



OWNER'S MANUAL

4-STROKE AIR-COOLED V-TWIN GASOLINE ENGINE

FH601V
FH641V
FH661V
FH680V
FH721V

P/N 99920-2159-04

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

○ *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.

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 light of any appliance while refueling, servicing fuel system, draining gasoline and/or adjusting fuel system.

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 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 your Kawasaki dealer and install it in the correct position.

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.

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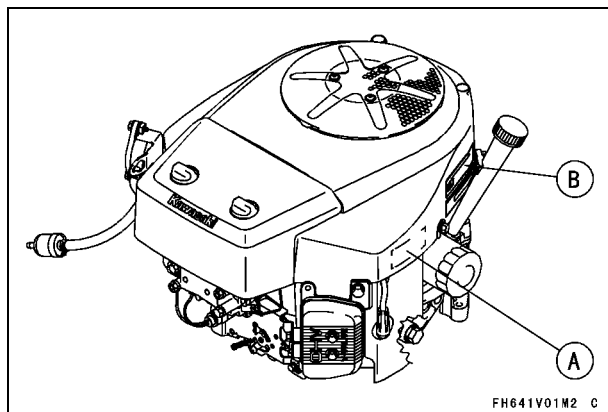
Dec. 2010 (2) (M)

Please note that the photographs and illustrations shown in this manual are made based on Model FH601V as a typical example among other similar models.

4 GENERAL INFORMATION

GENERAL INFORMATION

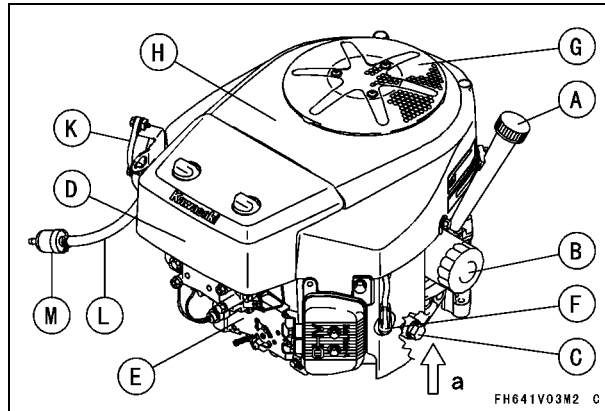
Location of Safety Related Labels



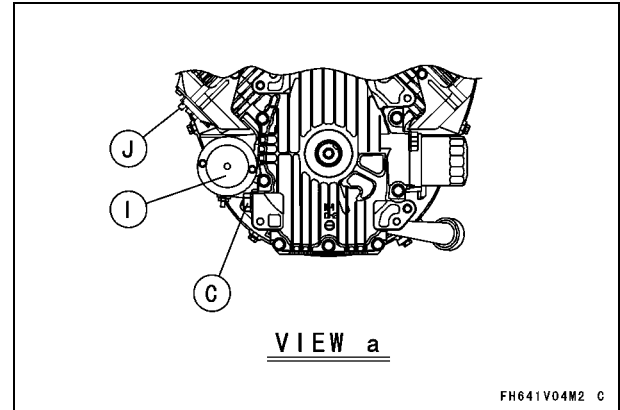
- A. Warning
B. Engine Maintenance



Location of Parts



- A. Oil Gauge/Filler
- B. Oil Filter
- C. Oil Drain Plugs
- D. Air Cleaner/Carburetor
- E. Control Panel
- F. Spark Plug Caps/Spark Plugs
- G. Air-Intake Screen
- H. Fan Housing
- K. Fuel Pump
- L. Fuel Tube
- M. Fuel Filter



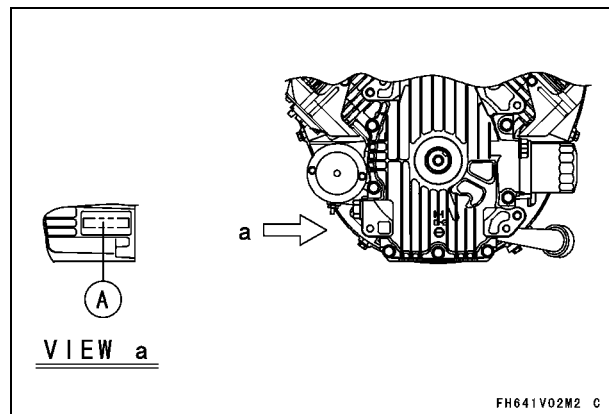
- I. Electric Starter
- J. Voltage Regulator

6 GENERAL INFORMATION

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.



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

FH601V FH641V FH680V	1.5 L (1.6 US·qt) [when oil filter is not removed]
	1.7 L (1.8 US·qt) [when oil filter is removed]
FH721V	1.5 L (1.6 US·qt) [when oil filter is not removed]
	1.8 L (1.9 US·qt) [when oil filter is removed]

8 FUEL AND OIL RECOMMENDATIONS

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.

