FX651V
FX691V
FX730V

4-Stroke Air-Cooled V-Twin Gasoline Engine

OWNER'S MANUAL

Kawasaki

SAFETY AWARENESS

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

⚠ WARNING

This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to, or destruction of equipment.

NOTE

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

READ THE OPERATING INSTRUCTIONS OF THE EQUIPMENT THIS ENGINE POWERS.

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Apr. 2016 (5) (M)

READ THIS FIRST

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

⚠ WARNING

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 lamp 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 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.
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 explose 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 your 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 fuel system and an ignition system having optimum ignition timing characteristics. The fuel system 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 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	**All Other States**
Engines Greater Than or Equal To 225 cc	**Engines Greater Than or Equal To 225 cc**
Model Year – 2008 and later	Model Year – 2011 and later
Durability Period – 1 000 hours	Durability Period – 1 000 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 1000 meters (3300 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, or the consumer, following repair recommendations specified in the appropriate Kawasaki Service document or parts catalog.

Operating with the wrong 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.*
- *Engine models with fuel injection do not require high altitude performance adjustment.*

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 engine 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 or DFI system, and their internal parts
- Spark Plug
- Magneto or electronic ignition system
- Fuel filter element
- Air cleaner elements
- Crankcase
- Cylinder heads
- Breather chamber and internal parts
- Intake pipe and tube
- Muffler or any internal portion of the muffler

FOREWORD

This Owner's Manual provided to aid you in the safe and reliable operation of your Engine. READ AND UNDERSTAND IT THOROUGHLY BEFORE OPERATING YOUR ENGINE.

READ THE OPERATING INSTRUCTIONS OF THE EQUIPMENT THIS ENGINE POWERS.

To ensure a long, trouble-free life for your Engine, give it proper care and maintenance in accordance with this Owner's Manual.

Please note that the photographs and illustrations shown in this manual are made based on Model FX730V as a typical example among other similar models.

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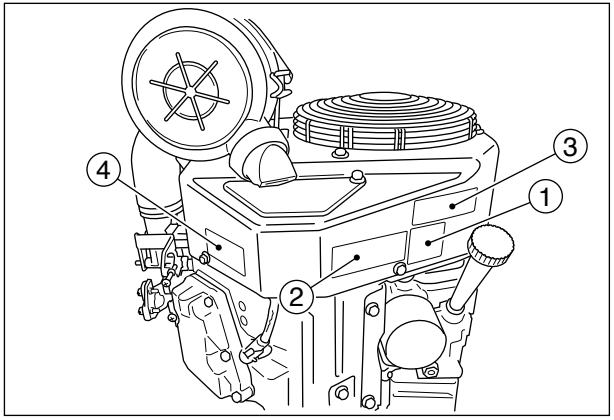
GENERAL INFORMATION

