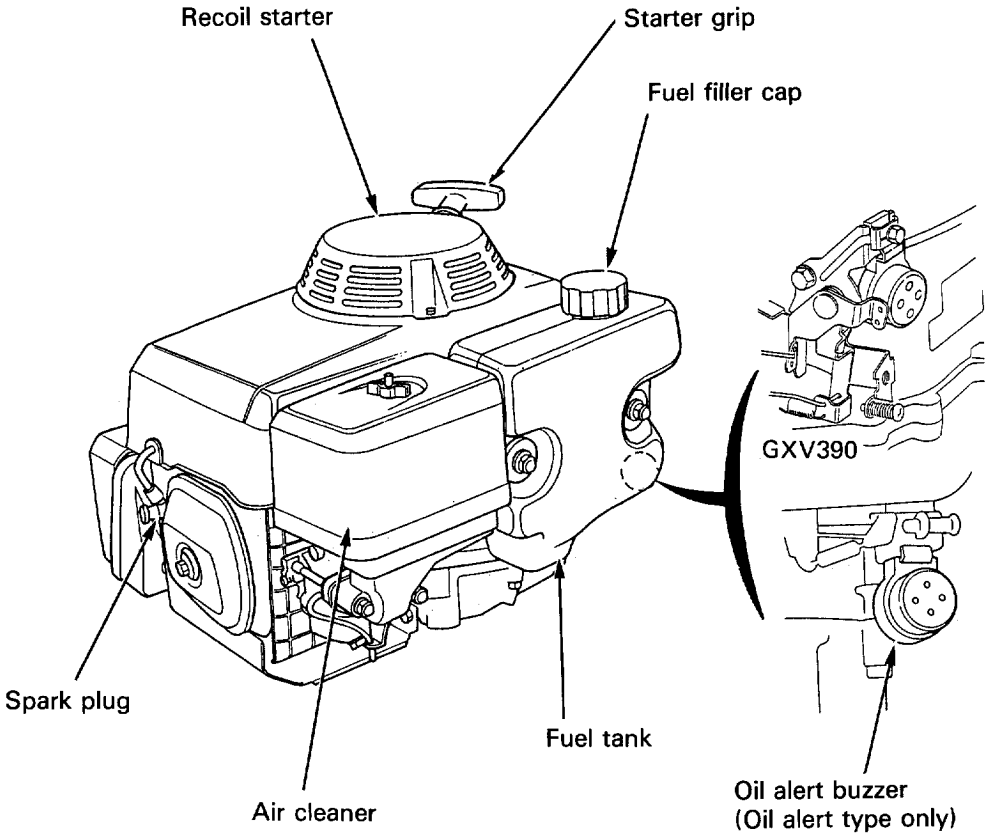
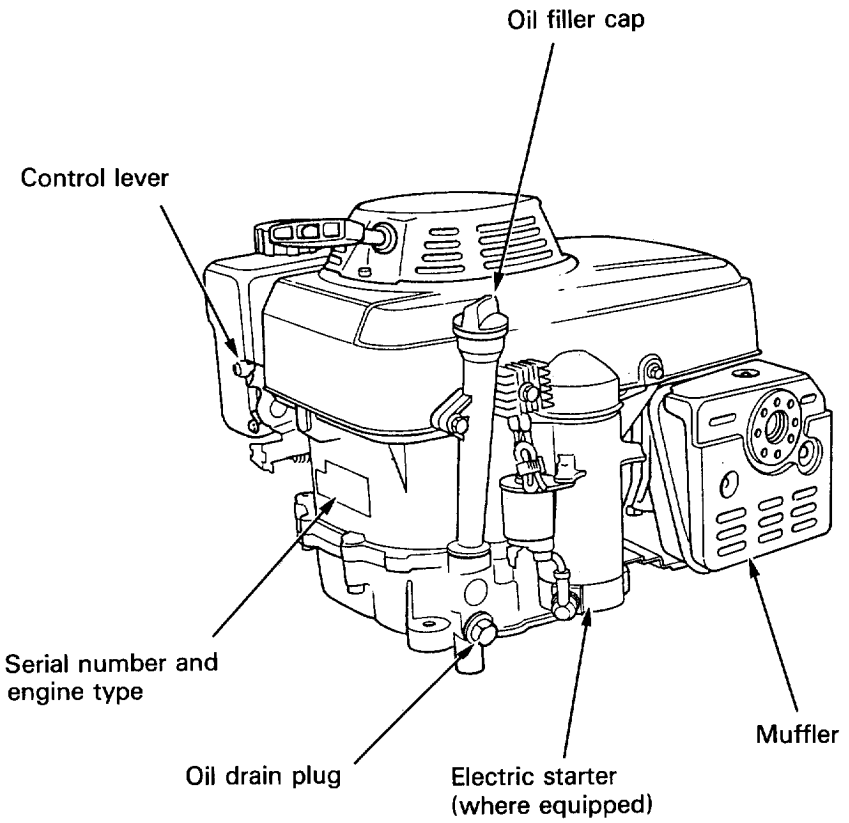
CONTENTS

⚠ WARNING To ensure safe operation –

- Always make a pre-operation inspection (page 7) before you start the engine. You may prevent an accident or equipment damage.
- To prevent fire hazards and to probide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the engine.
- Children and pets must be kept away from the area of operation due to a possibility of burns from hot engine components or injury from any equipment the engine may be used to operate.
- Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- Do not place flammable objects such as gasoline, matches, etc., close to the engine while it is running.
- Refuel in a well-ventilated area with the engine stopped. Gasoline is highly flammable and explosive under certain conditions.
- Do not overfill the tank. There should be no fuel in the filler neck. Make sure that the filler cap is closed securely.
- If any fuel is spilled, clean it up completely and allow petroleum vapours to dissipate before starting the engine.
- Do not smoke or allow flames or sparks where the engine is refueled or where gasoline is stored.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gases. Never run the engine in a closed garage or confined area.
- Operate the engine at the recommended angle (20°). Operating at excessive angles may result in fuel spillage.
- Do not place anything on the engine, as it may create a fire hazard.
- A spark arrester is available as an optional part for this engine. It is illegal in some areas to operate an engine without a spark arrester. Check local laws and regulations before operating.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. To avoid severe burns or fire hazards, let the engine cool before transporting it or storing it indoors.

