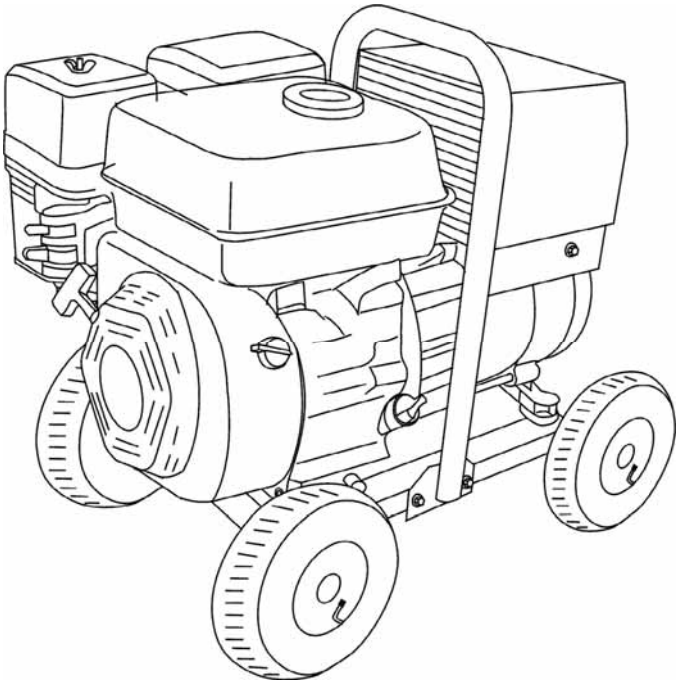


100 Amp. DC WELDER
600W GENERATOR GASOLINE 6.5HP

SAVE THIS MANUAL FOR FUTURE REFERENCE

This manual provides information regarding the operation and maintenance of these products. We have made every effort to ensure the accuracy of the information in this manual. We reserve the right to change this product at any time without prior notice.

Please keep this manual available to all users during the entire life of the generator/welder.

⚠ WARNING: ⚠

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

⚠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 generator in a closed or even partially closed area where people may be present.

⚠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.

Keep this owner's manual handy, so you can refer to it at any time. This owner's manual is considered a permanent part of the generator and should remain with the generator if resold.

A FEW WORDS ABOUT SAFETY

Your safety and the safety of others are very important. And using this generator safely is an important responsibility.

To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.

Of course, it is not practical or possible to warn you about all the hazards associated with operating or maintaining a generator. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

- **Safety Labels** —on the generator.

- **Safety Messages** –preceded by a safety alert symbol ⚠ and one of three signal 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.

- **Safety Headings** —such as ***IMPORTANT SAFETY INFORMATION***.
- **Safety Section** —such as ***GENERATOR SAFETY*.**
- **Instructions** —how to use this generator correctly and safely.

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

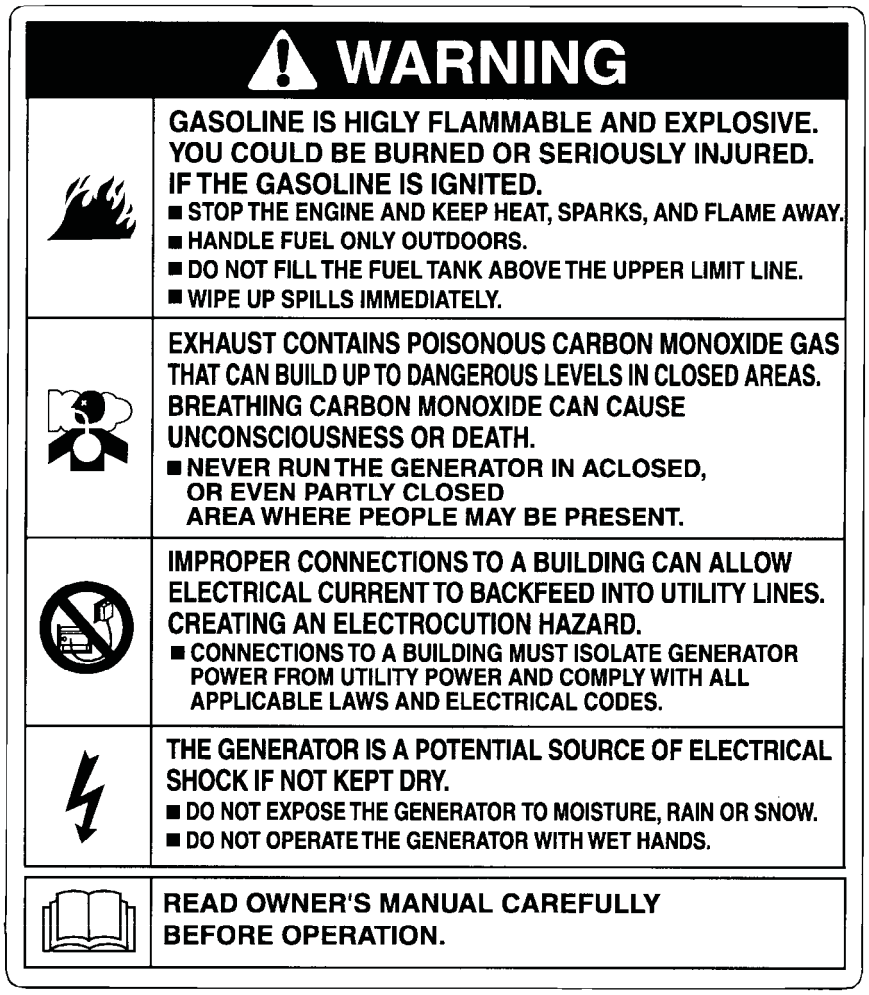
CONTENTS

GENERATOR SAFETY

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 generator dealer for a replacement.



Important Safety Information

The 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.

Carbon Monoxide Hazards

- Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing carbon monoxide 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 area, the air you breathe could contain a dangerous amount of exhaust gas.
- Never run your generator inside a garage, house or near open windows or doors.

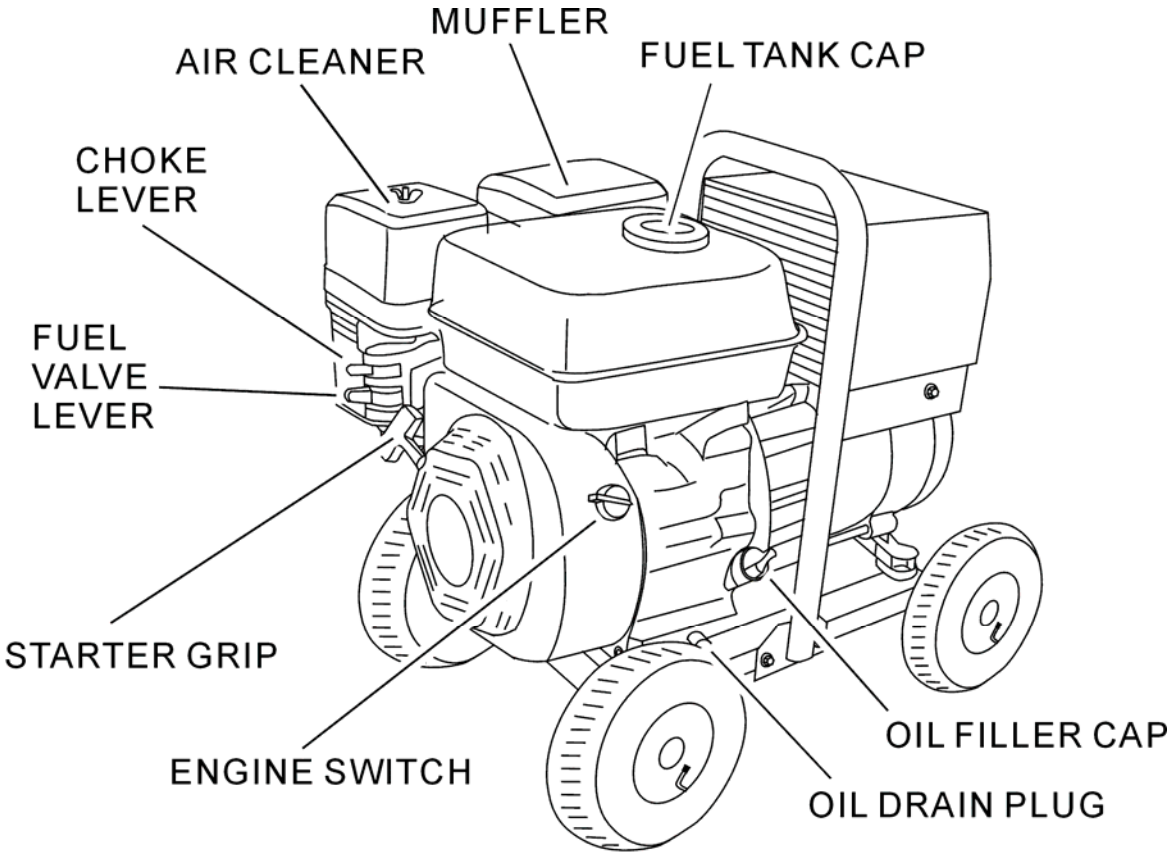
Electric Shock Hazards

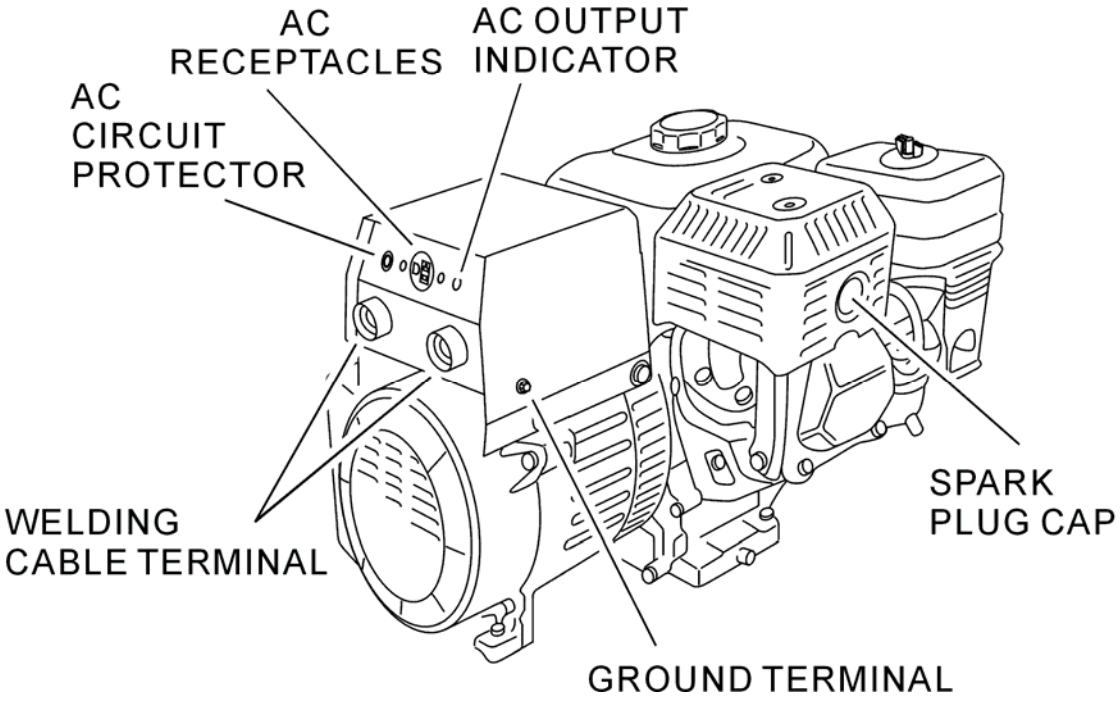
- The generator produces enough electric power to cause a serious shock or electrocution if misused.
- Using a generator or electrical appliance in wet conditions, such as rain or snow, or near a pool or sprinkler system, or when your hands are wet, could result in electrocution. Keep the generator dry.
- If the generator is stored outdoors, unprotected from the weather, check all of the 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 electrical system unless an isolation switch has been installed by a qualified electrician.

Fire and Burn Hazards

- The exhaust system gets hot enough to ignite some materials.
  - —Keep the generator at least 3 feet (1 meter) 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 a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the generator indoors.
- Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks where the generator is refueled or where gasoline is stored. Refuel in a well-ventilated area with the engine stopped.
- Fuel vapors are extremely flammable and may ignite after the engine has started. Make sure that any spilled fuel has been wiped up before starting the generator.

COMPONENT IDENTIFICATION





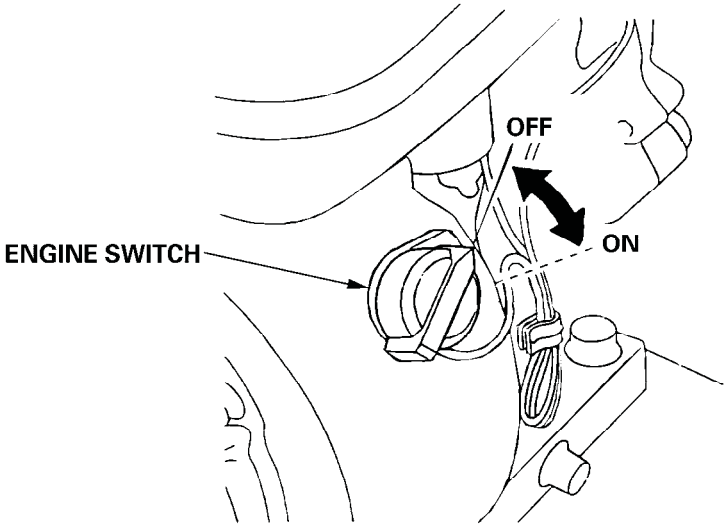
CONTROLS

ENGINE SWITCH

To start and stop the engine.

Key position:

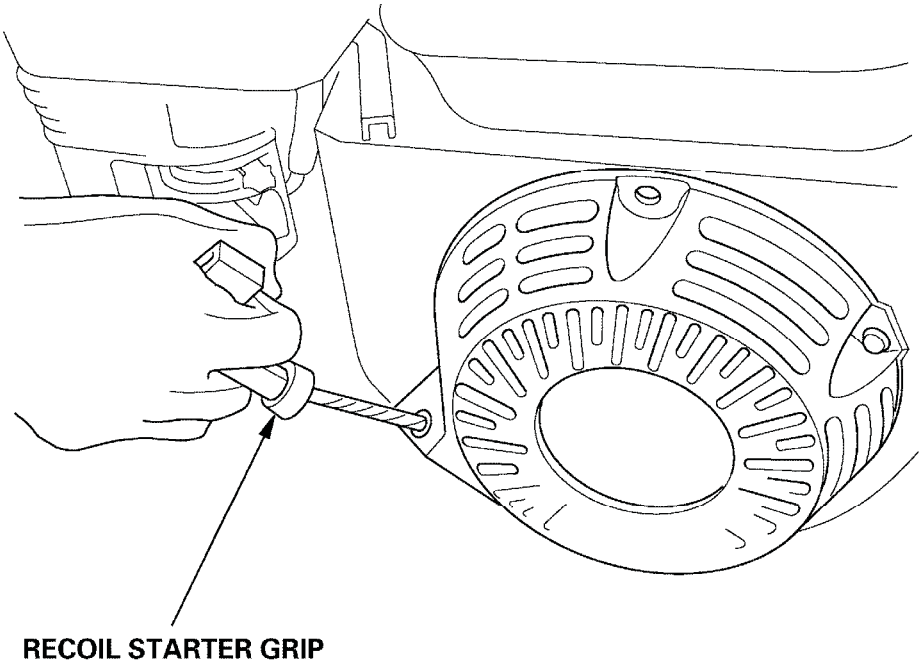
OFF: To stop the engine.
ON: To run the engine.



STARTER GRIP

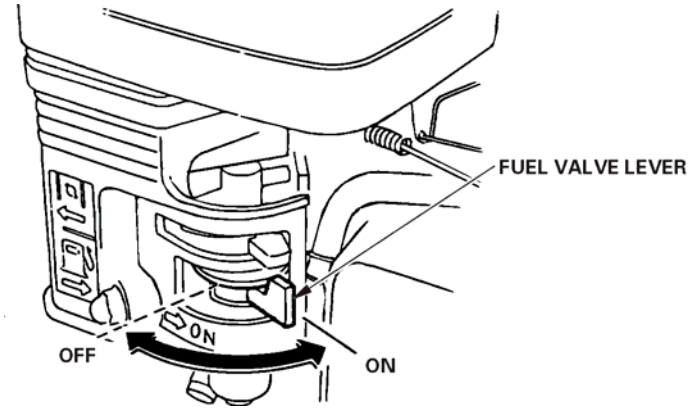
To start the engine, pull the starter grip lightly until you feel resistance, then pull briskly in the direction of the arrow as shown below.

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



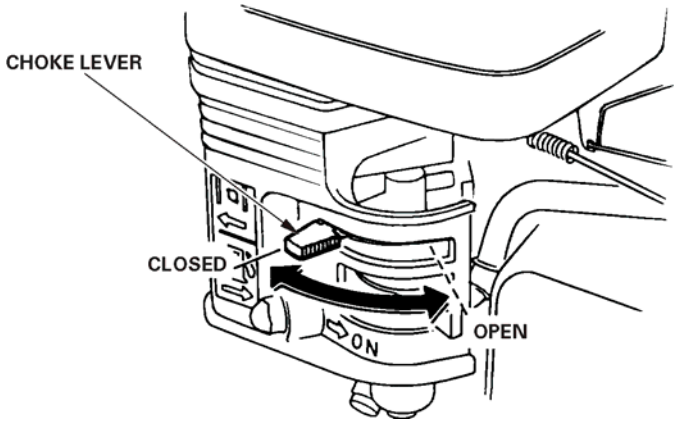
FUEL VALVE LEVER

The fuel valve is located on the carburetor. When the fuel valve lever is in the ON position, fuel is allowed to flow from the fuel tank to the carburetor. Be sure to return the fuel valve lever to the OFF position after stopping the engine.



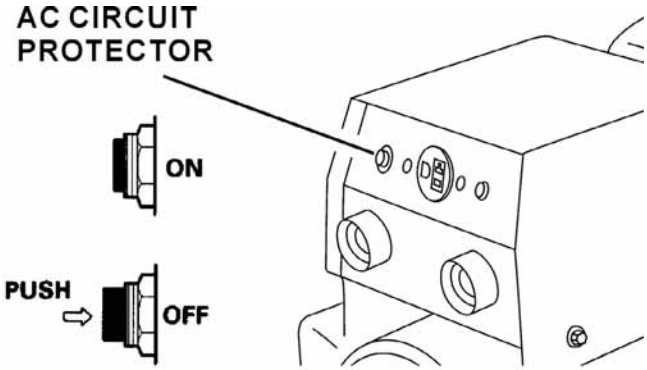
CHOKE LEVER

The choke is used to provide an enriched fuel mixture when starting a cold engine. It can be opened and closed by operating the choke lever manually. