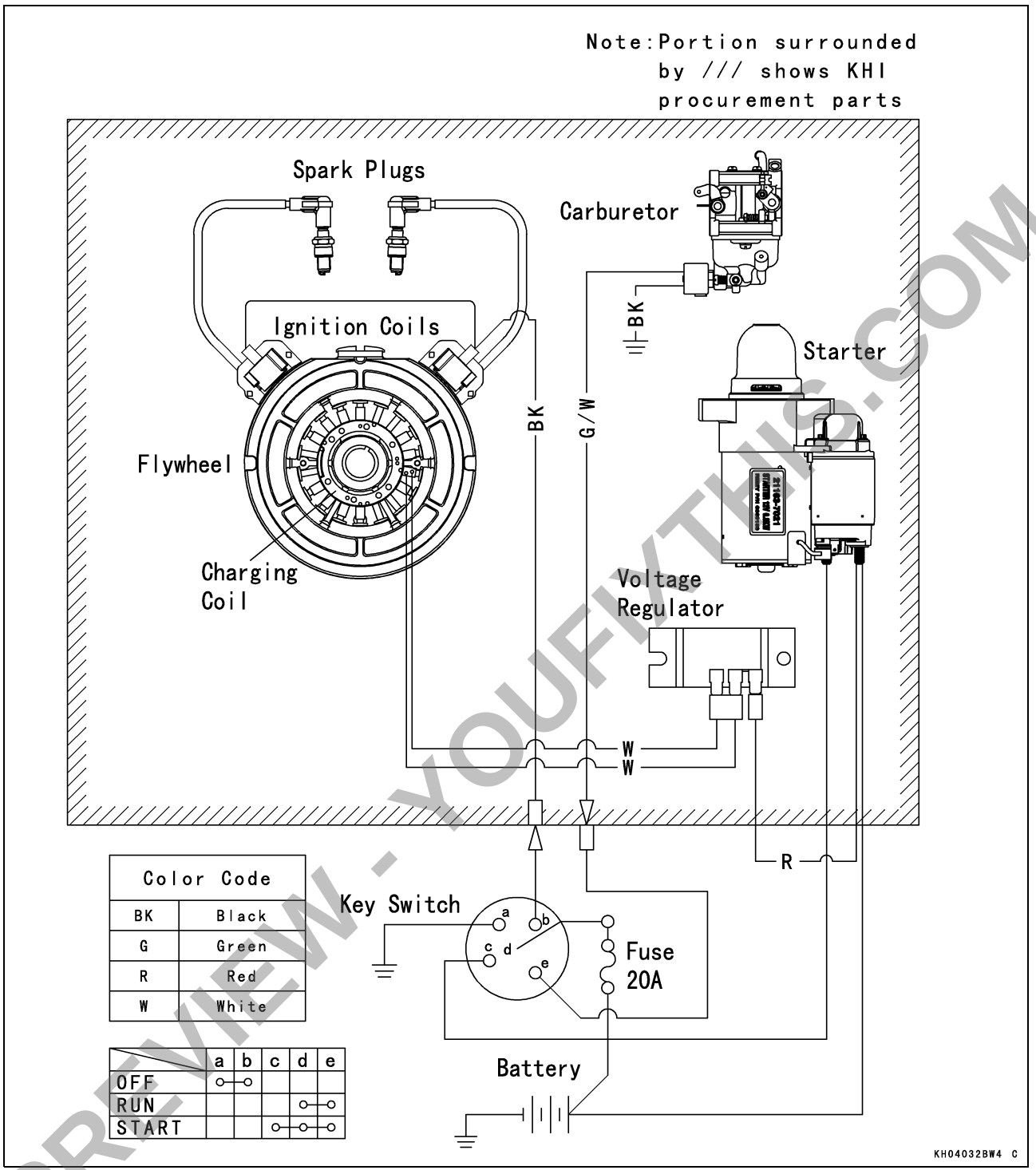
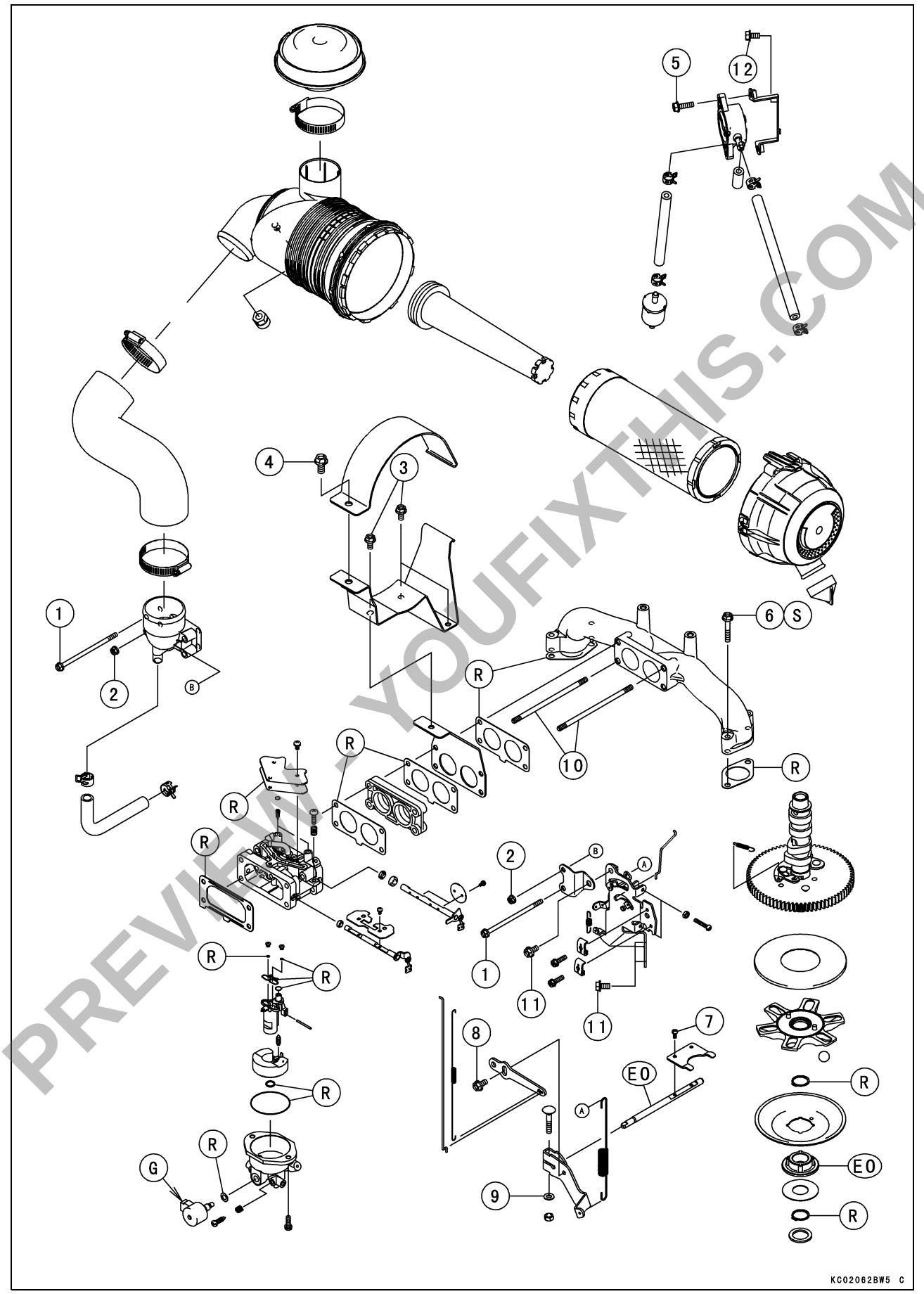
Wiring Dagram



