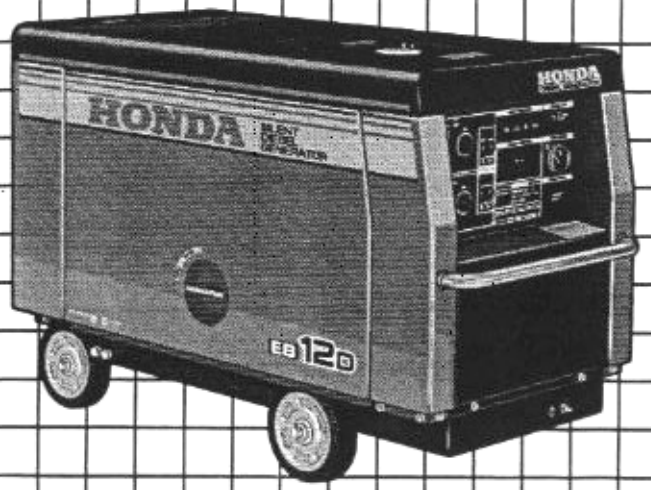
HONDA
Power
Equipment

Owner's Manual

EB12D

Click here to save this manual to your computer.



⚠WARNING

The generator is a potential source of electrical shock if misused. Do not expose the generator to moisture, rain or snow. Do not let the generator get wet, and do not operate it with wet hands.

⚠ WARNING: ⚠

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

Thank you for purchasing a Honda generator. We want to help you get the best results from your new generator and to operate it safely. This manual contains the information on how to do that; please read it carefully.

This owner's manual describes the operation and maintenance of the Honda Generator: EB12D

All information in this publication is based on the latest product information available at the time of printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation. No part of this publication may be reproduced without written permission.

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

Safety Messages
Your safety and the safety of others is very important. We have provided important safety messages in this manual and on the generator. 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 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 generator or other property could be damaged if you don't follow instructions.

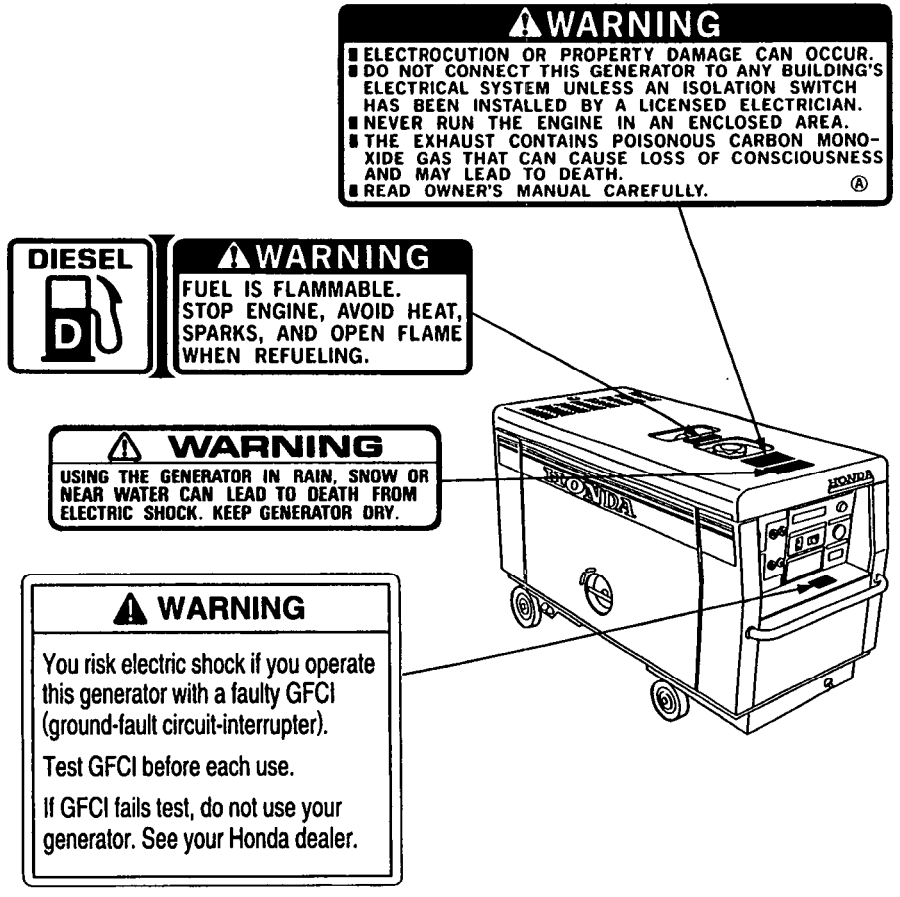
The purpose of these messages is to help prevent damage to your generator, other property, or the environment.

CONTENTS

SAFETY LABEL LOCATIONS

These labels warn you of potential hazards that can cause serious injury. Read them carefully.

If a label comes off or becomes hard to read, contact your Honda Generator dealer for a replacement.



SAFETY INFORMATION

Honda generators are designed to give safe and dependable service if operated according to instructions. Read and understand this owner's manual before operating your generator. You can help prevent accidents by being familiar with your generator's controls, and by observing safe operating procedures.

Operator Responsibility

- Know how to stop the generator quickly in case of emergency. Understand the use of all generator controls, output receptacles, and connections.
- Be sure that anyone who operates the generator receives proper instruction. Do not let children operate the generator without parental supervision.

Electric Shock Hazards

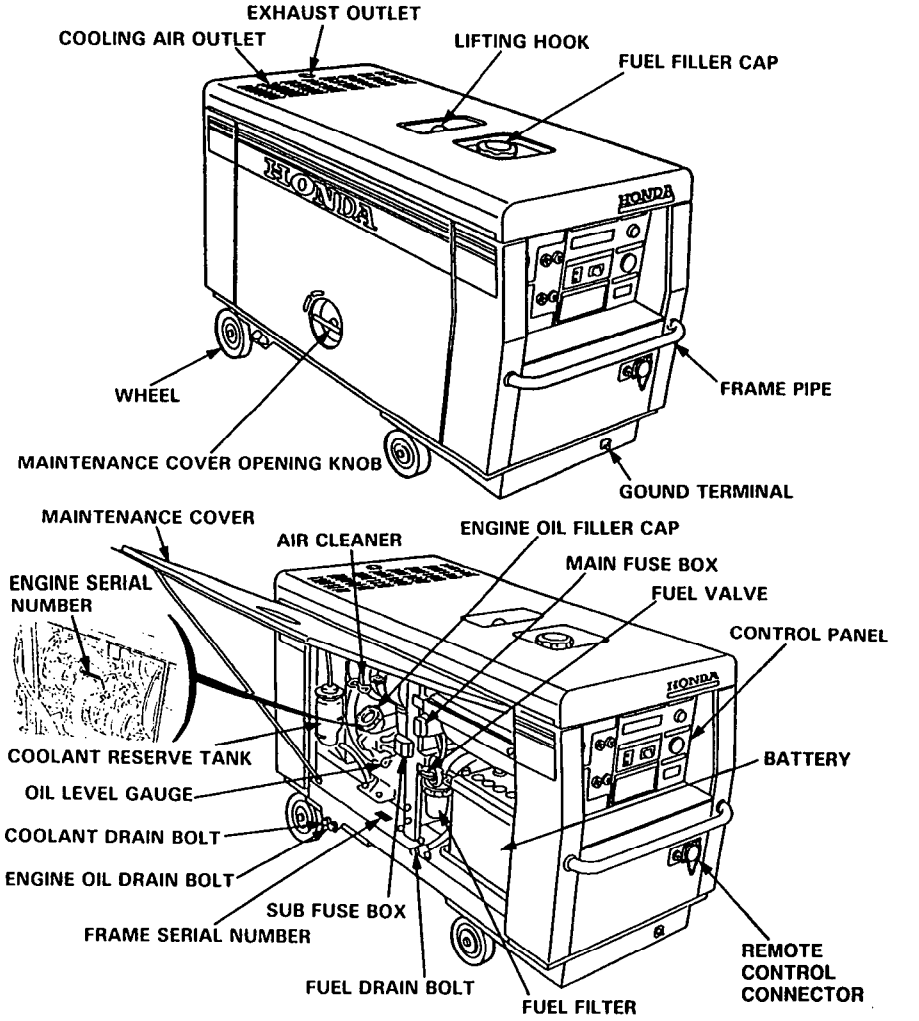
- The generator produces enough electric power to cause a serious shock or electrocution if misused.
- Using a generator or electrical appliance in wet conditions, such as rain or snow, or near a pool or sprinkler system, or when your hands are wet, could result in electrocution. Keep the generator dry.
- If the generator is stored outdoors, unprotected from the weather, check the Ground-Fault Circuit Interrupter (GFCI), and all other electrical components on the control panel, before each use. Moisture or ice can cause a malfunction or short circuit in electrical components which could result in electrocution.
- Do not connect to a building's electrical system unless an isolation switch has been installed by a qualified electrician.
- Do not connect to swimming pool equipment installed before adoption of the 1965 national electric code.

Fire and Burn Hazards

- The exhaust system gets hot enough to ignite some materials.
  —Keep the generator at least 1 meter (3 feet) away from buildings and other equipment during operation.
  —Do not enclose the generator in any structure.
  —Keep flammable materials away from the generator.
- The muffler becomes very hot during operation and remains hot for awhile after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the generator indoors.
- Diesel fuel is flammable, and fuel vapor can explode. Refuel in a well ventilated area with the engine stopped. Keep flames and sparks away, and do not smoke in the area.
- Diesel fuel may spill and ignite if the generator is tilted or overturned. Place the generator on a firm, level surface. Avoid loose sand or snow.

Carbon Monoxide Hazards

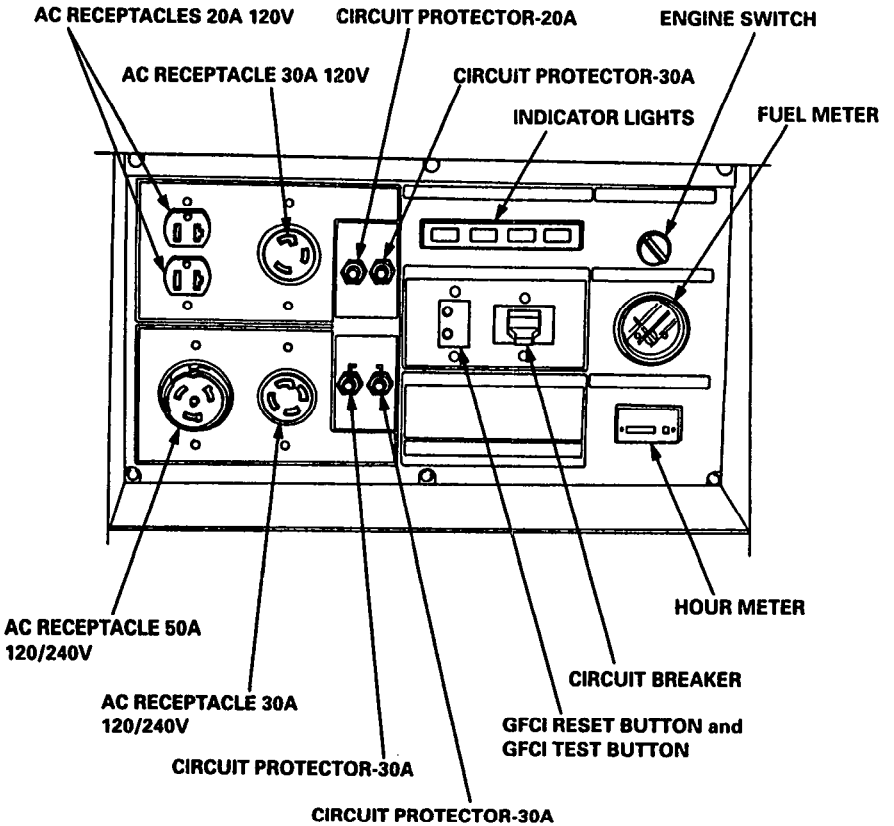
- Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust can cause loss of consciousness and may lead to death.
- If you run the generator in an area that is confined, or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep exhaust gas from building up, provide adequate ventilation.