2. COMPONENT IDENTIFICATION




Oil filler cap
Control lever
Serial number and
engine type
Oil drain plug
Electric starter
(where equipped)
Muffler

3. BATTERY CONNECTIONS (where equipped)

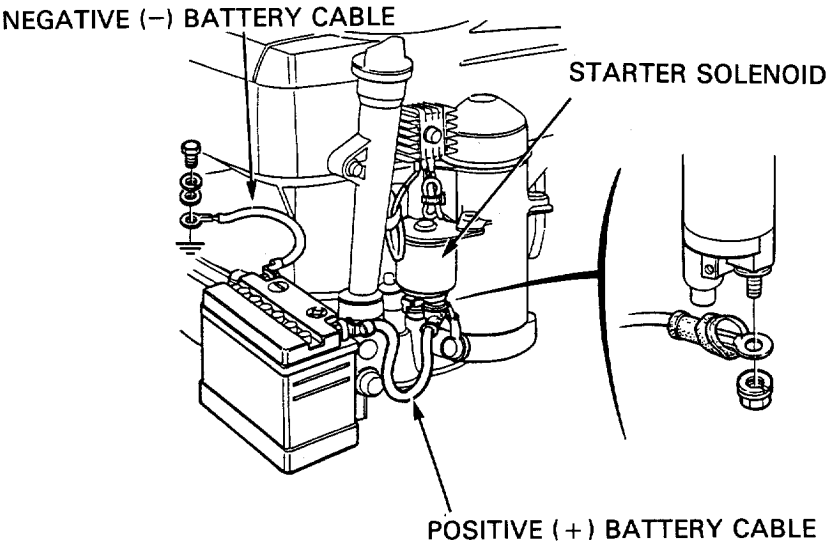
Use a 12 volt battery with an ampere-hour rating of at least 18 Ah.

Connect the battery positive (+) cable to the starter solenoid terminal, as shown.

Connect the battery negative (−) cable to an engine mounting bolt, frame bolt, or other good engine ground connection.

Check the battery cable connections to be sure the cables are secured and free of corrosion. Remove any corrosion and coat the terminals and cable ends with grease.

CAUTION: Do not connect the battery in reverse polarity as this will short circuit the battery charging system and trip the circuit breaker.



⚠ WARNING

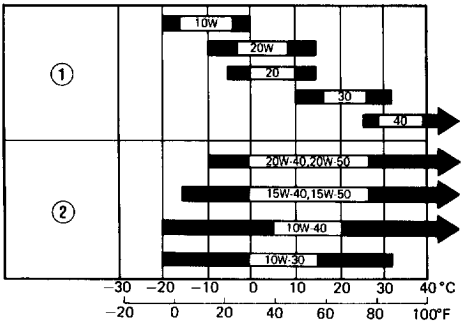
- **The battery gives off explosive gases; keep sparks, flames and cigarettes away. Provide adequate ventilation when charging.**
- **The battery contains sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.**
  - **If electrolyte gets on your skin, flush with water.**
  - **If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician.**
- **Electrolyte is poisonous.**
  - **If swallowed, drink large quantities of water or milk and follow with milk of magnecia or vegetable oil and call a physician.**
- **KEEP OUT OF REACH OF CHILDREN.**

1. Check the engine oil level.

CAUTION:

- **Engine oil is a major factor affecting engine performance and service life. Non-detergent or vegetable oils are not recommended.**
- **Be sure to check the engine oil with the engine on a level surface and the engine stopped.**

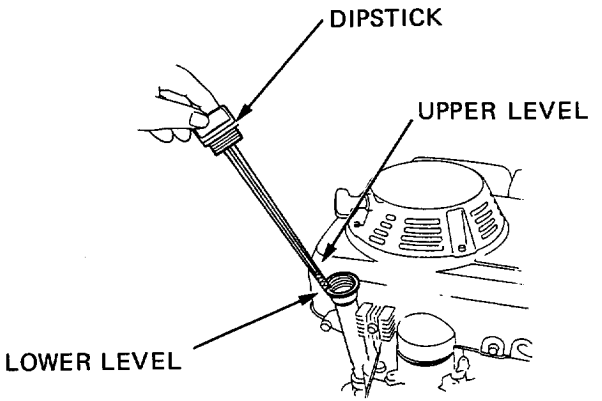
Use Honda 4-stroke oil, or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for Service Classification SE or SF (Motor oils classified SE or SF will show this designation on the container.)
SAE 10W-40 is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.



