

HONDA Engine Model Number: GX610

This information has been extracted out of the Honda engine operators manual No. 31ZJ1600, 00X31-ZJ1-6000. For additional information see the complete Honda Manual.

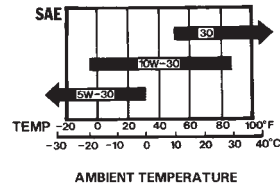
1. Engine Oil

NOTICE

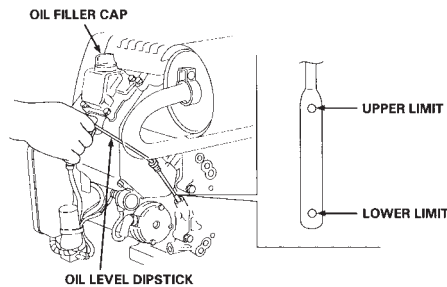
- Engine oil is a major factor affecting engine performance and service life. Non-detergent oils and 2-stroke engine oils are not recommended because they have inadequate lubricating characteristics.
- Check the oil level with the engine on a level surface and the engine stopped.

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 SG, SF/CC, CD. Motor oils classified SG, SF/CC, CD will show this designation on the container. SEA 10W-30 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. Place the engine on a level surface.
2. Remove the dipstick and wipe it clean.
3. Fully insert the dipstick, then remove it to check the oil level.
4. If the oil level is near or below the lower limit mark on the dipstick, remove the oil filler cap, and fill with the recommended oil to the upper limit mark.
5. Reinstall the dipstick and filler cap.

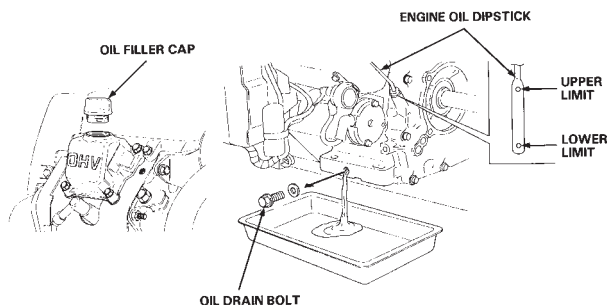


Engine Oil Change

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

1. Remove the oil filler cap and drain bolt, and drain the oil into a suitable container.
2. Retighten the drain bolt securely.
3. Refill to the upper limit mark on the dipstick with the recommended oil (see page 9). Tighten the oil filler cap securely.

ENGINE OIL CAPACITY: 1.2 ℓ (1.3 US qt , 1.1 Imp qt)



NOTE:

Please dispose of used motor oil in a manner that doesn't harm the environment. Do not throw it in the trash or pour it on the ground or down a drain.

Fuel Recommendation

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.**

Use gasoline with a pump octane rating of 86 or higher.

We recommend unleaded gasoline because it produces fewer engine and spark plug deposits and extends exhaust system life.

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

Occasionally you may hear light "spark knock" or "pinging" (metallic rapping noise) while operating under heavy loads. This is no cause for concern.

If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda engine dealer.

NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is misuse, and the Distributor's Limited Warranty does not cover parts damaged by misuse.

Oxygenated Fuels

Some conventional gasolines are being blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. To meet clean air standards, some areas of the United States and Canada use oxygenated fuels to help reduce emissions.

If you use an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, try to confirm the fuel's contents. Some states/provinces require this information to be posted on the pump.

The following are the EPA approved percentages of oxygenates:

ETHANOL — (ethyl or grain alcohol) 10% by Volume

You may use gasoline containing up to 10% ethanol by volume. Gasoline containing ethanol may be marketed under the name "Gasohol".

MTBE — (methyl tertiary butyl ether) 15% by Volume

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.

If you notice any undesirable operating symptoms, try another service station or switch to another brand or gasoline.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

NOTICE

Oxygenated fuels can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank. Damage caused by spilled fuel is not covered under warranty.

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The purpose of the Maintenance Schedule is to keep the engine in the best operating condition. Inspect and service as indicated in the Maintenance Schedule below.

⚠ WARNING

Shut off the engine before performing any maintenance. If the engine must be operated, 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.

NOTICE

Use only genuine HONDA parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage the engine.