NOTE

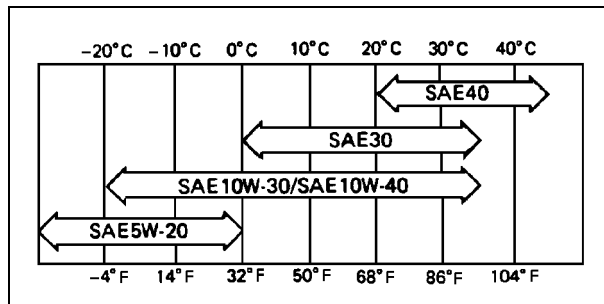
○ If “knocking or pinging” occurs, use a different brand of gasoline or higher octane rating.

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 as follows:



NOTE

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

PREPARATION

Fuel

WARNING

Gasoline is extremely flammable and can be explosive under certain conditions

Before refueling, turn the engine switch to the 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 light.

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

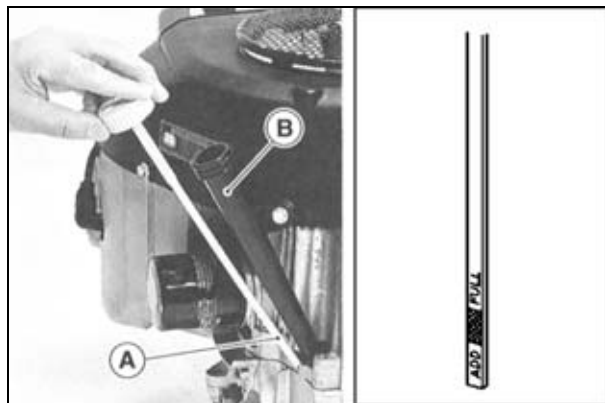
Check the engine oil daily before starting the engine otherwise shortage of the engine oil may cause serious damage to the engine such as seizure.

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

Engine Oil Capacity

FH601V FH641V FH680V	1.5 L (1.6 US·qt) [when oil filter is not removed]
	1.7 L (1.8 US·qt) [when oil filter is removed]
FH721V	1.5 L (1.6 US·qt) [when oil filter is not removed]
	1.8 L (1.9 US·qt) [when oil filter is removed]

10 PREPARATION



STARTING

Start 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 temperature expected (See FUEL AND OIL RECOMMENDATIONS chapter).

- Use fresh gasoline.
- Protect the engine or the equipment from direct exposure to weather when not in operation.
- Before starting the engine, insure all possible external loads are disconnected.
- Open the fuel valve (A) on the equipment.
- Put the engine switch key into the engine switch. For control Panel Switch Type, move the throttle lever on the equipment to its halfway position. Moving the lever away from its low speed end turns ignition on.
- Move the throttle lever to its halfway position between low speed and high speed.

[Associated choke type]

For A Cold Engine – Place the throttle lever (A) into “CHOKE” position.

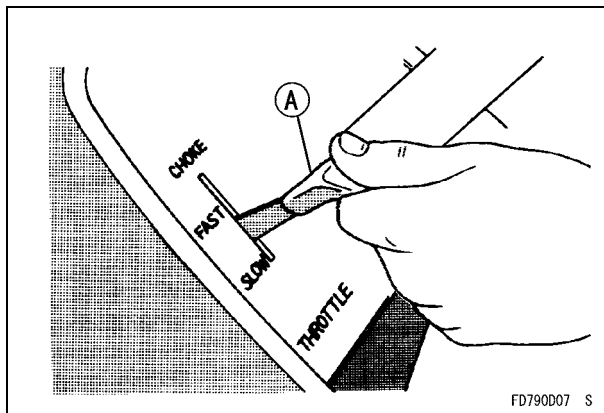
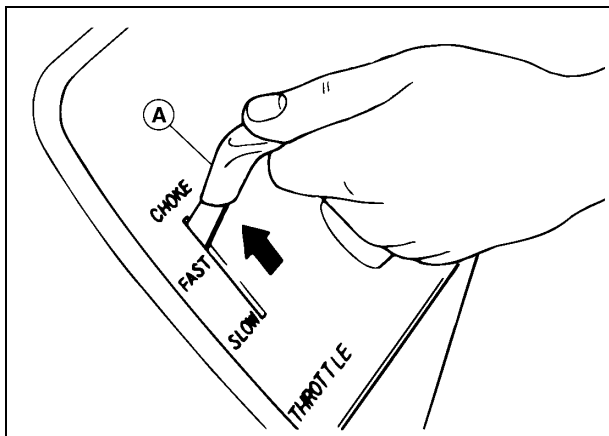
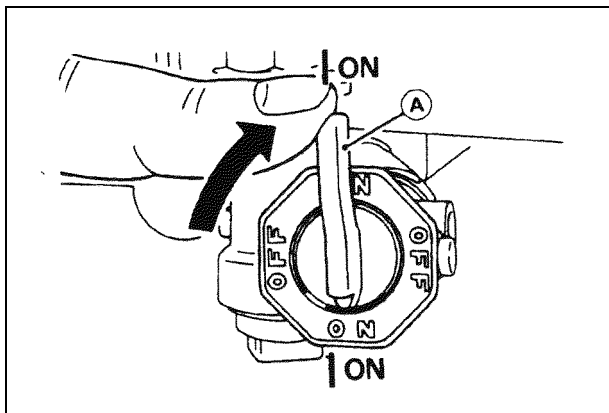
For A Warm Engine (normal operating temperatures) – Place the throttle lever midway between “SLOW” and “FAST” positions.

