

INTRODUCTION

Thank you for purchasing a Honda engine! We want to help you to get the best results from your new engine and to operate it safely. This manual contains information on how to do that; please read it carefully before operating the engine. If a problem should arise, or if you have any questions about your engine, consult an authorized Honda servicing dealer.

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


Review the instructions provided with the equipment powered by this engine for any additional information regarding engine startup, shutdown, operation, adjustments or any special maintenance instructions.

United States, Puerto Rico, and U.S. Virgin Islands:

We suggest you read the warranty policy to fully understand its coverage and your responsibilities of ownership. The warranty policy is a separate document that should have been given to you by your dealer.

SAFETY MESSAGES

Your safety and the safety of others are very important. We have provided important safety messages in this manual and on the engine. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol  and one of three words, DANGER, WARNING, or CAUTION.

These signal words mean:

DANGER

You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

WARNING

You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

CAUTION

You CAN be HURT if you don't follow instructions.

Each message tells you what the hazard is, what can happen, and what you can do to avoid or reduce injury.

DAMAGE PREVENTION MESSAGES

You will also see other important messages that are preceded by the word NOTICE.

This word means:

NOTICE

Your engine, other property, or the environment can be damaged if you don't follow instructions.

This entire book is filled with important safety information – please read it carefully.

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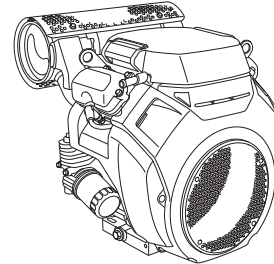
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GX630 · 690

HONDA

OWNER'S MANUAL MANUEL DE L'UTILISATEUR MANUAL DEL PROPIETARIO

GX630 • GX690 LPG/NATURAL GAS-Fueled Engine



WARNING:



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

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ENGLISH

FRANÇAIS

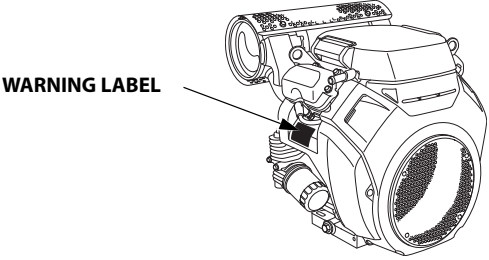
ESPAÑOL

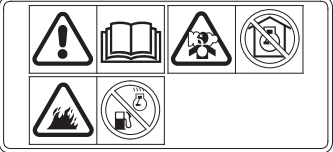
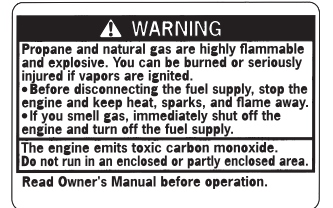

SAFETY INFORMATION

- Understand the operation of all controls and learn how to stop the engine quickly in case of emergency. Make sure the operator receives adequate instruction before operating the equipment.
- Do not allow children to operate the engine. Keep children and pets away from the area of operation.
- Your engine’s exhaust contains poisonous carbon monoxide. Do not run the engine without adequate ventilation, and never run the engine indoors.
- The engine and exhaust become very hot during operation. Keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Keep flammable materials away, and do not place anything on the engine while it is running.
- Dry gas fuel (LPG or NATURAL GAS) is extremely flammable and combustible. Refuel outdoors, in a well-ventilated area, with the engine stopped. Never smoke near LPG or NATURAL GAS and keep other flames and sparks away.




SAFETY LABEL LOCATION





This label warns you of potential hazards that can cause serious injury. Read it carefully.
If the label comes off or becomes hard to read, contact your servicing dealer for replacement.



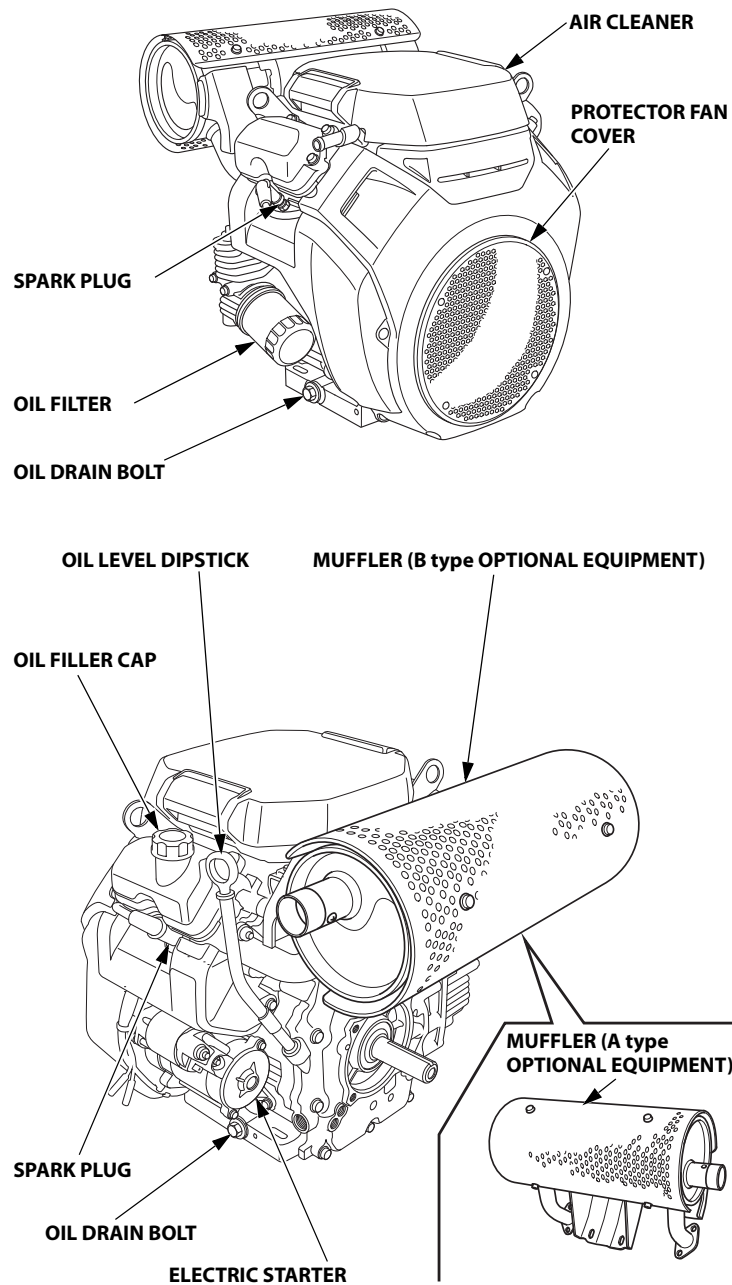
WARNING LABEL	For EU	Except EU
	attached to product	supplied with product
	supplied with product	attached to product
	supplied with product	supplied with product

Honda factory equipped muffler.