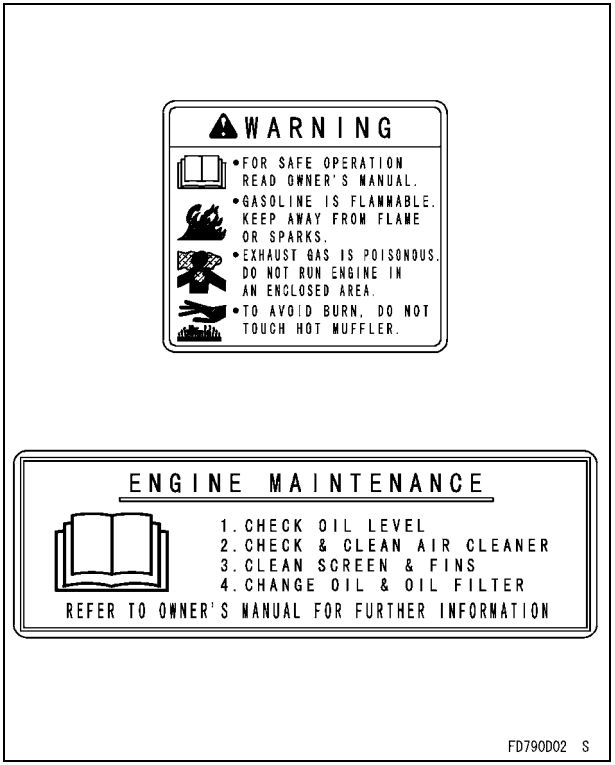
Label Location



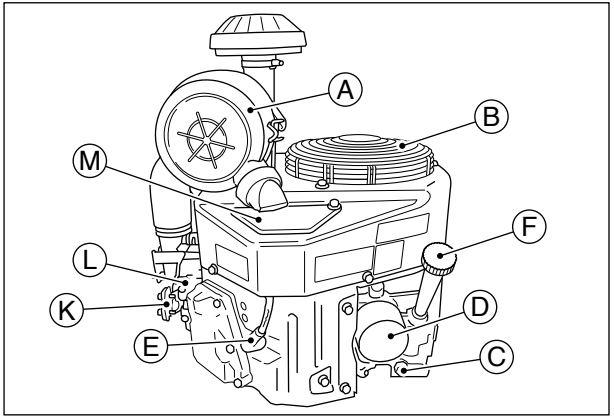
1. **Warning Label**
2. **Important Engine Information Label**
3. **Engine Maintenance Label**
4. **Engine Serial Number Label**

The engine serial number is your only means of identifying your particular engine from others of the same model type.

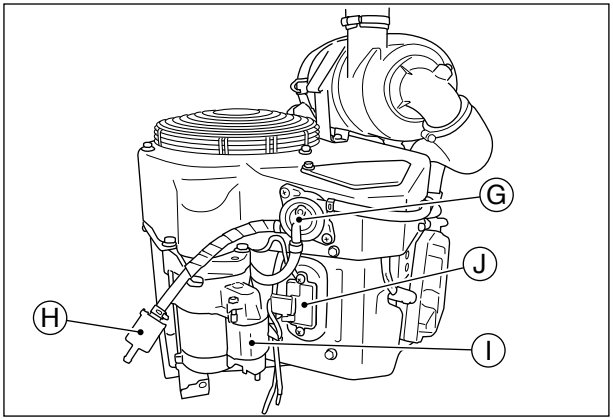
This engine serial number is needed by your dealer when ordering parts.



Parts Location



A. Air Cleaner
B. Air Inlet Guard
C. Oil Drain Plug
D. Oil Filter
E. Spark Plugs/Spark Plug Caps
F. Oil Gauge
K. Control Panel
L. Carburetor
M. Cleanout Panel (if equipped)



G. Fuel Pump
H. Fuel Filter
I. Electric Starter
J. Voltage Regulator

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.*

Engine Oil Capacity

Engine Oil Capacity

FX651V FX691V FX730V	1.8 L (1.9 US·qt) [when oil filter is not removed]
	2.0 L (2.1 US·qt) [when oil filter is removed]

FUEL AND OIL RECOMMENDATIONS

Fuel

Use only clean, fresh, unleaded regular grade gasoline.

CAUTION
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.

Antiknock Index: (RON + MON)/2

RON = Research Octane Number

MON = Motor Octane Number

NOTE

- *If “knocking or pinging” occurs, use a different brand of gasoline or higher octane rating.*

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

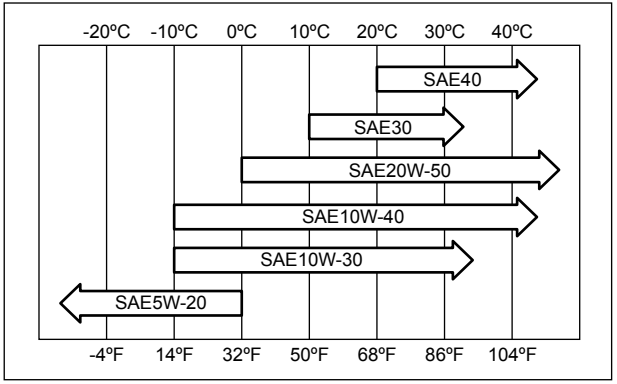
You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents and corrosion inhibitors to protect the fuel system. Gasoline containing more than 5% methanol by volume may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of your fuel system.

Engine Oil

The following engine oils are recommended.
API Service Classification: SF, SG, SH, SJ or SL.