[Separate choke type]

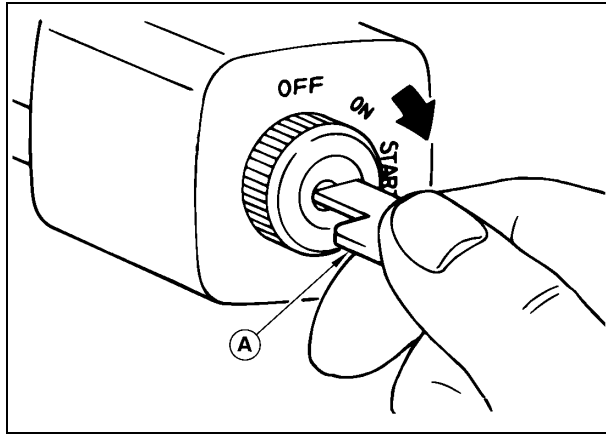
For A Cold Engine - Place the choke control lever into “CHOKE” position.

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

12 STARTING



- Put the switch key (A) 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.

CAUTION

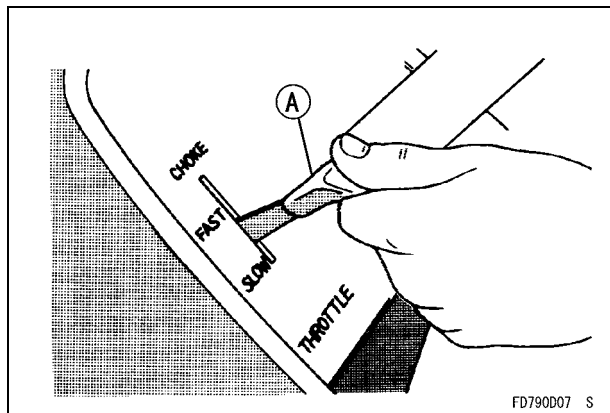
Whenever you start engine, make sure warning light is not illuminated after engine starts. If warning light comes on, stop engine immediately and check oil level (if equipped).

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 light (oil pressure) on dash is not on. The warning light 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

Ordinary Stop

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

CAUTION

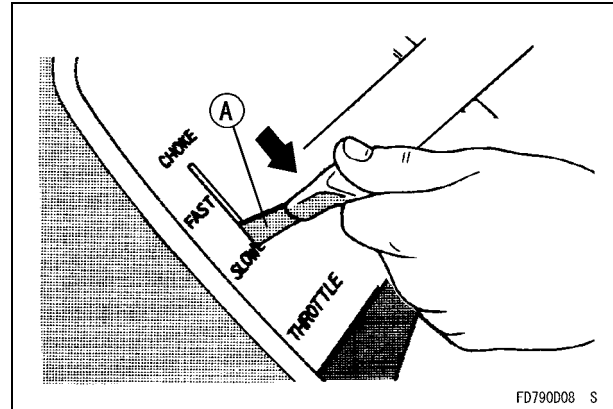
Engine damage can occur from run-on or after-burning if engine is stopped suddenly from high speed loaded operation. Reduce engine speed to idle for one minute before shutting engine off.

- 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 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 against its low speed end. Moving the lever against its low speed end turns ignition off.



WARNING

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

ADJUSTMENT

Two types of choke control are used for FH601V, FH641V, FH680V, FH721V Model Engines.

Associated Choke Type

Throttle Cable Installation, Adjustment

Make sure that the throttle lever on the equipment has been linked to the engine with the throttle cable.

- Leave the cable clamp bolt (A) loose.
- Align the hole (B) in the speed control lever (C) with the hole (D) in the base plate (E) moving the lever (C); insert 6 mm dia. pin (or 6 mm bolt) through two holes.
- 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). Remove the 6 mm dia. pin.