MUFFLER CAUTION LABEL	
	not included
	supplied with product
	supplied with product

-  Gasoline is highly flammable and explosive. Stop the engine and let cool before refueling.
-  The engine emits toxic poisonous carbon monoxide gas. Do not run in an enclosed area.
-  Read Owner’s Manual before operation.
-  Hot muffler can burn you.
Stay away if engine has been running.

COMPONENT & CONTROL LOCATION



FEATURES

Oil Alert® System (applicable types)

“Oil Alert is a registered trademark in the United States”

The Oil Alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase can fall below a safe limit, the Oil Alert system will automatically stop the engine (the engine switch will remain in the ON position).

If the engine stops and will not restart, check the engine oil level (see page 6) before troubleshooting in other areas.

Fuel System

This engine uses LPG or NATURAL GAS and requires a fuel regulator and related parts that are not included with the engine. Proper installation and maintenance of these parts should be performed by your servicing dealer.

BEFORE OPERATION CHECKS

IS YOUR ENGINE READY TO GO?

For your safety, to ensure compliance with environmental regulations, and to maximize the service life of your equipment, it is very important to take a few moments before you operate the engine to check its condition. Be sure to take care of any problem you find, or have your servicing dealer correct it, before you operate the engine.

⚠ WARNING

Failure to properly maintain this engine, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

Always perform a pre-operation inspection before each operation, and correct any problem.

Before beginning your pre-operation checks, be sure the engine is level and the engine switch is in the OFF position.

Always check the following items before you start the engine:

Check the General Condition of the Engine

1. Look around and underneath the engine for signs of oil leaks.
2. Remove any excessive dirt or debris, especially around the muffler and fan cover.
3. Look for signs of damage.
4. Check that all shields and covers are in place, and all nuts, bolts, and screws are tightened.

Check the Engine

1. Check the engine oil level (see page 6). Running the engine with a low oil level can cause engine damage.

The Oil Alert system (applicable types) will automatically stop the engine before the oil level falls below safe limits. However, to avoid the inconvenience of an unexpected shutdown, always check the engine oil level before startup.

2. Check the air filter element (see page 7). A dirty air filter element will restrict air flow to the carburetor, reducing engine performance.
3. Check the equipment powered by this engine.

Review the instructions provided with the equipment powered by this engine for any precautions and procedures that should be followed before engine startup.

OPERATION

SAFE OPERATING PRECAUTIONS

Before operating the engine for the first time, please review the *SAFETY INFORMATION* section on page 2 and the *BEFORE OPERATION CHECKS* on page 3.

For your safety, do not operate the engine in an enclosed area such as a garage. Your engine's exhaust contains poisonous carbon monoxide gas that can collect rapidly in an enclosed area and cause illness or death.

WARNING

Exhaust contains poisonous carbon monoxide gas that can build up to dangerous levels in closed areas.

Breathing carbon monoxide can cause unconsciousness or death.

Never run the engine in a closed, or even partly closed area.

Review the instructions provided with the equipment powered by this engine for any safety precautions that should be observed with engine startup, shutdown, or operation.

Do not operate the engine on slopes greater than 20° (36%).

STARTING THE ENGINE

Refer to the instructions provided by the equipment manufacturer for details on operating the engine switch and fuel valve.

1. Turn the fuel valve to the OPEN or ON position before attempting to start the engine.
2. Turn the engine switch to the ON position.
3. Operate the starter.

Turn the engine switch to the START position, and hold it there until the engine starts.

If the engine fails to start within 5 seconds, release the engine switch, and wait at least 10 seconds before operating the starter again.

NOTICE

Using the electric starter for more than 5 seconds at a time will overheat the starter motor and can damage it.

When the engine starts, release the engine switch.

STOPPING THE ENGINE

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure. Refer to the instructions provided by the equipment manufacturer.

1. Turn the engine switch to the OFF position.
2. Turn the fuel valve to the CLOSED or OFF position.

SERVICING YOUR ENGINE

THE IMPORTANCE OF MAINTENANCE

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce pollution.

WARNING

Failure to properly maintain this engine, or failing to correct a problem before operation, could result in a significant malfunction.

Some malfunctions can cause serious injuries or death.

Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

To help you properly care for your engine, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a Honda technician or other qualified mechanic.

The maintenance schedule applies to normal operating conditions. If you operate your engine under severe conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any engine repair establishment or individual, using parts that are "certified" to EPA standards.

MAINTENANCE SAFETY

Some of the most important safety precautions follow. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

WARNING

Improper maintenance can cause an unsafe condition.

Failure to properly follow maintenance instructions and precautions can cause serious injuries or death.

Always follow the procedures and precautions in this owner's manual.

SAFETY PRECAUTIONS

- Make sure the engine is off before you begin any maintenance or repairs. To prevent accidental startup, disconnect the spark plug cap. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from engine exhaust.**
Operate outside, away from open windows or doors.
 - **Burns from hot parts.**
Let the engine and exhaust system cool before touching.
 - **Injury from moving parts.**
Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required.
- To reduce the possibility of fire or explosion, be careful when working around LPG or NATURAL GAS. Use only a non-flammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel related parts.

Remember that an authorized Honda servicing dealer knows your engine best and is fully equipped to maintain and repair it.

To ensure the best quality and reliability, use only new Honda Genuine parts or their equivalents for repair and replacement.

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		Each Use	First Month or 20 Hrs	Every 3 Months or 50 Hrs	Every 6 Months or 100 Hrs	Every Year or 300 Hrs	Every 2 Years or 500 Hrs	Refer to Page
ITEM								
Engine oil	Check level	o						6
	Change		o	o				6
Engine oil filter	Replace	Every 200 Hrs.						7
Air cleaner	Check	o						7
	Clean				o (1)			7
	Replace						o*	
Spark plug	Check-adjust				o			8
	Replace					o		
Spark arrester (applicable types)	Clean				o (4)			9
Idle speed	Check-adjust					o (2)		**
Valve clearance	Check-adjust					o (2)		**
Combustion chamber	Clean	After every 1000 Hrs. (2)						**
Fuel tube	Check	Every 2 years (Replace if necessary) (2)						**

* Replace the paper filter element only.