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.*

PREPARATION

Fuel

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions.
Before refueling, turn the engine switch to "OFF" position. Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks, including any appliances with a pilot lamp.
Never fill tank so that fuel level rises into the filler neck. If tank is overfilled, heat may cause fuel to expand and overflow through vents in tank cap.
After refueling make sure tank cap is securely closed.
If gasoline is spilled, wipe it up immediately.

Engine Oil

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.

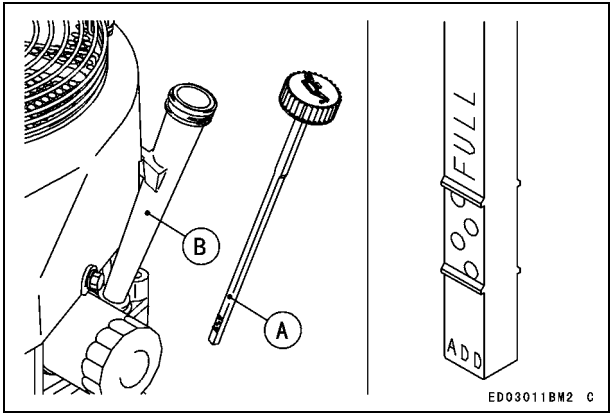
- Place the engine on level surface. Clean area around the oil gauge before removing it.
- Remove the oil gauge (A) and wipe it with a clean cloth.
- Pour the oil slowly to "FULL" mark on the oil gauge.
- Insert the oil gauge into tube (B) WITHOUT SCREWING IT IN.
- Remove the oil gauge (A) to check the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

CAUTION

Do not fill above the "FULL" mark. Excess oil will cause a smoking condition, and may cause the engine to overheat.

Engine Oil Capacity

FX651V FX691V FX730V	1.8 L (1.9 US·qt) [when oil filter is not removed]
	2.0 L (2.1 US·qt) [when oil filter is removed]



CAUTION
The engine is shipped without engine oil.

STARTING

Starting the Engine

⚠ WARNING

Exhaust gases contain carbon monoxide, a colorless, odorless, poisonous gas.
Do not operate the unit in enclosed areas. Provide adequate ventilation at all times.

⚠ 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 "FUEL AND OIL RECOMMENDATIONS" 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.*

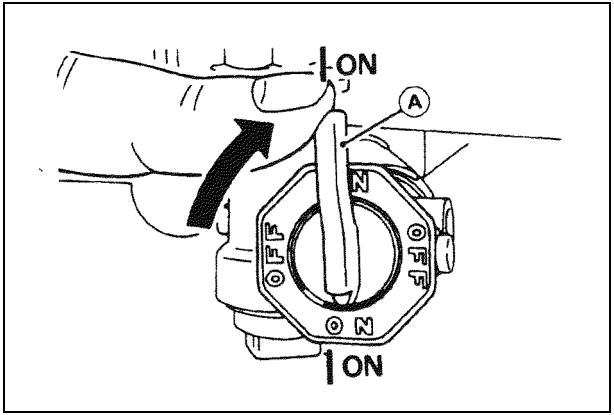
● Before starting the engine, disconnect all possible external loads.
Open the fuel valve (A) on the equipment.
Move throttle lever on dash to half throttle position.
Use full choke when the engine is cold, but in hot weather or when the engine is already warm, use half choke or leave the choke fully open.
Put the switch key into the engine switch.
Turn the switch key to the START position on the equipment. Usually engine will start within 3 seconds.

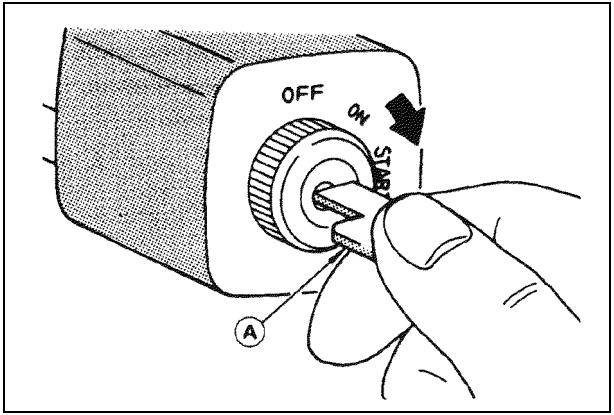
CAUTION

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.*





CAUTION

Whenever you start engine, make sure warning lamp is not illuminated after engine starts. If warning lamp 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 (A) 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 load position (halfway) before putting the equipment under load. Then, move the throttle lever (A) on the equipment to its “FAST” position.