* Record the frame and engine serial numbers for your reference. Refer to the serial numbers when ordering parts, and when making technical or warranty inquiries (see page 61).

Frame serial number: _____

Engine serial number: _____


AC RECEPTACLES 20A 120V
CIRCUIT PROTECTOR-20A
ENGINE SWITCH
AC RECEPTACLE 30A 120V
CIRCUIT PROTECTOR-30A
INDICATOR LIGHTS
FUEL METER
HOUR METER
AC RECEPTACLE 50A 120/240V
CIRCUIT BREAKER
AC RECEPTACLE 30A 120/240V
GFCI RESET BUTTON and GFCI TEST BUTTON
CIRCUIT PROTECTOR-30A
CIRCUIT PROTECTOR-30A

Engine Switch

To start and stop the engine.

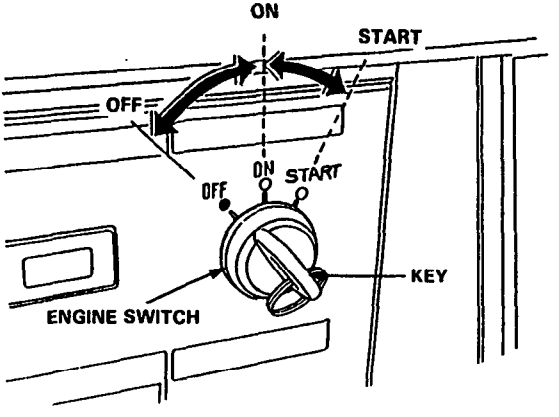
Key position:

OFF: To stop the engine. Key can be removed/inserted.

ON: To run the engine after starting.

START: To start the engine by turning the starter motor. Return the key to the ON position once the engine has started. Do not use the 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.

NOTICE **Make sure the engine switch is set to the OFF position when the engine is stopped. The charge warning light will come on if the switch is left in the ON position with the engine not running. The battery may discharge if the engine switch is left in the ON position with the engine not running.**



Circuit Breaker

The circuit breaker protects the individual circuit protectors and the 50A 120/240V receptacle. The circuit breaker wil automatically switch OFF if there is a short circuit or a significant overload of the generator at the receptacle, or if the ground-fault circuit interrupter (GFCI) detects a ground-fault current.

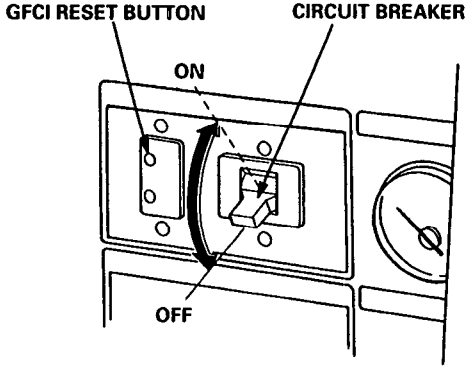
Check the following if the circuit breaker switches OFF automatically:

- When the GFCI RESET button is extended (page 14):
  — Unplug all appliances from the receptacle and check the appliance for any defects as described in TROUBLESHOOTING (page 54).

  After making repairs, push the GFCI RESET button then turn the circuit breaker ON.

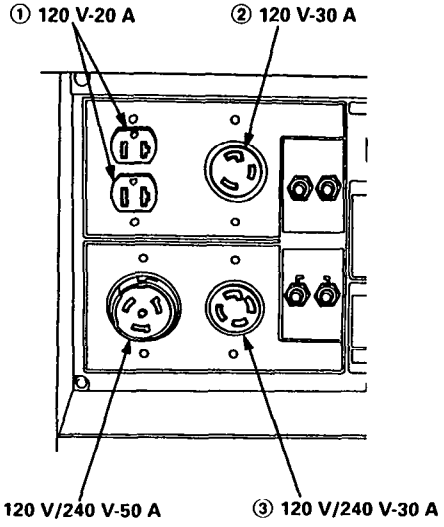
- When the GFCI RESET button is not extended:
  — Check that the appliance is working properly and does not exceed the rated load capacity of the circuit before switching the circuit breaker ON again.

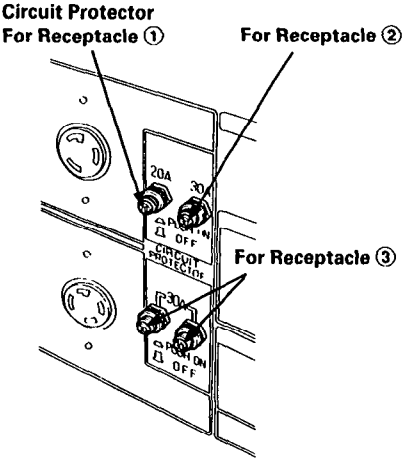
The circuit breaker may be used to switch the generator power on or off.



Circuit Protector

The circuit protectors will automatically switch OFF if there is a short circuit or a significant overload of the generator at the 20A 120V, 30A 120V locking plug, or 30A 120/240V locking plug receptacle. If a circuit protector is switches OFF automatically, check that the appliance is working properly and does not exceed the rated load capacity of the circuit before resetting the circuit protector ON.





Ground Fault Circuit Interrupter (GFCI)

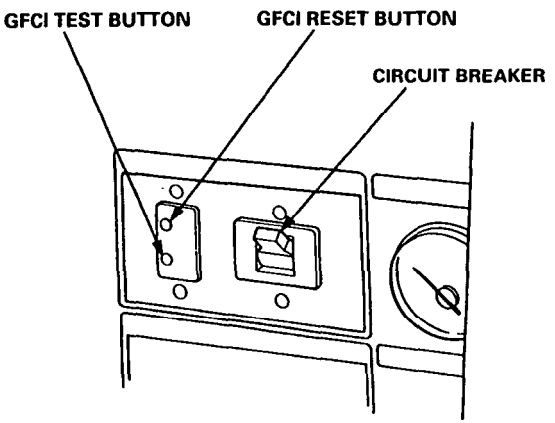
⚠ WARNING

Using the generator in rain, snow or near water can lead to death from electric shock. Keep the generator dry.

All receptacles on the generator are protected by a ground-fault circuit interrupter (GFCI) for protection against the shock hazard of ground-fault current. The GFCI has TEST and RESET buttons and is connected to the circuit breaker.

An example of ground-fault current is the current which would flow through a person who is using an appliance with faulty insulation and, at the same time, is in contact with an electrical ground such as a plumbing fixture, wet floor, or earth.

The ground-fault circuit interrupter will not protect against short circuits or overloads. The circuit breaker in the control panel which supplies power to the circuit provides that protection (refer to circuit breaker on page 10).



Observe the following precautions to ensure proper GFCI operation and to reduce shock hazards:

- Use grounded 3-conductor extension cords, tools, and appliances, or double-insulated tools and appliances.
- Inspect cords and plugs, and replace if damaged.
- Do not use cord lengths greater than 164 feet (50 meters), and do not use multiple tools and appliances with built-in noise filters. Such use may activate the GFCI and trip the circuit breaker.

Inspection:

Always check GFCI operation before using the generator.

⚠ WARNING

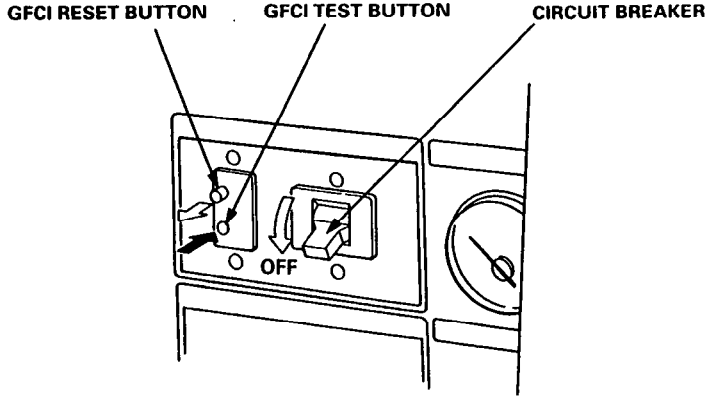
You risk electric shock if you operate this generator with a faulty GFCI (ground-fault circuit interrupter).

Test GFCI before use.

If GFCI fails test, do not use your generator. See your Honda dealer.

1. Unplug all tools and appliances from the generator.
2. Start the engine.
3. Turn the circuit breaker to the ON position.
4. Press the GFCI TEST button. The RESET button should extend, and the circuit breaker should switch to the OFF position.

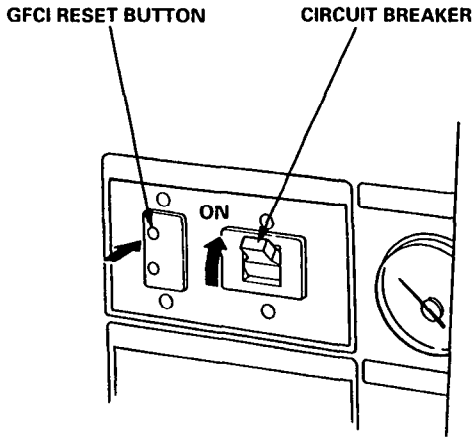
   If the GFCI and circuit breaker do not function as described, take the generator to an authorized Honda generator dealer for repair.



5. Press the GFCI RESET button. The RESET button should stay in, flush with its base plate.

   With the RESET button in and engine running, turn the circuit breaker to the ON position. The circuit breaker should remain in the ON position. The circuit breaker will not remain in the ON position if the RESET button is extended.

   If the GFCI and circuit breaker do not function as described, take the generator to an authorized Honda generator dealer for repair.

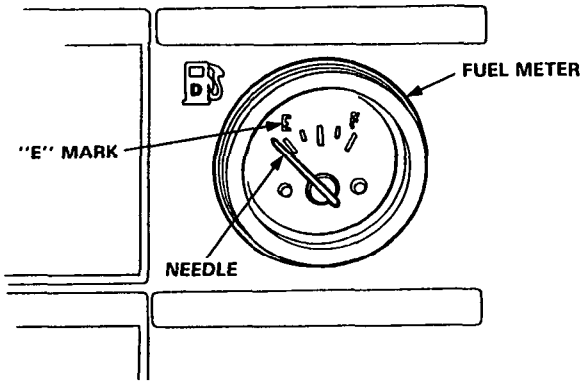


During generator use, if the GFCI RESET button extends and the circuit breaker trips, this usually indicates a faulty power tool, appliance, or cord.

If that occurs, perform test steps 1 through 5 to verify that the GFCI and circuit breaker are in proper working order. If the GFCI and circuit breaker test correctly, then you will know that the fault is in the power tool, appliance, or cord. Repair or replace the faulty power tool, appliance, or cord before further use.