** Refer to the Shop Manual.

- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) For commercial use, log hours of operation to determine proper maintenance intervals.
- (4) In Europe and other countries where the machinery directive 2006/42/EC is enforced, this cleaning should be done by your servicing dealer.

Failure to follow this maintenance schedule could result in non-warrantable failures.

REFUELING**Recommended Fuel**

LPG: Propane content of 95% or higher.

NATURAL GAS: Methane content of 90% or equivalent.

This engine is certified to operate on LPG or NATURAL GAS only.

Occasionally you may hear a 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, see an authorized Honda servicing dealer.

NOTICE

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

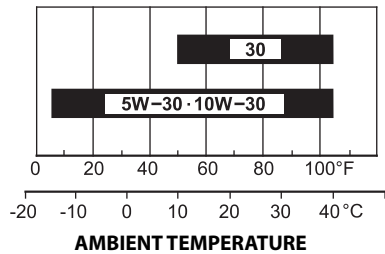
Running the engine with persistent spark knock or pinging is considered misuse, and the Distributor's Limited Warranty (U.S.) / Distributor's Warranty (CA.) does not cover parts damaged by misuse.

ENGINE OIL

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil that is designed for engines operating on LPG or NATURAL GAS.

Recommended Oil

Use 4-stroke motor oil that meets or exceeds the requirements for API service category SJ or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SJ or later (or equivalent).

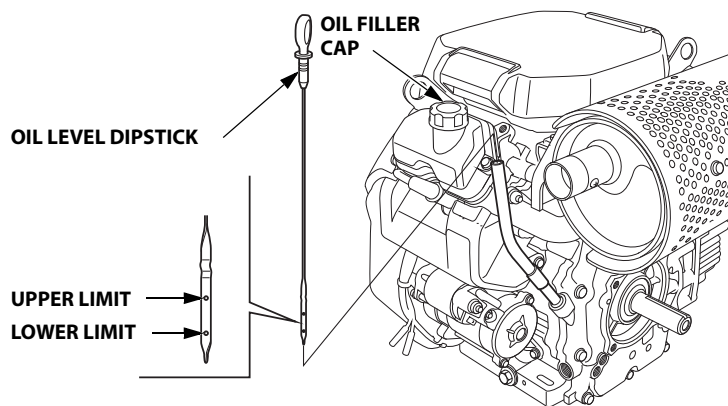


SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

Oil Level Check

Check the engine oil level with the engine stopped and in a level position.

1. Start the engine and let it idle for 1 or 2 minutes. Stop the engine and wait for 2 or 3 minutes.
2. Remove the oil level dipstick by pulling it. Wipe the oil level dipstick clean.
3. Fully insert the oil level 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. Do not overfill. Refer to *Recommended Oil*.
5. Fully insert the oil level dipstick. Reinstall the oil filler cap securely.



NOTICE

Running the engine with a low oil level can cause engine damage. This type of damage is not covered by the Distributor's Limited Warranty (U.S.) / Distributor's Warranty (CA.).

The Oil Alert system (applicable types) will automatically stop the engine before the oil level falls below the safe limit. However, to avoid the inconvenience of an unexpected shutdown, always check the engine oil level before startup.

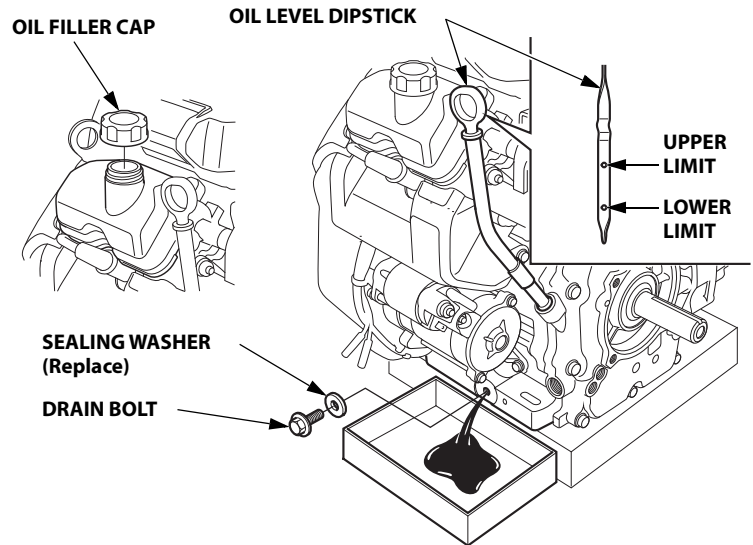
Oil Change

Drain the used oil when the engine is warm. Warm oil drains quickly and completely.

1. Place a suitable container below the engine to catch the used oil, and then remove the oil filler cap, drain bolt, and sealing washer.
2. Allow the used oil to drain completely, then reinstall the drain bolt and new sealing washer, and tighten the drain bolt securely.

TORQUE: 45 N·m (4.5 kgf·m, 33 lbf·ft)

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



3. With the engine in a level position, fill with the recommended oil to the upper limit mark on the oil level dipstick.

Engine oil capacity:

Without oil filter replacement: 1.5 L (1.6 US qt, 1.3 Imp qt)

With oil filter replacement: 1.7 L (1.8 US qt, 1.5 Imp qt)

NOTICE

Running the engine with a low oil level can cause engine damage. This type of damage is not covered by the Distributor's Limited Warranty (U.S.) / Distributor's Warranty (CA.).

The Oil Alert system (applicable types) will automatically stop the engine before the oil level falls below the safe limit. However, to avoid the inconvenience of an unexpected shutdown, fill to the upper limit, and check the oil level regularly.

4. Reinstall the oil filler cap and oil level dipstick securely.

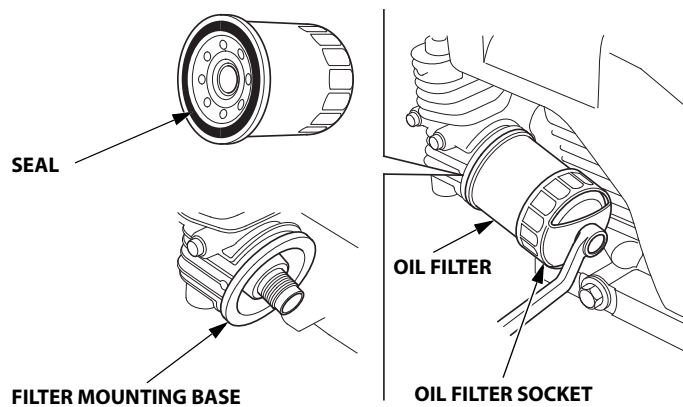
OIL FILTER

Change

1. Drain the engine oil, and retighten the drain bolt securely.
2. Remove the oil filter, and drain the oil into a suitable container. Dispose the used oil and filter in a manner compatible with the environment.