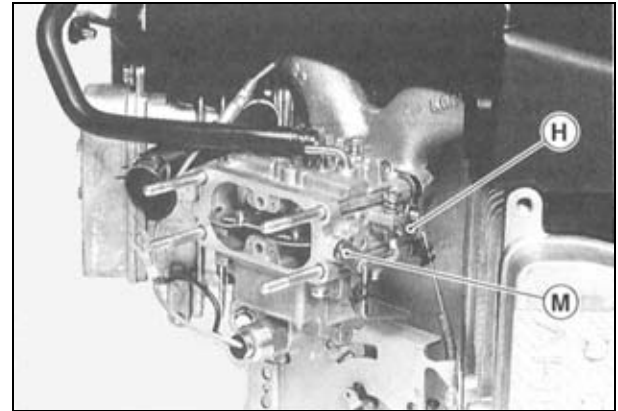
Make sure that the carburetor choke valve (M) is closed completely when the throttle lever on the equipment is moved to "CHOKE" position. If not, perform "CHOKE ADJUSTMENT".

Choke Adjustment Associated Choke Type

- Stop the engine.
- Align the hole (B) in the speed control lever (C) with the hole (D) in the base plate (E) by moving

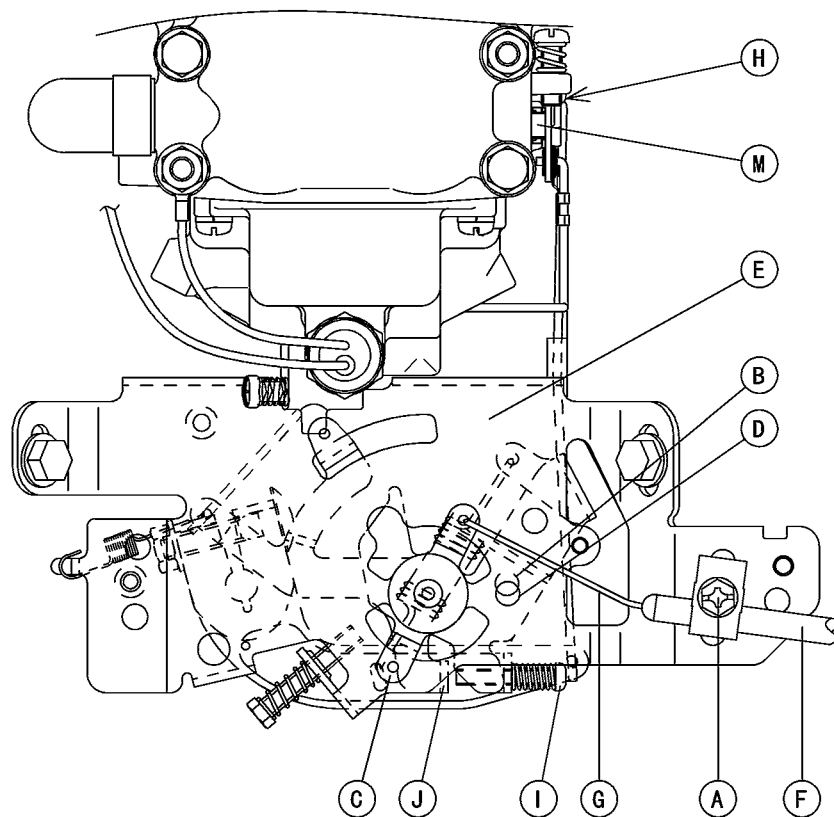
the lever (C); insert 6 mm dia. pin (or 6 mm bolt) through two holes.

- Turn the choke setting screw (I) so that the clearance between the screw end and the tongue of the lever (J) is zero. Remove the 6 mm dia. pin or bolt.
- Make sure that the choke valve can move to full open side and full close side by turning the lever.



H. Throttle Valve
M. Choke Valve

18 ADJUSTMENT



Separate Choke type

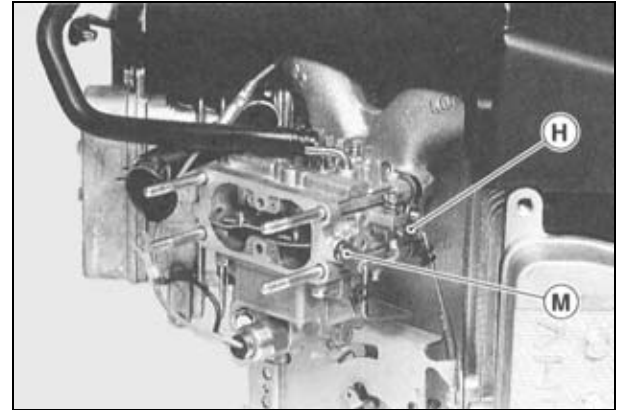
Throttle Cable Installation, Adjustment

- 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 (M) 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).