CAUTION

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.

CAUTION

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.

CAUTION

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

STOPPING

Stopping the Engine

⚠ WARNING

Always remove Engine Key from switch when leaving equipment unattended or when equipment is not in use.

Ordinary Stop

- Move the throttle lever (A) to **"slow"** position.
- Lower the engine speed to the idle speed. Keep running at the idle speed for about one minute.

CAUTION

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.

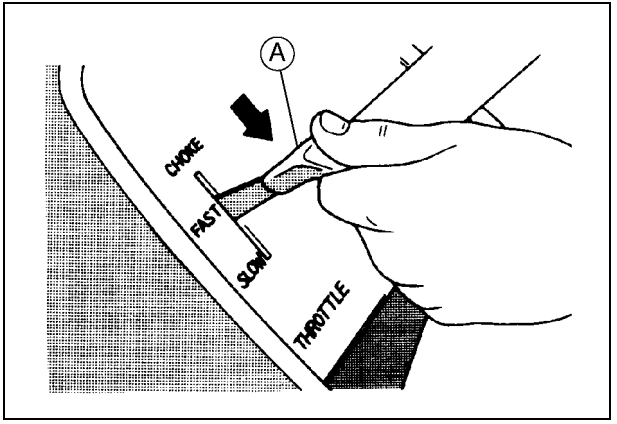
For Control Panel Switch Type, move the throttle lever against its low speed end to turn the ignition off.

Emergency Stop

- Immediately turn the engine switch or the switch key to "OFF" position.

Close the fuel valve on the equipment.

For Control Panel Switch Type, move the throttle lever on the equipment to its low speed end. Moving the lever to its low speed end turns ignition off.



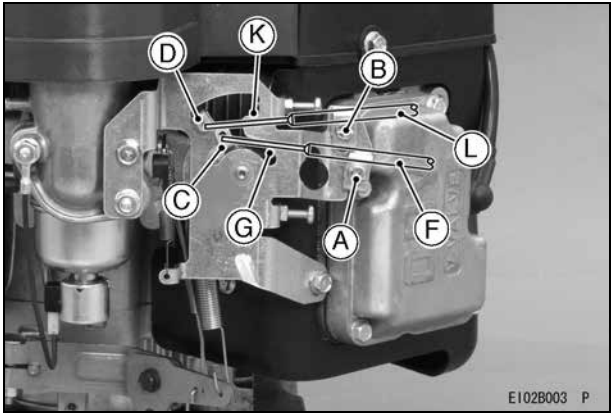
ADJUSTMENT

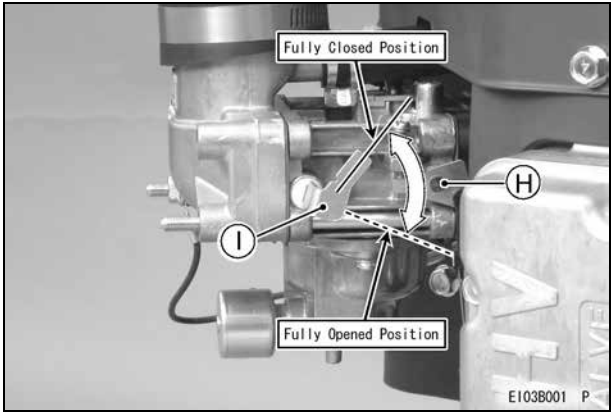
Throttle Cable Installation, Adjustment

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

Choke Cable Installation, Adjustment

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

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

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.	Every 500 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.	●						