NOTICE

Use an oil filter socket, rather than a strap wrench, to avoid striking and damaging the oil pressure switch.



3. Clean the filter mounting base, and coat the seal of the new oil filter with clean engine oil.

NOTICE

Use only a Honda Genuine oil filter or a filter of equivalent quality specified for your model. Using the wrong filter, or a non-Honda filter which is not of equivalent quality, may cause engine damage.

4. Screw on the new oil filter by hand until the seal contacts the filter mounting base, and then use an oil filter socket tool to tighten the filter an additional 3/4 turn.

Oil filter tightening torque: 12 N·m (1.2 kgf·m, 9 lbf·ft)

5. Refill the crankcase with the specified amount of the recommended oil (see page 6). Reinstall the oil filler cap and oil level dipstick.
6. Start the engine, and check for leaks.
7. Stop the engine, and check the oil level as described on page 6. If necessary, add oil to bring the oil level to the upper limit mark on the oil level dipstick.

AIR CLEANER

A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE (see page 5).

NOTICE

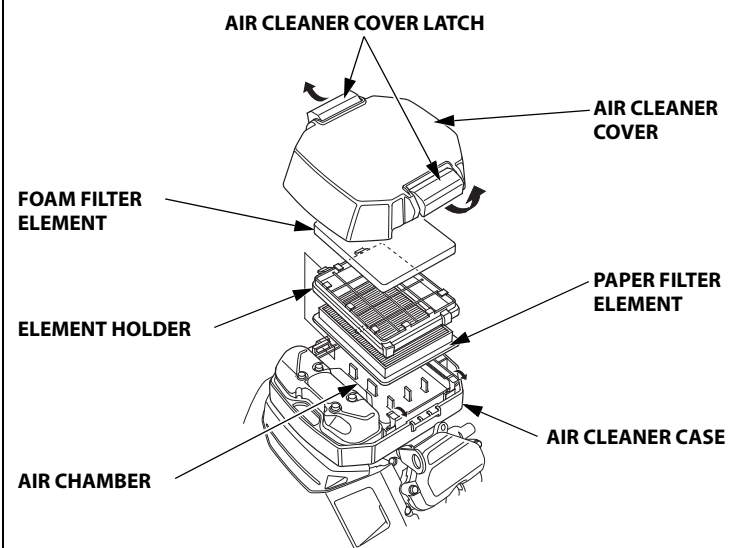
Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty (U.S.) / Distributor's Warranty (CA.).

Inspection

Remove the air cleaner cover and inspect the filter elements. Clean or replace dirty filter elements. Always replace damaged filter elements.

Cleaning

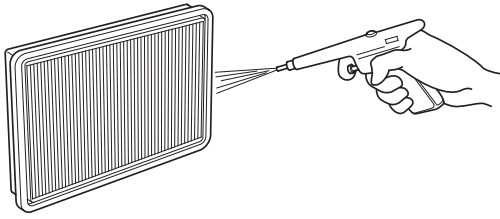
1. Pull the air cleaner cover latch to the unlocked position, and remove the cover.
2. Release the two spring tabs from the element holder, and then remove the element holder and remove the foam filter element from the element holder.
3. Remove the paper filter element.



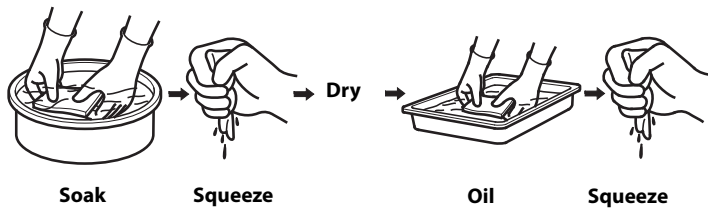
4. Inspect both filter elements, and replace them if they are damaged. Always replace the paper filter element at the scheduled interval (see page 5).

5. Clean the filter elements if they are to be reused.

Paper filter element: Tap the filter element several times on a hard surface to remove dirt, or blow compressed air [not exceeding 207 kPa (2.1 kgf/cm², 30 psi)] through the filter element from the clean side that faces the engine. Never try to brush off dirt; brushing will force dirt into the fibers. Replace the paper filter element if it is excessively dirty.



Foam filter element: Clean in warm soapy water, rinse, and allow to dry thoroughly. Or clean in non-flammable solvent and allow to dry. Dip the filter element in clean engine oil, and then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the foam.



6. Wipe dirt from the inside of the air cleaner body and cover, using a moist rag. Be careful to prevent dirt from entering the air chamber that leads to the carburetor.
7. Reinstall the paper filter element.
8. Put the foam filter element on the element holder, and reinstall the element holder on the air cleaner case. Hook the two spring tabs securely.
9. Lock the air cleaner cover latch securely.

SPARK PLUG

Recommended Spark Plug: ZFR5F-4 (NGK)

The recommended spark plug has the correct heat range for normal engine operating temperatures.

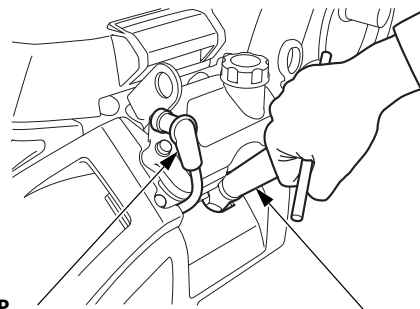
NOTICE

Incorrect spark plugs can cause engine damage.

If the engine has been running, let it cool before servicing the spark plugs.

For good performance, the spark plugs must be properly gapped and free of deposits.

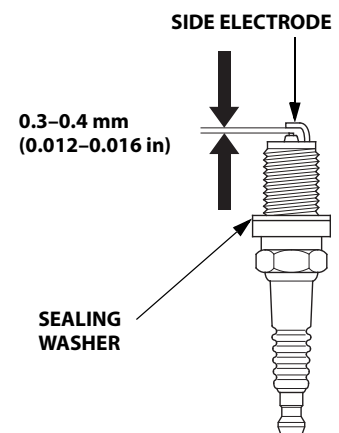
1. Disconnect the spark plug caps, and remove any dirt from around the spark plug area.
2. Remove the spark plugs with a 5/8-inch spark plug wrench.