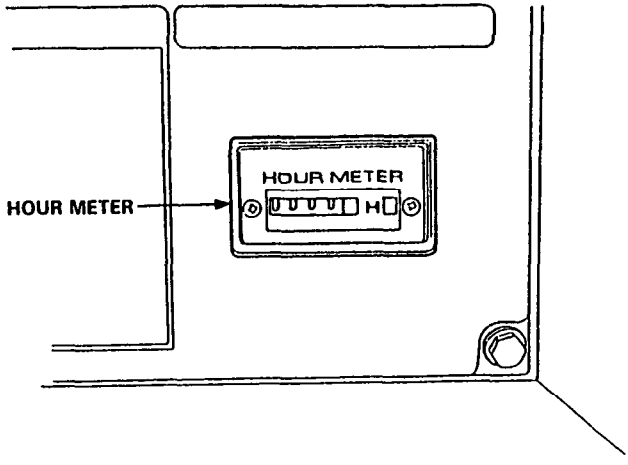
Fuel Meter

Indicates the amount of fuel in the fuel tank when the engine switch is in the ON position. Turn the engine switch to the OFF position and refill the fuel tank when the needle is near the "E" mark.



Hour Meter

Indicates the hours the generator has been operated. Use it to determine when scheduled maintenance should be performed (see page 42).



Indicator Lights

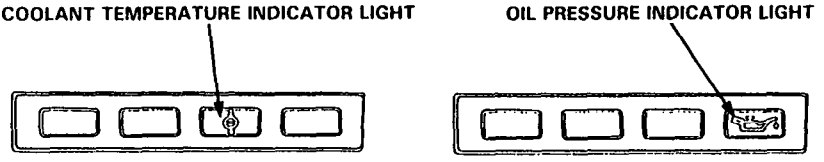
The EB12D generator is equipped with four indicator lights that monitor three engine functions and the generator operation. All four lights come on when the engine switch is turned from the OFF position to the ON position. This allows the operator to check the bulbs of each indicator light. The four lights will go out after 4 seconds with the engine switch left in the ON position. The lights will go out if the engine switch is turned to the start position before 4 seconds.

Oil Pressure Indicator Light

Lights when the engine oil level is low or the engine lubrication system is not working properly. The engine will stop automatically when the light comes on.

If this occurs:

- Check the engine oil level, and add the correct engine oil if necessary (see page 24).
- To restart the engine, turn the engine switch to the OFF position and start according to the starting procedure (see page 32).
- If the oil pressure indicator light continues to light even though the engine oil level is correct, stop operating the generator and see an authorized Honda generator dealer.



Coolant Temperature Indicator Light

Lights when the coolant temperature becomes higher than normal. The engine will stop automatically when the light comes on.

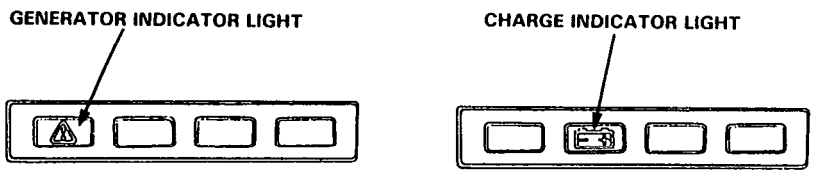
If this occurs:

- Check the coolant level, and add coolant if the level is low (see page 27).
- Check the cooling air openings and the radiator for obstructions that would restrict air flow.
- To restart the engine, first turn the engine switch to the OFF position. Next, turn the engine switch to the ON position and observe the coolant temperature indicator light. If the light remains on, allow the engine to cool before attempting to start the engine.
- If the coolant temperature indicator light continues to come on even though the coolant level is correct, discontinue operation and see an authorized Honda generator dealer.

NOTICE **Check the coolant level before each use. The coolant temperature indicator light may not function if there is insufficient coolant in the radiator.**

Generator Indicator Light
The generator indicator light comes on and the engine will stop automatically when there is a problem with the generator or the rated load capacity of the generator has been exceeded.

If this occurs:
- Turn the engine switch to the "OFF" position.
- Disconnect the appliance from the generator.
- Start the engine (see page 32) and observe the generator indicator light:
  Switch ON the AC circuit breaker and circuit protector, if they are switched OFF.
  — If the light does not come on, plug the appliance in and check to see if the light comes on. If the light comes on and the engine stops automatically, check the appliance for proper operation or exceeding the rated load capacity of the circuit.
  — If the light comes on after the engine has been restarted and the engine stops automatically, discontinue operation of the generator and contact an authorized Honda generator dealer.



Charge Indicator Light
The charge indicator light comes on and the engine is stopped automatically when there is a problem in the battery charging system.

If this occurs:
- Turn the engine switch to the OFF position.
- Start the engine (see page 32).
- If the engine stops again automatically, determine when the charge indicator light comes on:
  — If the light comes on immediately when the engine stops, the problem is the charging system. Stop using the generator and contact an authorized Honda generator dealer.
  — If the engine stops automatically and the charge indicator light comes on approximately 15 seconds after the engine stops, the problem is either in the fuel system (see page 25) or a problem with the engine. See your authorized Honda generator dealer if the charge indicator light comes on even though there is sufficient fuel.

Connections to a Building's Electrical System
Connections for standby power to a building's electrical system must be made by a qualified electrician. The connection must isolate the generator power from utility power, and must comply with all applicable laws and electrical codes.

⚠WARNING Improper connections to a building's electrical system can allow electrical current from the generator to backfeed into the utility lines. Such backfeed may electrocute utility company workers or others who contact the lines during a power outage. Consult the utility company or a qualified electrician.

NOTICE Improper connections to a building's electrical system can allow electrical current from the utility company to backfeed into the generator. When utility power is restored, the generator may explode, burn, or cause fires in the building's electrical system.

Ground System
Honda portable generators have a system ground that connects generator frame components to the ground terminals in the AC output receptacles. The system ground is connected to the AC neutral wire.

Special Requirements
There may be Federal or State Occupational Safety and Health Administration (OSHA) regulations, local codes, or ordinances that apply to the intended use of the generator. Please consult a qualified electrician, electrical inspector, or the local agency having jurisdiction.

- In some areas, generators are required to be registered with local utility companies.

- If the generator is used at a construction site, there may be additional regulations which must be observed.

AC Applications

Before connecting an appliance or power cord to the generator:

- Make sure that it is in good working order. Faulty appliances or power cords can create a potential for electrical shock.

- If an appliance begins to operate abnormally, becomes sluggish or stops suddenly, turn it off immediately. Disconnect the appliance, and determine whether the problem is the appliance, or if the rated load capacity of the generator has been exceeded.

- Make sure that the electrical rating of the tool or appliance does not exceed that of the generator, Never exceed tha maximum power rating of the generator. Power levels between rated and maximum may be used for no more than 30 minutes.

NOTICE **Substantial overloading will open the circuit breaker. Exceeding the time limit for maximum power operation or slightly overloading the generator may not switch the circuit breaker OFF, but will shorten the service life of the generator.**

Limit operation requiring maximum power to 30 minutes.
Maximum power is:
12 KVA

For continuous operation, do not exceed the rated power.
Rated power is:
10 KVA

In either case, the total power requirements (VA) of all appliances connected must be considered. Appliance and power tool manufacturers usually list rating information near the model number or serial number.

AC Operation

1. Check GFCI operation before each use (see page 14).

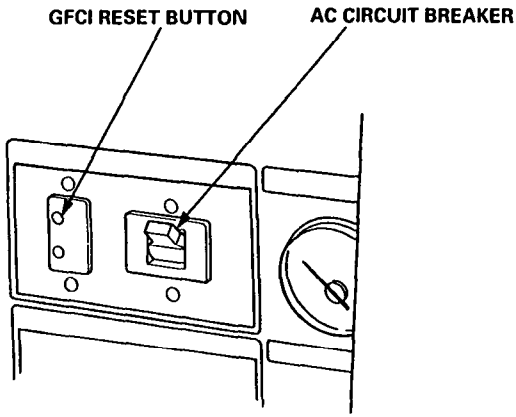
2. Start the engine (see page 32).

3. Make sure that the GFCI RESET button is pushed in (flush with its base plate).

4. Switch ON the AC circuit breaker.

5. Plug in the appliance.

Most motorized appliances require more than their rated wattage for startup.



Do not exceed the current limit specified for any one receptacle. If an overloaded circuit causes the AC circuit breaker or circuit protector to switch OFF, reduce the electrical load on the circuit, wait a few minutes and then reset the circuit breaker.

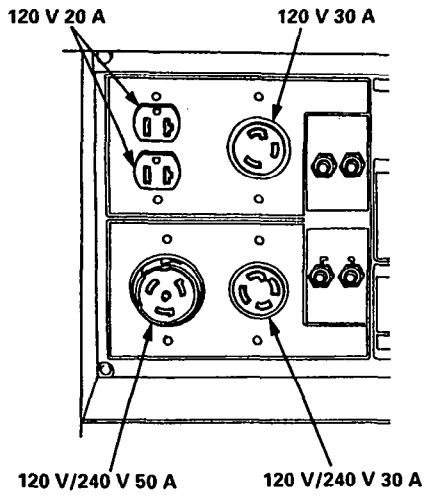
How to use the receptacles

When two or more receptacles are used, refer to the table below and apply the load to each receptacle equally to prevent overloading.

Voltage fluctuation can be prevented by applying the load equally to the single phase receptacles.

<table>
<tr><th rowspan="2">Receptacle / Case</th><th colspan="2">240 V</th><th colspan="3">120 V</th></tr>
<tr><th>50 A</th><th>30 A</th><th>50 A</th><th>30 A</th><th>20 A Max. for both</th></tr>
<tr><td rowspan="2">Using 240 V only</td><td>41.7 A Max.</td><td>30 A Max.</td><td colspan="3" rowspan="2"></td></tr>
<tr><td colspan="2">41.7 A Total</td></tr>
<tr><td rowspan="2">Using 120 V only</td><td colspan="2" rowspan="2"></td><td>50 A Max.</td><td>30 A Max.</td><td>20 A Max. at one</td></tr>
<tr><td colspan="3">Total 83.4 A</td></tr>
<tr><td rowspan="3">Using both 120 V and 240 V</td><td colspan="2">Total 10 A</td><td colspan="3">Total 63.3 A</td></tr>
<tr><td colspan="2">Total 20 A</td><td colspan="3">Total 43.3 A</td></tr>
<tr><td colspan="2">Total 30 A</td><td colspan="3">Total 23.3 A</td></tr>
</table>

When both 240 V and 120 V receptacles are used, be sure that the ampere draw at each receptacle is less than the specified capacity and the total ampere(s) are less that 83.4 amperes.



Check these items before starting the generator. Be sure the generator is on a level surface. Block the wheels.

Maintenance Cover Opening and Closing

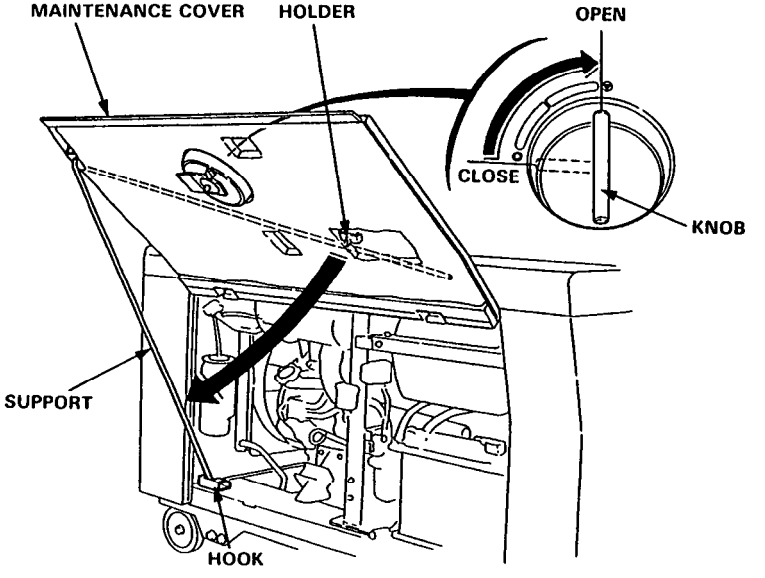
- **To open:**

1. Turn the maintenance cover opening knob to the OPEN position and pull up on the cover.
2. Pull the support from the holder and hook the end of the support as shown.

- **To close:**

1. Lift the maintenance cover slightly to unhook the support from the hook.
2. Set the support in the holder on the maintenance cover and gently lower the cover.
3. Turn the maintenance cover knob to the CLOSE position to latch the cover in place.

NOTICE **Keep the maintenance cover closed while operating the generator. Operating the generator with the maintenance cover up will reduce the cooling efficiency resulting in generator damage.**



Engine Oil

NOTICE **Engine oil is a major factor affecting engine performance and service life. Running the engine with insufficient oil can cause serious engine damage. Nondetergent oil and 2-stroke engine oil are not recommended.**

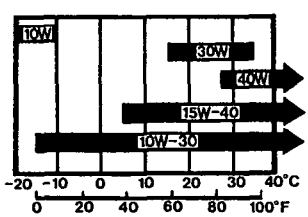
Be sure to check the engine oil on a level surface with the engine stopped and the wheels blocked (if installed).

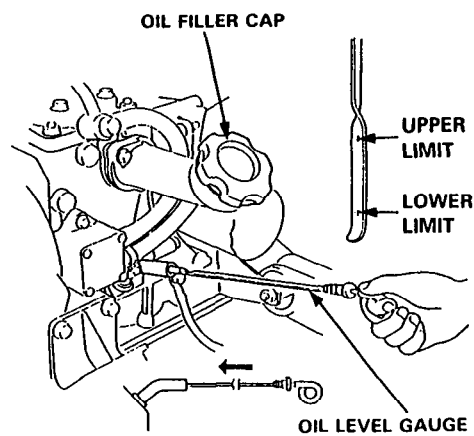
Use only high-detergent premium quality motor oil certified to meet or exceed American Petroleum Institue (API) Service Classification CE, CD, or CDII. (Motors oils intended for diesel service CE, CD, or CDII will show this designation on the container). SAE 15W—40 is recommended for general use. Select the appropriate viscosity from the chart below for the average temperature in your area.

NOTE: SAE 10W—30 with a API Service Classification SG, SF/CC, or CD may be used if a diesel service classification CE, CD, or CDII is unavailable.

1. Open the maintenance cover (see page 23).
2. Remove and wipe the oil level gauge clean.
3. Insert the oil level gauge into the oil level inspection hole as shown.
4. Check the oil level on the oil level gauge as shown. If near the lower limit, remove the oil filler cap and fill to the upper limit with the recommended engine oil.

■OIL:API CE, CD, CDII, CC





Fuel

Fuel tank capacity: 38 lit. (10 US gal, 8.4 Imp. gal)

Turn the engine switch ON and check the fuel meter.

Refill the tank to the upper level if necessary. Do not fill the fuel tank above the upper level mark. Use ONLY clean high-quality fuel.

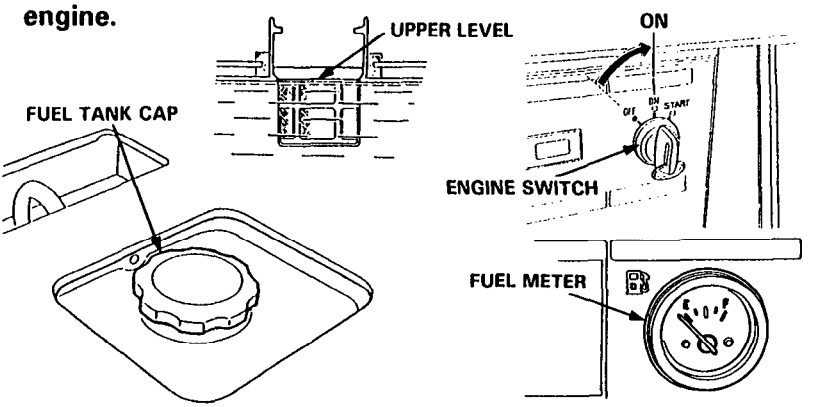
Recommended fuel specifications: ASTM D-975-1-D/2-D
Use No. 2-D fuel at temperatures above 20°F (–7°C)
Use No. 1-D fuel at temperatures below 20°F (–7°C)
Use No. 1-D fuel for all temperatures at altitudes above 5000 ft (1500 m).

Diesel fuel with a cetane rating as low as 40 may be used, but a cetane rating of 45 is recommended.

Do not use contaminated diesel fuel. Do not mix different grades of diesel fuels. Avoid getting dirt, dust or water in the fuel tank. After refueling, be sure to tighten the fuel tank cap securely.
Use diesel fuel only. Do not use gasoline, kerosene or any other fuel oils. Do not mix gasoline with diesel fuel.

⚠ WARNING

- **Diesel fuel is flammable and 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 diesel fuel is stored.**
- **Do not overfill the tank, and make sure the filler cap is securely closed after refuelling.**
- **Be careful not to spill fuel when refueling. Spilled fuel vapor may ignite. If fuel is spilled, make sure the area is dry before starting the engine.**



NOTE:

- Depending on the season and the ambient temperature, a different grade of diesel fuel should be used. If a summer grade fuel is used in the winter, the summer fuel may freeze preventing the engine from starting. Winter grade fuel is used in the summer could result in a lack of engine power. Be sure to use the proper grade of diesel fuel which complies with the ambient temperature.

- Keep the fuel tank filled in the winter. Water can accumulate from condensation if the tank is kept only partially filled. Refill the fuel tank after each use.

- Check the fuel filter before each use for water and contaminates. Service the fuel filter if any contaminates are found (see page 29).

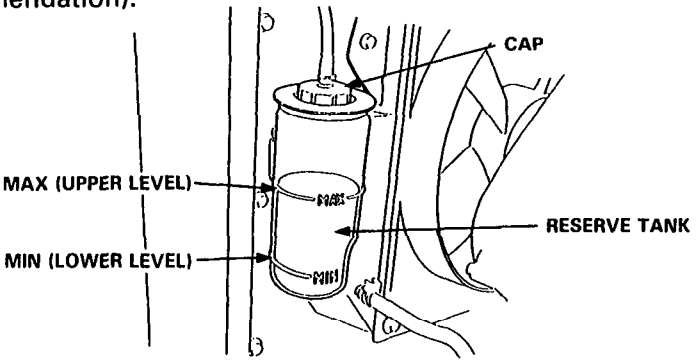
Air Bleeding

The generator is equipped with an automatic air bleeding system in the event the engine is run out of fuel. Refill the tank (see page 25). Make sure that fuel is supplied to the fuel filter, then start the engine (see page 32).

NOTE: Light blue exhaust will be seen and the engine speed may fluctuate as air bleeding is occuring. This is normal. Run the engine without a load until the engine speed stabilizes and the exhaust smoke clears.

Coolant

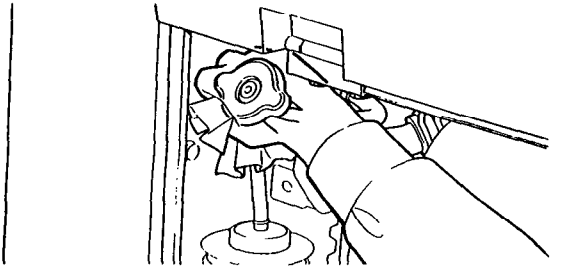
1. Open the maintenance cover (see page 23).
2. Check the coolant level in the reserve tank when the engine is at normal operating temperature. If the level is near the MIN level, add coolant to bring it up to the MAX level (see page 28 for coolant recommendation).



3. If there is no coolant in the reserve tank, the cooling system should be checked for leaks and repaired if necessary. Coolant must then be added to the radiator and reserve tank.

⚠WARNING The coolant is hot and under pressure and severe scalding could result. Never remove the radiator cap when the engine is hot.

Wait until the engine is cool, then turn the radiator cap counterclockwise until it stops. DO NOT PRESS DOWN WHILE TURNING THE CAP. After any remaining pressure has been relieved, remove the cap by pressing down and again turning it counterclockwise. Add enough coolant to fill the radiator, and reinstall the cap. Be sure to tighten it securely. Fill the reserve tank up to the MAX level with the engine cold. Recheck the reserve tank once the engine reaches normal operating temperature.



Coolant Recommendation

Use high quality ethylene glycol antifreeze that is specifically formulated for use in aluminum engines. Mix the antifreeze with low-mineral drinking water or distilled water.

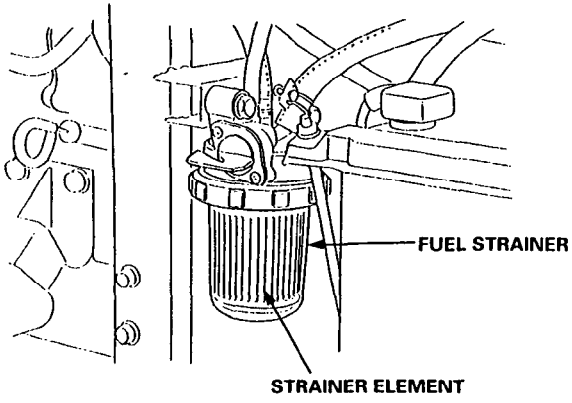
A 50/50 mixture of ethylene glycol antifreeze and water is recommended for most temperature and provides good corrosion protection. A higher concentration of antifreeze decrease cooling efficiency and is recommended only if additional protection against freezing is needed. A concentration of less than 40% antifreeze will not provide proper corrosion protection.

NOTICE **The use of unsuitable antifreeze, hard water, or salt water will cause corrosion damage that will shorten the life of the engine.**

Fuel Filter

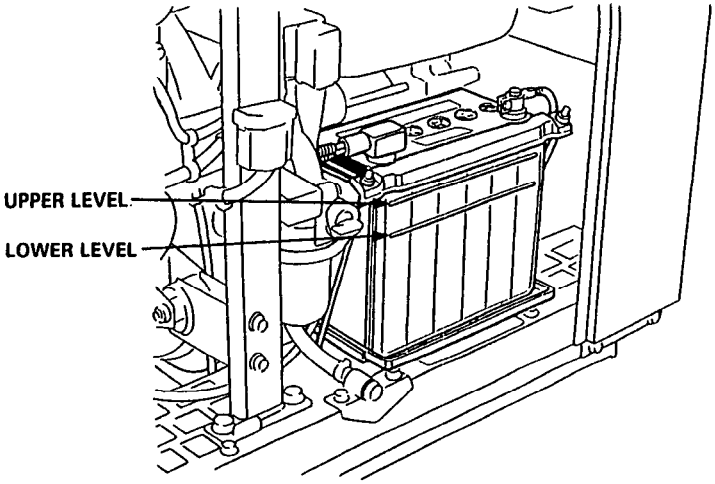
1. Open the maintenance cover (see page 23).

2. Inspect the fuel filter for dirt, water, or other contaminates and clean the fuel filter if necessary (see page 46).



Battery

The electrolyte level must be kept between the UPPER and LOWER level marks. If the electrolyte level is near the LOWER level, remove the battery filler caps and carefully add distilled water to the upper level line(see page 47).



⚠WARNING

The battery contains sulfuric, acid (electrolyte) which is highly corrosive and poisonous.

Getting electrolyte in your eyes or on your skin can cause serious burns.

Wear protective clothing and eye protection when working near the battery.

EMERGENCY PROCEDURES:

Eyes —Flush with water from a cup or other container for at least 15 minutes. Call a physician immediately.

Skin —Remove contaminated clothing. Flush skin with large quantities of water. Call a physician.

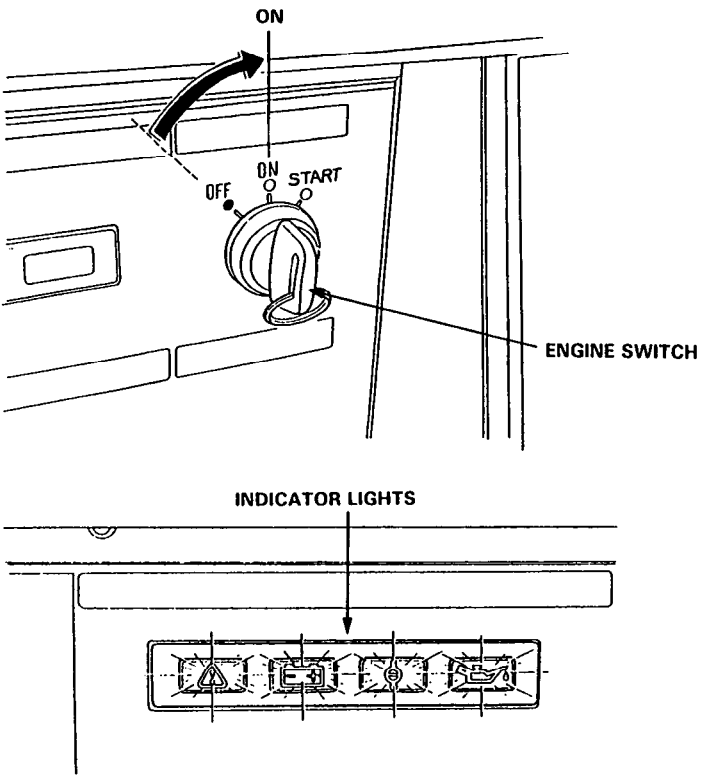
If swallowed —Drink water or milk and call your poison control center or a physician immediately.

Indicator lights

Turn the engine switch to the ON position and check to see if the four indicator lights come on. The indicator lights should go out after 4 seconds with the engine switch in the ON position.

Return the engine switch to the OFF position.

If the indicator light(s) does not come on, or do not go out after 4 seconds with the engine switch in the ON position, contact an authorized Honda generator dealer.

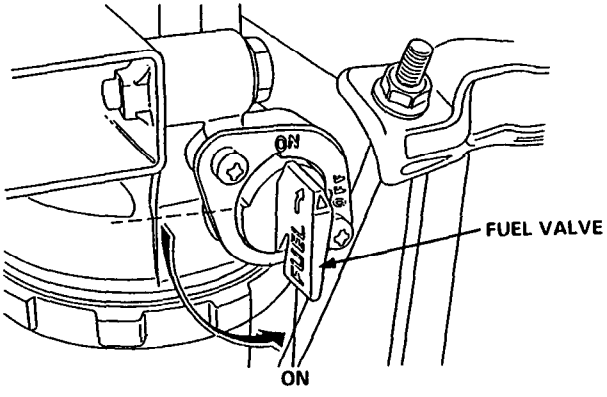


STARTING AND STOPPING THE ENGINE

Starting the engine

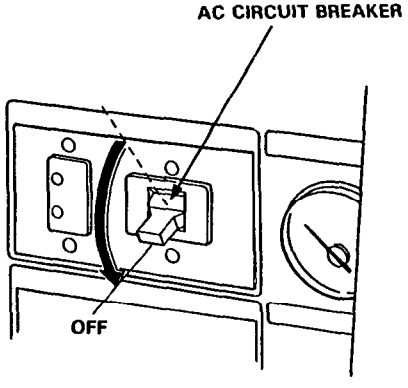
Before starting the engine disconnect any load from the AC receptacle.

1. Open the maintenance cover (see page 23) and turn the fuel valve to the ON position.

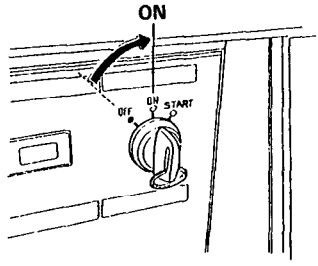


2. Close the maintenance cover (see page 23).

3. Turn the AC circuit breaker OFF.

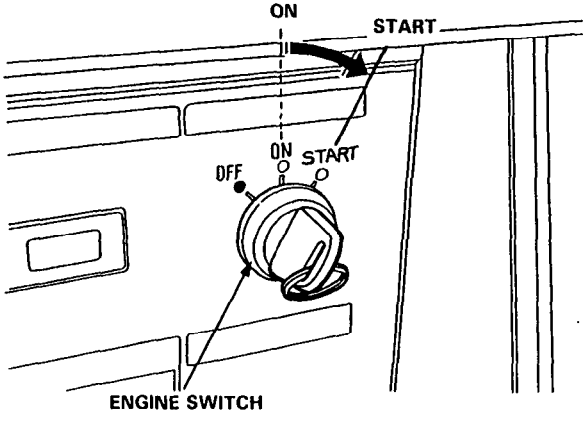


4. Insert the key and turn the engine switch to the ON position. If the ambient temperature is below freezing, wait for the indicator lights to go OFF before turning the key to the start position. This allows the glow plugs to pre-heat the combustion chambers.

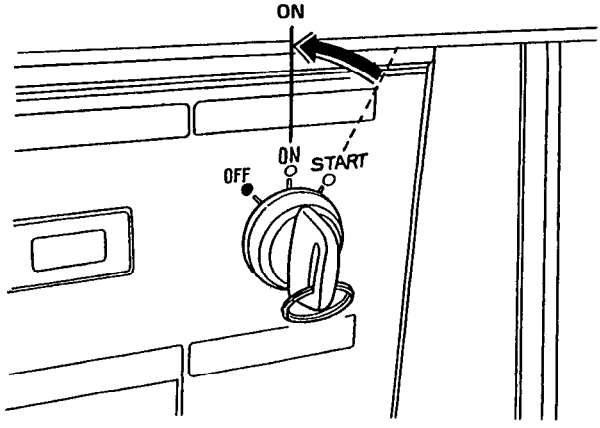


5. Turn the engine switch to the START position and hold it there until the engine starts.

NOTICE **Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, release the key,and wait at least 10 seconds before operating the starter motor again.**



6. After the engine starts, let the engine switch return to the ON position.



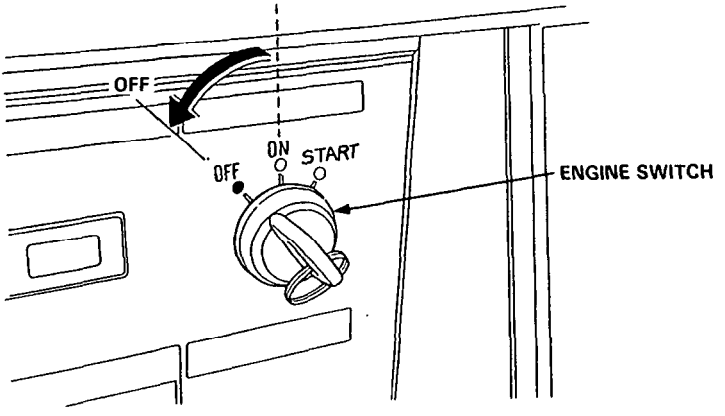
7. Warm the engine for 2 or 3 minutes before applying a load to the generator. Blue smoke might be emitted from the exhaust during the warm-up. This is a normal occurrence.

NOTICE **Proper engine warm-up will stabilize the engine speed. It also is needed to warm-up the engine oil and properly lubricate internal engine parts.**

Stopping the engine

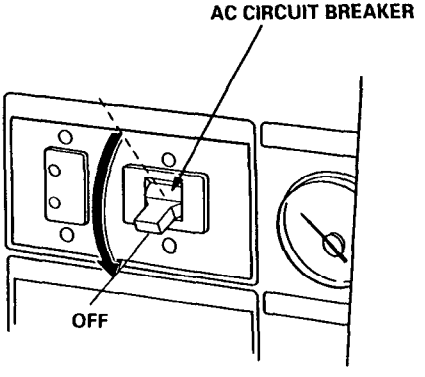
In an emergency:

Turn the engine switch to the OFF position.

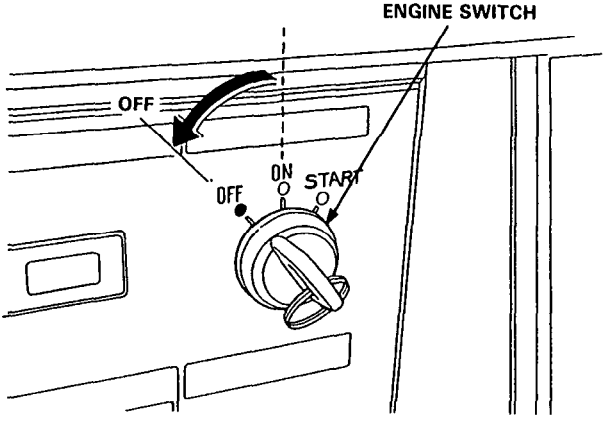


In normal use:

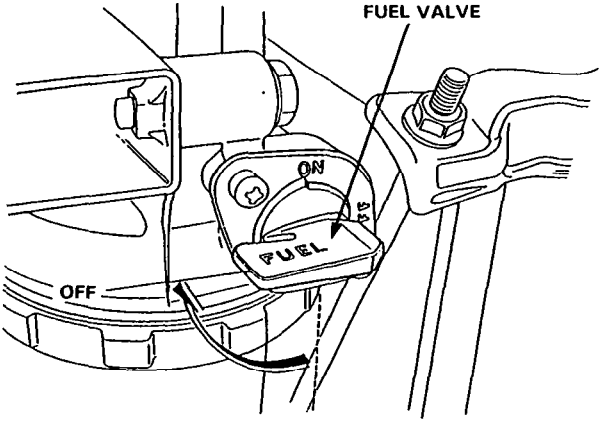
1. Turn all electrical appliance's connected to the generator OFF.
2. Turn the AC circuit breaker OFF.



3. Turn the engine switch to the OFF position.



4. Open the maintenance cover (see page 23) and turn the fuel valve to the OFF position.



The Importance of Maintenance

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

⚠ WARNING

Improper maintenance, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.

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

To help you properly care for your generator, 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 generator 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

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.

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

Safety precautions

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
  - — **Carbon monoxide poisoning from engine exhaust.**
    Be sure there is adequate ventilation whenever you operate the engine.
  - — **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 Diesel fuel. Use only a nonflammable solvent, not diesel fuel, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

Remember that your servicing dealer knows your generator best and is fully equipped to maintain and repair it.

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

Emission Control System

Source of Emissions

The combustion process produces carbon monoxide, oxides of nitrogen, hydrocarbons and particulate matter. 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 systems to reduce the emissions of carbon monoxide, oxides of nitrogen, hydrocarbons and particulate matter.

The U.S. and California Clean Air Acts

EPA and California 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

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 the intake, fuel, or exhaust systems.
- Altering or defeating the governor linkage or speed-adjusting mechanism to 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 servicing dealer.

- Hard starting or stalling after starting.
- Rough idle.
- Misfiring.
- Extremely, black exhaust smoke or high fuel consumption.

Replacement Parts

The emission control systems on your Honda engine were designed, built, and certified to conform with EPA and California emission regulations. We recommend the use of genuine Honda 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. The use of replacement parts that are not of the original design and quality may impair the effectiveness of your emission control system.

A manufacturer of an aftermarket part assumes the responsibility that the part will not adversely affect emission 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 emission regulations.

Maintenance

Follow the maintenance schedule on page 42. Remember that this schedule is based on the assumption that your machine will be used for its designed purpose. Sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, will require more frequent service.

Maintenance Schedule

	ITEM / REGULAR SERVICE PERIOD		EACH USE	FIRST 50 HRS (3)	EVERY 200 HRS (3)	EVERY 400 HRS (3)	EVERY 600 HRS (3)	EVERY 1000 HRS (3)	EVERY 4000 HRS (3)
●	Engine Oil	Check	O						
		Change		O	O				
●	Oil filter	Change				O (2)			
	Battery electrolyte	Check	O						
	Radiator coolant	Check	O						
		Change	Every 2 years (2)						
●	Fuel filter	Check	O						
●	Diesel fuel	Check	O						
	Indicator lights	Check	O						
	GFCI		O						
	Fan belt	Check		O (2)	O (2)				
●	Air cleaner element	Check			O (1)				
		Change				O			
●	Fuel filter element	Change				O			
	Generator brushes	Check						O (2)	
●	Injection nozzle	Check						O (2)	
●	Valve clearance	Check-Adjust						O (2)	
	Timing belt	Change							O (2)
●	Fuel line (Replace if necessary)	Check	Every 2 years (2)						

● Emission related items.

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

(2) These items should be serviced by an authorized HONDA generator dealer unless the owner has the proper tools and is mechanically proficient. Refer to the Shop Manual.

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

Engine Oil Change

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

1. Open the maintenance cover (see page 23).

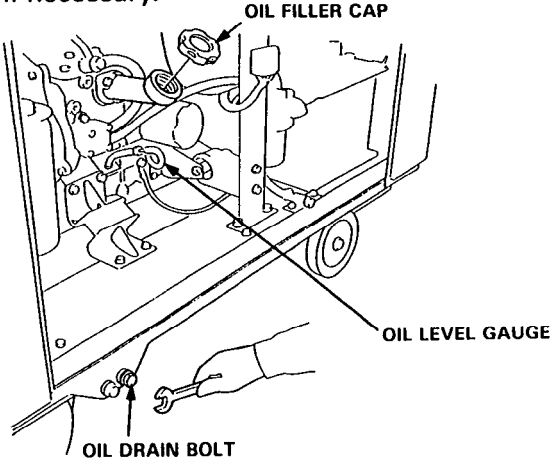
2. Remove the oil filler cap and drain bolt to drain the oil.

3. After draining is complete, check that the sealing washer is in good condition (replace if necessary), then retighten the drain bolt securely.

4. Refill with the recommended engine oil and check the oil level with the oil level gauge (see page 24).

5. Install the oil filler cap.

6. Start the engine and allow it to warm to normal operating temperature. Stop the engine and recheck the oil level with the oil level gauge (see page 24). Add if necessary.



ENGINE OIL CAPACITY: 4.8 lit. (5.0 US qt, 4.2 Imp qt)

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

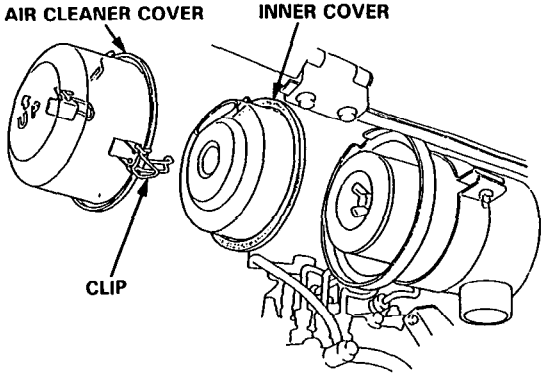
Air Cleaner

If you operate the generator in very dusty areas, check and replace the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

NOTICE **Operating the engine without the air cleaner will cause rapid engine wear.**

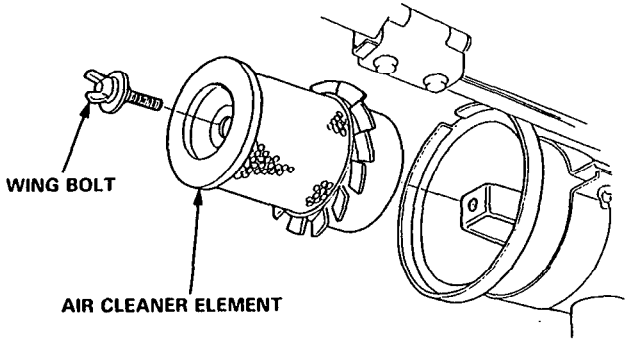
1. Open the maintenance cover (see page 23).

2. Unhook the clips and remove the air cleaner cover and the inner cover.



3. Remove the wing bolt and the air cleaner element.

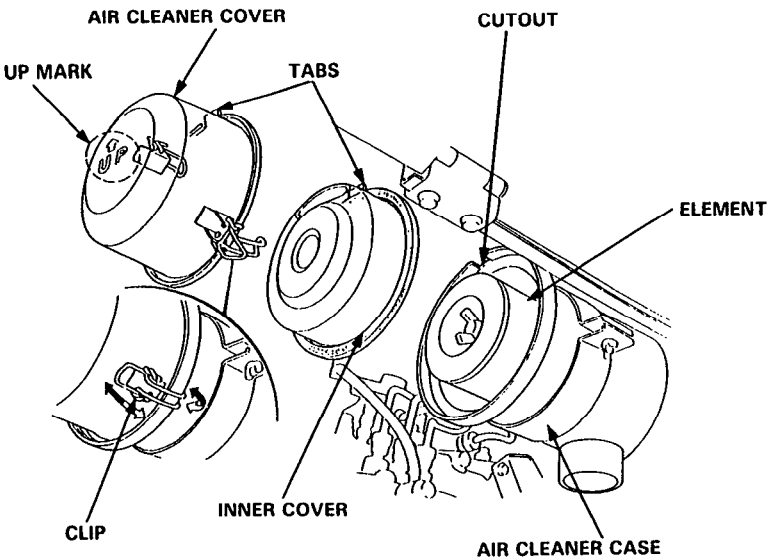
NOTE: Do not clean the paper element. Replace it with a new one if it is dirty.



4. Install the element, inner cover and air cleaner cover in the reverse order of removal.

NOTE: Install the cover with the UP mark facing up and align the tabs of the inner cover and the air cleaner cover with the cutout of the air cleaner case.

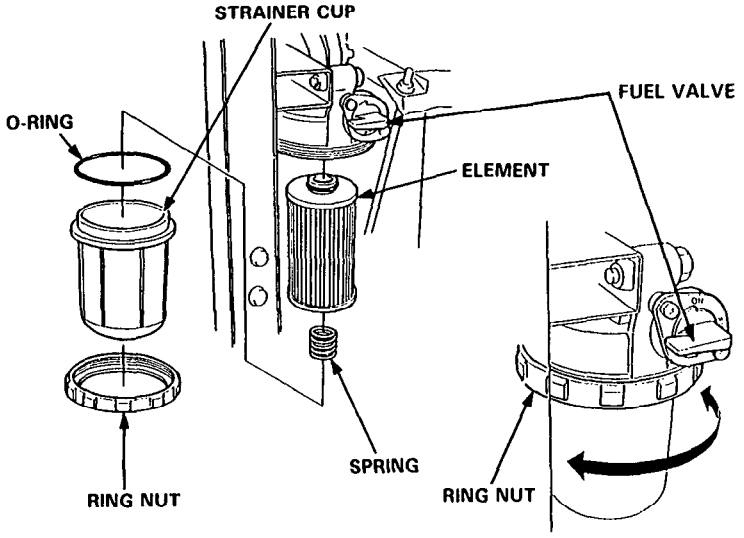
5. Fasten the cover clips securely.



Fuel Filter

⚠WARNING Diesel fuel is extremely flammable and explosive under certain condition. Do not smoke or allow flames or sparks in the area.

1. Open the maintenance cover (see page 23).
2. Turn the fuel valve to the OFF position.
3. Loosen the ring nut and then remove the strainer cup, O-ring, spring and element.
4. Inspect the fuel in the strainer cup for contaminates or water. Clean the strainer cup thoroughly.
5. Install a new element using the spring, strainer cup, O-ring and ring nut. Make sure that the O-ring is in good condition and is set properly on the strainer cup.
6. After installing the strainer cup, turn the fuel valve to the ON position. Check for fuel leaks. Make sure the area is dry before starting the engine.



Battery

■ Refilling battery fluid

If the generator is operated with insufficient battery electrolyte, sulfation and battery plate damage will occur.

If rapid loss of electrolyte is experienced, or if your battery seems to be weak, causing slow starting of other electrical problems, see your authorized Honda generator dealer.

Open the maintenance cover and check the electrolyte level in each battery cell. Fill the battery with distilled water to the upper level line. Never overfill the battery.

⚠WARNING

The battery contains sulfuric, acid (electrolyte) which is highly corrosive and poisonous.

Getting electrolyte in your eyes or on your skin can cause serious burns.

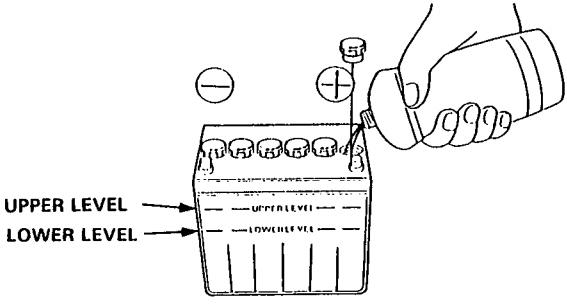
Wear protective clothing and eye protection when working near the battery.

EMERGENCY PROCEDURES:

Eyes — Flush with water from a cup or other container for at least 15 minutes. Call a physician immediately.

Skin — Remove contaminated clothing. Flush skin with large quantities of water. Call a physician.

If swallowed — Drink water or milk and call your poison control center or a physician immediately.



⚠ WARNING

The battery gives off explosive hydrogen gas during normal operation.

A spark or open flame can cause the battery to explode with enough force to kill or seriously hurt you.

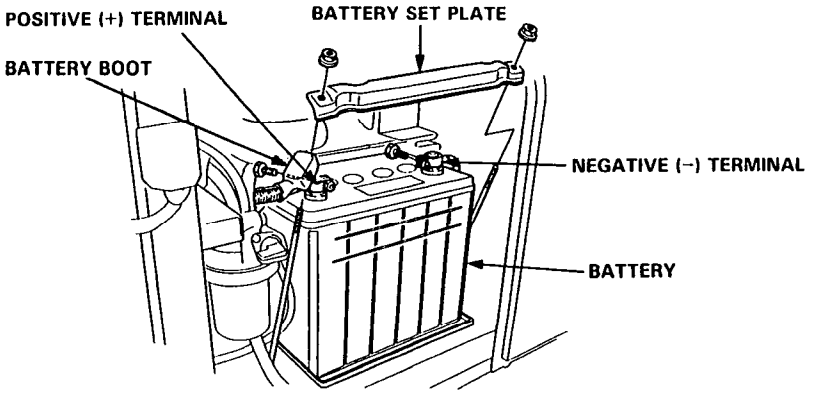
Keep sparks and flames sway. Wear protective clothing and a face shield, or have a skilled mechanic do battery maintenance.

■ Battery cleaning

If the battery terminals are contaminated or corroded, remove the battery and clean the terminals.

Removal:

1. Remove the battery set plate.
2. Disconnect the negative (−) battery cable first, then disconnect the positive (+) battery cable.
3. Remove the battery.
4. Clean the terminals with a wire brush or sand paper. Clean the battery with a solution of baking soda and warm water, taking care not to get the solution of water in the battery cells. Dry the battery thoroughly.
5. Clean the battery cable ends with a wire brush or sand paper.



Installation:

1. Install the battery into the generator.
2. Connect the positive (+) battery cable first and tighten the nut securely. Slide the battery boot over the positive (+) cable and terminal.
3. Connect the negative (−) battery cable. Tighten the nut securely.
4. Coat the battery terminals and cable ends with clean grease.
5. Reinstall the battery set plate.

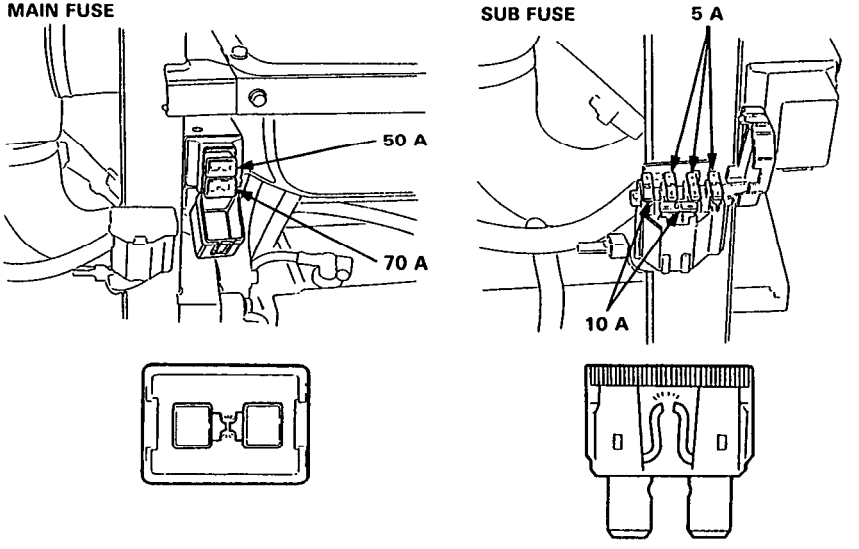
Fuse Replacement

Turn the engine switch OFF and remove the key before checking or replacing fuses to prevent accidental short-circuiting.

To replace a sub fuse, pull the old fuse out of the clips with your fingers. Push a new fuse into the clips.

If frequent fuse failure occurs, determine the cause and correct the problem before attempting to operate the generator.

If a main fuse is blown, see an authorized Honda generator dealer.



NOTICE **Never use a fuse with a different rating from that specified. Serious damage to the electrical system or fire may result.**

The engine becomes very hot during operation and remains hot for a while after stopping. Allow the engine to cool before transporting or storing indoors. A hot engine and exhaust system can burn you and can ignite some materials.

Transporting

When transporting the generator, turn the engine switch to the OFF position and keep the generator level to prevent fuel spillage.

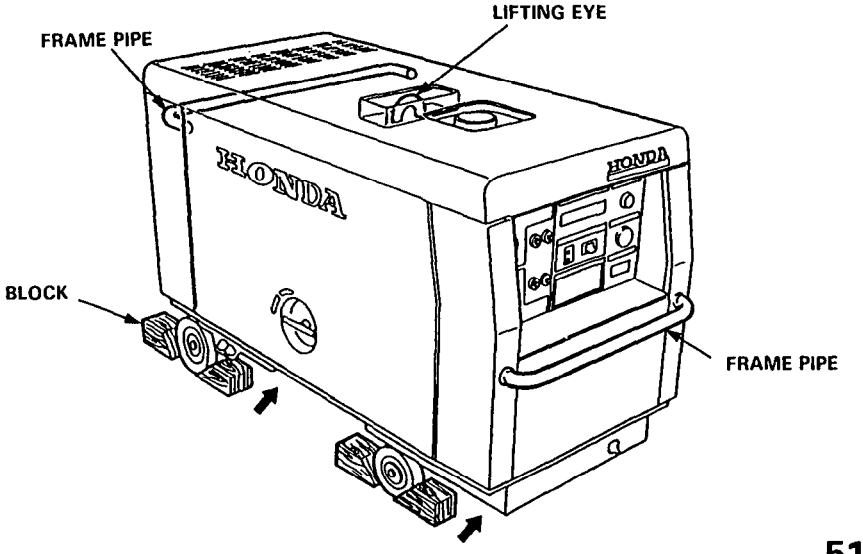
Take care not to drop or strike the generator when transporting. Do not place heavy objects on the generator.

Load and unload the generator in a level area. Use the lifting eye when lifting the generator. Do not use the frame pipes to lift the generator.

When maneuvering the generator on the ground, use the frame pipe opposite the control panel. When transporting the generator in a truck, tie ropes to the frame pipes to secure the generator.

If a fork truck is used to lift the generator, insert the fork arms under the positions marked with ➡ and lift the generator.

On wheel equipped models; block the wheels securely.



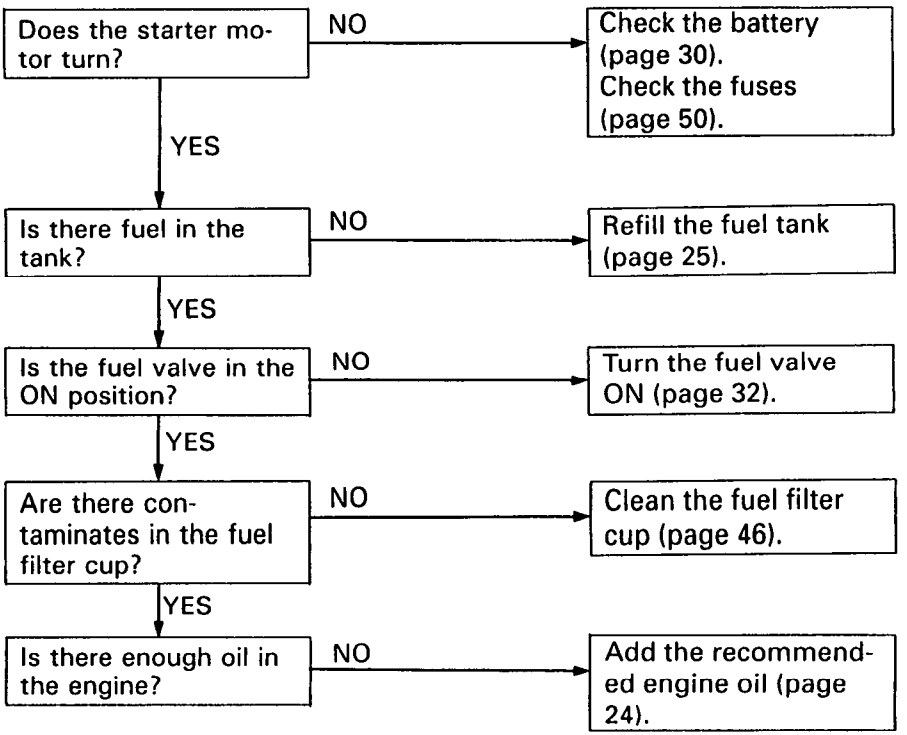
Before storing the generator for an extended period:

1. Be sure the storage area is free of excessive humidity and dust.
2. Clean the generator.
3. Check the generator according to the maintenance schedule (see page 42) and repair/replace any items as necessary.
4. Fill the fuel tank with fresh diesel fuel (see page 25).
5. Fully charge the battery. Recharge the battery once a month.
6. Cover the generator and place it in a well ventilated and dry area.

Before starting the engine after storage:

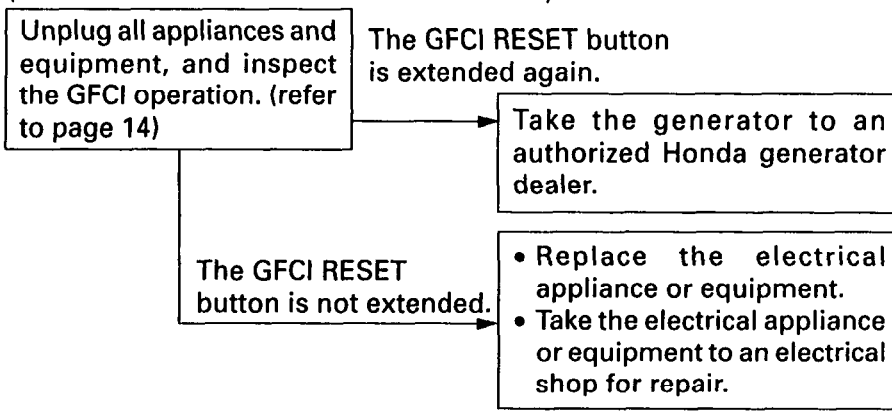
1. Change the engine oil (see page 43).
2. Fully charge the battery.
3. Remove the radiator cap and check the coolant level. Add as necessary (see page 27).
4. Start the engine and allow it to warm to operating temperature before applying a load to the generator.

When the engine will not start:

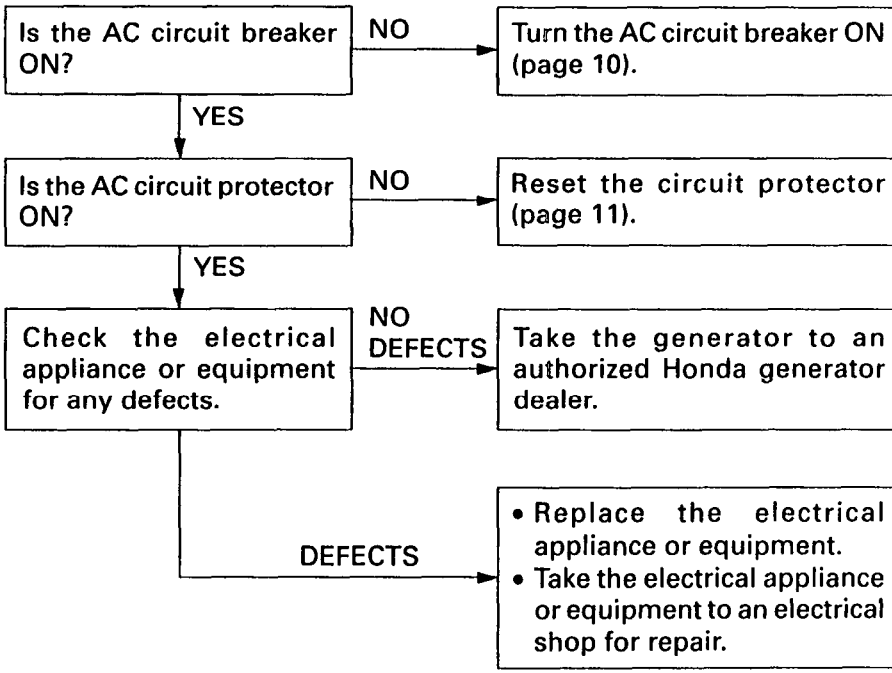


No electricity at the AC receptacles:

⟨When the GFCI RESET button is extended⟩



⟨When the GFCI RESET button is not extended⟩



Dimensions

Model	EB12D
Description	ECD
Length x Width x Height	1390 x 630 x 815 mm (54.7 x 24.8 x 32.1 in)
Dry weight	340 kg (701 lb)

Engine

Model	GD1100
Type	4-stroke OHC 3-cylinder water cooled diesel
Displacement [Bore x Stroke]	1061 cm^3 [76 x 78 mm (3.0 x 3.1 in)]
Rated output	14.7 kW (20.0 PS, 19.7 bhp) at 3,600 min^{-1} (rpm)
Max. torque	55.9 N·m (5.7 kg-m, 41,2 ft-lb) at 2,000 min^{-1} (rpm)
Cooling system	Liquid cooled
Combustion method	Direct injection
Fuel	Diesel fuel
Fuel tank capacity	38 lit (10 US gal, 8.4 Imp gal)
Oil capacity	4.8 lit (5.0 US qt, 4.2 Imp qt)