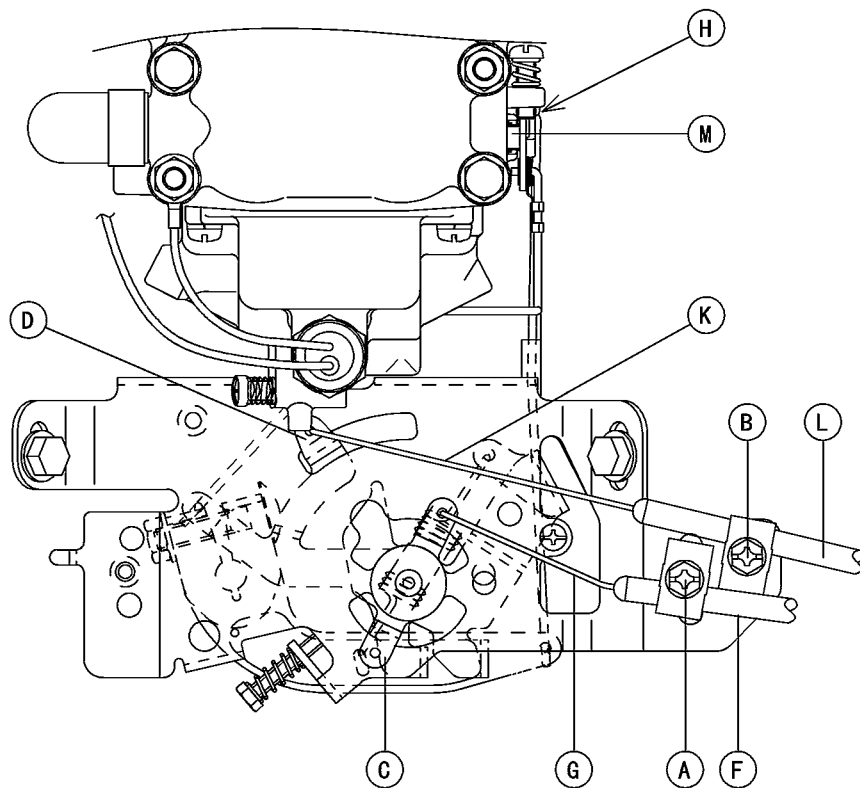
- Move the equipment choke control to “CHOKE” position. Make sure that the carburetor choke valve (M) is completely closed.
- Make sure that the choke valve turns from fully closed position to fully opened position when actuating the equipment choke control.



H. Throttle Valve

M. Choke Valve

20 ADJUSTMENT



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 was installed on each mixture screw.*
- *If adjustment is needed, it must be performed by your authorized Kawasaki dealer.*

MAINTENANCE

Periodic Maintenance Chart

WARNING

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

MAINTENANCE	INTERVAL					
	Daily	Every 25 hr.	Every 50 hr.	Every 100 hr.	Every 200 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 intake screen.	•					
♦ Clean air cleaner foam element.		•				
♦ Clean air cleaner paper element.				•		
♦ Clean dust and dirt from cylinders and cylinder head fins.				•		
Tighten nuts and screws.				•		
Change engine oil.	Every 100 hours or 1 year whichever comes first					

MAINTENANCE	INTERVAL					
	Daily	Every 25 hr.	Every 50 hr.	Every 100 hr.	Every 200 hr.	Every 300 hr.
Check and clean oil cooler fins (FH721V engine)				•		
Clean and regap spark plugs.				•		
Change oil filter.					•	
♦ Replace air cleaner paper element.					•	
K Clean combustion chambers.						•
K Check and adjust valve clearance.						•
K Clean and lap valve seating surface.						•

NOTE

○ *The service intervals indicated are to be used as a guide. Service should be performed more frequently as necessary by operating conditions.*

♦ : Service more frequently under dusty conditions.

K : Have an authorized Kawasaki dealer perform these service.