SPARK PLUG CAP

SPARK PLUG WRENCH

3. Inspect the spark plugs. Replace them if damaged, badly fouled, if the sealing washer is in poor condition, or if the electrode is worn.
4. Measure the spark plug electrode gaps with a wire-type feeler gauge. Correct the gap, if necessary, by carefully bending the side electrode. The gap should be: 0.3–0.4 mm (0.012–0.016 in)
5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug is seated, tighten with a 5/8-inch spark plug wrench to compress the sealing washer.



When installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer.

When reinstalling the original spark plug, tighten 1/8–1/4 turn after the spark plug seats to compress the washer.

TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)

NOTICE

A loose spark plug can overheat and damage the engine.

Overtightening the spark plug can damage the threads in the cylinder head.

7. Attach the spark plug caps to the spark plugs.

SPARK ARRESTER (optional equipment)

In Europe and other countries where the machinery directive 2006/42/EC is enforced, this cleaning should be done by your servicing dealer.

Your engine is not factory-equipped with a spark arrester. The spark arrester is optional part. In some areas, it is illegal to operate an engine without a spark arrester. Check local laws and regulations. A spark arrester is available from authorized Honda servicing dealers.

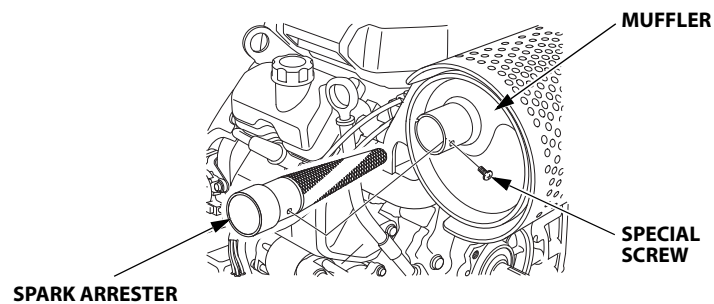
The spark arrester must be serviced every 100 hours to keep it functioning as designed.

If the engine has been running, the muffler will be hot. Allow it to cool before servicing the spark arrester.

Spark Arrester Cleaning & Inspection

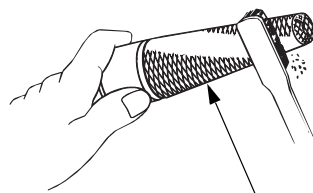
1. Remove the spark arrester:

Remove the special screw from the muffler and remove the spark arrester.



2. Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen.

The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.



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

HELPFUL TIPS & SUGGESTIONS

STORING YOUR ENGINE

Storage Preparation

Proper storage preparation is essential for keeping your engine trouble-free and looking good. The following steps will help to keep rust and corrosion from impairing your engine's function and appearance, and will make the engine easier to start when you use it again.

Cleaning

If the engine has been running, allow it to cool for at least half an hour before cleaning. Clean all exterior surfaces, touch up any damaged paint, and coat other areas that may rust with a light film of oil.

NOTICE

Using a garden hose or pressure washing equipment can force water into the air cleaner or muffler opening. Water in the air cleaner will soak the air filter, and water that passes through the air filter or muffler can enter the cylinder, causing damage.

Fuel

Turn the fuel valve to the CLOSED or OFF position.

Engine Oil

1. Change the engine oil (see page 6).
2. Remove the spark plugs (see page 8).
3. Pour 5–10 cm³ (5–10 cc, 1–2 teaspoons) of clean engine oil into each cylinder.
4. Turn the crank shaft several times to distribute the oil in the cylinders.
5. Reinstall the spark plugs.

Storage Precautions

Select a well ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

Keep the engine level in storage. Tilting can cause oil leakage.

With the engine and exhaust system cool, cover the engine to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the engine, promoting rust and corrosion.

If installed, remove the battery and store it in a cool, dry place. Recharge the battery once a month while the engine is in storage. This will help to extend the service life of the battery.

Removal from Storage

Check your engine as described in the *BEFORE OPERATION CHECKS* section of this manual (see page 3).

If the cylinders were coated with oil during storage preparation, the engine may smoke briefly at startup. This is normal.

TRANSPORTING

If the engine has been running, allow it to cool for at least 15 minutes before loading the engine-powered equipment on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some materials.

Before you can transport or store the engine, the LPG or NATURAL GAS supply line must be disconnected. A qualified LPG or NATURAL GAS technician must do this. Consult a local LPG or NATURAL GAS supplier or your servicing dealer.

TAKING CARE OF UNEXPECTED PROBLEMS

ENGINE WILL NOT START

Possible Cause	Correction
Battery discharged.	Recharge battery.
Fuse burnt out.	Replace fuse.
Fuel valve CLOSED or OFF. (If equipped)	Move lever to OPEN or ON position.
Engine switch OFF.	Turn engine switch to ON position.
Engine oil level low (Oil Alert stops engine).	Fill with the recommended oil to the proper level (p. 6).
Out of fuel.	Refuel (p. 5).
Spark plugs faulty, fouled, or improperly gapped.	Gap, or replace spark plugs (p. 8).
Carburetor malfunction, ignition malfunction, valves stuck, etc.	Take engine to your servicing dealer, or refer to shop manual.

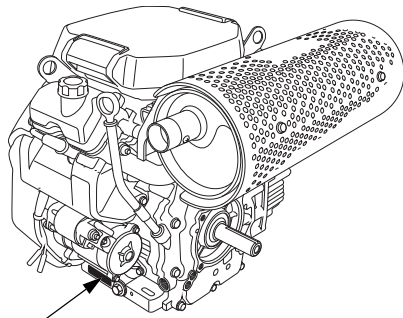
ENGINE LACKS POWER

Possible Cause	Correction
Filter element(s) restricted.	Clean or replace filter element(s) (p. 7).
Fuel quality or pressure is poor.	Use a reliable LPG or NATURAL gas source.
Carburetor malfunction, ignition malfunction, valves stuck, etc.	Take engine to your servicing dealer, or refer to shop manual.

TECHNICAL INFORMATION

Serial Number Location

Record the engine serial number, type and purchase date in the spaces below. You will need this information when ordering parts and when making technical or warranty inquiries.