(1) SE OR SF SINGLE VISCOSITY
(2) SE OR SF MULTI-VISCOSITY

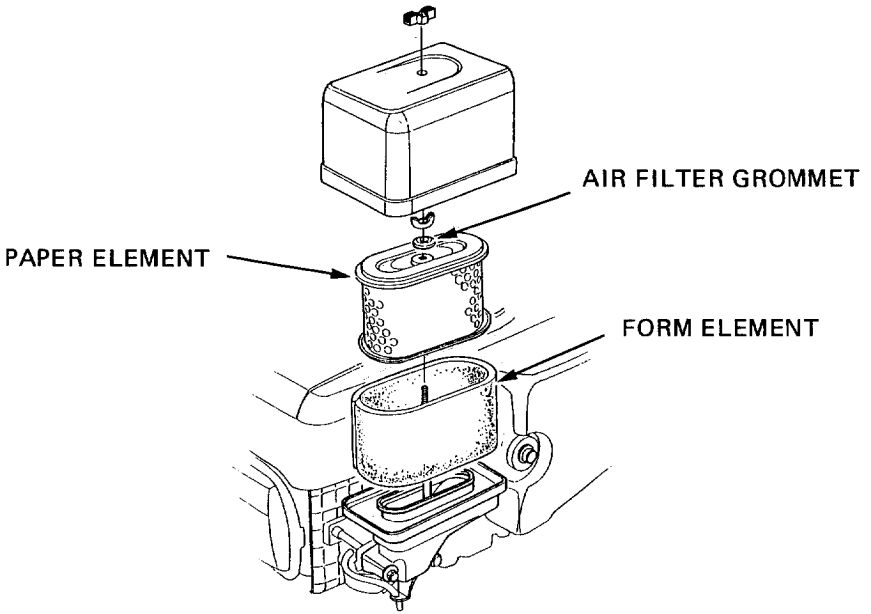
1. Remove the oil filler cap and wipe the dipstick clean.
2. Insert the dipstick into the oil filler neck, but do not screw it in.
3. If the level is low, add the recommended oil to raise the oil level to the upper mark on the dipstick.

CAUTION: Running the engine with insufficient oil can cause serious engine damage.



2. Check the air cleaner element.

Check the air cleaner elements for dirt or obstruction of elements.
Clean or replace the elements it necessary (P. 17).



3. Check the fuel level.

Use fresh, clean automotive gasoline.

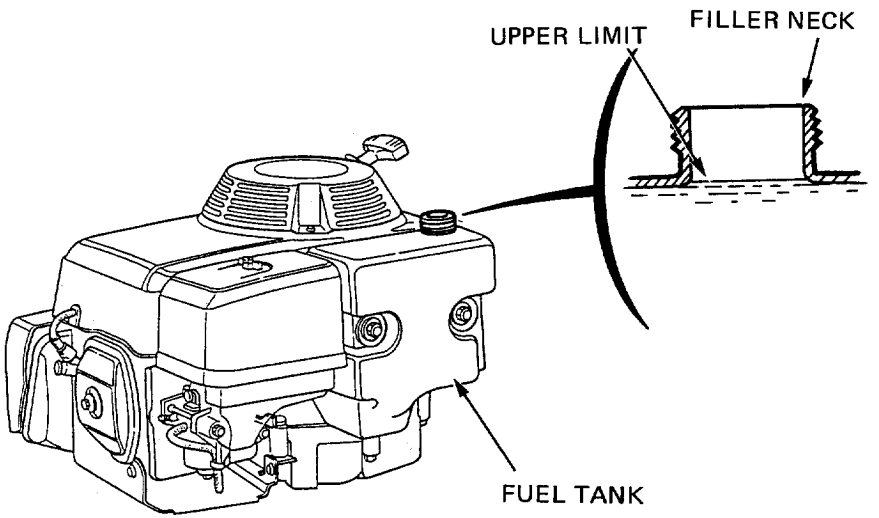
FOR NEW SOUTH WALES ONLY: Use unleaded fuel only.

Never use an oil/gasoline mixture or dirty gasoline. Avoid getting dirt, dust or water in the fuel tank.

⚠ WARNING

- **Gasoline is extremely flammable and is explosive under certain conditions.**
- **Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.**
- **Do not overfill the fuel tank (there should be no fuel in the filler neck). After refueling, make sure the tank cap is closed properly and securely.**
- **Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.**
- **Avoid repeated or prolonged contact with skin or breathing of vapor.**
  KEEP OUT OF REACH OF CHILDREN.

Fuel tank capacity: GXV270 2.0 lit. (0.53 US gal, 0.44 Imp gal)
GXV340・GXV390 2.3 lit. (0.61 US gal, 0.51 Imp gal)



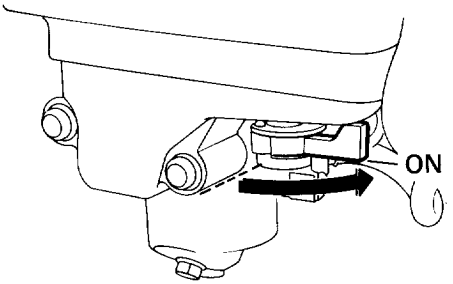
Gasolines containing alcohol

If you decide to use a gasoline containing alcohol (gasohol), be sure it's octane rating is at least as high as that recommended by Honda. There are two types of "gasohol": one containing ethanol, and the other containing methanol. Do not use gasohol that contains more than 10% ethanol. Do not use gasoline containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol. Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

NOTE:

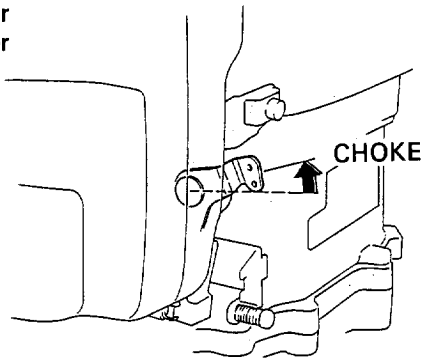
- Fuel system damage or engine performance problems resulting from the use of fuels that contain alcohol is not covered under the warranty. Honda cannot endorse the use of fuels containing methanol since evidence of their suitability is as yet incomplete.
- Before buying fuel from an unfamiliar station, try to find out if the fuel contains alcohol, if it does, confirm the type and percentage of alcohol used. If you notice any undersirable operating symptoms while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

1. Turn the fuel valve ON.



2. Move the control lever to CHOKE.

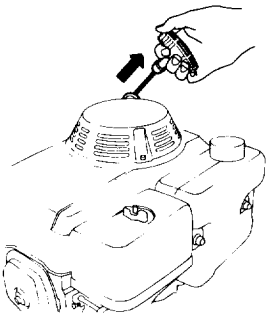
   NOTE: If the engine is warm or the air temperature is high, open the choke lever as soon as the engine starts.



3. With recoil starter

   Pull the starter grip lightly until resistance is felt, then pull briskly.

   CAUTION: Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.



- With starter motor:

  Turn the engine switch to START and hold it there until the engine starts. Do not use the electric starter for more than 5 seconds at a time. If the engine fails to start, release the switch and wait 10 seconds before operating the starter again.

- **High altitude operation**

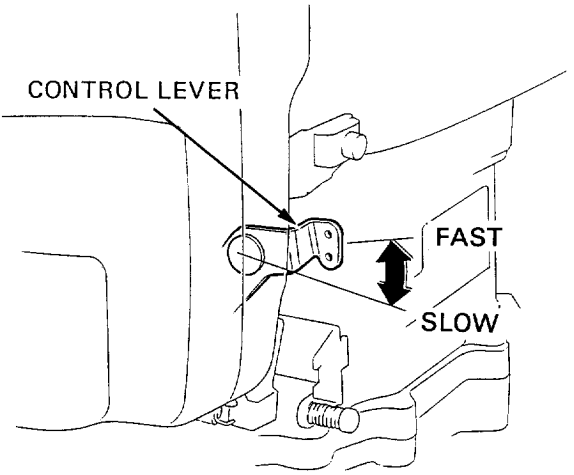
At high altitude, the standard carburetor air-fuel mixture will be excessively rich. Performance will decrease, and fuel consumption will increase.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the engine at altitudes higher than 1,830m (6,000 feet) above sea level, have your authorized Honda Engine dealer perform these carburetor modifications.

Even with suitable carburetor jetting, engine horsepower will decrease approximately 3.5% for each 305m (1,000 feet) increase in altitude. The affect of altitude on horsepower will be greater than this if no carburetor modification is made.

CAUTION: Operation of the engine at an altitude lower than the carburetor is jetted for may result in reduced performance, overheating, and serious engine damage caused by an excessively lean air/fuel mixture.

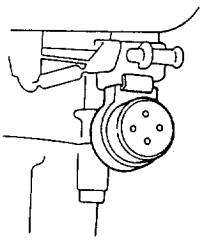
When the engine warms up, move the control lever to FAST or SLOW.



OIL ALERT BUZZER (oil alert type only)

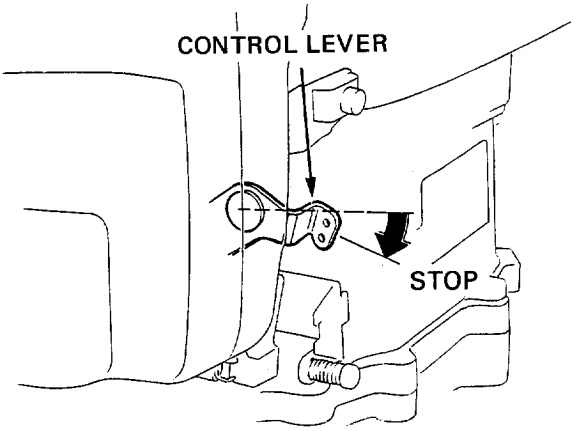
The "OIL ALERT" buzzer will warn you when the engine oil needs to be added to the crankcase.

CAUTION: Running the engine with insufficient oil can cause serious engine damage.

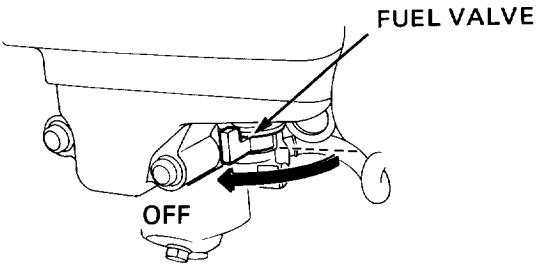


7. STOPPING THE ENGINE

1. Move the control lever to STOP.



2. Turn the fuel valve OFF



The purpose of the maintenance schedule and adjustment is to keep the engine in the best operating condition. Inspect or service as scheduled in the table below.

⚠ WARNING **Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated. The exhaust contains poisonous carbon monoxide gas; exposure can cause loss of consciousness and may lead to death.**

CAUTION: Use only genuine HONDA parts or their equivalent. The use of replacement parts which are not of equivalent quality may damage the engine.

Maintenance Schedule

REGULAR SERVICE PERIOD Performed at every indicated month or operating hour interval, whichever comes first. / ITEM		Each Use	First Month or 20 Hrs.	Every 3 Months or 50 Hrs.	Every 6 Months or 100 Hrs.	Every Year or 300 Hrs.
Engine oil	Check level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○ (1)		
Spark plug	Check-Clean				○	
Spark arrester	Clean				○	
Valve clearance	Check Adjust					○ (2)
Fuel tank and strainer	Clean					○ (2)
Fuel line	Check (Replace if necessary)	Every 3 years (2)				

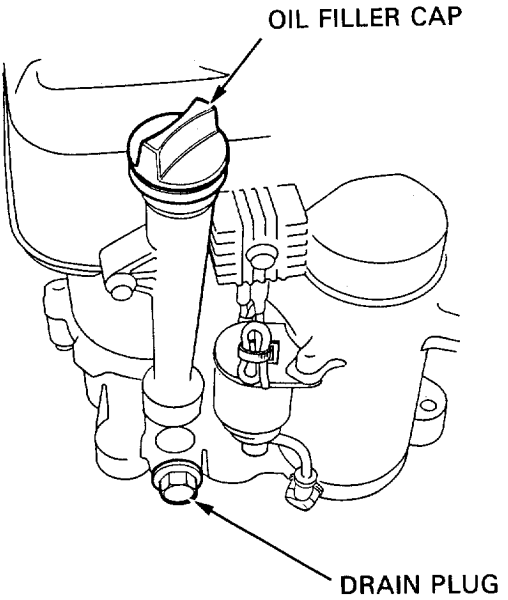
NOTE (1): Service more frequently when used in dusty areas.
(2): These items should be serviced by an authorized Honda dealer, unless the owner has the proper tools and is mechanically proficient. See the Honda Shop Manual.

1. Changing oil

Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Remove the oil filler cap, and drain the oil.
2. Refill with the recommended oil (see page 7) and check the level.

OIL CAPACITY: 1.1 lit. (1.2 US qt, 1.0 Imp qt)



CAUTION: Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Althourh this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

NOTE: Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash or pour it on the ground.

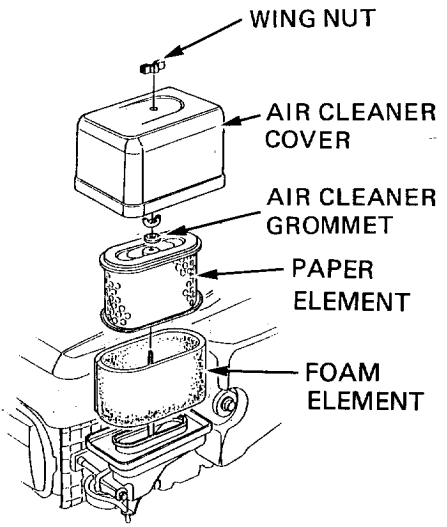
2. Air cleaner service

A dirty air cleaner will restrict air flow to the carburetor. Service more frequently when operating the engine in extremely dusty areas.

⚠ WARNING **Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.**

CAUTION: Never run the engine without the air cleaner. Repid engine wear will result.

1. Remove the wing nuts and the air cleaner cover. Remove the elements and separate them. Carefully check both elements for holes or tears and replace if damaged.
2. Foam element: Clean in warm soapy water, rinse and allow to dry thoroughly. Or clean in high flashpoint solvent and allow to dry. Dip the element in clean engine oil and squeeze out all the excess. The engine will smoke during initial start-up if too much oil is left in the foam.
3. Paper element: Tap the element lightly several times on a hard surface to remove excess dirt, or blow compressed air through the filter from the inside out. Never try to brush the dirt off; brushing will force dirt into the fibers.
   Clean in warm, soapy water and rinse. Dry using compressed air blown from the inside out, or shake the element and allow it to air dry thoroughly. (Or clean in high flashpoint solvent, remove immediately, and allow to dry.)



NOTE: Remember to reinstall the air cleaner grommet, replace the grommet if necessary.

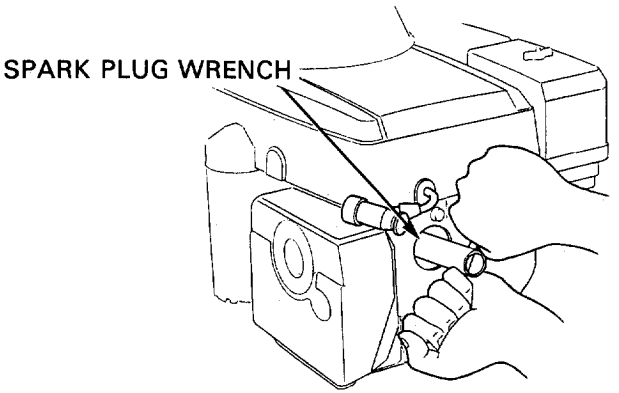
3. Spark plug service

Recommended spark plug: BPR5ES (NGK)
W16EPR-U (ND)

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

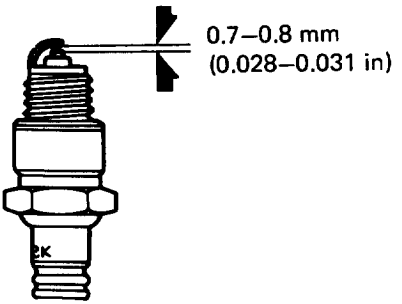
1. Remove the spark plug cap and spark plug using a spark plug wrench.

WARNING **If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.**

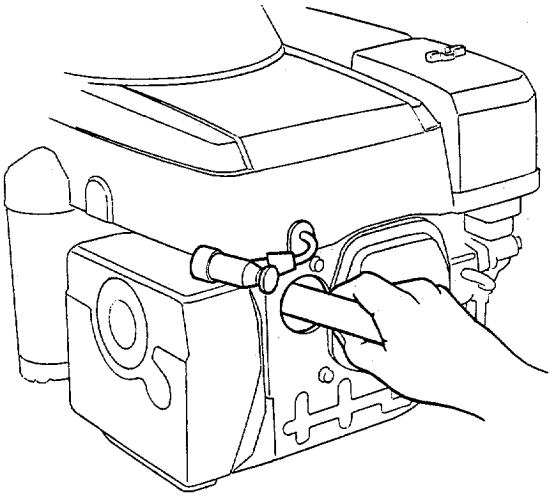


2. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

3. Measure the plug gap with a feeler gauge. The gap should be 0.7 — 0.8 mm (0.028 — 0.031 in). Correct as necessary by bending the side electrode.

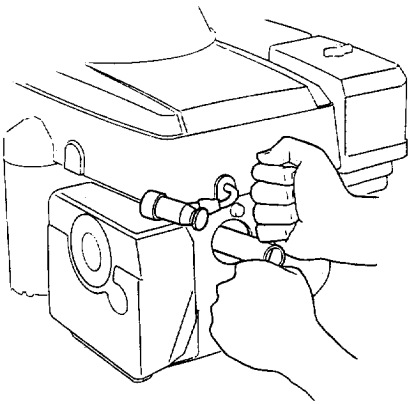


4. Check the plug washer. Thread the plug in by hand to prevent cross-threading.



5. Tighten a new spark plug 1/ 2 turn with the wrench to compress the washer. If you are reusing a plug, it should only take 1/ 8 — 1/ 4 turn after the plug seats.

CAUTION: The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may damage the engine.



4. Spark arrester maintenance (if optionally installed)

CAUTION: If the engine has been running, the muffler will be very hot. Allow it to cool before proceeding.

The spark arrester must be serviced every 6 months or 100 hours to maintain its efficiency.

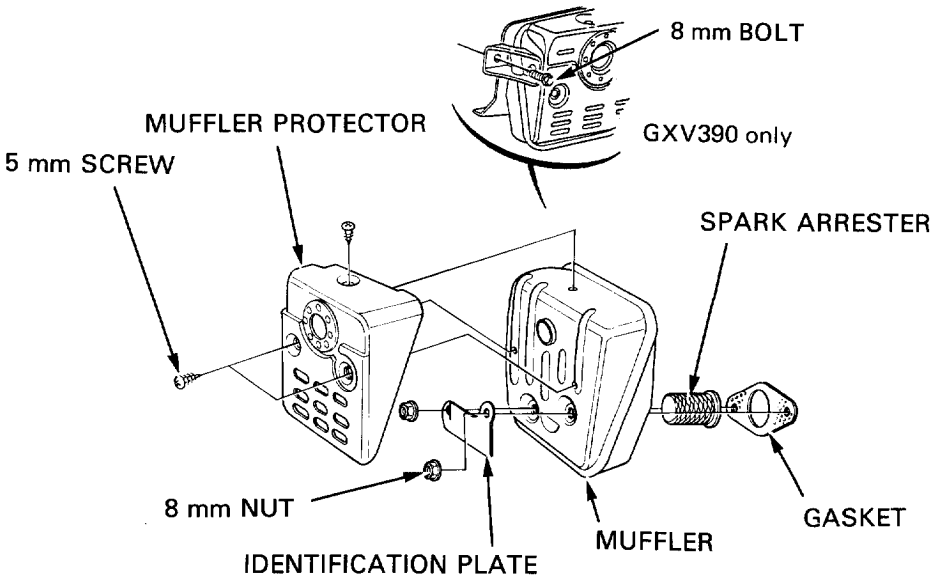
1. Remove the three 5 mm screws and remove the muffler protector.
2. Loosen the 8 mm nuts and 8 mm bolt (GXV390 only), and remove the identification plate, muffler and gasket.
3. Remove the spark arrester from the muffler.

CAUTION: Be careful not to damage the spark arrester screen.

4. Check for carbon deposits around the exhaust port and the spark arrester, and clean if necessary.

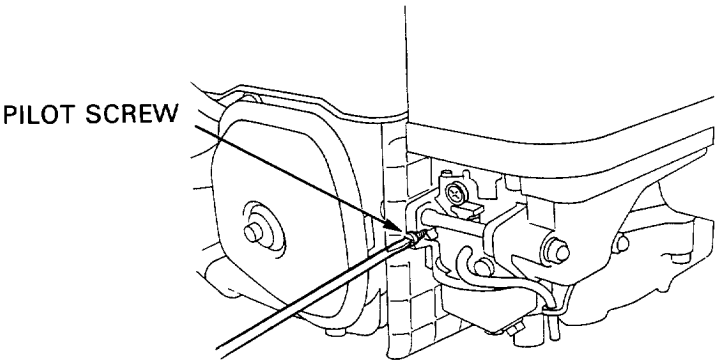
   NOTE: The spark arrester must be free of breaks and holes. Replace, if necessary.

5. Install the spark arrester and muffler in the reverse order of disassembly.



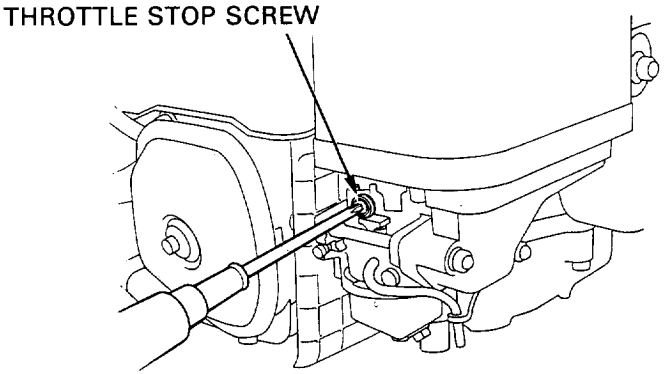
5. Adjusting carburetor screws

1. Start the engine and allow it to warm up to normal operating temperature.
2. Place the control lever in the SLOW position.
3. With the engine idling, turn the pilot screw in or out to the setting that produces the highest idle rpm. The correct setting will usually be approximately 1-3/4 turns out from the fully closed position.



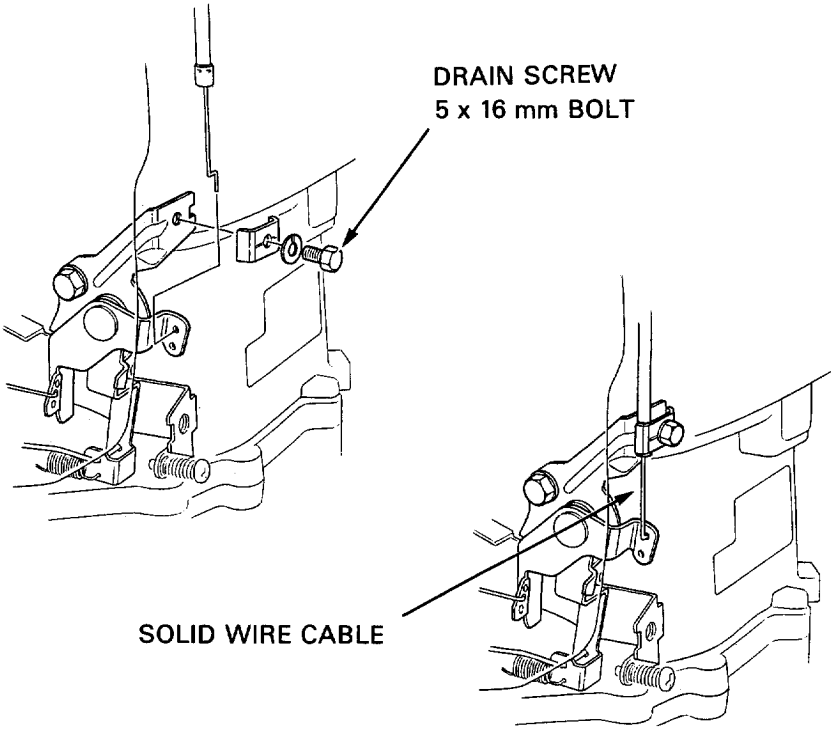
4. After the pilot screw is correctly adjusted, turn the throttle stop screw to obtain the standard idle speed.

