

Engine Manual for Kawasaki Engine

SAFETY AWARENESS



WARNING: Whenever you see the symbols shown on the left, heed their instructions! Always follow safe operating and maintenance practices.

FORWARD

We wish to thank you for purchasing this Kawasaki engine. Please read this Owner's manual carefully before starting your new engine so that you will be thoroughly familiar with the proper operation of your engine's control, its features, capabilities and limitations. Also read the manual of the equipment to which this engine is attached. To ensure a long, trouble-free life for your engine, give it the proper care and maintenance described in this manual.

Always keep this manual at your fingertip so that you can refer to it whenever you need information. This manual should be considered a permanent part of the engine and should remain with the engine when it is sold. All rights reserved. No part of this publication may be reproduced without our prior written permission. This publication includes the latest information available at the time of printing. However, there may be minor differences between the actual product and illustrations and text in this manual. All products are subject to change without prior notice or obligation.

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READ THIS FIRST



WARNING: Never allow children to operate the engine or equipment.

Keep people and pets out of area where you are using the engine or equipment.

Never wear loose, torn, or bulky clothing. It may catch on moving parts or controls, leading to the risk of accident.

Never consume alcohol or drug before or while operating this engine.

Do not run the engine in a closed area. Exhaust gas contains carbon monoxide, an odorless and deadly poison.

Gasoline is extremely flammable and can be explosive under certain condition.

Stop engine and allow the engine to cool before refueling.

Do not smoke. Make sure area is well ventilated and free from any source of flame or sparks including the pilot light of any appliance while refueling, servicing fuel system, draining gasoline and/or adjusting carburetor.

Do not fill the tank so the fuel level rises into the filler neck. If the tank is overfilled, heat may cause the fuel to expand and overflow through the vents in the tank cap.

Wipe off any spilled gasoline immediately.

To prevent fire hazard:

Keep the engine at least 1 m (3.3 ft.) away from buildings, obstructions and other burnable objects.

Do not place flammable objects close to the engine.

Do not expose combustible materials to the engine exhaust.

Do not use the engine on any forest covered, bush covered or grass covered unimproved land unless spark arrester is installed on the muffler.

To avoid getting an electric shock, do not touch spark plug, plug cap or spark plug lead during engine running.

To avoid a serious burn, do not touch a hot engine or muffler. The engine becomes hot during operation. Before you service or remove parts, stop engine and allow the engine to cool.

Do not place hands or feet near moving or rotating parts.

Do not run engine at excessive speeds. This may result in injury.

Always remove the spark plug lead from spark plug when servicing the engine to prevent accidental starting.

Emission Control Information

Fuel Information

THIS ENGINE IS CERTIFIED TO OPERATE ON UNLEADED REGULAR GRADE GASOLINE ONLY.

A minimum of 87 octane of the antiknock index is recommended. The antiknock index is posted on service station pumps in the U.S.A.

To protect the environment in which we all live, Kawasaki has incorporated an exhaust emission control system in compliance with applicable regulations of the United States Environmental Protection Agency and the California Air Resources

Board. Also, depending on when your engine was produced, it may have an assigned emissions durability period. * See below for the engine emissions durability period that may apply to your engine.

Exhaust Emission Control System

The exhaust emission control system applied to this engine consists of a fuel system and an ignition system having optimum ignition timing characteristics. The fuel system has been calibrated to provide lean air/fuel mixture characteristics and optimum fuel economy with a suitable air cleaner and exhaust system

A sealed-type crankcase emission control system is also used to eliminate blow-by gasses. The blow-by

gasses are led to a breather chamber through the crankcase and from there to the air cleaner.

Engine Emissions Compliance Period

California

Model Year - 2006 and later Vertical Crankshaft

Durability Period - 500 hours

All Other States

Model Year - 2003 and later (new)

2007 and later (carry over)

Durability Period - 500 hours (Category A)

If your engine has an assigned emissions durability period it will be located on the certification label attached to the engine (IMPORTANT ENGINE INFORMATION).

High Altitude Performance Adjustment Information

To improve the EMISSIONS CONTROL PERFORMANCE of engines operated above 1,000 meters (3,300 feet), Kawasaki recommends the following Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) approved modifications.

NOTE: *When properly performed, these specified modifications only are not considered to be emissions system "tampering" and engine performance is generally unchanged as a result.*

Installation Instructions:

High altitude adjustment requires replacement of carburetor main jet. Installation of these optional parts may be performed by an authorized Kawasaki dealer, or the consumer, following repair recommendations specified in the appropriate Kawasaki Service Bulletin.

Maintenance and Warranty

Proper maintenance is necessary to ensure that your engine will continue to have low emission levels. This Owner's Manual contains those maintenance recommendations for your engine. Those items identified by the Periodic Maintenance Chart are

necessary to ensure compliance with the applicable standards.