SERIAL NUMBER &
ENGINE TYPE LOCATION

Engine serial number: _____

Engine type: _____

Date Purchased: ____ / ____ / ____

Battery Connections for Electric Starter

Recommended Battery

GX630	12 V-36 Ah
GX690	

Be careful not to connect the battery in reverse polarity, as this will short circuit the battery charging system. Always connect the positive (+) battery cable to the battery terminal before connecting the negative (-) battery cable, so your tools cannot cause a short circuit if they touch a grounded part while tightening the positive (+) battery cable end.

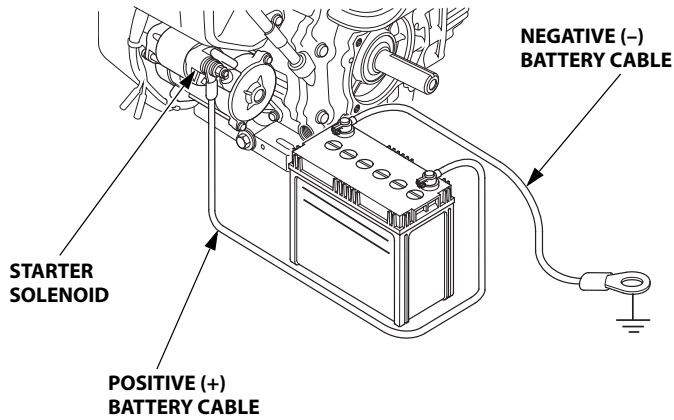
⚠ WARNING

A battery can explode if you do not follow the correct procedure, seriously injuring anyone nearby.

Keep all sparks, open flames, and smoking materials away from the battery.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds. **Wash hands after handling.**

1. Connect the battery positive (+) cable to the starter solenoid terminal as shown.
2. Connect the battery negative (-) cable to an engine mounting bolt, frame bolt, or other good engine ground connection.
3. Connect the battery positive (+) cable to the battery positive (+) terminal as shown.
4. Connect the battery negative (-) cable to the battery negative (-) terminal as shown.
5. Coat the terminals and cable ends with grease.



High Altitude Operation

The LPG/NATURAL GAS-fueled engine does not require any modifications for high-altitude operation. However, performance and horse power will decrease at high altitudes.

Fuel Regulator Information

This engine is certified to comply with U.S. EPA and CARB (California Air Resources Board) emission regulations using the Impco Beam regulator specified in the installation instructions (see below). Honda used this regulator and other specific parts and adjustments to demonstrate compliance with the emission regulations. Adjustable fuel system parts must have U.S. EPA and CARB approved tamper resistant features to limit the available adjustment after the fuel system is correctly installed.

If an equipment manufacturer did not install your engine in a product, you will need the installation instructions for the Honda certified system (see below).

If you choose not to use the Honda fuel system, you must use a system that has been certified by the fuel system manufacturer to be used on this Honda engine.

Or, if you use a fuel system that is not already certified, you must have certification test data satisfactory to the U.S. EPA or CARB. The test data must prove the system will meet the emission standard both when the engine is new and at the end of its emission durability period (hours).

To obtain a copy of the installation instructions for this engine, contact an independent Honda engine distributor.

EMISSION CONTROL SYSTEM INFORMATION

Source of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, and hydrocarbons. Control of hydrocarbons and oxides of nitrogen is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda utilizes appropriate air/fuel ratios and other emissions control systems to reduce the emissions of carbon monoxide, oxides of nitrogen, and hydrocarbons.

Additionally, Honda fuel systems utilize components and control technologies to reduce evaporative emissions.

The U.S. and California Clean Air Acts, and Environment and Climate Change Canada (ECCC)

U.S. EPA, California and Canadian regulations require all manufacturers to furnish written instructions describing the operation and maintenance of emission control systems.

The following instructions and procedures must be followed in order to keep the emissions from your Honda engine within the emission standards.

Tampering and Altering

NOTICE

Tampering is a violation of federal and California law.

Tampering with or altering the emission control system may increase emissions beyond the legal limit. Among those acts that constitute tampering are:

- Removal or alteration of any part of intake, fuel, or exhaust systems.
- Alterations that would cause the engine to operate outside its design parameters.

Problems That May Affect Emissions

If you are aware of any of the following symptoms, have your engine inspected and repaired by your authorized Honda Power Equipment dealer.

- Hard starting or stalling after starting.
- Rough idle.
- Misfiring or backfiring under load.
- Afterburning (backfiring).
- Black exhaust smoke or high fuel consumption.

Replacement Parts

The emissions control systems on your new Honda engine were designed, built, and certified to conform with EPA, California (models certified for sale in California only), and Canadian emissions regulations. We recommend the use of Honda Genuine parts whenever you have maintenance done. These original design replacement parts are manufactured to the same standards as the original parts, so you can be confident of their performance. Honda cannot deny coverage under the emission warranty solely for the use of non-Honda replacement parts or service performed at a location other than an authorized Honda dealership; you may use comparable EPA certified parts, and have service performed at non-Honda locations. However, the use of replacement parts that are not of the original design and quality may impair the effectiveness of your emissions control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emissions performance. The manufacturer or rebuilder of the part must certify that use of the part will not result in a failure of the engine to comply with emissions regulations.

Maintenance

As the power equipment engine owner, you are responsible for completing all required maintenance listed in your owner's manual. Honda recommends that you retain all receipts covering maintenance on your power equipment engine, but Honda cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure that all scheduled maintenance has been completed.

Follow the "MAINTENANCE SCHEDULE" on page 5.

Remember that this schedule is based on the assumption that your Honda engine product will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in dusty conditions, will require more frequent service.

Air Index

(Models certified for sale in California)

An Air Index Information label is applied to engines certified to an emission durability time period in accordance with the requirements of the California Air Resources Board.

The bar graph is intended to provide you, our customer, the ability to compare the emissions performance of available engines. The lower the Air Index, the less pollution.

The durability description is intended to provide you with information relating to the engine's emission durability period. The descriptive term indicates the useful life period for the engine's emission control system. See your "EMISSION CONTROL SYSTEM WARRANTY" (see page 13) for additional information.

Descriptive Term	Applicable to Emission Durability Period
Moderate	50 hours (0–80 cc, inclusive) 125 hours (greater than 80 cc)
Intermediate	125 hours (0–80 cc, inclusive) 250 hours (greater than 80 cc)
Extended	300 hours (0–80 cc, inclusive) 500 hours (greater than 80 cc) 1,000 hours (225 cc and greater)

EMISSION CONTROL SYSTEM WARRANTY

Your Honda Power Equipment engine is designed, built, and equipped to meet the U.S. EPA, Environment Canada, and California Air Resources Board (models certified for sale in California only) emission standard for spark ignited engines. American Honda Motor provides the emission warranty coverage for engines in the United States and its territories. Honda Canada provides the emission warranty for engines in the 13 provinces and territories of Canada.