   Standard idle speed: 1,400 ± 150 rpm.



9. REMOTE CONTROL CABLE

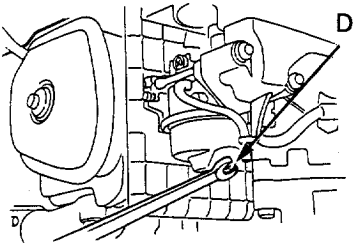
The control lever is provided with a hole for cable attachment. Install a solid wire cable as shown below. Do not use braided wire cable.



⚠ WARNING When transporting the engine, turn the fuel valve OFF and keep the engine level to prevent fuel spillage. Fuel vapor or spilled fuel may ignite.

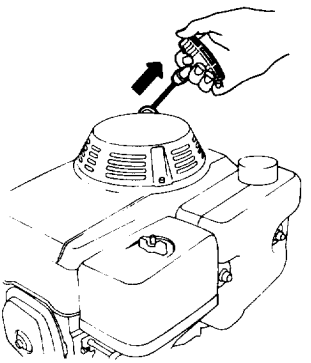
Before storing the unit for an extended period;

1. Be sure the storage area is free of excessive humidity and dust.
2. Drain the fuel tank and carburetor into a suitable gasoline container.
   A. Remove the fuel tube and drain the fuel tank.
   B. Loosen the carburetor drain screw to drain the carburetor.



   C. Retighten the drain screw, connect the fuel tube and turn the fuel valve OFF.

3. Change the engine oil. (P. 16)
4. Remove the spark plug and pour about a tablespoon of clean engine oil into the cylinder. Crank the engine for several seconds to distribute the oil, then reinstall the spark plug.
5. Pull the starter rope until it becomes hard to pull. This closes the valves, and protects them from dust and corrosion.

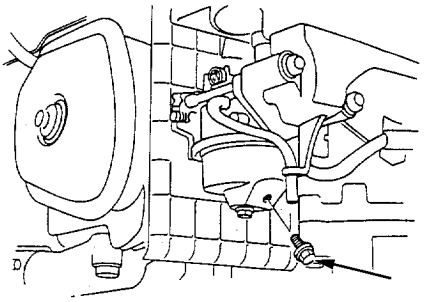


6. Cover the engine to keep out dust.

11. TROUBLESHOOTING

When the engine will not start;
1. Is there enough fuel?
2. Is the fuel valve on?
3. Is gasoline reaching the carburetor?
   To check, loosen the drain screw with the fuel valve on.

⚠ WARNING **If any fuel is spilled, make sure the area is dry before testing the spark plug or starting the engine. Fuel vapor or spilled fuel may ignite.**



4. Is the engine control lever in the ON position (CHOKE, SLOW, FAST)?
5. **With starter motor:**
   - Is the battery electrolyte level up to the upper level?
   - Is the battery fully charged?

6. Is there a spark at the spark plug?

   a. Remove the spark plug cap. Clean any dirt from around the spark plug base, then remove the spark plug.
   b. Install the spark plug in the plug cap.
   c. Turn the engine switch on.
   d. Grounding the side electrode to any engine ground, pull the recoil starter to see if sparks jump across the gap.
   e. If there are no sparks, replace the plug.
      If OK, try to start the engine according to the instructions.

7. If the engine still does not start, take the engine to a HONDA engine dealer.

THE ASBESTOS PRODUCTS (SAFETY) REGULATION 1985

SOME OR ALL of The Following Components May Contain ASBESTOS.	*The Following Precautions Must Be Taken When Replacing These Components.*
• Brake Pads	Use vacuum cleaner to prevent spread of dust.
• Brake Shoes	Use vacuum cleaner to prevent spread of dust.
• Gaskets, Packing or Insulator	Do not bend or break into small pieces.
• Clutch Discs	Do not break into small pieces.
• High Tension Plug Caps	Do not break into small pieces.
• Muffler Assy	Do not separate or sever.
• Noise Suppressor Assy	Do not separate or sever.

12. SPECIFICATIONS

Dimensions	GXV270
Length x Width x Height	410 x 385 x 405 mm (16.1 x 15.2 x 15.9 in)
Dry weight	28.0 kg (61.7 lb)

Engine

Engine type	4-stroke, overhead valve, 1 cylinder
Displacement [Bore x Stroke]	270 cc (16.5 cu in) [77 x 58 mm (3.0 x 2.3 in)]
Max. output	8.5 HP/3,600 rpm
Max. torque	17.6 N.m (1.8 kg-m,13.0 ft-lb)/2,500 rpm
Fuel consumption	321 g/kWh (240 g/HPh, 0.53 lb/HPh)
Cooling system	Forced air
Ignition system	Transistorized magneto
PTO shaft rotation	Counterclockwise

Dimensions	GXV340
Length x Width x Height	430 x 385 x 410 mm (16.9 x 15.1 x 16.1 in)
Dry weight	32.0 kg (70.5 lb)

Engine

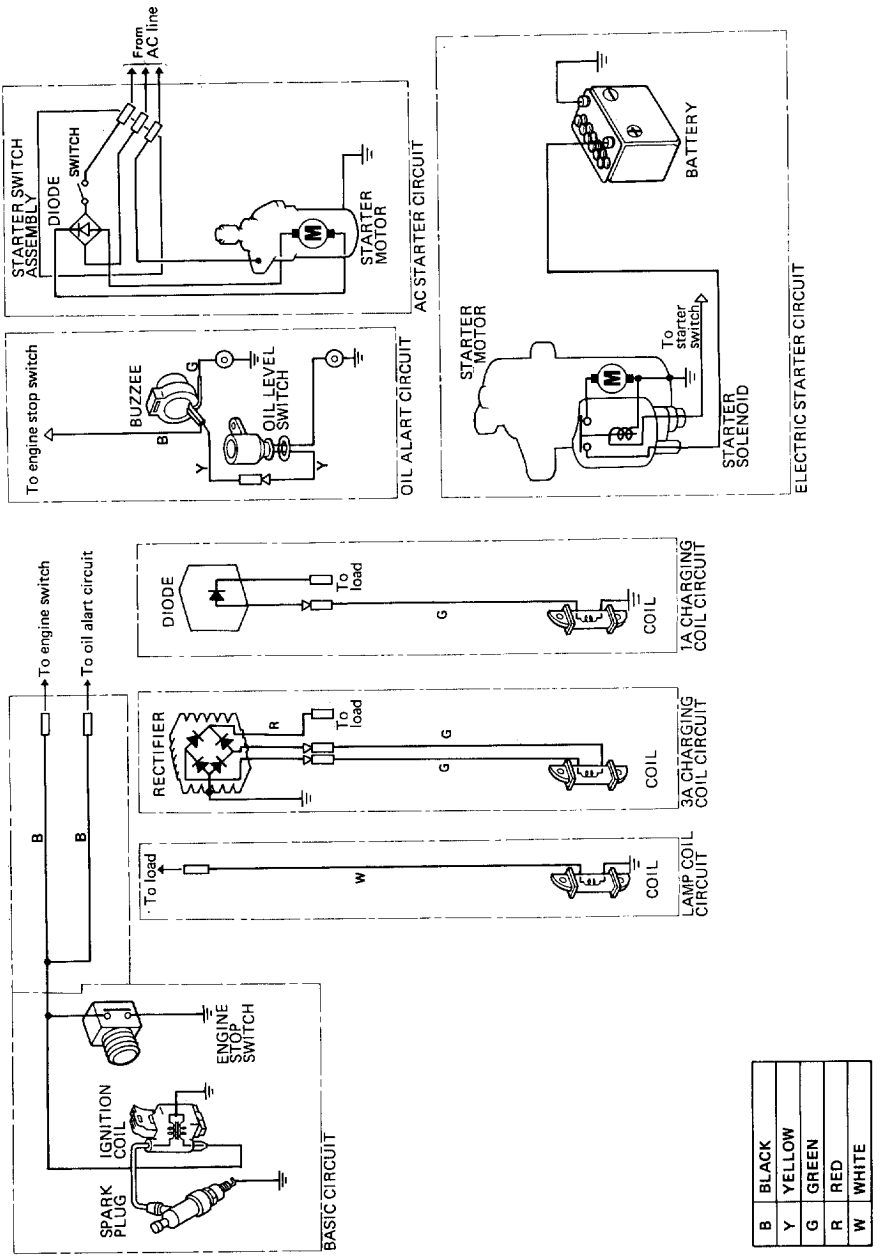
Engine type	4-stroke, overhead valve, 1 cylinder
Displacement [Bore x Stroke]	337 cc (20.6 cu in) [82 x 64 mm (3.2 x 2.5 in)]
Max. output	11 HP/3,600 rpm
Max. torque	22.5 N.m (2.3 kg-m, 16.6 ft-lb)/2,500 rpm
Fuel consumption	313 g/kWh (230 g/HPh, 0.507 lb/HPh)
Cooling system	Forced air
Ignition system	Transistorized magneto
PTO shaft rotation	Counterclockwise

Dimensions	GXV390
Length x Width x Height	430 x 385 x 410 mm (16.9 x 15.1 x 16.1 in)
Dry weight	33.0 kg (72.7 lb)

Engine

Engine type	4-stroke, overhead valve, 1-cylinder
Displacement [Bore x Stroke]	389 cc (23.8 cu in) [88 x 64 mm (3.5 x 2.5 in)
Max. output	13 HP/3,600 rpm
Max. torque	27.4 N.m (2.8 kg-m, 20.2 ft-lb)/2,500 rpm
Fuel consumption	313 g/kWh (230 g/HPh, 0.507 lb/HPh)
Cooling system	Forced air
Ignition system	Transistorized magneto
PTO shaft rotation	Counterclockwise

13. WIRING DIAGRAM



HONDA GXV270•GXV340•GXV390

OWNER'S MANUAL

Thank you for purchasing a Honda engine.

This manual covers the operation and maintenance of GXV270·GXV340·GXV390 engines. All information in this publication is based on the latest product information available at the time of approval for printing.

Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

This manual should be considered a permanent part of the engine and should remain with the engine if it is resold.

Illustrations herein are mainly based on GXV340 engine.

Pay special attention to statements preceded by the following word:

⚠ WARNING **Indicates a strong possibility of severe personal injury or death if instructions are not followed.**

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

If a problem should arise, or if you have any questions about the engine, consult an authorized Honda dealer.

⚠ WARNING **Honda engines are designed to give safe and dependable service if operated according to instructions. Read and understand the Owner's Manual before operating the engine. Failure to do so could result in personal injury or equipment damage.**