range of adjustment.

3.4 Engine Pulley Guards



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
1	**GUARD WELDMENT, KOHLER ENGINE PULLEY**	015343	1	
2	**GUARD, G20/G25 SIDE ENGINE PULLEY**	015962	1	
3	**BOLT, 1/4-20 X 3/4" HEX HEAD WITH CONICAL WASHER**	F05005-134	8	

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