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3-2 FUEL SYSTEM

Exploded View



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Torque and Locking Agent

The following tables lists the tightening torque for the major fasteners, and the parts requiring use of a non-permanent locking agent or liquid gasket.

Letters used in the “Remarks” column mean:

EO: Apply oil to the threads.

L: Apply a non-permanent locking agent to the threads.

R: Replacement Parts

S: Tighten the fasteners following the specified sequence.

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Fuel System				
Carburetor and Inlet Pipe Mounting Bolts	5.9	0.60	52 in·lb	
Carburetor and Inlet Pipe Mounting Nuts	5.9	0.60	52 in·lb	
Air Creaner Bracket Mounting Bolts	5.9	0.60	52 in·lb	
Air Creaner Holder Bracket Bolt	19.6	2.00	14.4	
Fuel Pump Mounting Bolts	5.9	0.60	52 in·lb	
Inlet Manifold Bolts	5.9	0.60	52 in·lb	S
Governor Shaft Plate Screws	2.0	0.20	18 in·lb	
Governor Arm Joint Bolt	5.9	0.60	52 in·lb	
Governor Arm Clamp Nut	7.8	0.80	69 in·lb	
Carburetor and Inlet Pipe Stud Bolts	5.9	0.60	52 in·lb	
Control Panel Mounting Bolts	5.9	0.60	52 in·lb	
Fuel Pump Bracket Bolt	5.9	0.60	52 in·lb	
Cooling System				
Engine Shroud Bolts (Non-locking Agent)	5.9	0.60	52 in·lb	
Engine Shroud Bolts (Locking Agent)	7.8	0.80	69 in·lb	L
Cooling Fan Screen Bolts	5.9	0.60	52 in·lb	
Cooling Fan Plate Mounting Stud Bolts	5.9	0.60	52 in·lb	
Fan Housing Bolts	5.9	0.60	52 in·lb	
Guard Mounting Bolts	5.9	0.60	52 in·lb	
Engine Top End				
Cylinder Head Bolts	46	4.7	34	S
Rocker Cover Bolts	5.9	0.60	52 in·lb	
Valve Clearance Adjusting Locknuts	11	1.1	97 in·lb	
Connecting Rod Big End Cap Bolts	20.6	2.10	15.2	EO
Rocker Arm Bracket Bolts	21	2.10	15.0	L
Lubrication System				
Oil Pump Cover Plate Bolts	5.9	0.60	52 in·lb	
Oil Filter	11.8	1.20	104 in·lb	R
Engine Oil Drain Plugs	6.9	0.70	61 in·lb	EO
Oil Filler Mounting Bolt	5.9	0.60	52 in·lb	
Oil Cooler Bolts	5.9	0.60	52 in·lb	
Camshaft/Crankshaft				
Connecting Rod Big End Cap Bolts	20.6	2.10	15.2	EO
Oil Passage Plugs	3.9	0.40	34 in·lb	L
Crankcase Cover Bolts	46	4.7	34	S
Breather Valve Mounting Screw	2.0	0.20	18 in·lb	

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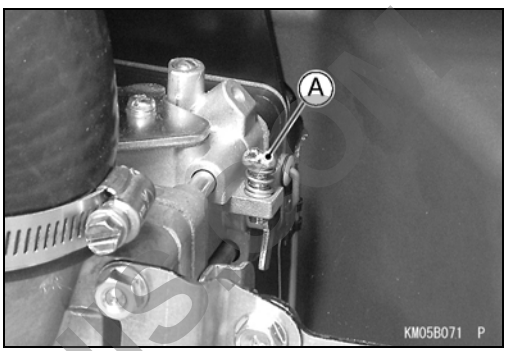
Periodic Maintenance Procedures

Fuel System

NOTE

○*High and low idle speeds may vary depending on the equipment on which the engine is used. Refer to the equipment specification.*

Low Idle Speed Adjustment



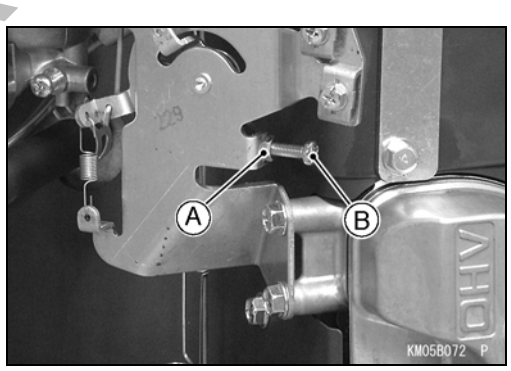
- Disconnect all possible external loads from the engine.
- Start and warm up the engine thoroughly.

⚠ WARNING

Always keep your hands clear of the moving parts.

- Move the throttle lever at a dash to the idle position.
- Hold the throttle lever on the carburetor in closed position (turn the governor arm clockwise all the way) and adjust the low idle speed screw [A] until the engine idles at specified speed.

Low Idle Speed (Carburetor idle rpm)
1 450 rpm



- Release the throttle lever.
- Loosen the locknut [A].
- Adjust the low idle speed set screw [B] on the control plate to obtain the specified governor low idle speed.

Low Idle Speed (Governor idle rpm)
1 550 rpm

- Tighten the locknut.

High Idle Speed Adjustment

NOTE

○*High idle speed adjustment should be made after the idle speed adjustment is performed.*

CAUTION

Do not adjust high idle speed with the air cleaner removed.