Generator

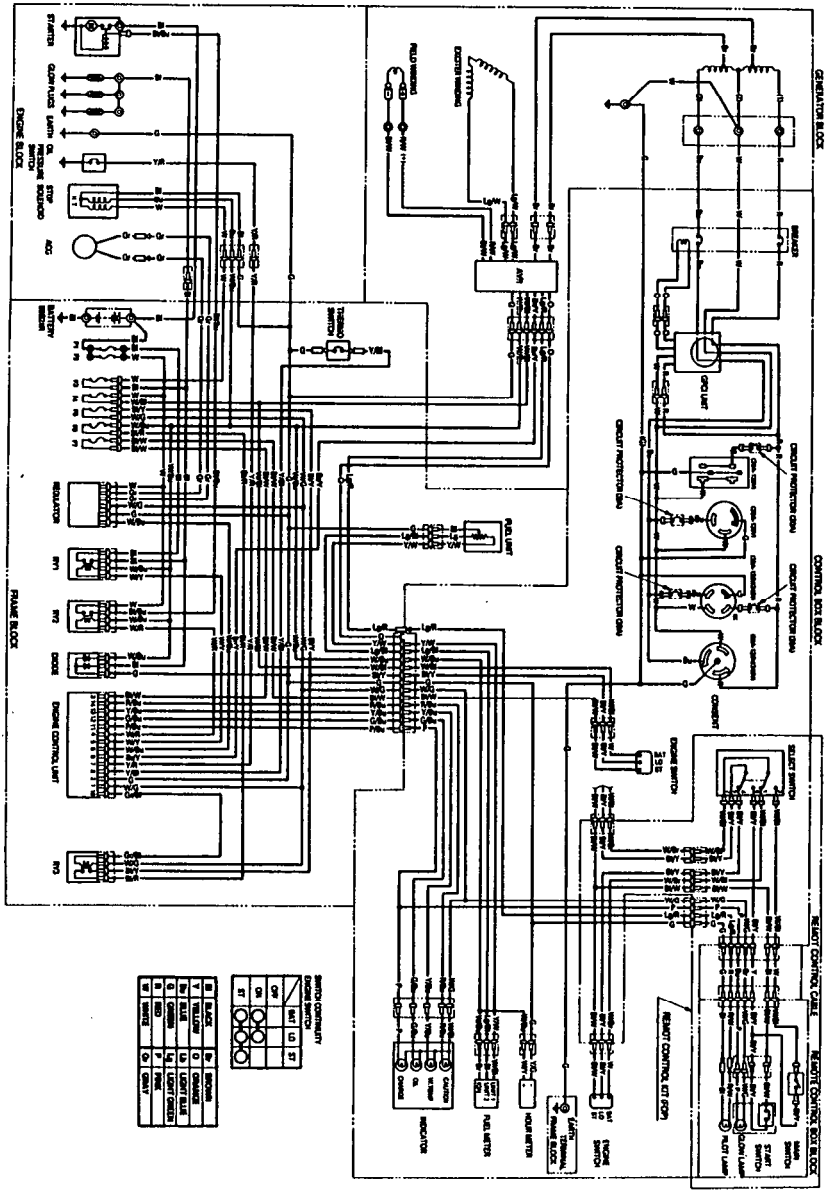
Type		AG
AC output	Rated voltage	120/240 V
	Rated frequency	60 Hz
	Rated ampere	83.4 A/41.7 A
	Rated output	10 kVA
	Max output	12 kVA
	Max ampere	100 A/50 A
	Power factor	Cos ø = 1

Tune-up Specifications

ITEM	SPECIFICATION	MAINTENANCE
Valve clearance (cold)	IN, EX: 0.20 ± 0.02 mm	See your authorized Honda dealer
Other specifications	No other adjustments needed.	

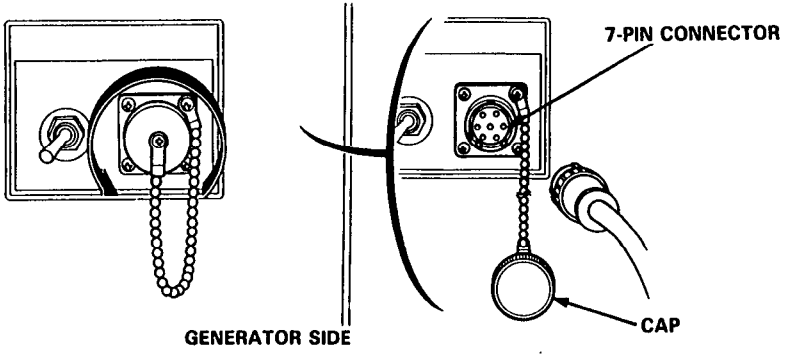
NOTE: Specifications are subject to change without notice.

WIRING DIAGRAM

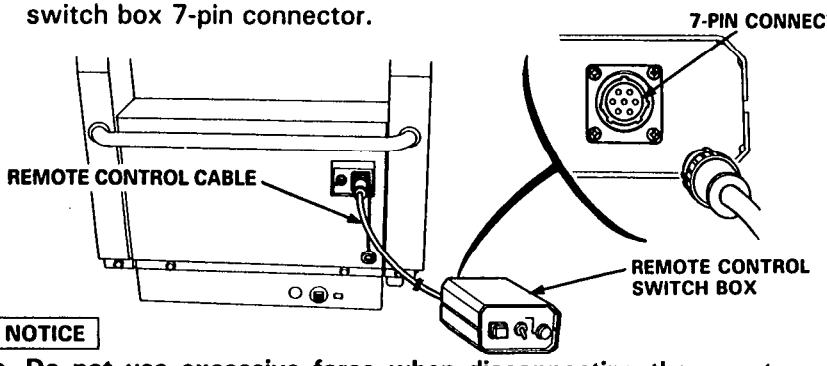


Remote Control Kit Installation

1. Remove the cap from the 7-pin connector on the generator cover, and connect the 7-pin connector of the remote control cable.
   Be sure to install the cap on the connector when the remote control kit is not used.



2. Connect the other end of the remote control cable to the remote control switch box 7-pin connector.



NOTICE

- **Do not use excessive force when disconnecting the remote control cable from the generator or the switch box. the cable could be damaged causing a malfunction in the remote control kit.**
- **Do not allow objects to rest on the cable or allow objects to move over the cable. The cable could be damaged causing a short circuit.**
- **Do not expose the remote control switch box to water. Water may short circuit the switch box causing it to fail.**

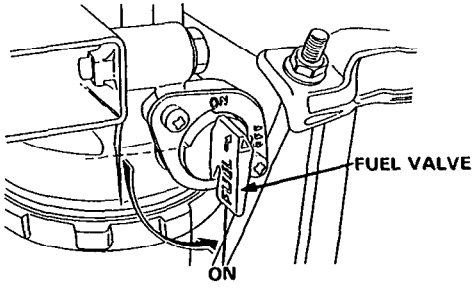
Starting the engine

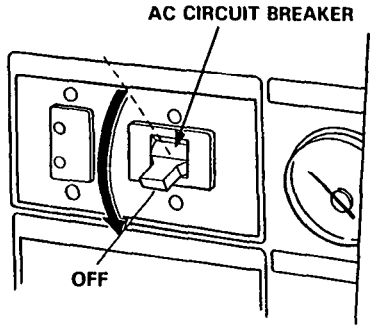
Before stating the engine:

1. Turn the fuel valve to the ON position.

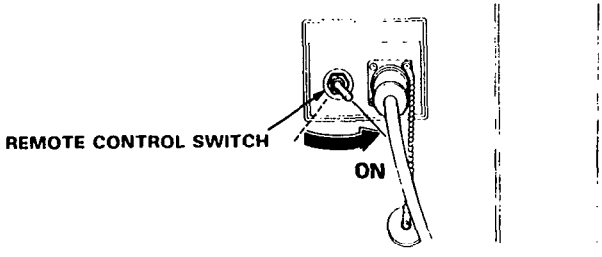
2. Turn the AC circuit breaker to the OFF position.

3. Make sure the engine switch on the generator control panel is in the OFF position and remove the key (see page 9).





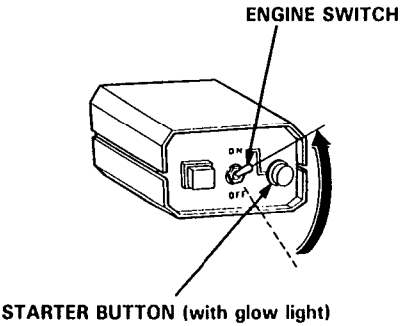
4. Turn the remote control switch on the generator cover to the ON position.



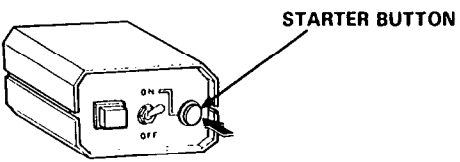
NOTE: When the remote control kit is installed, make sure the remote control switch is in the OFF position when starting the engine with the engine switch on the generator control panel.

5. Turn the engine switch on the remote control switch box to the ON position.

   When the engine switch is turned to the ON position, the glow light in the starter button will light for about 4 seconds. Wait for the glow light to go out before starting the engine.



6. Push and hold the starte button until the engine starts. The pilot light comes on after the engine starts.



NOTICE **Operating the starter motor for more than 5 seconds can damage the motor. if the engine fails to start, release the switch and wait 10 seconds before operating the starter again.**

Generator Use

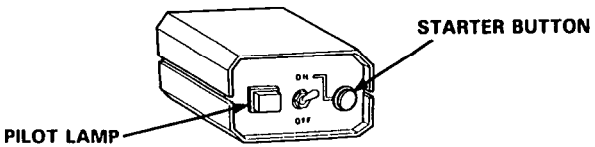
For operation of the generator, refer to page 19-22.

Starter button (with glow light)

The starter button light comes on and the engine will stop automatically when there is a problem with the generator or the rated load capacity of the generator has been exceeded.

If this occurs:

- Turn the engine switch to the "OFF" position.
- Disconnect the appliance from the generator.
- Reset the AC circuit breaker or circuit protector.
- Start the engine (see page 58) and observe the starter button (with glow light):
  - If the light does not come on, plug the appliance in and check to see if the light comes on. If the light comes on and the engine stops automatically, check the appliance for proper operation or exceeding the rated load capacity of the circuit.
  - If the light comes on after the engine has been restarted and the engine stops automatically, discontinue operation of the generator and contact an authorized Honda generator dealer.

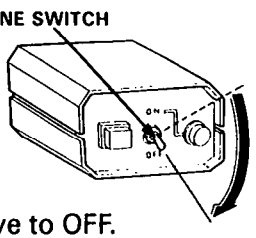


Stopping the engine

To stop the engine in an emergency, turn the engine switch OFF.

In normal use:

1. Turn off the electrical appliance's switch.
2. Turn off the AC circuit breaker.
3. Turn off the engine switch.



4. Open the maintenance lid and turn the fuel valve to OFF.

WARRANTY SERVICE INFORMATION

Honda power equipment 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 or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write to:

American Honda Motor Co., Inc.
Honda Power Equipment Division
Customer Service Office
4900 Marconi Drive
Alpharetta, GA 30005-2600

Or telephone: (770) 497-6400

When you write or call, please give us this information:

- Model and serial number (see page 7)
- Name of dealer who sold the generator to you
- Name and address of dealer who services your generator
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

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