Maintenance Schedule

REGULAR SERVICE PERIOD		Each use	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.
ITEM	Perform at every indicated month or operating hour interval, whichever comes first. (3)					
Engine oil	Check level Change	○	○		○	
Engine oil filter	Replace					○ (2) or 200 Hrs
Air cleaner	Check Clean	○		○ (1)		
Spark plug	Check-Clean Replace				○	○
Spark arrester (optional part)	Clean				○	
Idle speed	Check-Adjust					○ (2)
Valve clearance	Check-Adjust					○ (2)
Fuel filter	Check Replace				○	○ (2)
Fuel line	Check (Replace if necessary)			Every 2 years		

NOTE: (1) Service more frequently when used in dusty areas.

(2) These items should be serviced by an authorized Honda engine dealer, unless the owner has the proper tools and is mechanically proficient. See the Honda Shop Manual.

(3) For professional commercial use, log hours of operation to determine proper maintenance intervals.

Air Cleaner Service

A dirty air cleaner will restrict air flow to the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. Service more frequently when operating the engine in extremely dusty areas.

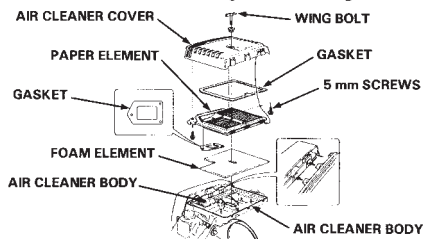
⚠ WARNING

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

NOTICE

Never run the engine without the air cleaner. Rapid engine wear will result from contaminants, such as dust and dirt being drawn into the engine.

1. Remove the wing bolt and remove the air cleaner cover.
2. Remove the two 5 mm screws from the air cleaner cover and remove the paper element from the cover. Remove the foam element from the air cleaner body.
3. Foam element: Clean in warm, soapy water, rinse and dry thoroughly. Or, clean in non-flammable solvent and dry. Dip the element in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the foam.
4. Paper element: Tap the element lightly several times on a hard surface to remove excess dirt, or blow compressed (not exceeding 2.1 kg/cm² (30 psi)) air through the filter from the air cleaner cover side. Never try to brush the dirt off; brushing will force dirt into the fibers. Replace the paper element if it is excessively dirty. Replace the paper element and both gaskets.
5. Reinstall the air cleaner elements. Tighten the wing bolt securely.



NOTICE

Do not allow dust, dirt, and debris to enter the air cleaner body when servicing the air cleaner.

Spark Plug Service

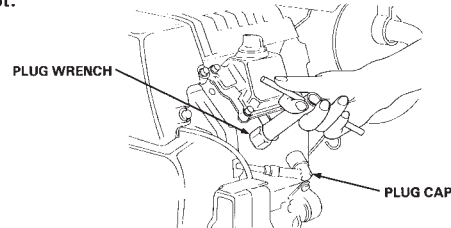
Recommended spark plug:
BPR6ES (NGK)
W20EPR-U (NIPPONDENSO)

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

1. Remove the spark plug cap.
2. Clean any dirt from around the spark plug base.
3. Use the wrench supplied to remove the spark plug.

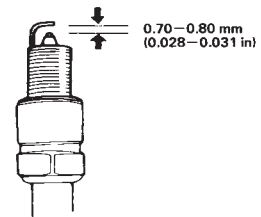
⚠ CAUTION

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.

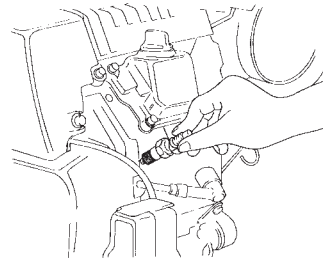


4. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the plug gap with a feeler gauge. Correct as necessary by bending the side electrode.

The gap should be:
0.70—0.80 mm (0.028—0.031 in)



6. Check that the spark plug washer is in good condition and thread the spark plug in by hand to prevent cross-threading.



7. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

- If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.
- If reinstalling a used spark plug, tighten 1/8—1/4 turn after the spark plug seats to compress the washer.

NOTICE

- The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may cause engine damage.
- Use only the recommended spark plug or equivalent. A spark plug which has an improper heat range may cause engine damage.