- Start and warm up the engine thoroughly.

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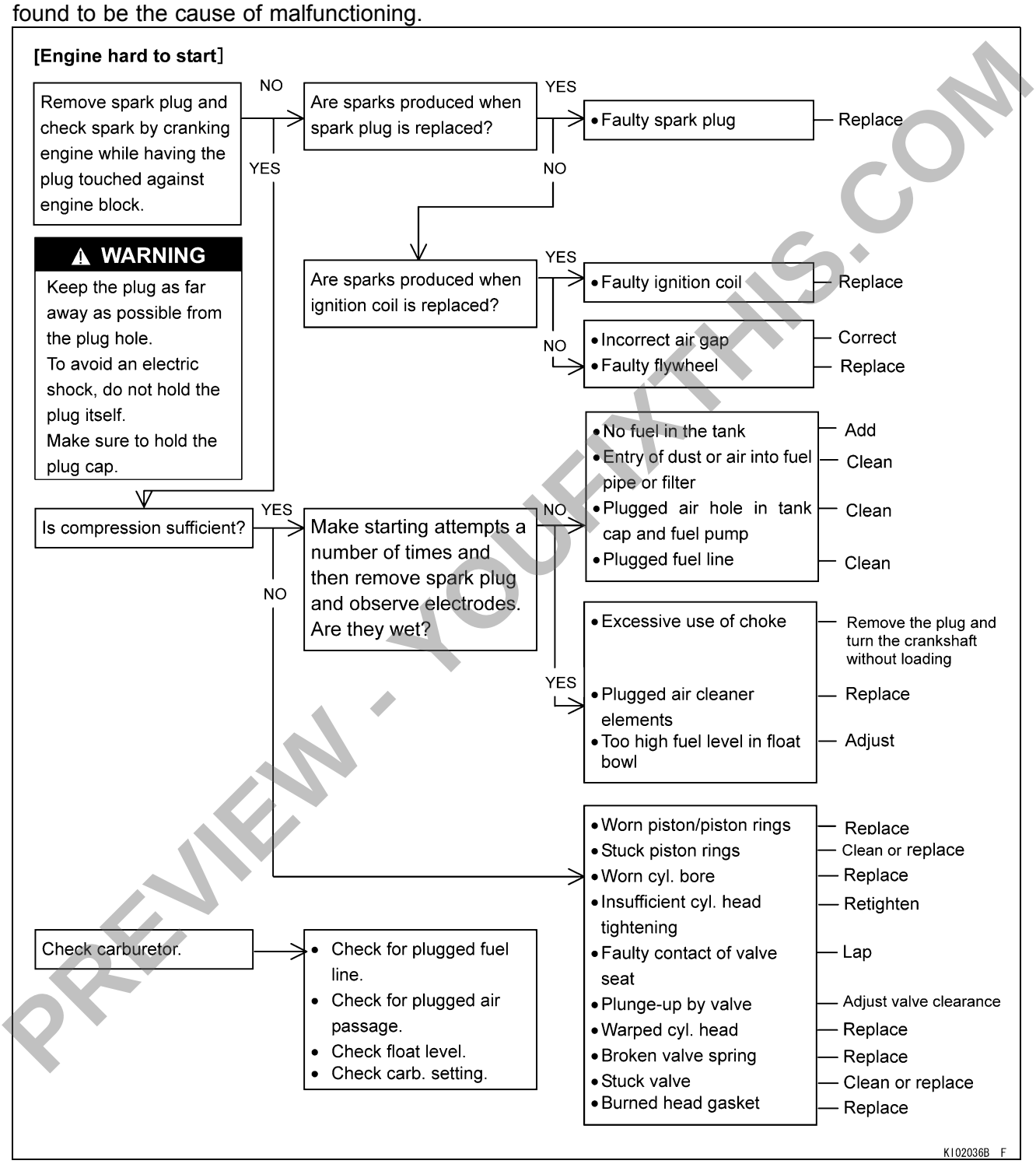
10-2 TROUBLESHOOTING

Engine Troubleshooting Guide

If the engine malfunctions, check if the way the engine is used is correct. If the engine malfunctions even if the engine is used correctly, systematically carry out troubleshooting starting with simple points.

This chart describes typical troubleshooting procedures.

Do not unnecessarily disassemble the carburetor, the magneto or the engine unless it has been found to be the cause of malfunctioning.