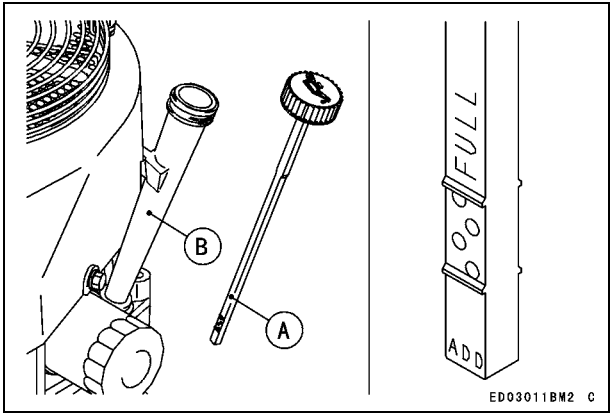
MAINTENANCE	INTERVAL						
	Daily	Every 50 hr.	Every 100 hr.	Every 200 hr.	Every 250 hr.	Every 300 hr.	Every 500 hr.
Check cleanout cover.		●					
♦ ◇ Clean dust and dirt from cylinder and cylinder headfins.			●				
Tighten nuts and screws.			●				
Change engine oil.			●				
Clean and regap spark plugs.			●				
Change oil filter.				●			
♦ Replace air cleaner primary element (Heavy Duty Air Cleaner).					●		
♦ Check air cleaner secondary element (Heavy Duty Air Cleaner).					●		
◇ Clean combustion chamber.						●	
◇ Check and adjust valve clearance.						●	
◇ Clean and lap valve seating surface.						●	
♦ Replace air cleaner secondary element (Heavy Duty Air Cleaner).							●

Oil Level Check

Check oil level daily and before each time of operation. Be sure oil level is maintained. See “PREPARATION” chapter.

Engine Oil Capacity

FX651V FX691V FX730V	1.8 L (1.9 US·qt) [when oil filter is not removed]
	2.0 L (2.1 US·qt) [when oil filter is removed]



Oil Change

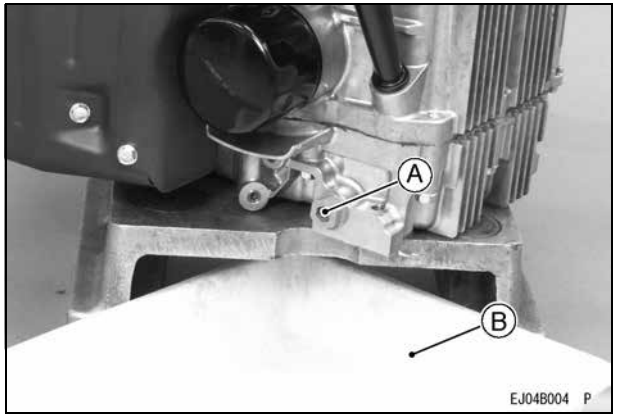
Change oil every 100 hours.

- Run the engine to warm oil.
  Be sure the engine (equipment) is level.
  Stop the engine.
  Remove the oil drain plugs (A) and drain the oil into 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.

- Install the oil drain plugs.
  Remove oil gauge and refill with fresh oil (See "FUEL AND OIL RECOMMENDATIONS" chapter).
  Check the oil level (See "PREPARATION" chapter for oil level check).



A. Oil Drain Plug
B. Suitable Container

⚠ WARNING

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

Oil Filter Change

- Change the oil filter every 200 hours of operation.

⚠ WARNING

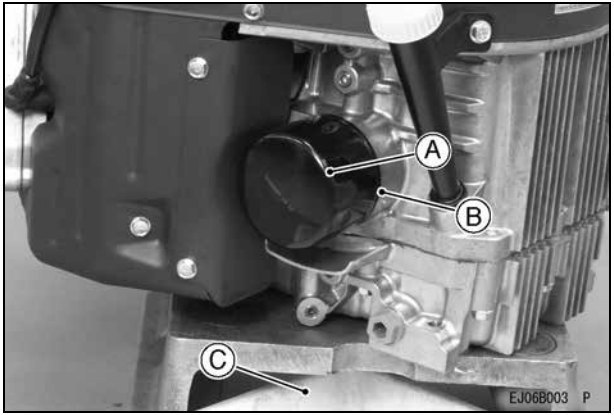
Hot engine oil can cause severe burns. Allow engine temperature to drop from hot to warm level before attempting to remove oil filter.

- Drain engine oil into a suitable container (C).

CAUTION

Before removing the oil filter, place suitable pan under filter connection.

- Rotate the oil filter (A) counterclockwise to remove it.
  Coat a film of clean engine oil on seal of new filter. Install new filter rotating it clockwise until seal contacts mounting surface (B). Then rotate filter 3/4 turn more by hand.
  Supply engine oil as specified.
  Run the engine for about 3 minutes, stop engine, and check oil leakage around the filter.
  Add oil to compensate for oil level drop due to oil filter capacity (See “PREPARATION” chapter for oil level check).



A. Oil Filter
B. Mounting Surface
C. Suitable Container

⚠ WARNING

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

Air Cleaner Service

Heavy Duty Air Cleaner

This air cleaner elements are not recommended to be cleaned. Replace each air cleaner element with a new one at the maintenance time as shown in the maintenance chart.

CAUTION

To prevent excessive engine wear, do not run the engine with the air cleaner removed.

CAUTION

Do not wash air cleaner elements.
Do not oil air cleaner elements.
Do not use pressurized air to clean air cleaner elements.

NOTE

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

Primary Element

Replace the primary element every 250 hrs.

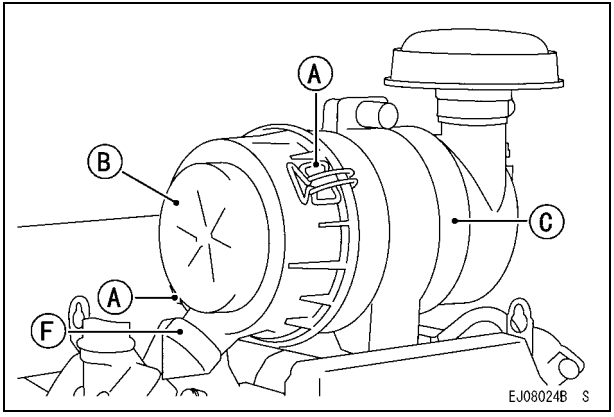
Secondary Element

- Replace the secondary element with a new one, if the secondary element is dirty when the primary element is checked.
- Replace the secondary element with a new one every 500 hrs.

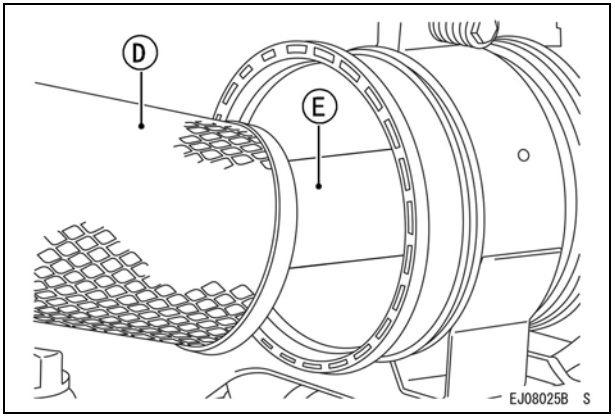
Cap (Dust Ejector Valve)

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

- Unfasten the two retaining clamps (A) and remove the case (B) from the air cleaner body (C).
- Remove the primary element (D) and the secondary element (E) from the air cleaner body by pulling out them.



A. Retaining Clamps
B. Case
C. Air Cleaner Body
F. Cap (Dust Ejector Valve)



D. Primary Element
E. Secondary Element

- Install the new air cleaner elements into the air cleaner body.
- Reinstall the case and the cap (F) then securely fasten the two retaining clamps.

Spark Plug Service

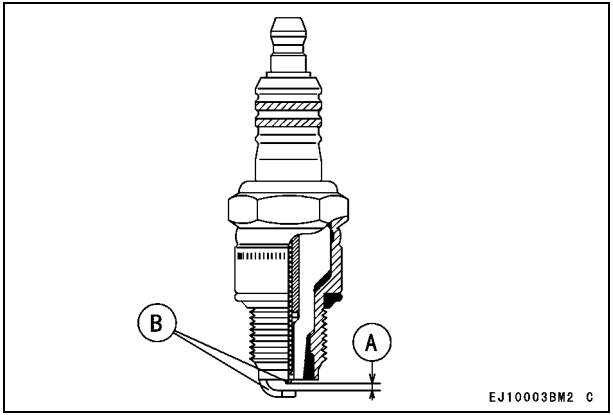
⚠ WARNING

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

Clean or replace the spark plugs and reset spark plug gap (A) every 100 hours of operation.

- Disconnect the spark plug caps from the spark plugs and remove the spark plugs.
  Clean the electrodes (B) by scraping 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 if necessary. The gap must be 0.75 mm (0.030 in). To change the gap, bend only the side–electrode, using a spark plug tool.
  Install and tighten the spark plugs to 22 N·m (2.2 kgf·m, 16 ft·lb). Connect the spark plug caps.

RECOMMENDED SPARK PLUG
NGK BPR4ES



A. Spark Plug Gap
B. Electrodes

Fuel Filter and Fuel Pump Service

⚠ WARNING

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 lamp.

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

Cooling System Cleaning

Before each operation, check that the air inlet (rotary) screen (C: inside(A)) is free from grass and debris. Clean the screen if necessary. When cleaning the air inlet screen, loose bolts(B) and remove the guard(A).

Every 50 hours of operation,
(Model with cleanout cover)

Check dust or debris inside fan housing. To check inside, remove the cleanout cover and see inside of the 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.

Every 100 hours of operation,
(For all models)

Check and clean the cooling fins and the inside of engine shrouds (F) to remove grass, chaff or dirt clogging the cooling system and causing overheating. When cleaning, remove the guard(A), air inlet screen(C) then remove the fan housing(E) and engine shrouds(F) (includes removing the air cleaner, fuel pump, and the voltage regulator parts) if necessary.

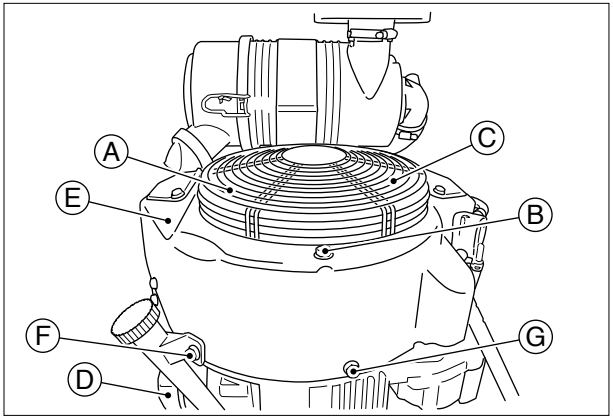
CAUTION

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

[Bolts Size, Tightening Torque]

Bolts	Size	Length	Tightening torque
B	M6	12 mm	5.9 N·m (0.6 kgf·m, 52 in·lb)
C*	M6	12 mm	5.9 N·m (0.6 kgf·m, 52 in·lb)
D	M6	16 mm	5.9 N·m (0.6 kgf·m, 52 in·lb)
G	M6	12 mm	5.9 N·m (0.6 kgf·m, 52 in·lb)

* TORX Bolts (C: inside guard (A))



STORAGE

Fuel System Draining

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 drain the fuel tank, run the engine at low idle until engine stalled.

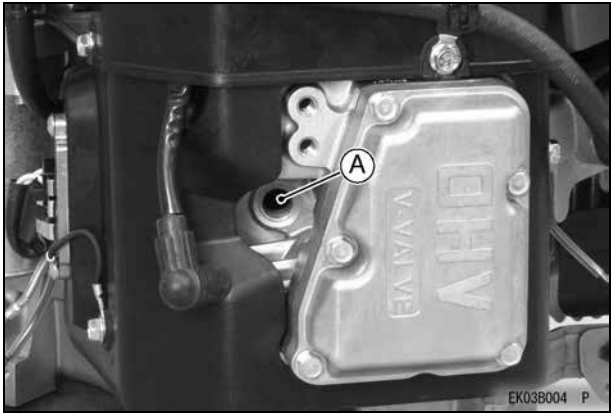
⚠ WARNING

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

- Clean every part of the engine.
  Be sure that the engine switch or switch key is positioned at “OFF”.
  Close the fuel valve and remove the sediment bowl.
  Put a pan under the fuel valve to receive the drained fuel, and open the fuel valve to drain the fuel from fuel tank completely.
- Install the sediment bowl and open the fuel valve.
- To remove the fuel from the carburetor, run the engine to use up the fuel in the carburetor.
- Remove the spark plugs and pour approx. 1 ~ 2 mL (0.06 ~ 0.1 cu. in.) of engine oil through the spark plug holes (A) and then screw the spark plugs in after turning the engine a few times. Slowly turn the engine until you feel compression and then leave it there. This blocks the air inside the cylinder and prevents rust inside the engine.
  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 (refer to “Oil Change” section in “MAINTENANCE” chapter).

⚠ WARNING

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



A. Spark Plug Hole

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	Faulty pistons, cylinders, piston rings, and head gaskets	◇
		Faulty valves	
		Loose spark plugs	Tighten properly
		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	Over rich fuel/air mixture	Open choke. Rotate engine with spark plugs removed to discharge excess fuel. Clean spark plugs.
		Clogged air cleaner	Clean
		Faulty carburetor	◇
		Incorrect grade/type of fuel	Change fuel
		Water in fuel	

Symptom		Probably Cause	Remedy
	No spark or weak spark	Faulty spark plugs	Replace spark plugs
		Faulty ignition coil	◇
		Engine switch left in “OFF” position	Turn engine switch to “START” position (See **M**)
Low output	Engine overheats	Clogged air cleaner	Clean
		Air inlet screen or cooling air path clogged with dirt	
		Insufficient engine oil	Replenish or change oil
		Carbon build-up in combustion chamber	◇
		Poor ventilation around engine	Select a better location
	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 protect our environment, properly discard used batteries, engine oil, gasoline, coolant, or other components that you might dispose of in the future.

Consult an authorized Kawasaki engine dealer or equally qualified service facility or local environmental waste agency for their proper disposal procedure.

SPECIFICATIONS

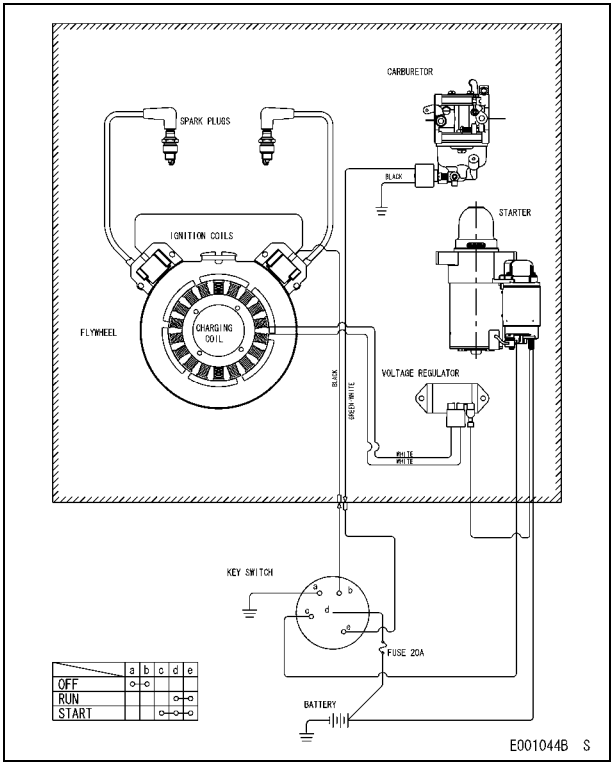
	FX651V, FX691V, FX730V
Type	Air-cooled, 4-stroke OHV, V-twin cylinder, gasoline engine
Bore × Stroke	78 × 76 mm (3.07 × 2.99 in.)
Displacement	726 mL (44.3 cu.in)
Ignition System	Solid-state ignition
Direction of Rotation	Counterclockwise facing the PTO Shaft
Starting System	Electric starter
Dry Weight : kg (lbs)	46 (101.4)

NOTE

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

WIRING DIAGRAM

Wiring Diagram



NOTE

○ *Portion Surrounded by hatching Shows Kawasaki Procurement Parts.*

⚠ WARNING

For electrical safety, always remove cable from negative (–) side of battery before attempting any repair or maintenance.

Battery Capacity Recommended

Battery Capacity
12 V 550 CCA Class

Part No. 99920-2251-05

⚠ WARNING

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

For repair / warranty assistance please contact your local Kawasaki Authorized Dealer,
email: kawpower-website@kmc-usa.com or
call toll-free 1-877-364-6404

Kawasaki Heavy Industries, Ltd. Motorcycle & Engine Company

Printed in Japan GB