

Kawasaki

— ENGINES —

OWNER'S MANUAL MANUAL DEL PROPIETARIO

4-STROKE AIR-COOLED V-TWIN GASOLINE ENGINE
MOTOR DE GASOLINA DE 4 TIEMPOS
BICILÍNDRICO EN V CON REFRIGERACIÓN POR AIRE

FT651V
FT691V
FT730V

P/N 99803-0083-01

ENGLISH

General-purpose Engine Owner's Manual

Original instructions

SAFETY AWARENESS

Whenever you see the symbols shown below, heed their instructions! Always follow safe operating and maintenance practices.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

NOTE

- *This note symbol indicates points of particular interest for more efficient and convenient operation.*

READ THIS FIRST

For your safety, read this Owner's Manual and understand it thoroughly before operating this ENGINE.

DANGER

Exhaust gas contains carbon monoxide, a colorless, odorless poisonous gas. Inhaling carbon monoxide can cause serious brain injury or death. **DO NOT** run the engine in enclosed areas. Operate only in a well-ventilated area. Gasoline is extremely flammable and can be explosive under certain conditions, creating the potential for serious burns. When refueling, servicing fuel system, draining gasoline and/or adjusting the carburetor: Stop engine and allow it to cool before refueling. **DO NOT** smoke. Make sure the area is well-ventilated and free from any source of flame or sparks, including the pilot light of any appliance. **DO NOT** fill the tank so the fuel level rises into the filler neck or level surface of level gauge. 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. Engines can become extremely hot during normal operation. To prevent fire hazard: Keep the engine at least 1 m (3.3 ft) away from buildings, obstructions and other flammable 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, brush covered or grass covered unimproved land unless spark arrester is installed on the muffler. To avoid getting an electric shock, **DO NOT** touch spark plugs, plug caps or spark plug leads 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. Place a protective cover over pulley, V belt or coupling. **DO NOT** run engine at excessive speeds. This may result in injury. Always remove the spark plug caps from spark plugs when servicing the engine to prevent accidental starting.

Read warning labels which are on the engine and understand them. If any label is missing, damaged, or worn get a replacement from an authorized Kawasaki engine dealer and install it in the correct position.

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.

Emission Control Information

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 carburetor and an ignition system having optimum ignition timing characteristics. The carburetor has been calibrated to provide specific 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 gases. The blow-by gases are led to a breather chamber through the crankcase and from there to the air cleaner.

Engine Emissions Compliance Period

California

Engines Greater Than or Equal To 225 cc

Durability Period – 500 hours

All Other States

Engines Greater Than or Equal To 225 cc

Durability Period – 500 hours (Category B)

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 requires the following Environmental Protection Agency (EPA) and California Air Resources

Board (CARB) approved modifications. High altitude adjustment requires replacement of carburetor main jets. Installation of these optional parts may be performed by an authorized Kawasaki engine dealer or equally qualified service facility, following repair recommendations specified in the appropriate Kawasaki Service document or parts catalog.

Operating the engine with the wrong engine configuration at a given altitude may increase its emissions and decrease fuel efficiency and performance.

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.

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, do not tamper with the original emission related parts below:

- Carburetor and their internal parts
- Spark plugs
- Magneto ignition system
- Fuel filter element
- Air cleaner element
- Crankcase
- Cylinder heads
- Breather chamber and internal parts
- Intake pipe and tube
- Muffler or any internal portion of the muffler

FOREWORD

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.

Please note that the photographs and illustrations shown in this manual are based on Model FT730V as a typical example among other similar models.

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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.

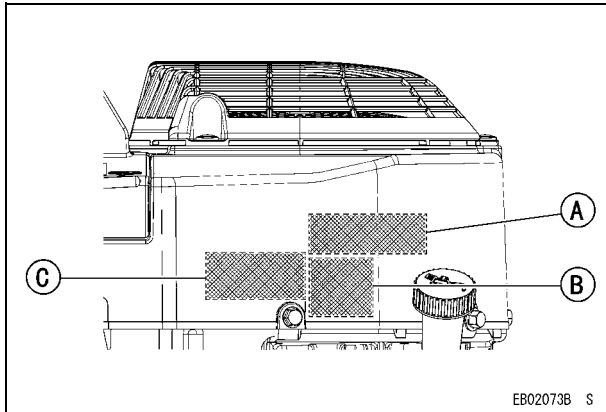
KAWASAKI HEAVY INDUSTRIES, LTD.
Motorcycle & Engine Company

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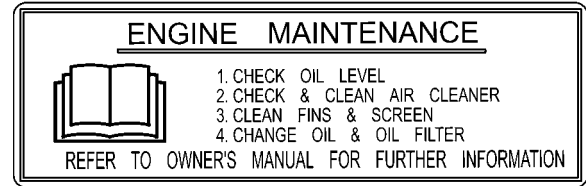
GENERAL INFORMATION

Location of Safety Related Labels



- A. Engine Maintenance**
- B. Warning Label**
- C. Product Label (Engine Serial Number)**

A)



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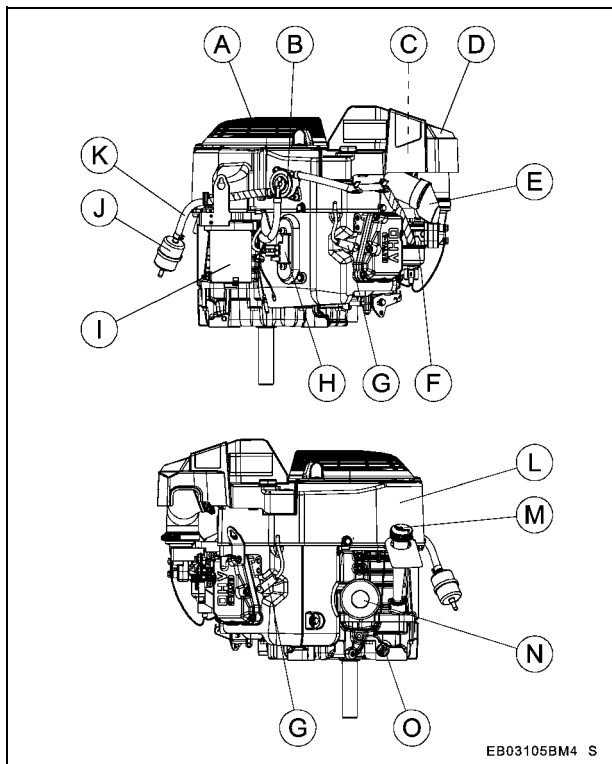
B)



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Location of Parts

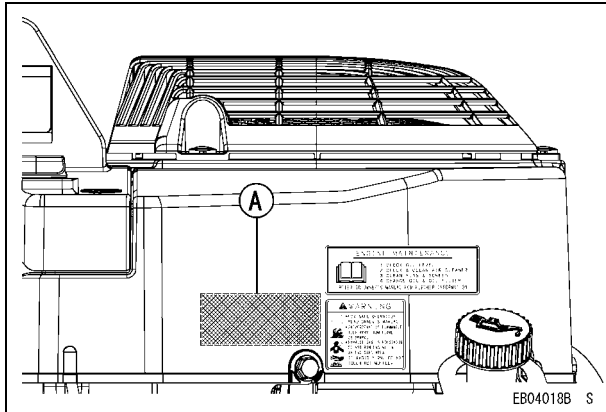


- A. Guard/Air Intake Screen
- B. Fuel Pump
- C. Air Cleaner
- D. Air Cleaner Cover
- E. Cap (Dust Ejector Valve)
- F. Carburetor
- G. Spark Plug Cap/Spark Plug
- H. Voltage Regulator
- I. Starter Motor
- J. Fuel Filter
- K. Fuel Tube
- L. Fan Housing
- M. Oil Gauge/Oil Filler
- N. Oil Filter
- O. Oil Drain Plug

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 an authorized Kawasaki engine dealer when ordering parts.



A. Engine Serial Number

Tune-up Specifications

ITEM	Specifications
Ignition Timing	Unadjustable
Spark Plugs: Gap	NGK BPR4ES 0.75 mm (0.030 in.)
Low Idle Speed	1 550 r/min (rpm)
High Idle Speed	3 600 r/min (rpm)
Valve Clearance	IN 0.10 ~ 0.15 mm (0.004 ~ 0.006 in.) EX 0.10 ~ 0.15 mm (0.004 ~ 0.006 in.)
Other Specifications	No other adjustment needed

NOTE

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

14 GENERAL INFORMATION

Battery Capacity

WARNING

Prevent sparks and/or electrical system damage by removing the negative (-) cable from the battery before attempting any repair or maintenance.

Battery Capacity Recommended

Minimum Recommended Battery Capacity

12 V 550 CCA Class

Fuel

Use only clean, fresh, unleaded regular grade gasoline.

NOTICE

Do not mix oil with gasoline.

Octane Rating

The octane rating of a gasoline is a measure of its resistance to “knocking”. **Using a minimum of 87 octane by 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.
- When not operating your kawasaki engine more than once per month, you can mix a fuel stabilizer with gasoline in the fuel tank. Fuel stabilizer additive could inhibit oxidation of fuel.

Oxygenated Fuel

Oxygenates (either ethanol or MTBE) are added to the gasoline. If you use the oxygenates, be sure it is unleaded and meets the minimum octane rating requirement.

The followings 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)

You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents 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, creating the potential for serious burns. 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 the engine on level surface before fueling.
- Remove the fuel tank cap.
- Slowly pour fuel into the tank through the fuel strainer.
- Close the tank cap securely.

STARTING

Start Engine

DANGER

Exhaust gas contains carbon monoxide, a colorless, odorless poisonous gas. Inhaling carbon monoxide can cause serious brain injury or death. **DO NOT** run the engine in enclosed areas. Operate only in a well-ventilated area.

WARNING

Engine exhaust may ignite combustible materials and cause a fire. **Keep the area around the exhaust outlet clear. Locate the unit so that the exhaust outlet points toward an open area and is located at least one meter (3.3 feet) from any obstructions.**

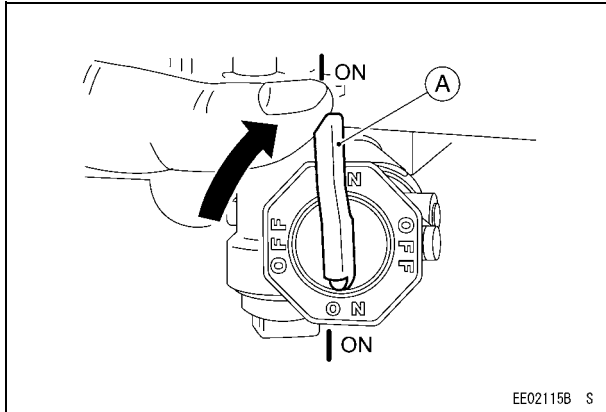
NOTE

- *Be aware of the following in order to start the engine easily in cold weather.*
- Use proper oil for expected temperature (See Oil Change section in the MAINTENANCE chapter).
- Use fresh gasoline.

- Protect the engine or the equipment from direct exposure to weather when not in operation.

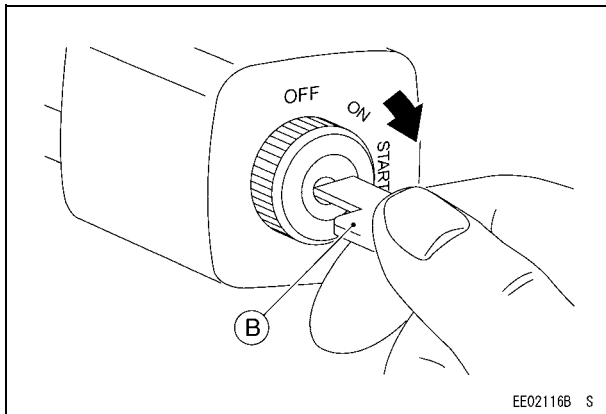
NOTE

- *Follow the operating instructions of the equipment this engine powers.*
- Before starting the engine, disconnect all possible external loads.
- Open the fuel valve on the equipment.
- Move throttle lever on dash to half throttle position.
- Use full choke when the engine is cold, but in hot weather or when the engine is already warm, use half choke or leave the choke fully open.
- Put the key into the ignition switch and turn to the “ON” or “RUN” position.
- Move the throttle lever on the equipment to its low speed or “SLOW” position.
- Turn the key to the “START” position on the ignition switch. Normally the engine will start within 3 seconds.



A. Fuel Valve

EE02115B S



B. Engine Switch Key

EE02116B S

NOTICE

Do not run the electric starter continuously for more than 5 seconds, otherwise the battery may discharge quickly. If the engine does not start right away, wait 15 seconds and try again.

NOTE

- When the engine is very warm, or when the engine does not start immediately, DO NOT keep trying to start it with the choke closed as this will cause flooding and make starting more difficult.
- Instead, fully open the choke and start the engine.

NOTICE

Whenever you start engine, make sure warning light is not illuminated after engine starts. If warning light comes on, stop engine immediately and check oil level (if equipped).

- After starting the engine, gradually return the choke lever to the fully open position.

OPERATING

Warming Up

After the engine starts, move the throttle lever on the equipment to halfway between “FAST” and “SLOW”.

To warm up the engine, run it for 3 to 5 minutes with the throttle lever in the same position (halfway) before putting the equipment under load. Then, move the throttle lever on the equipment to its “FAST” position.

NOTICE

Allow engine to warm up sufficiently (3 to 5 minutes at idle) before applying a load. This will allow oil to reach all engine parts, and allow piston clearance to reach design specifications.

NOTICE

While warming up the engine, make sure the warning lamp (oil pressure) on dash is not on. The warning lamp must not be illuminated during engine operation (if equipped).

Engine Inclination

This engine will operate continuously at angles up to 25° 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.

NOTICE

Do not operate this engine continuously at angles exceeding 25° in any direction. Engine damage could result from insufficient lubrication.

STOPPING

Stopping the Engine

Ordinary Stop

- Move the throttle lever to “SLOW” speed position.
- Keep running at the “SLOW” speed for about one minute.

NOTICE

Engine damage can occur from run-on or after-burning if engine is stopped suddenly from high speed loaded operation. Reduce engine speed to idle for one minute before shutting engine off.

- Turn the engine switch or the switch key to “OFF” position.

Emergency Stop

- Immediately turn the engine switch or the switch key to “OFF” position.
- Close the fuel valve on the equipment.

WARNING

Leaving the equipment with the key hanging in the ignition can allow operation by someone who does not know how to operate it. It may cause serious accident with injury. Always remove the key from unattended equipment.

ADJUSTMENT

Throttle Cable Installation, Adjustment

- Link the throttle cable (A) to the speed control lever (B) and loosely clamp the throttle cable outer housing (C) with the cable clamp bolt (D).
- Move the throttle lever to “FAST” position.
- Pull up the outer housing of the throttle cable until the inner wire has almost no slack, and tighten the cable clamp bolt.
- Move the throttle lever to “SLOW” position. Make sure that the carburetor throttle valve (E) is moved smoothly.

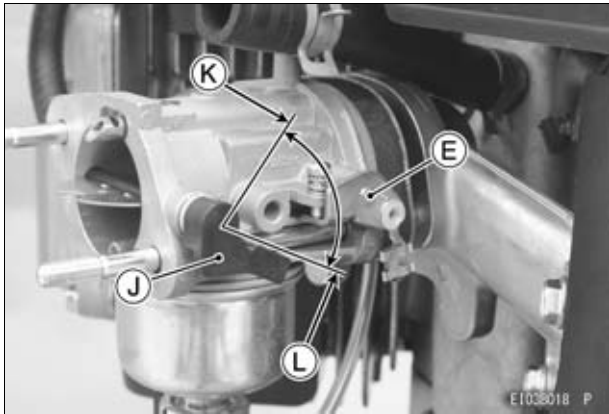
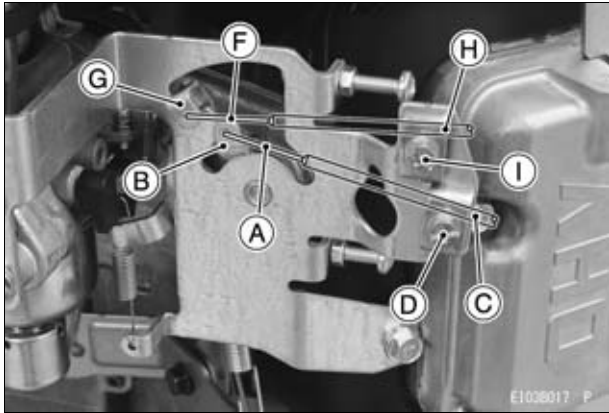
Choke Cable Installation, Adjustment

- Link the choke cable (F) to the choke control lever (G), and loosely clamp the choke cable outer housing (H) with the cable clamp bolt (I).
- Move the equipment choke control to “OPEN” position. Make sure that the carburetor choke valve (J) is fully opened.
- Pull up the outer housing of the choke cable until the inner wire has almost no slack, and tighten the cable clamp bolt.
- Move the equipment choke control to “CHOKE” position. Make sure that the carburetor choke valve is completely closed.
- Make sure that the choke valve turns from fully closed position (K) to fully opened position (L) when actuating the equipment choke control.

Engine Speed Adjustment

NOTE

- Do not tamper with the governor setting or the carburetor setting to increase the engine speed. Every carburetor is adjusted at the factory and a cap or stop plate is installed on each mixture screw.
- If any adjustment is necessary, it must be performed by an authorized Kawasaki engine dealer or equally qualified service facility.



MAINTENANCE

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any nonroad engine repair establishment or individual.

Periodic Maintenance Chart

WARNING

Prevent accidental starting during engine service by removing the spark plug caps.

NOTE

○ *The service intervals can be used as a guide. Service more frequently as necessary by operating conditions.*

◆ : Service more frequently under dusty conditions.

◇ : Service to be performed by an authorized Kawasaki engine dealer or equally qualified service facility.

MAINTENANCE	INTERVAL					
	Daily	Every 50 hr.	Every 100 hr.	Every 200 hr.	Every 250 hr.	Every 300 hr.
Check and add engine oil.	●					
Check for loose or lost nuts and screws.	●					
Check for fuel and oil leakage.	●					
Check battery electrolyte level.	●					
◆ Check or clean air inlet screen.	●					
◆ Check inspection ports and clean.		●				
◆ Clean air cleaner element.			●			
◆ Clean dust and dirt from cylinder and cylinder ◇ head fins.			●			
Tighten nuts and screws.			●			
Change engine oil.	Every 100 hours or 1 year whichever comes first					

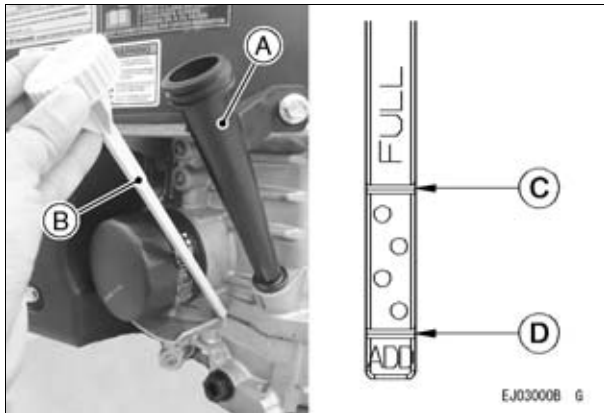
24 MAINTENANCE

MAINTENANCE	INTERVAL					
	Daily	Every 50 hr.	Every 100 hr.	Every 200 hr.	Every 250 hr.	Every 300 hr.
Clean and regap spark plugs.			●			
Change oil filter.				●		
◆ Replace air cleaner element					●	
◇ Clean combustion chamber.						●
◇ Check and adjust valve clearance.						●
◇ Clean and lap valve seating surface.						●

Oil Level Check

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

- Place the engine on level surface. Clean area around the oil gauge before removing it.
- Remove the oil gauge and wipe it with a clean cloth.
- Insert the oil gauge into tube **WITHOUT SCREWING IT IN**.
- Remove the oil gauge to check the oil level. The level should be between “ADD” and “FULL” marks.



- A. Oil Filler Tube**
- B. Oil Gauge**
- C. “FULL” Mark**
- D. “ADD” Mark**

- If the oil level is too high, remove the excess oil through the oil filler opening using a syringe or some other suitable device.
- If the oil level is too low, add oil to reach the correct level. Use the same type and brand of oil that is already in the engine.
- Install and tighten the oil gauge.

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Oil Change

Change oil every 100 hours or 1 year which comes first.

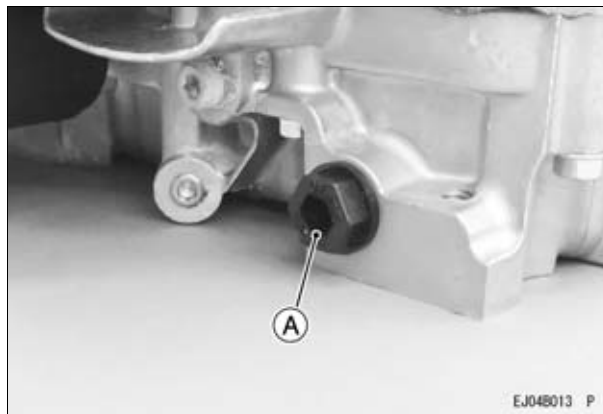
NOTE

○ If a torque wrench is not available, this item should be serviced by an authorized Kawasaki engine dealer or equally qualified service facility.

- Run the engine to warm oil.
- Place the engine on level surface.
- Stop the engine.
- Remove the oil drain plug and drain the oil into a suitable container while engine is warm.

WARNING

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



A. Oil Drain Plug with O-ring

- Replace the O-ring with a new one.
- Apply grease to the O-ring.
- Tighten the oil drain plug.

Tightening Torque

Oil Drain Plug:

6.9 N·m (0.70 kgf·m, 61 in·lb)

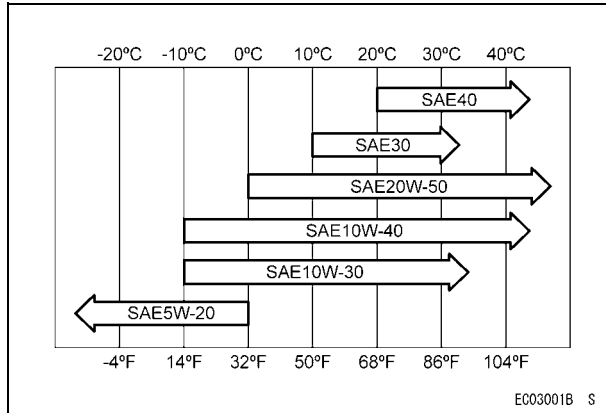
- Fill with good quality engine oil specified in the table.
- Check the oil level (See Oil Level Check section).

Recommended Engine Oil

Type:
API SJ or SL

Engine Oil Viscosity

Choose the viscosity according to the temperature as follows:



NOTE

○ Although 10W-40 engine oil is the recommended oil for most conditions, the oil viscosity may need to be changed to accommodate atmospheric conditions. Using 20W-50 oil in higher ambient temperatures may reduce oil consumption.

Engine Oil Capacity

FT651V FT691V	1.8 L (1.9 US·qt) [when oil filter is not removed]
FT730V	2.1 L (2.2 US·qt) [when oil filter is removed]

WARNING

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

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Oil Filter Change

Change the oil filter every 200 hours.

- Drain the engine oil into a suitable container (See Oil Change section).

<i>NOTICE</i>

Before removing the oil filter, place suitable pan under filter connection.
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- Rotate the oil filter counterclockwise to remove it.
- Replace the oil filter with a new one.
- Coat a film of clean engine oil on the seal of new filter.
- Install new filter rotating it clockwise until the seal contacts the mounting surface. Then rotate the filter 3/4 turn more by hand.
- Install the oil drain plug and refill with fresh oil (See Oil Change section).
- Run the engine for about 3 minutes, stop the engine.
- Check any oil leakage around the filter and oil level (See Oil Level Check section).

Air Cleaner Service

<i>NOTICE</i>

To prevent excessive engine wear, do not run the engine with the air cleaner removed.
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<i>NOTICE</i>

Do not wash air cleaner element. Do not oil air cleaner element. Do not use pressurized air to clean air cleaner element.
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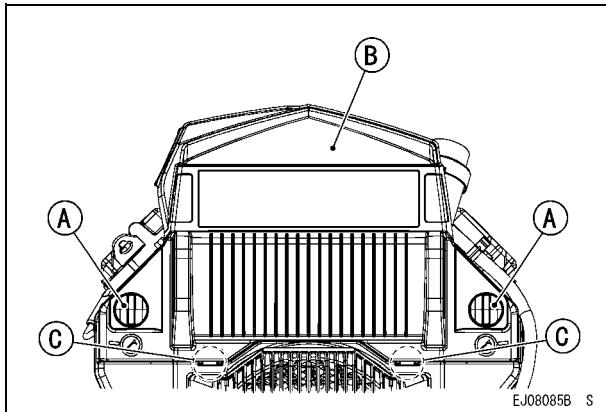
NOTE

- *Operating in dusty or dirty condition may require more frequent maintenance.*

Paper Element

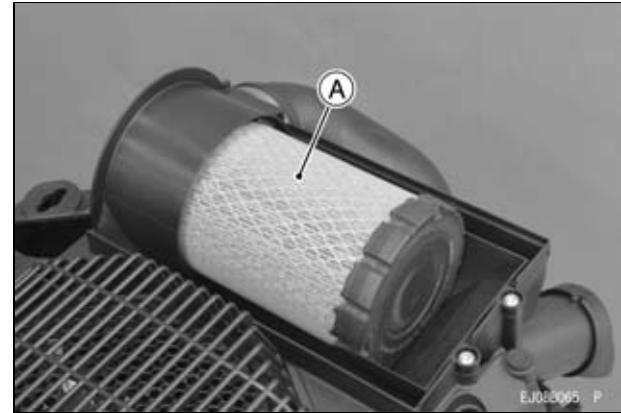
Clean the paper element every 100 hours.

- Turn the knobs counterclockwise.
- Pull up the air cleaner cover to clear the tabs, and remove it.



- A. Knobs**
- B. Air Cleaner Cover**
- C. Tabs**

- Remove the air cleaner element.



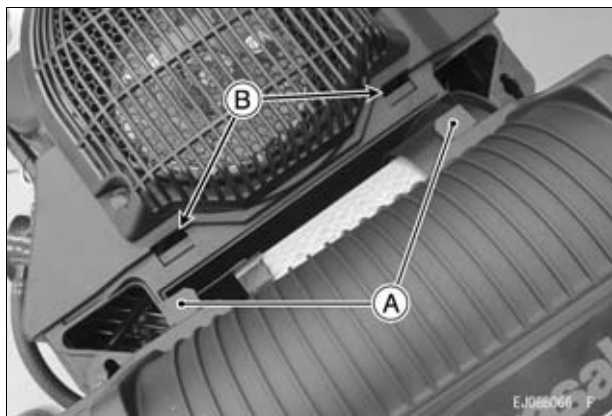
A. Air Cleaner Element

- Clean the paper element by tapping gently to remove dust. If very dirty, replace the paper element with a new one.

Replace with a new air cleaner element every 250 hours.

- Install the air cleaner element.
- Insert the tabs into the holes.
- Turn the knobs clockwise.

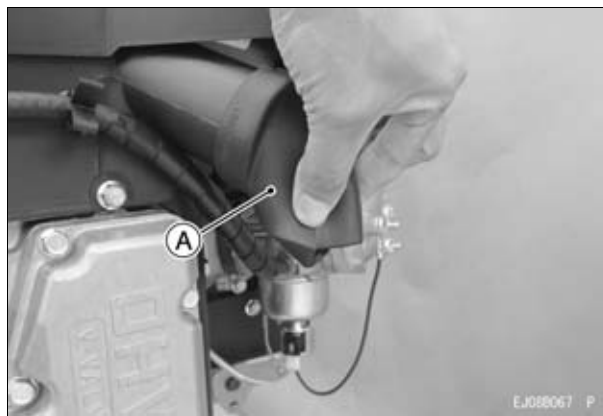
30 MAINTENANCE



- A. Tabs
- B. Holes

Cap (Dust Ejector Valve)

Push and open the cap on the case of the air cleaner body to expel dust and/or water accumulated inside.



- A. Cap (Dust Ejector Valve)

Fuel Filter and Fuel Pump Service

WARNING

Many solvents are highly flammable and may cause serious burns. Improper use of solvents can result in fire or an explosion. Do not use gasoline or low flash-point solvents to clean the fuel filter and/or the fuel pump. Clean only in a well-ventilated area away from sources of sparks or flame, including any appliances with a pilot light.

- The fuel filter can not be disassembled. If the fuel filter gets clogged, replace it with a new one.
- The fuel pumps can not be disassembled. If the fuel pump fails, replace it with a new one.

Spark Plug Service

WARNING

Engines can become extremely hot during normal operation. Hot engine components can cause severe burns. Stop the engine and allow it to cool before checking spark plugs.

Clean or replace the spark plugs and reset the gap every 100 hours of operation.

NOTE

- *If a torque wrench is not available, this item should be serviced by an authorized Kawasaki engine dealer or equally qualified service facility.*
- Disconnect the spark plug caps from the spark plugs and remove the spark plugs.
- Clean the electrodes by scraping or using a non-metal brush (nylon etc.) to remove carbon deposits.
- Inspect for cracked porcelain, other wear or damage. Replace the spark plug with a new one if necessary.
- Check the spark plug gap and reset it if necessary. To change the gap, bend only the side electrode, using a spark plug tool.

Spark Plug Gap

NGK BPR4ES	0.75 mm (0.030 in.)
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- Tighten the spark plugs.

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Tightening Torque

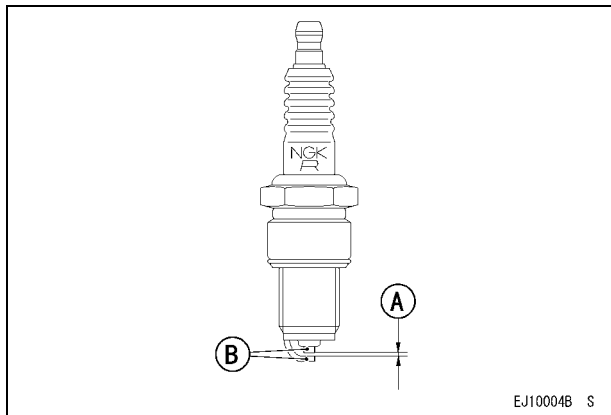
Spark Plugs:

22.5 N·m (2.29 kgf·m, 16.6 ft·lb)

- Fit the spark plug caps on the spark plugs securely.
- Pull up the spark plug caps lightly to make sure of the installation of the spark plug caps.

RECOMMENDED SPARK PLUG

NGKBPR4ES



- A. Spark Plug Gap
- B. Electrodes

Cooling System Cleaning

NOTICE

Do not run engine before all cooling system parts are reinstalled to keep cooling as intended.

Intake Screen

Before each operation, check that the air intake screen is free from grass and debris. Clean the screen if necessary.

Inspection Ports

Every 50 hours of operation, check dust or debris inside fan housing. To check inside, remove the air cleaner cover and see inside from the inspection ports of fan housing. Clean or blow the dust if needed. If it is difficult to clean the dust with the ports, remove the fan housing and clean the dirt completely.

- Remove the air cleaner cover (See Air Cleaner Service section in this chapter).
- Check the inside from the inspection ports of fan housing and clean if necessary.



A. Inspection Ports

- Install the air cleaner cover (See Air Cleaner Service section).

Cylinder and Cylinder Head Fins

Every 100 hours of operation, check and clean the cooling fins and the inside of engine shrouds to remove grass, chaff or dirt clogging the cooling system and causing overheating.

NOTE

- *If a torque wrench is not available, this item should be serviced by an authorized Kawasaki engine dealer or equally qualified service facility.*
- Remove the air cleaner cover [A] (see Air Cleaner Service section).
- Remove the quick rivets and guard [B].

- Remove the air intake screen bolts, air intake screen [C] and spacer.
- Loosen the clamp [D].
- Remove the fuel tube [E] from the clamps [F].
- Remove the fuel pump bolts and fuel pump [G].
- Remove the fan housing bolts [H].
- Loosen the fan housing bolts [I].
- Disconnect the tube [J] and remove the fan housing [K].

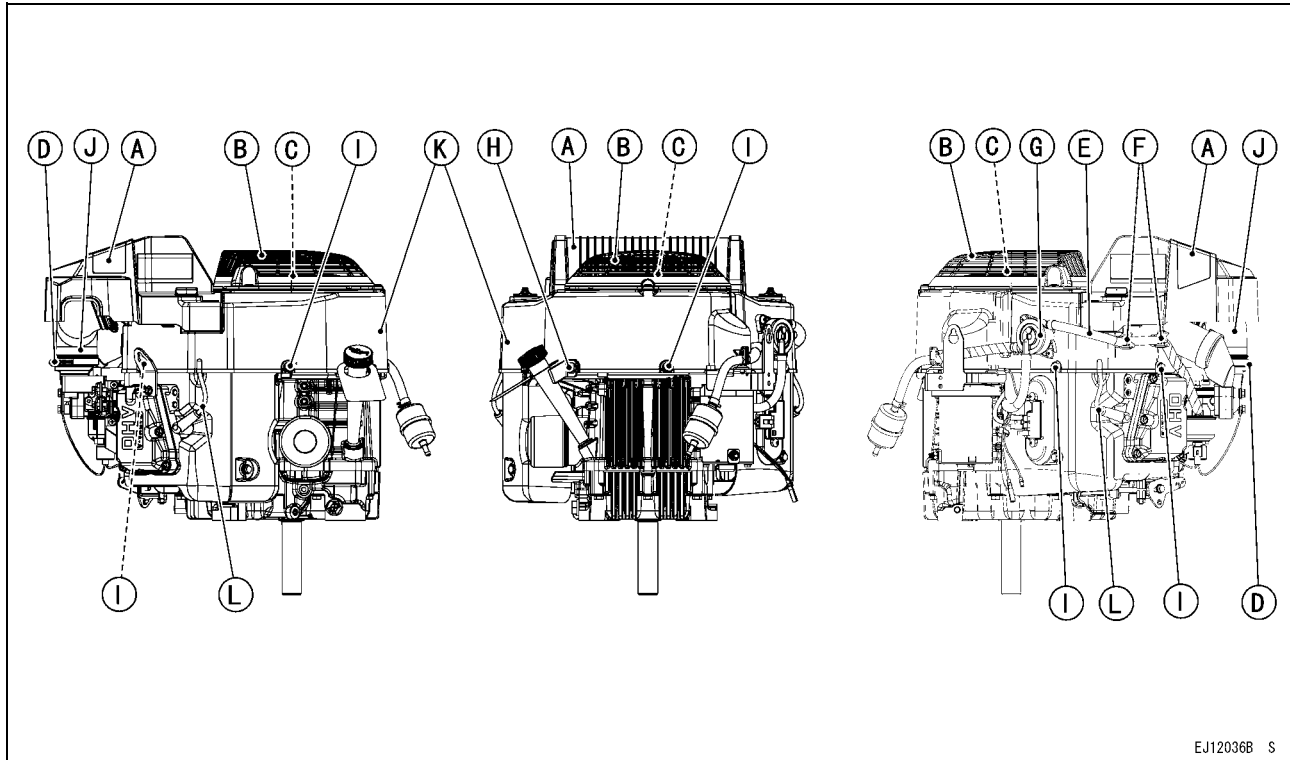
NOTE

- *Cover the intake port of the throttle body to keep dust out of the opening.*
- Clean the cylinder and cylinder head fins.
- Install the removed parts.