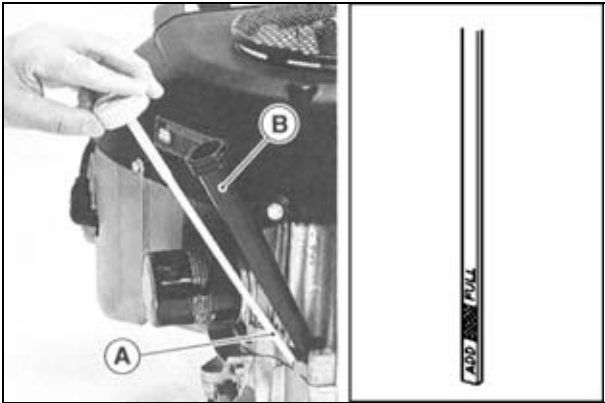
24 MAINTENANCE

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

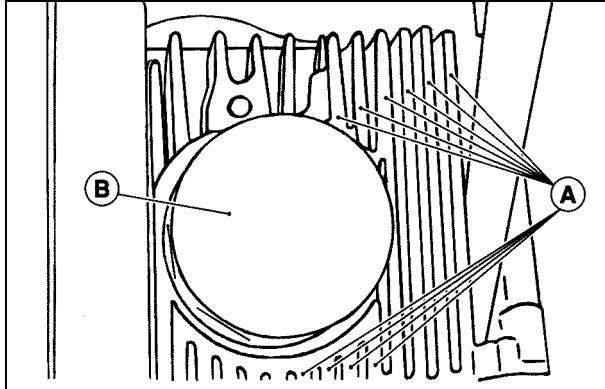
FH601V FH641V FH680V	1.5 L (1.6 US-qt) [when oil filter is not removed]
	1.7 L (1.8 US-qt) [when oil filter is removed]
FH721V	1.5 L (1.6 US-qt) [when oil filter is not removed]
	1.8 L (1.9 US-qt) [when oil filter is removed]



Oil Cooler Service (FH721V Model)

Check and clean oil cooler fins every 100 hours.

- Clean dirt off the outside fins with a brush or with compressed air.



A. Oil Cooler Fins
B. Oil Filter

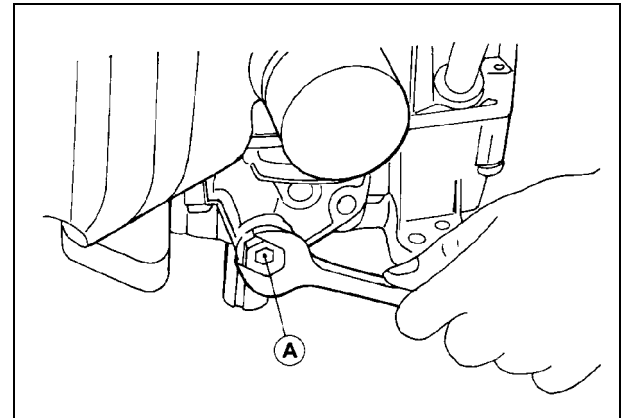
Oil Change

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

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



A. Oil Drain Plug

26 MAINTENANCE

- Install the oil drain plug.
- 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 section).

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

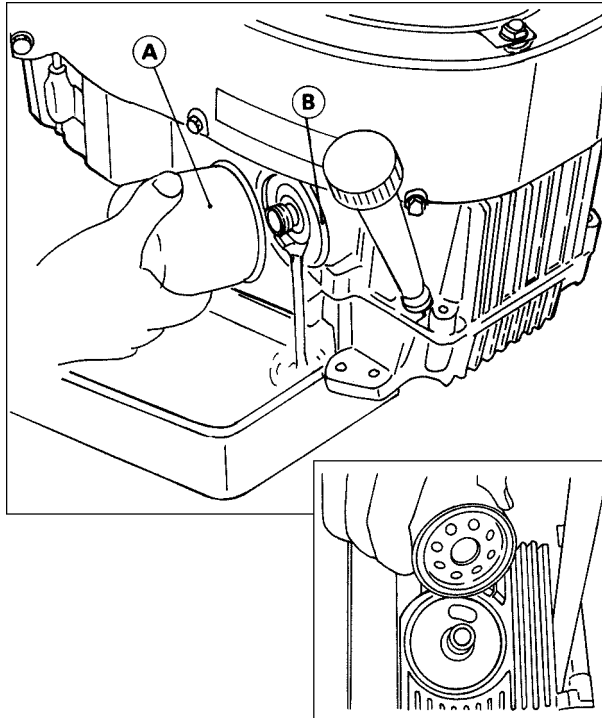
Hot engine oil can cause severe burns. Allow engine temperature to drop from hot to warm level before attempting to remove oil filter.

- Drain engine oil into a suitable container.

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 section).



A. Oil Filter
B. Mounting Surface

⚠ 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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Air Cleaner Service

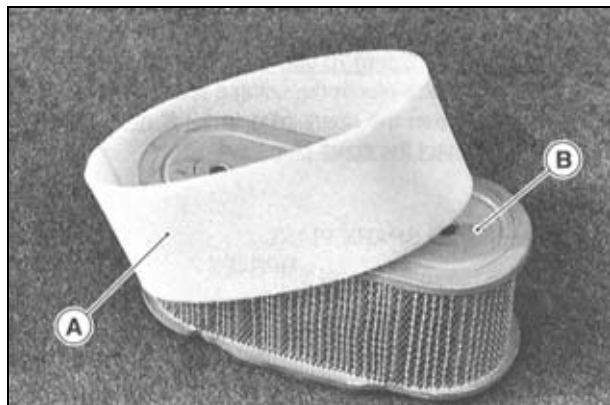
CAUTION

Do not run the engine with the air cleaner removed.
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Foam Element

Clean the foam element (A) every 25 hours.

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



Paper Element

Clean the paper element (B) every 100 hours.

- Clean the element by tapping gently to remove dust. If very dirty, replace the element with a new one.
- Replace with a new paper - element yearly or 200 hours. Whichever comes first.

NOTE

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

CAUTION

Do not wash paper-element. Do not oil foam or paper element. Do not use pressurized air to clean paper-element.
--

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 light.

NOTE

- *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.*

Spark Plug Service

WARNING

Hot engine components can cause severe burns.

Stop engine and allow it to cool before checking spark plugs.

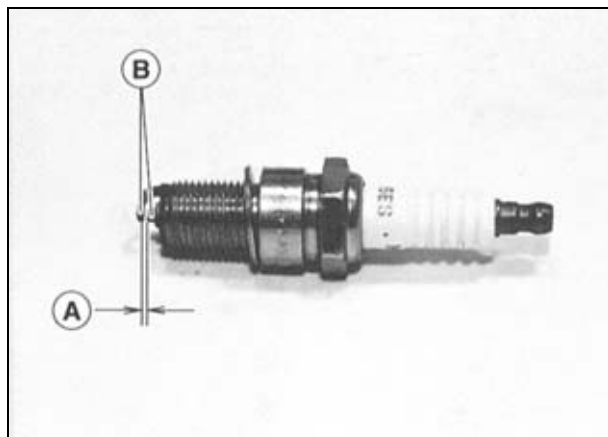
Clean or replace the spark plugs and reset gap (A) every 100 hours of operation.

- Disconnect the spark plug caps from spark plugs and remove the spark plugs.
- 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 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).
- 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

30 MAINTENANCE



A. Spark Plug Gap
B. Electrodes

Cooling System Cleaning

Before each use, check that the air-intake (rotary) screen (A) is free from grass and debris and clean if necessary. Every 100 hours of operation, check and clean the cooling fins and inside of engine shrouds to remove grass, chaff or dirt clogging the cooling system and causing overheating. When cleaning, remove the air-intake screen (A), and the air cleaner cap (C) the fan housing (B).

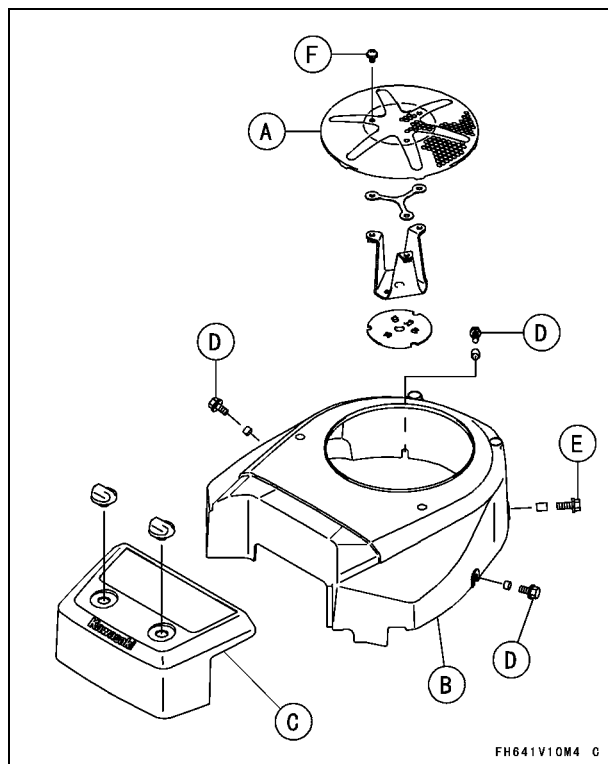
CAUTION

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
D	M6	12 mm	5.9 N·m (0.6 kgf·m, 4.3 ft·lb)
E	M6	20 mm	5.9 N·m (0.6 kgf·m, 4.3 ft·lb)
★F	M6	12 mm	5.9 N·m (0.6 kgf·m, 4.3 ft·lb)

★F: Screws



STORAGE

Fuel System Draining

Engine to be stored over 30 days should be completely drained of fuel to prevent gum deposits forming on essential carburetor parts, fuel filter and tank.

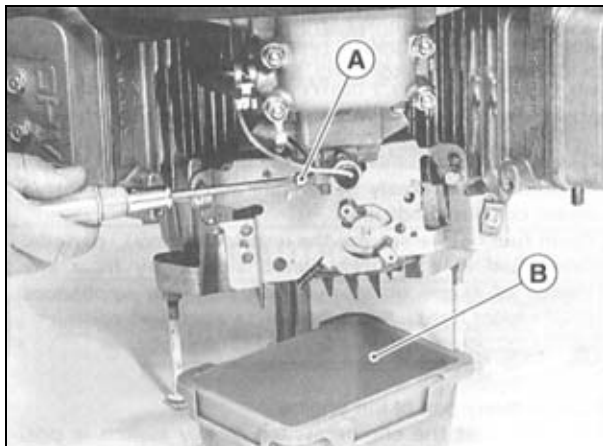
WARNING

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.

- Clean every part of the engine.
- Be sure that the engine switch or switch key is positioned at "OFF" position.
- Close the fuel valve and remove the sediment bowl.
- Put a pan under the fuel valve to receive the drained gasoline and open the fuel valve to drain the gasoline from fuel tank completely.
- install the sediment bowl.
- Put a pan under the carburetor and loosen the drain screw of the carburetor to drain the gasoline completely.

- Tighten the drain screw.



A. Fuel Drain Screw
B. Pan

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 (0.06 ~ 0.1 cu in.) of engine oil through the spark plug holes 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 traps the air inside the cylinders 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 MAINTENANCE chapter for Oil Change section).

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	K
		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	K
	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	K
		Incorrect grade/type of fuel	Change fuel
		Water in fuel	
	No spark or weak spark	Faulty spark plugs	Replace spark plugs
		Faulty ignition coils	K
		Engine switch left in "OFF" position	Turn engine switch to "START" position (See M)

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Symptom		Probably Cause	Remedy
Low output	Engine overheats	Clogged air cleaner	Clean
		Air-intake screen or cooling air path clogged with dirt	
		Insufficient engine oil	Replenish or change oil
		Carbon build-up in combustion chamber	K
		Poor ventilation around engine	Select a better location
	Engine speed won't increase	Faulty governor	K

K : Have an authorized Kawasaki dealer perform these service.

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

SPECIFICATIONS

	FH601V, FH641V, FH680V	FH721V
Type of engine	Air– cooled, 4–stroke OHV, V-twin cylinder, gasoline engine	
Bore x Stroke	75.2 x 76 mm (2.96 x 2.99 in.)	
Displacement	675 mL (41.19 cu.in)	
Ignition System	Solid–state ignition	
Direction of rotation	Counterclockwise facing the PTO Shaft	
Starting system	Electric starter	

NOTE

○ *Specifications subject to change without notice.*

WIRING DIAGRAM

Wiring Diagram (With 12 V - 13 A Charging Coil)

⚠ WARNING

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

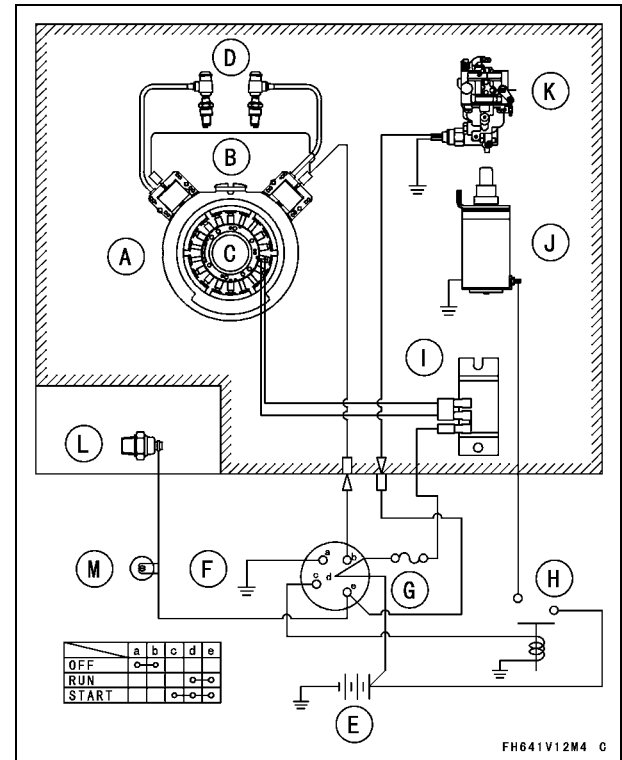
Battery Capacity Recommended

Model	Battery Capacity
Lawn Mower	12 V 200 CCA Class
Snow Thrower	12 V 280 CCA Class

NOTE

○ Portion Surrounded by hatching Shows Kawasaki Procurement Parts.

- | | |
|------------------|---------------------------------|
| A. Flywheel | H. Solenoid Switch |
| B. Ignition Coil | I. Voltage Regulator |
| C. Charging Coil | J. Electric Starter |
| D. Spark Plugs | K. Carburetor |
| E. Battery | L. Oil Pressure Switch (Option) |
| F. Key Switch | M. Oil Warning Light |
| G. Fuse | |



 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 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.kawasakenginesusa.com

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



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