Warranty Coverage

Honda Power Equipment engines certified to the U.S. EPA, Environment Canada, and State of California (models certified for sale in California only) emission regulations are covered by this warranty to be free from defects in materials and workmanship that may keep it from meeting the applicable U.S. EPA, CARB and Canadian emissions requirements for a minimum of 2 years or the length of the Honda Power Equipment Distributor's Limited Warranty, whichever is longer, from the original date of delivery to the retail purchaser. This warranty is transferable to each subsequent purchaser for the duration of the warranty period. Warranty repairs will be made without charge for diagnosis, parts, and labor. Information about how to make a warranty claim, as well as a description of how a claim can be made and/or how service can be provided, can be obtained by contacting an authorized Honda Power Equipment dealer or by contacting the following:

American Honda

Email: powerequipmentemissions@ahm.honda.com

Telephone: (888) 888-3139

Honda Canada

Telephone: (888) 946-6329

The covered components include all components whose failure would increase an engine's emissions of any regulated pollutant or evaporative emissions. A list of specific components can be found in the separately included emissions warranty statement.

Specific warranty terms, coverage, limitations, and manner of seeking warranty service are also set forth in the separately included emissions warranty statement. In addition, the emission warranty statement can also be found on the Honda Power equipment website or at the following link:

<http://powerequipment.honda.com/support/warranty>

Specifications

GX630

Length×Width×Height	426×410×438 mm (16.8×16.1×17.2 in)	
Dry mass [weight]	44.6 kg (98.3 lbs)	
Engine type	4-stroke, overhead valve, 2 cylinders (90° V-Twin)	
Displacement [Bore×Stroke]	688.0 cm ³ (41.97 cu-in) [78.0×72.0 mm (3.07×2.83 in)]	
Net power (in accordance with SAE J1349*)	LPG	14.4 kW (19.6 PS, 19.3 bhp) at 3,600 min ⁻¹ (rpm)
	Natural gas	12.7 kW (17.3 PS, 17.0 bhp) at 3,600 min ⁻¹ (rpm)
Max. Net torque (in accordance with SAE J1349*)	LPG	45.0 N·m (4.59 kgf·m, 33.2 lbf·ft) at 2,500 min ⁻¹ (rpm)
	Natural gas	38.1 N·m (3.89 kgf·m, 28.1 lbf·ft) at 2,500 min ⁻¹ (rpm)
Engine oil capacity	Without oil filter replacement: 1.5 L (1.6 US qt, 1.3 Imp qt) With oil filter replacement: 1.7 L (1.8 US qt, 1.5 Imp qt)	
Cooling system	Forced air	
Ignition system	CDI type magneto ignition	
PTO shaft rotation	Counterclockwise	

GX690

Length×Width×Height	426×410×438 mm (16.8×16.1×17.2 in)	
Dry mass [weight]	44.6 kg (98.3 lbs)	
Engine type	4-stroke, overhead valve, 2 cylinders (90° V-Twin)	
Displacement [Bore×Stroke]	688.0 cm ³ (41.97 cu-in) [78.0×72.0 mm (3.07×2.83 in)]	
Net power (in accordance with SAE J1349*)	LPG	15.2 kW (20.7 PS, 20.4 bhp) at 3,600 min ⁻¹ (rpm)
	Natural gas	13.5 kW (18.4 PS, 18.1 bhp) at 3,600 min ⁻¹ (rpm)
Max. Net torque (in accordance with SAE J1349*)	LPG	45.0 N·m (4.59 kgf·m, 33.2 lbf·ft) at 2,500 min ⁻¹ (rpm)
	Natural gas	38.1 N·m (3.89 kgf·m, 28.1 lbf·ft) at 2,500 min ⁻¹ (rpm)
Engine oil capacity	Without oil filter replacement: 1.5 L (1.6 US qt, 1.3 Imp qt) With oil filter replacement: 1.7 L (1.8 US qt, 1.5 Imp qt)	
Cooling system	Forced air	
Ignition system	CDI type magneto ignition	
PTO shaft rotation	Counterclockwise	

* The power rating of the engine indicated in this document is the net power output tested on a production engine for the engine model and measured in accordance with SAE J1349 at 3,600 min⁻¹ (rpm) (Net Power) and at 2,500 min⁻¹ (rpm) (Max. Net Torque). Mass production engines may vary from this value.

Actual power output for the engine installed in the final machine will vary depending on numerous factors, including the operating speed of the engine in application, environmental conditions, maintenance, and other variables.

Tuneup Specifications GX630/690

ITEM	SPECIFICATION	MAINTENANCE
Spark plug gap	0.3–0.4 mm (0.012–0.016 in)	Refer to page 8
Valve clearance (cold)	IN: 0.08±0.02 mm EX: 0.10±0.02 mm	See your authorized Honda dealer
Other specifications	No other adjustments needed.	