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General Specifications

Item	FX751V, FX801V, FX850V
Type	Forced air-cooled, vertical shaft, OHV 4 valves, 4-stroke gasoline engine.
Cylinder Layout	90° V-Twin
Bore × Stroke	84.5 mm × 76 mm (3.33 in. × 2.99 in.)
Displacement	852 cm³ (52.0 cu. in.)
Direction of Rotation	Counterclockwise facing the PTO shaft
Compression Release	Automatic compression release
Low Idle Speed	1 550 rpm
High Idle Speed	3 600 rpm
Ignition System	Transistorized-flywheel magneto
RFI	Per Canada and U.S.A. requirements
Starting System	Shift type electric starter
Charging System	12 V - 15 amp with regulator
Spark Plug	NGK BPR4ES
Carburetor	Float type, fixed main jet, two barrel
Fuel Pump	Diaphragm type pulse pump
Air Cleaner	Dual stage element, Heavy duty type
Governor	Flyweight all speed governor
Lubrication System	Pressure feed by positive displacement pump
Oil Filter	Cartridge type full flow filter
Oil Capacity (when engine is completely dry)	2.4 L (2.5 US-qt)
Cooling System	Forced air cooling by fan with oil cooler
Dimensions (L × W × H)	480 mm × 460 mm × 615 mm (18.9 in. × 18.1 in. × 24.2 in.)
Dry Weight (without muffler)	56.4 kg (124 lb)

Specifications subject to change without notice.

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2-2 PERIODIC MAINTENANCE

Periodic Maintenance Chart

To ensure satisfactory operation over an extended period of time, any engine requires normal maintenance regular intervals. The Periodic Maintenance Chart below shows periodic inspection and maintenance items and suitable intervals. The bullet mark (●) designates that the corresponding item should be performed at that interval.

Some adjustments require the use of special tools or other equipment. An electronic tachometer will facilitate setting idle and running speeds.

OPERATION	INTERVAL						
	Daily	First 8 hr.	Every 100 hr.	Every 200 hr.	Every 250 hr.	Every 300 hr.	Every 500 hr.
Check and clean air inlet screen (1)	●						
Check and add engine oil	●						
Check for fuel and oil leakage	●						
Check for loose or lost nuts and screws	●						
Check battery electrolyte level	●						
Replace air cleaner primary element (1)					●		
Check air cleaner secondary element (1)					●		
Replace air cleaner secondary element (1)							●
Clean cylinder and cylinder head fins (1)			●				
Tighten nut and screws			●				
Change engine oil		●	●				
Clean and re-gap spark plugs			●				
Check and clean oil cooler fins (1)			●				
Change oil filter				●			
♦Check and adjust valve clearance						●	
♦Clean and lap valve seating surface						●	
♦Clean combustion chambers						●	

(1): Service more frequently under dusty conditions.

♦: These items must be performed with the proper tools. See your authorized Kawasaki Engine Dealer for service, unless you have the proper equipment and mechanical proficiency.

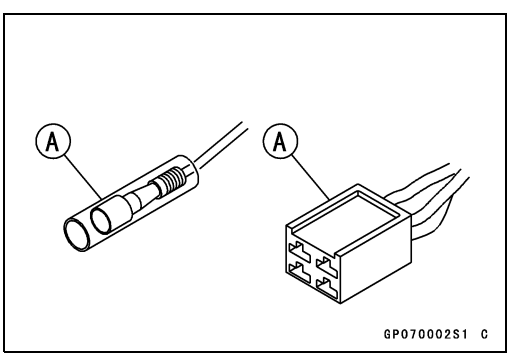
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Precautions

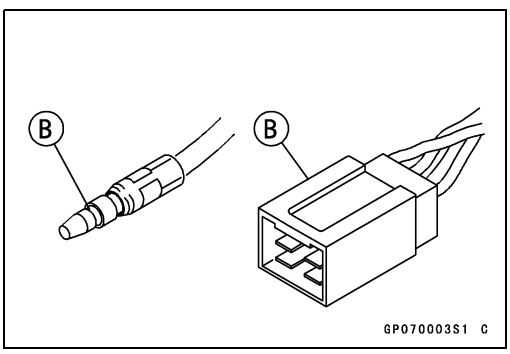
There are a number of important precautions that you must follow when servicing electrical systems. Learn and observe all the rules below.

- ○Do not reverse the battery cable connections. This will burn out the diodes in the electrical parts.
- ○Always check the battery condition before judging other parts of the electrical system. A fully charged battery is necessary for conducting accurate electrical system tests.
- ○Do not hit the electric parts with a hammer or do not drop the electric parts. These may result in the electric parts damage or breakage.
- ○To prevent damage to electrical parts, do not disconnect the battery cables or any other electrical connections when the engine switch is on, or while the engine is running.
- ○Because of the large amount of current, never keep the engine switch turned to the start position when the starter motor will not start, or the current may burn out the starter motor windings.
- ○Take care not to short the leads that are directly connected to the battery positive (+) terminal to the chassis ground.
- ○Troubles may involve one or all items in some cases. Never replace a defective part without determining what CAUSED the failure. If the failure was occurred by another item or some other items, repair and/or replace the item(s). Or the failure may happen again.
- ○Make sure all connectors in the circuit are clean and tight, and examine the leads for signs of burning, fraying, etc. Poor leads and bad connections will affect electrical system operation.
- ○Measure the coil and the winding resistance when the parts are cold (at room temperature).
- ○Electrical connectors:

Connectors [A]

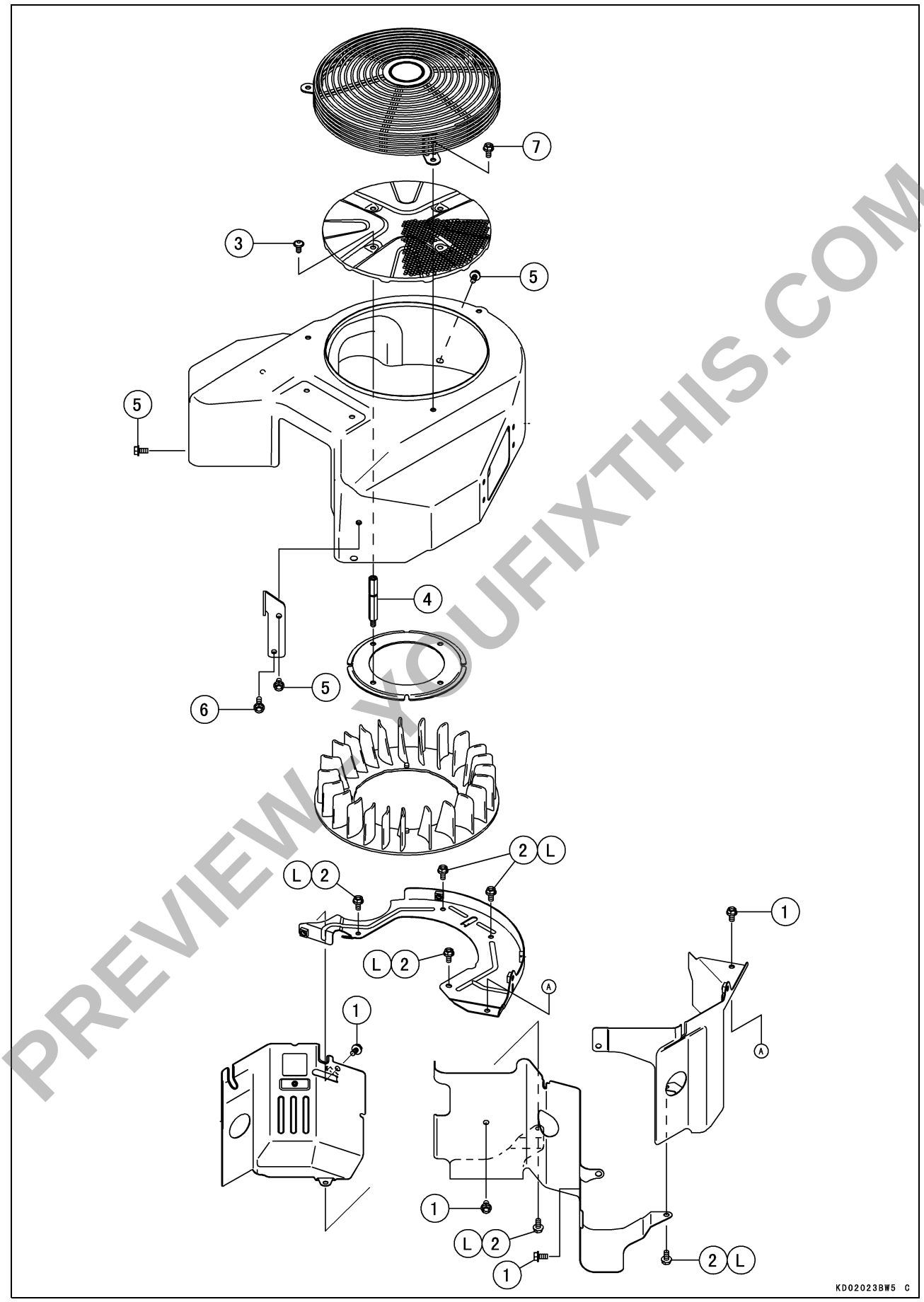


Connectors [B]



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Exploded View



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Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Breather Chamber Cover Bolts	5.9	0.60	52 in·lb	
Starter System				
Starter Motor Mounting Bolts	19.6	2.00	14.4	
Electrical System				
Ignition Coil Bolts	5.9	0.60	52 in·lb	
Stator Coil Screws	3.4	0.35	30 in·lb	
Flywheel Bolt	56	5.7	41	
Regulator Bolts	1.8	0.18	16 in·lb	
Spark Plugs	22	2.2	16	

The table below, relating tightening torque to thread diameter, lists the basic torque for the bolts and nuts. Use this table for only the bolts and nuts which do not require a specific torque value. All of the values are for use with dry solvent-cleaned threads.

Basic Torque for General Fasteners

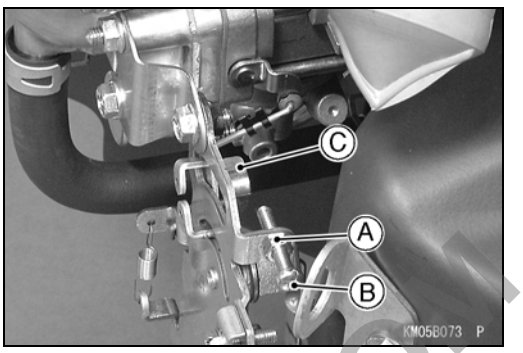
Threads dia (mm)	Torque		
	N·m	kgf·m	ft·lb
4	2.0	0.20	17 in·lb
5	3.4	0.35	30 in·lb
6	5.9	0.60	52 in·lb
8	15	1.5	11

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Periodic Maintenance Procedures

⚠ WARNING

Always keep your hands clear of the moving parts.



- Loosen the locknut [A], and unscrew the high idle set screw [B] few turns.
- Move the throttle lever on dash to obtain the specified high idle speed and leave it there.

High Idle Speed
3 600 rpm

- Turn the high idle set screw so that the end of it just touches the speed control lever [C], and tighten the lock nut.
- Check the idle speed, and readjust the idle speed if necessary.

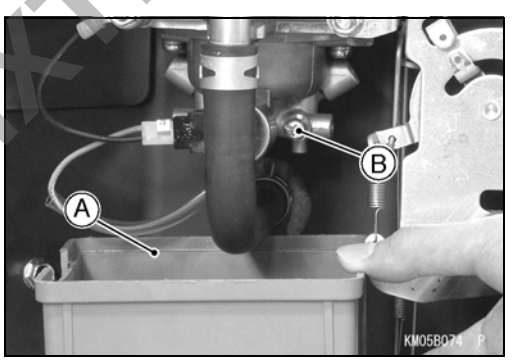
CAUTION

Be sure to make the idle and fast idle speeds respectively correspond to those of the equipment.

Fuel System Cleanliness Inspection

⚠ WARNING

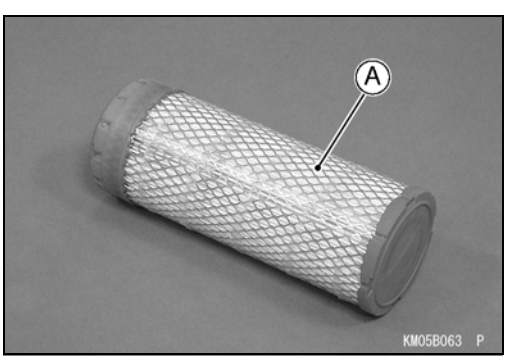
Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch OFF. Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.



- Place a suitable container [A] under the drain screw [B] on the carburetor.
- Turn out the drain screw a few turns to drain the carburetor and check if water or dirt has accumulated in the carburetor.
- Tighten the drain screw.
- If any water or dirt is found, clean the carburetor (see Carburetor Cleaning in the Fuel System chapter) and fuel tank. And check the fuel filter.

Element Cleaning and Inspection

Air cleaner elements are not recommended to be cleaned, and each air cleaner element should be replaced with new ones at the maintenance time as shown in the maintenance chart.



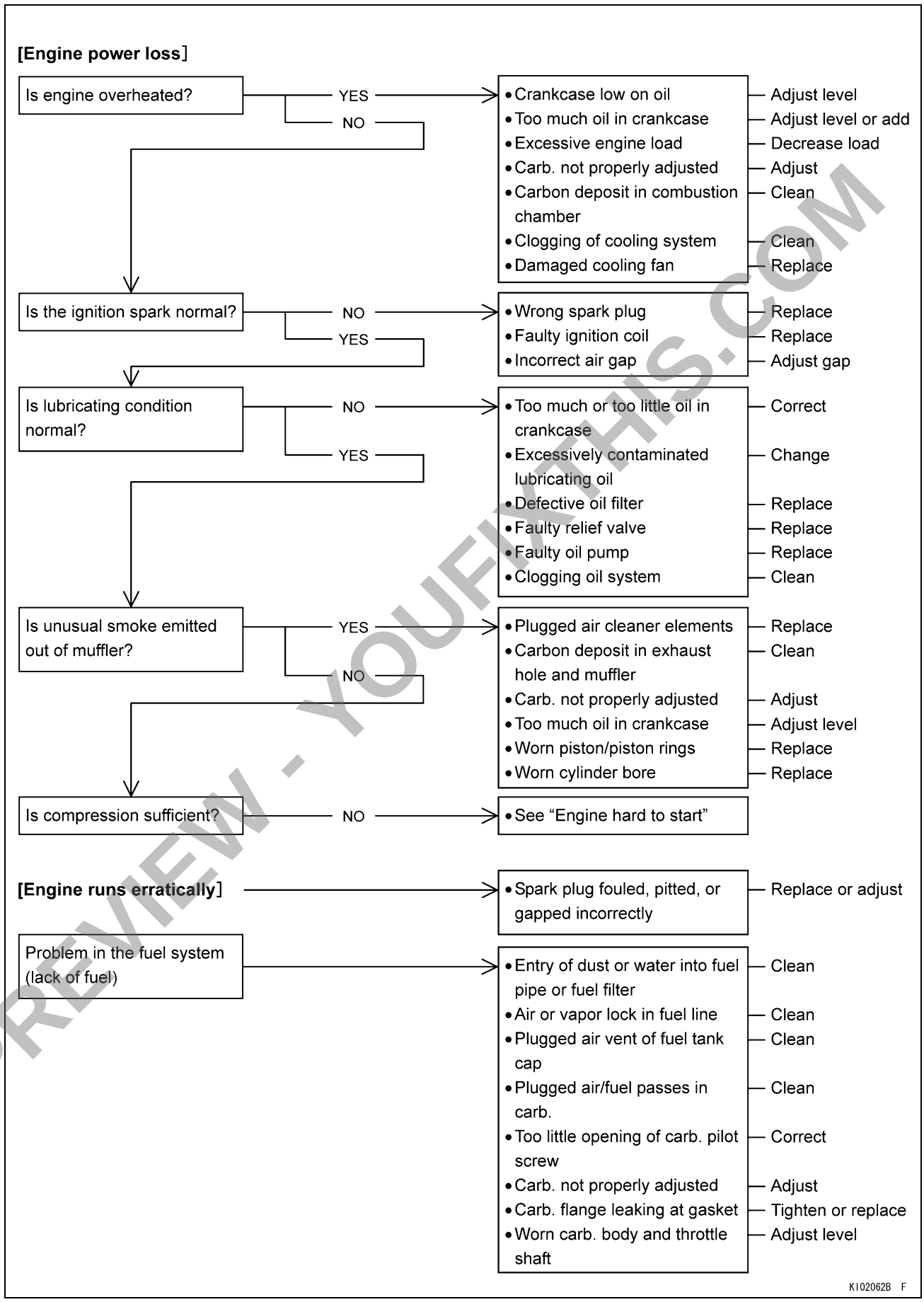
NOTE

○*Operating in dusty condition may require more frequent maintenance than above.*

- Remove the elements (see Element Removal in the Fuel System chapter).
- Replace the primary element [A] every 250 hrs.

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Engine Troubleshooting Guide



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