As the owner of the engine, you have the responsibility to make sure that the recommended maintenance is carried out according to the instructions in this Owner's Manual at your own expense.

The Kawasaki Limited Emission Control System Warranty requires that you return your engine to an authorized Kawasaki dealer for remedy under warranty. Please read the warranty carefully, and keep it valid by complying with the owner's obligations it contains.

Tampering with Emission Control System Prohibited

Federal law and California State law prohibit the following acts or the causing thereof: (1) the removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new engine for the purposes of emission control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the engine after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

Do not tamper with the original emission related parts:

- Carburetor and internal parts
- Spark Plug
- Magneto or electronic ignition system
- Fuel filter element
- Air cleaner elements
- Crankcase
- Cylinder head
- Breather chamber and internal parts
- Intake pipe and tube

General Information

Location of Safety Related Labels

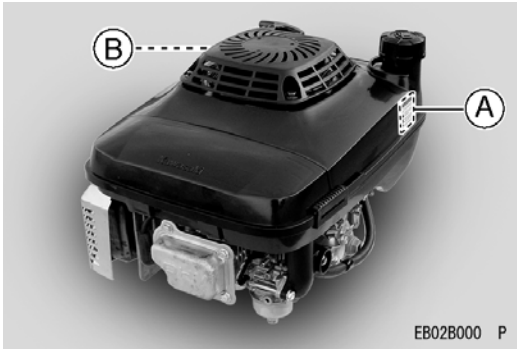
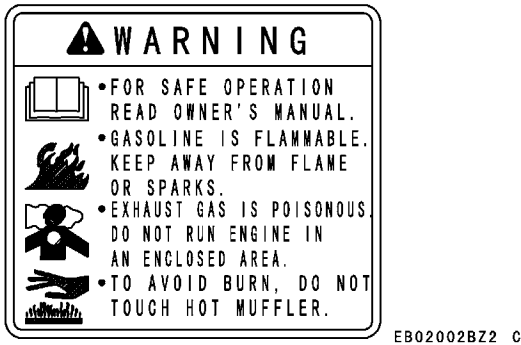


Figure 1

- a. Warning
- b. Engine Maintenance



Engine Serial Number

The engine serial number is your only means of identifying your particular engine from others of the same model type. This engine serial number is needed by your dealer when ordering parts. Refer to Figure 2.



Figure 2

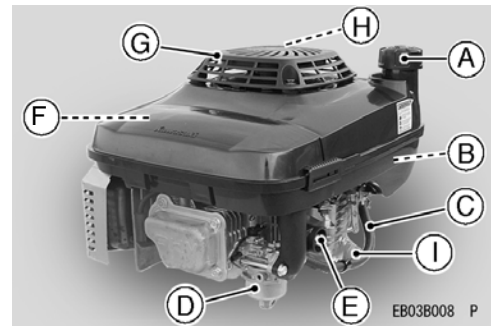


Figure 3

- A. Fuel Tank Cap
- B. Fuel Tank (capacity 2.0L [0.528US gal.])
- C. Fuel Tube
- D. Carburetor
- E. Priming Pump
- F. Air Cleaner
- G. Recoil starter
- H. Recoil Starter Grip
- I. Oil Drain Plugs (engine oil capacity 0.65L [0.69US gal.])

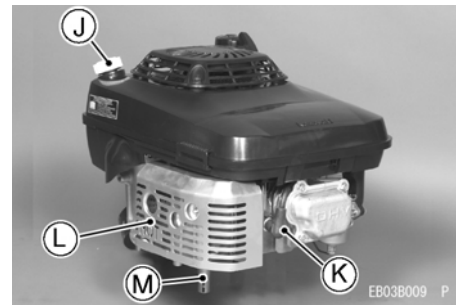


Figure 4

- J. Oil Gauge / Filler Cap
- K. Spark Plug Cap / Spark Plug
- L. Muffler
- M. P.T.O. Shaft

Tune-up Specifications

ITEM	SPECIFICATION
• Valve Clearance	• IN 0.12mm(0.005 in.) • EX 0.12mm{0.005 in.}
• Ignition Timing	• Unadjustable
• High Idle Speed	• 3200 r/min (rpm)
• Spark Plug Gap	• 0.7- 0.8mm(0.028-0.032 in.)
• Other Specifications	• NO OTHER ADJUSTMENT NEEDED

Fuel And Oil Recommendations

Fuel

Use only clean, fresh, unleaded regular grade gasoline.

Octane Rating

The octane rating of a gasoline is a measure of its resistance to "knocking". Use a minimum of 87 octane of the antiknock index is recommended. The antiknock index is posted on service station pumps in the U.S.A.

NOTE: If "knocking or pinging" occurs, use a different brand of gasoline or higher octane rating.

CAUTION: Do not mix oil with gasoline

Oxygenated Fuel

Oxygenates (either ethanol or MTBE) are added to the gasoline. If you use the oxygenated fuel be sure it is unleaded and meets the minimum octane rating requirement. The following are the EPA approved percentages of fuel oxygenates.

ETHANOL: (Ethyl or Grain Alcohol)

You may use gasoline containing up to 10% ethanol by volume.

MTBE: (Methyl Tertiary Butyl Ether)

You may use gasoline containing up to 15% MTBE by volume.

METHANOL: (Methyl or Wood Alcohol) 5% by volume

You may use gasoline containing up to 5% methanol by volume, as long as it also contains co solvents and corrosion inhibitors to protect the fuel system.

Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of your fuel system.



WARNING: Gasoline is extremely flammable and can be explosive under certain conditions. 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. Never fill the tank so the fuel level rises into the filler neck. If the tank is overfilled, heat may cause the fuel to expand and overflow through the vents in the tank cap.

Engine Oil

The following engine oils are recommended:

API Service Classification: SF, SG, SH, or SJ.

Oil Viscosity

Choose the viscosity according to the temperature following chart in Figure 5.

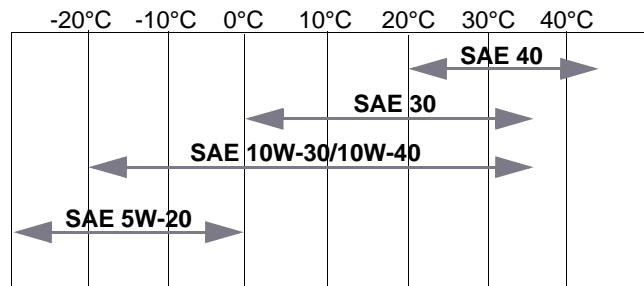


Figure 5

NOTE: Using multi grade oils (5W-20, 10W-30, and 10W-40) will increase oil consumption. Check oil level more frequently when using them.

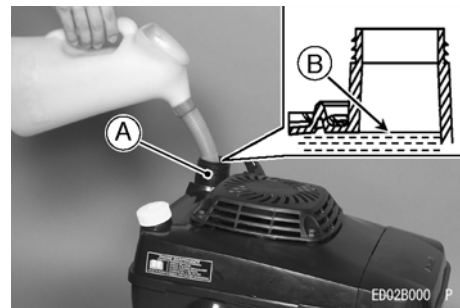


Figure 6

Preparation

Fuel

- Level the engine (equipment) before fueling.
- Remove the fuel tank cap.
- Slowly pour fuel into the fuel tank to bottom (B) of the filler (A).

Do not over fill the fuel tank, fill only to bottom (B) of the filler (A) to prevent spill out of the fuel from the tank cap.

Fuel Tank Capacity, 2.0 L (0.528 us.gal)

- Close the tank cap securely by turning it clockwise as far as it will go.

Engine Oil

Check the engine oil level daily before starting the engine otherwise shortage of the engine oil may cause serious damage to the engine such as seizure.

- Place the engine (equipment) on level surface. Clean area around the oil gauge before removing it.
- Remove the oil gauge (A) and wipe it with clean cloth.
- Pour the oil slowly to "FULL" mark on the oil gauge.
- Insert the oil gauge into the oil filler (B) WITHOUT SCREWING IT IN.
- Remove the oil gauge to check the oil level. Level should be between "ADD" and "FULL" marks. Do not overfill.
- Install and tighten the oil gauge.

Engine Oil Capacity, 0.65 L (0.69 us.qt)

CAUTION: The engine is shipped without engine oil.

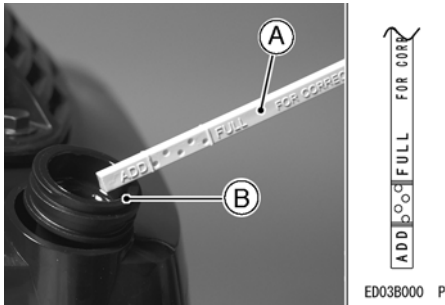


Figure 7

Starting

Band Pad System

Upon releasing the brake control lever on the equipment, the cutting blade and the engine will stop automatically.

Therefore, the brake control lever must be held against the handle while the engine is started and running.

Starting Engine

- Fully push the priming button (A) by thumb only once.

NOTE: When the engine is already warm or on hot days, do not push the priming button to prevent faulty starting engine caused by flooding carburetor.

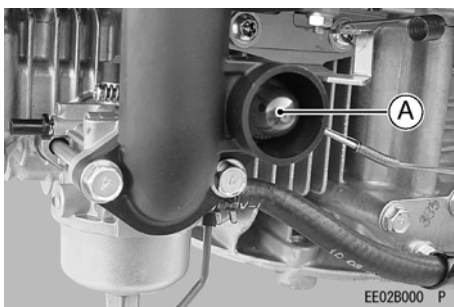


Figure 8

CAUTION:

- **DO NOT** start the engine when the cutting blade is in contact with long, uncut grass, it may cause difficulties in starting and damage to the recoil starter.
- **DO NOT** attempt to start the engine when the brake control lever on the equipment is released from your hands; this may cause damage to the recoil starter or pad system of the engine.
- **DO NOT** pull the recoil starter grip out of the end.

- **DO NOT** let the recoil starter grip snap back itself. This may cause damage to the recoil starter assembly.
- Hold the brake control lever (A) on the equipment against the handle (B) on the equipment.
- Pull the recoil starter grip (C) slowly until you feel compression, then pull fast and steady.

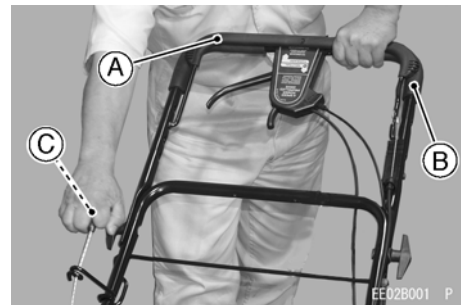


Figure 9

- A. Brake Control Lever
- B. Handle
- C. Recoil Starter Grip

Warming up

CAUTION: Allow engine to warm up before loading. This will allow oil to reach all the engine parts, and the piston clearance to reach design specification, before the engine is ready for loading.

- After engine starts, warm up the engine, run it for a few minutes.

Operating

- Anti-engine inclination
- This engine will operate continuously at angles up to 30° in any direction.
- Refer to the operating instructions of the equipment this engine powers.
- Because of equipment design or application, there may be more stringent restrictions regarding the angle of operation.

CAUTION: Do not operate this engine continuously at angles exceeding 30° in any direction. Engine damage could result from insufficient lubrication.

Stopping

Stopping Engine

Release the brake control lever (A) on the equipment from the handle (B) on the equipment to stop the engine and the cutting blade.

- A. Brake Control Lever

B. Handle

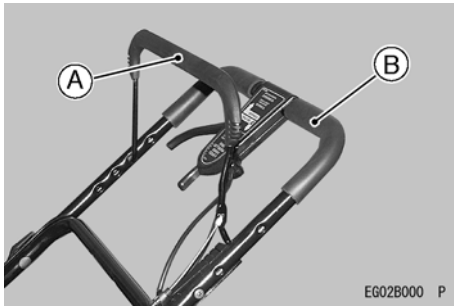


Figure 10

Adjustment

Engine Speed Adjustment

NOTE: Do not tamper with the governor setting or the carburetor setting to increase the engine speed. Each carburetor is adjusted at the factory with either a cap or stop plate installed on the mixture screw. Any adjustments must be performed by an authorized Kawasaki dealer.

MAINTENANCE

MAINTENANCE INTERVAL							
	DAILY	FIRST 8 HOURS	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 200 HOURS	EVERY 300 HOURS
Check oil level and add engine oil	•						
Check for loose or lost nuts and screws	•						
Check for fuel and oil leakage	•						
Check for brake control lever function	•						
Check or clean recoil starter and air intake screen Tighten nuts and screws	•		•				
Clean air cleaner foam element		•	•		•		
Clean air cleaner paper element		•			•		
Change engine oil		•		•			
Clean and re-gap spark Plug					•		
Replace air cleaner paper element							•
Clean dust and dirt from cylinder and cylinder head fins							•
Clean combustion chamber							•
Check and adjust valve clearance							•
Clean and lap valve seating surface							•

Periodic Maintenance Chart

NOTE: The service intervals indicated are to be used as a guide. Service should be performed more frequently as necessary by operating condition. Service more frequently under dusty conditions.

Oil Level Check

Check oil level daily and before each operation. Be sure oil level is maintained. See PREPARATION .

Oil Change



WARNING: Hot engine oil can cause severe burns. Allow engine temperature to drop from hot to warm before draining and handling oil.

Change oil after first 8 hours of operation. Thereafter change oil every 50 hours.

- Run the engine to warm oil.
- Be sure the engine (equipment) is level.
- Stop the engine.

Two alternate methods of draining oil are described in the following lines. For convenient handling, the **first**

method is recommended.

1. Draining Oil From Crank Case

- Tip the mower as shown in Figure 11 below. Remove the dipstick from the engine and pour entire oil from the crank case into an appropriate container.



WARNING: Before tipping the equipment, make sure to run the engine till fuel runs dry.

WARNING: While tipping the engine, keep muffler side down as shown below.

- Put the mower back to its operating position (on all four wheels).

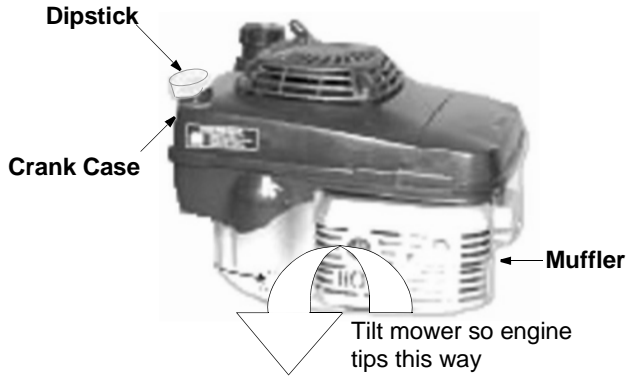


Figure 11

2. Using Oil Drain Plug

IMPORTANT: The oil drain plug on this engine is located at the bottom and can only be accessed by removing the baffle and other components. This method of draining oil involves complicated steps. The first method, described earlier, is simpler and takes less time; hence it is the preferred method.

- Run the engine for a few minutes and stop the engine. Tip the mower as shown in Figure 12.
- Access the oil drain plug by removing the baffle and other components following instructions in “Changing Belts” section on page 14. See Figure 12 for location of the baffle.
- Remove the oil drain plug from bottom of the engine. See Figure 12 inset for location of the oil drain plug. Drain oil into suitable container.

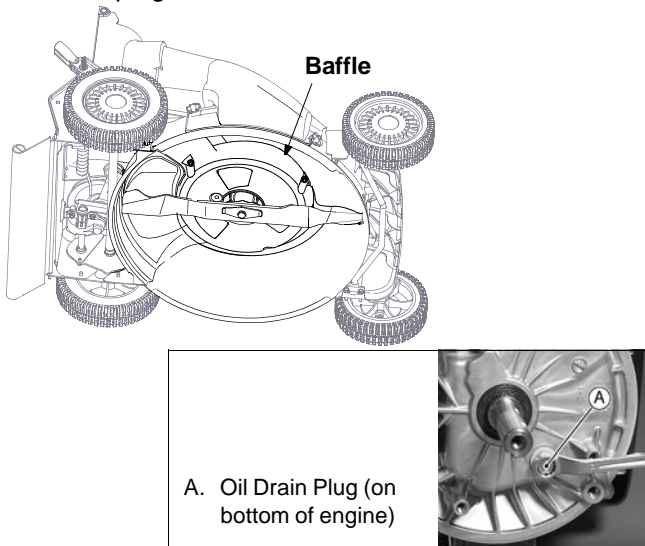


Figure 12

- Reinstall the oil drain plug.
- Reinstall the baffle and other components removed earlier. Make sure to secure these now.
- Put the mower back on its four wheels and on level ground.

Refilling Fresh Oil

- Remove dipstick and refill with new oil (See FUEL AND OIL RECOMMENDATIONS chapter).

NOTE: If you followed the second method of draining oil, the dipstick is already removed from the engine.

- Check the oil level (See PREPARATION chapter), and secure dipstick to the filler plug.



WARNING: Engine oil is toxic substance. Dispose of used oil properly. Contact your local authorities for approved disposal methods for possible recycling.

Cooling System Cleaning

Before each use, make sure recoil starter (A) is free from grass and debris to prevent engine overheating.

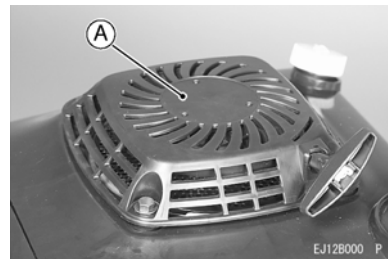


Figure 13

Air Cleaner Service

CAUTION: To prevent excessive engine wear, do not run the engine with the air cleaner



WARNING: Clean the elements in a well-ventilated area and take care that there are no sparks or flame anywhere near the working area, this includes any appliance with a pilot light. Do not use gasoline or low flash-point solvents to clean the element. A fire or explosion could result.

- Unfasten the air cleaner case (C) fastened with the air cleaner body (D) by sliding the two fasteners (A) toward the recoil starter (B). Then, with two hands, pulling the two latches (E) toward you and upward as shown, separate the air cleaner case from the air cleaner body.

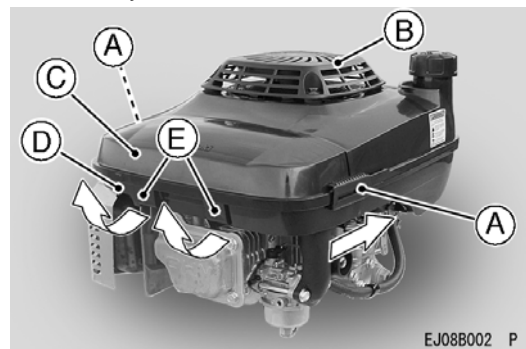


Figure 14

- A. Fasteners
- B. Recoil Starter
- C. Air Cleaner Case
- D. Air Cleaner body
- E. Latches

Remove the paper element (A) and the foam element (B) from the air cleaner body (C).

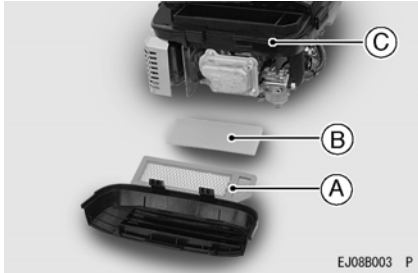


Figure 15

- A. Paper Element
- B. Foam Element
- C. Air Cleaner body

Foam Element

Clean the foam element every 25 hours.

Wash the element in detergent and water, and dry it thoroughly.

CAUTION: Do not oil foam element.

Paper Element

- Clean the paper element every 100 hours.
- Clean the element by tapping gently to remove dust. If very dirty, replace the element.
- Replace paper-element yearly or every 300 hours.

CAUTION: Do not wash paper-element. Do not use pressurized air to clean or dry paper element.

NOTE: Operating in a dusty condition may require more frequent maintenance than above.

- Reinstall the foam element and then the paper element on the air cleaner body.
- Reinstall the air cleaner case on the air cleaner body by first fitting the projection (B) on the edge of the air cleaner case into the slit (A) in the air cleaner body. Then, sliding the fasteners (C) toward the air cleaner case, securely fasten the air cleaner case with the air cleaner body.

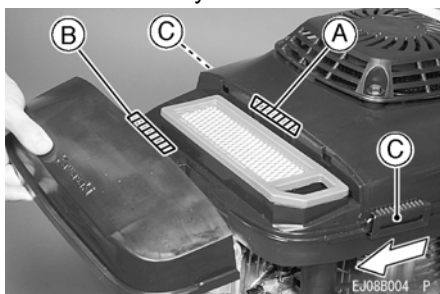


Figure 16

- A. Slit in the air cleaner body
- B. Projection on the air cleaner case
- C. Fasteners

CAUTION: After servicing the air cleaner, be sure all the removed parts are reinstalled properly in place. Failure to secure fastening of the air cleaner case with the air cleaner body may cause dirt or other foreign materials to enter the engine, while it is running, through the air cleaner, resulting in engine troubles or failures.



WARNING: Hot engine components can cause severe burns. Stop engine and allow it to cool before checking spark plug.

- Clean or replace the spark plug and reset gap (A) every 100 hours of operation.
- Disconnect the spark plug cap from spark plug and remove the spark plug.
- Clean the electrodes (B) by scraping or with a wire brush to remove carbon deposits.
- Inspect for cracked porcelain or other wear and damage. Replace the spark plug with a new one if necessary.
- Check the spark plug gap and reset it if necessary. The gap must be between 0.7 and 0.8 mm (0.028 and 0.032").

To change the gap, bend only the side-electrode, using a spark plug tool.

-Install and tighten the spark plug to 23 N-m (2.3kgf-m, 17fMb).

-Fit the spark plug cap on the spark plug securely.

-Pull up the spark plug cap lightly to make sure of the installation of the spark plug cap.

Recommended Spark Plug

NGK... BPR5ES

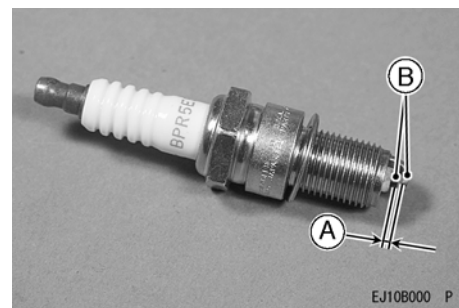


Figure 17

- A. Spark Plug Gap
- B. Electrodes

CAUTION: Be sure to use the same type of spark plug for change. Resistor spark plug is required in some areas by local law.

Storage

Engine to be stored over 30 days should be completely drained of fuel (gasoline) to prevent gum deposits forming on essential carburetor parts and fuel system.



WARNING: Gasoline is extremely flammable and can be explosive under certain conditions. Drain gasoline before storing the equipment for extended periods. Drain gasoline in a well-ventilated area away from any source of flame or sparks, including any appliances with a pilot light. Store gasoline in an approved container in safe location.

- Remove the spark plug cap from spark plug to prevent accidental starting the engine.
- Empty the fuel from the fuel tank with a pump or siphon.
- Fit the plug cap on the spark plug securely
- Start and run the engine at idle speed to used up the fuel in the fuel system.



WARNING: Before maintaining engine, stop the engine and allow it cool.

- Remove the spark plug and pour approx. 1-2 mL (0.06-0.1 cu.in) of new engine oil through the plug hole (A), slowly pull the recoil starter grip several times and reinstall the spark plug.

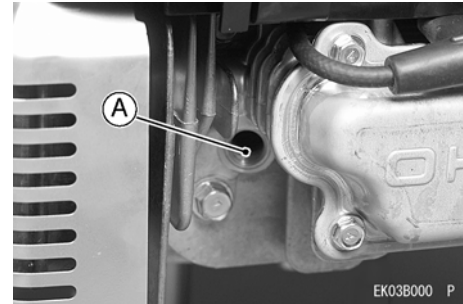
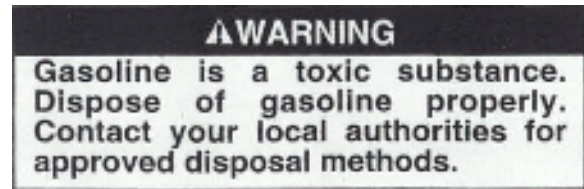


Figure 18

A. Spark Plug Hole

- Slowly pull the recoil starter grip until you feel compression and leave it there.
- Clean every part of the engine.
- After period of storage, change engine oil.
- (Refer to "Oil Change" section in "MAINTENANCE" section).



Troubleshooting Guide

Symptom		Probable Cause	Remedy
Engine won't start output is low	Insufficient compression	<ol style="list-style-type: none"> 1. Faulty piston, cylinder, piston ring, and head gasket 2. Faulty valves 3. Loose spark plug 4. Loose cylinder head bolts 	<ol style="list-style-type: none"> 1. Tighten properly 2. Tighten properly 3. Tighten properly 4. Tighten properly
	No fuel to combustion chamber	<ol style="list-style-type: none"> 1. No fuel in fuel tank 2. Blocked fuel tube 3. Blocked air vent in fuel tank cap 4. Faulty carburetor 	<ol style="list-style-type: none"> 1. Fill fuel tank 2. Clean 3. Clean 4. ‡
	Spark plug fouled by fuel	<ol style="list-style-type: none"> 1. Over-rich fuel/air mixture 2. Clogged air cleaner 3. Faulty carburetor 4. Incorrect grade/type of fuel 5. Water in fuel 	<ol style="list-style-type: none"> 1. Slowly pull the recoil starter grip with spark plug removed to discharge excess fuel. clean spark plug 2. Clean 3. ‡ 4. Change Gasoline 5. Change Gasoline
	No spark or weak spark	<ol style="list-style-type: none"> 1. Faulty spark plug 2. Faulty ignition coil 3. Faulty engine switch 	<ol style="list-style-type: none"> 1. Replace spark plug 2. ‡ 3. ‡
Low Output	Engine Overheats	<ol style="list-style-type: none"> 1. Clogged air cleaner 2. Recoil Starter or cooling air path clogged with dirt 3. Insufficient engine oil 4. carbon built-up in combustion chamber 5. Poor ventilation around engine 	<ol style="list-style-type: none"> 1. Clean 2. Clean 3. Replenish or change oil 4. ‡ 5. Select a better location
	1. Engine speed won't increase	<ol style="list-style-type: none"> 1. Faulty Governor 	<ol style="list-style-type: none"> ‡

If the engine malfunctions, carefully examine the symptoms and the operating conditions, and use the table above as a guide to troubleshooting. ‡ Have an authorized Kawasaki dealer perform these service

Environmental Protection

To protect our environment, properly discard used batteries, engine oil, gasoline, coolant, or other components that you might dispose of in the future.

Consult your authorized Kawasaki dealer or local environmental waste agency for their proper disposal procedure.

Specifications

Type of Engine	Air-cooled, 4-stroke OHV, single cylinder, gasoline Engine
• Bore X Stroke	• 65 x 54mm (2.6 x 2.1 in.)
• Displacement	• 179mL (109. cu.in.)
• Ignition system	• Solid-state ignition
• Starting system	• Recoil starter
• Dry weight	• 13.5kg (29.lb)

Specifications subject to change without notice

Kawasaki Limited Warranty: California And Federal Emission Control Systems: Small Off-Road Engines

The California Air Resources Board, the Environmental Protection Agency (EPA), and Kawasaki Motors Corp., U.S.A. (hereinafter "Kawasaki") are pleased to explain the Emission Control Systems Warranty on your Kawasaki small off-road engine. In California and other states, new small off-road engines must be designed, built and equipped to meet stringent anti-smog standards. Kawasaki must warrant the emission control system on your small off-road engine for the period of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine. Your emission control system may include parts such as the carburetor or fuel-injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors and other emission related assemblies. Where a warrantable condition exists, Kawasaki will repair your small off-road engine at no cost to you including diagnosis (if the diagnostic work is Performed at a Kawasaki small off-road engine dealer), parts and labor.

OWNERS WARRANTY RESPONSIBILITIES. The following obligations must be fulfilled by the owner to maintain the validity of the Kawasaki California / EPA Emissions Systems Warranty:

- (a) As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Kawasaki recommends that you retain all receipts covering maintenance on your small off-road engine, but Kawasaki cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
 - (b) You are responsible for presenting your small off-road engine to an authorized Kawasaki small off-road engine Dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.
 - (c) AS the small off-road engine owner, you should also be aware that Kawasaki may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
 - (d) If you have any questions regarding your warranty rights and responsibilities, you should contact Kawasaki Motors Corp., U.S.A., Consumer Services Department, 5080 36th Street, S.E., Grand Rapids, MI 49512, 616/949-6500.
1. **COVERAGE.** Kawasaki warrants to the initial owner and each subsequent purchaser that the small off-road engine is free from defects in materials and workmanship which cause a failure of a warranted part for a period of two years. Kawasaki is liable for damages to other engine components caused by the failure of a warranted part still under warranty. The 1995 and later small off-road engines are warranted for two years in California. In all other states, 1997 and later model year small off-road engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Kawasaki. This warranty time period shall begin on the date the small off-road engine is delivered to the initial purchaser, or on the date the small off-road engine is first placed in service.

Warranty defects shall be remedied during customary business hours at any authorized Kawasaki small off-road engine dealer located within the United States of America. Any manufacturer-approved replacement part may be used in the performance of any warranty maintenance or repairs on emission-related parts, and must be provided without charge to the owner if the part is still under warranty. Any part or parts replaced under this warranty shall become the property of Kawasaki.

The emission related warranted parts are specifically defined by the California Air Resources Board's Emission Warranty Parts List. (EPA's regulations do not include a parts list, but EPA considers emission-related parts to include all parts listed here.) These warranted parts are: carburetor and internal parts, spark advance/retard system, cold start enrichment system, magneto or electronic ignition system, catalytic converter, intake manifold, exhaust manifold, air cleaner element, and spark plugs if failure occurs prior to the first required scheduled replacement, hoses, clamps, fittings, gaskets, sealing devices, mounting hardware and tubing used directly in these parts.

Since emission related parts may vary slightly from model to model, certain models may not contain all of these parts and certain models may contain functionally equivalent parts.

2. **LIMITATIONS.** This Emission Control Systems Warranty shall not cover any of the following:
- (a) Repair or replacement required as a result of (i) misuse or neglect, (ii) lack of required maintenance, (iii) repairs improperly performed or replacements improperly installed, (iv) use of replacement parts or accessories not conforming to Kawasaki specifications which adversely affect performance and/or durability, (v) alterations or modifications not recommended or approved in writing by Kawasaki.
 - (b) Replacement of parts, other services and adjustments necessary for required maintenance at and after the first scheduled replacement point.

LIMITED LIABILITY.

- (a) The liability of Kawasaki under this Emission Control Systems Warranty is limited solely to the remedying of defects in materials or workmanship by any authorized Kawasaki small off-road engine dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the small off-road engine or transportation of the small off-road engine to or from the Kawasaki Dealer. **KAWASAKI SHALL NOT BE LIABLE FOR ANY OTHER EXPENSE, LOSS OR DAMAGE, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL (EXCEPTION LISTED UNDER COVERAGE) OR EXEMPLARY ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE THE KAWASAKI SMALL OFF-ROAD ENGINE FOR ANY PURPOSE.**
- (b) **NO EXPRESS EMISSION CONTROL SYSTEMS WARRANTY IS GIVEN BY KAWASAKI WITH RESPECT TO THE KAWASAKI SMALL OFF-ROAD ENGINE EXCEPT AS SPECIFICALLY SET FORTH HEREIN. ANY EMISSION CONTROL SYSTEMS WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE EMISSION CONTROL SYSTEMS WARRANTY TERMS SET FORTH HEREIN. THE FOREGOING STATEMENTS OF WARRANTY ARE EXCLUSIVE AND IN LIEU OF ALL OTHER REMEDIES.**
- (c) No dealer is authorized to modify this Kawasaki Limited Emission Control Systems Warranty.
- (d) Kawasaki is not liable for parts which are not genuine Kawasaki parts except when genuine Kawasaki parts cause damage to non-Kawasaki parts.

LEGAL RIGHTS: THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS. THIS WARRANTY IS IN ADDITION TO THE KAWASAKI LIMITED SMALL OFF-ROAD ENGINE WARRANTY.