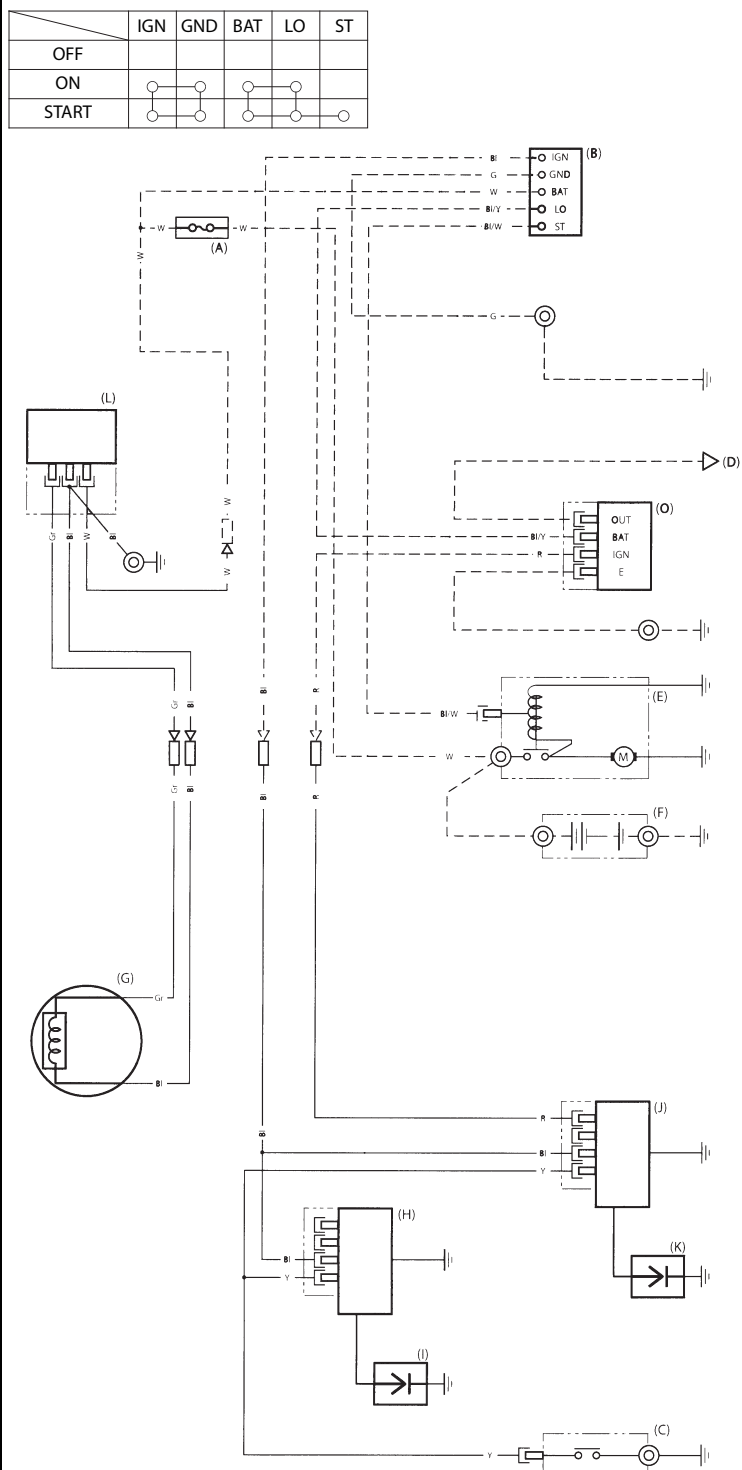
Quick Reference Information

Fuel	LPG: Propane content of 95% or higher (page 5). NATURAL GAS: Methane content of 90% or equivalent (page 5).
Engine oil	SAE 10W-30, API SJ or later, for general use. Refer to page 6.
Spark plug	ZFR5F-4 (NGK)
Maintenance	Before each use: • Check engine oil level. Refer to page 6. • Check air filter. Refer to page 7.
	First 20 hours: Change engine oil. Refer to page 6.
	Subsequent: Refer to the maintenance schedule on page 5.

Wiring Diagrams

(A)	MAIN FUSE
(B)	COMBINATION SWITCH
(C)	OIL LEVEL SWITCH
(D)	GAS SOLENOID VALVE
(E)	STARTER MOTOR
(F)	BATTERY
(G)	CHARGE COIL
(H)	LEFT IGNITION COIL
(I)	LEFT SPARK PLUG
(J)	RIGHT IGNITION COIL
(K)	RIGHT SPARK PLUG
(L)	REGULATOR RECTIFIER
(O)	VALVE CONTROL UNIT

Bl	Black
Br	Brown
Bu	Blue
G	Green
Gr	Gray
Lb	Light blue
Lg	Light green
O	Orange
P	Pink
R	Red
W	White
Y	Yellow

2.7 A Charge Coil and Without Control Box Type

CONSUMER INFORMATION

WARRANTY AND DISTRIBUTOR/DEALER LOCATOR INFORMATION

United States, Puerto Rico, and U.S. Virgin Islands:
Visit our website: www.honda-engines.com

Canada:
Call (888) 9HONDA9
or visit our website: www.honda.ca

For European Area:
Visit our website: <http://www.honda-engines-eu.com>

Australia:
Call (03) 9270 1348
or visit our website: www.hondampe.com.au

CUSTOMER SERVICE INFORMATION

Servicing dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager, General Manager, or Owner can help.
Almost all problems are solved in this way.

United States, Puerto Rico, and U.S. Virgin Islands:
If you are dissatisfied with the decision made by the dealership's management, contact the Honda Regional Engine Distributor for your area.

If you are still dissatisfied after speaking with the Regional Engine Distributor, you may contact the Honda Office as shown.

All Other Areas:
If you are dissatisfied with the decision made by the dealership's management, contact the Honda Office as shown.

《Honda's Office》
When you write or call, please provide this information:

- Equipment manufacturer's name and model number that the engine is mounted on
- Engine model, serial number, and type (see page 11)
- Name of dealer who sold the engine to you
- Name, address, and contact person of the dealer who services your engine
- Date of purchase
- Your name, address and telephone number
- A detailed description of the problem

United States, Puerto Rico, and U.S. Virgin Islands:
American Honda Motor Co., Inc.

Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400, 9:00 am - 7:30 pm ET

Canada:
Honda Canada, Inc.
180 Honda Blvd.
Markham, ON L6C 0H9

Telephone: (888) 9HONDA9 Toll free
(888) 946-6329
Facsimile: (877) 939-0909 Toll free

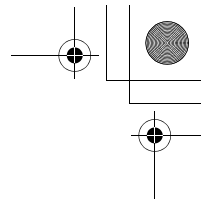
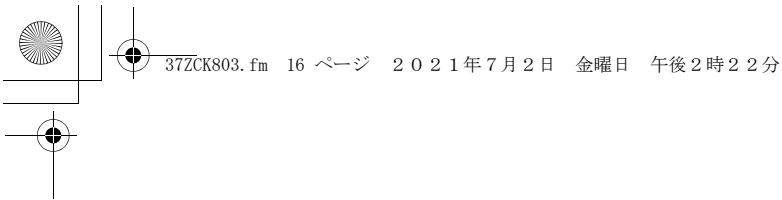
Australia:
Honda Australia Motorcycle and Power Equipment Pty. Ltd.
1954-1956 Hume Highway
Campbellfield Victoria 3061

Telephone: (03) 9270 1111
Facsimile: (03) 9270 1133

For European Area:
Honda Motor Europe Logistics NV.
European Engine Center

<http://www.honda-engines-eu.com>

All Other Areas:
Please contact the Honda distributor in your area for assistance.



HONDA