NOTE

- *Do not pinch the ignition coil leads [L] to installing the fan housing.*

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EJ12036B S

- A. Air Cleaner Cover
- B. Guard
- C. Air Intake Screen
- D. Clamp
- E. Fuel Tube
- F. Clamps
- G. Fuel Pump

- H. Fan Housing Bolt (Remove)
- I. Fan Housing Bolts (Loosen)
- J. Tube
- K. Fan Housing
- L. Ignition Coil Leads

Torque Table

Fastener	Size	Length	Qty	Torque		
				N·m	kgf·m	in·lb
Fan Housing Bolt	M6	16 mm	5	9.75	0.994	86.3
Fan Housing Bolt (Oil Filler Tube)	M6	22 mm	1	9.75	0.994	86.3
Screen Bolt	M6	12 mm	3	6.85	0.699	60.6

STORAGE

Engine Storage Procedure

When not operating your Kawasaki engine more than 30 days, add fuel stabilizer to fuel tank and run engine for 5 minutes then drain the fuel tank.

After draining the fuel tank, run the engine at low idle until engine stalls.

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Drain fuel 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.

⚠ WARNING

Gasoline is a toxic substance. Dispose of gasoline properly. Contact your local authorities for approved disposal methods.

- Remove the spark plugs and pour approx 1 ~ 2 mL (1/2 teaspoon) of engine oil through the spark plug holes then screw the spark plugs in after cranking the engine a few times. Slowly crank the

engine until you feel the compression then leave it there. This traps the air inside the cylinders and prevents rust inside the engine.



A. Spark Plug Hole

- Wipe the body with oily cloth.
- Wrap the engine with plastic sheeting and store it in a dry place.
- Change engine oil for next use after period of storage (See Oil Change section in the MAINTENANCE chapter).

TROUBLESHOOTING GUIDE

If the engine malfunctions, carefully examine the symptoms and the operating conditions, and use the table below as a guide to troubleshooting.

Symptom		Probably Cause	Remedy
Engine won't start or output is low	Insufficient compression	Loose spark plugs	Tighten properly
		Loose cylinder head bolts	◇
		Faulty pistons, cylinders, piston rings, or head gaskets	
		Faulty valves	
		Loose cylinder head bolts	
	No fuel to combustion chamber	No fuel in fuel tank	Fill fuel tank
		Fuel valve not in "ON" position	Open fuel valve lever.
		Blocked fuel filter or tube	Change fuel filter or fuel tube
		Blocked air vent in tank cap	Clean fuel tank cap
		Faulty carburetor	◇
	Spark plugs fouled by fuel	Clogged air cleaner	Clean or replace
		Incorrect grade/type of fuel	Change fuel
		Water in fuel	
		Over rich fuel/air mixture	Open choke. ◇
		Faulty carburetor	◇

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Symptom		Probably Cause	Remedy
Engine won't start or output is low	No spark or weak spark	Faulty spark plugs	Replace spark plugs
		Engine switch left in "OFF" position	Turn engine switch to "START" position (See M)
		Faulty ignition coils	◇
Low output	Engine overheats	Clogged air cleaner	Clean or replace
		Air inlet screen or cooling air path clogged with dirt	
		Insufficient engine oil	Replenish or change oil
		Poor ventilation around engine	Select a better location
		Carbon build-up in combustion chamber	◇
	Engine speed won't increase	Faulty governor	◇

◇: Service to be performed by an authorized Kawasaki engine dealer or equally qualified service facility.

M: For Control Panel Switch Type, move the throttle lever on the equipment away from its low speed end to turn the engine switch to "START" position.

ENVIRONMENTAL PROTECTION

To help preserve the environment, properly discard used batteries, oils and fluids, or other engine components.

Consult an authorized Kawasaki engine dealer or equally qualified service facility or local environmental waste agency for their proper disposal procedure. This also applies to disposal of the entire engine at the end of its life.

SPECIFICATIONS

	FT651V, FT691V, FT730V
Type	Air-cooled, 4-stroke vertical shaft OHV, gasoline engine
Bore × Stroke	78 × 76 mm (3.1 × 3.0 in.)
Displacement	726 mL (44.3 cu.in)
Ignition Type	Solid-state ignition
Direction of Rotation	Counterclockwise facing the PTO Shaft
Starting System	Electric starter
Dry Weight : kg (lbs)	44.0 (97.0)

NOTE

- *Specifications are subject to change without notice.*
- *Dry weight excludes that of fuel tank and muffler.*

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

⚠ ADVERTENCIA

El escape del motor de este producto contiene productos químicos que, según el Estado de California, provocan cáncer, defectos de nacimiento o afectan a la fecundidad.

For repair or maintenance assistance contact an authorized Kawasaki engine dealer or equally qualified service facility.

For warranty assistance please contact an authorized Kawasaki engine dealer.

Kawasaki engine dealer locator can be found on our website: www.kawasakienginesusa.com

For further assistance email: kawasakienginesupport@kmc-usa.com or call 877-364-6404

Para obtener asistencia en la reparación y mantenimiento, póngase en contacto con un distribuidor autorizado de motores Kawasaki o con un centro de servicio de similar cualificación.

Para obtener asistencia respecto a la garantía, póngase en contacto con un distribuidor autorizado de motores Kawasaki. El localizador de distribuidores de motores Kawasaki se encuentra disponible en nuestro sitio web: www.kawasakienginesusa.com

Si necesita más asistencia, envíe un correo electrónico a kawasakienginesupport@kmc-usa.com o llame al 877-364-6404



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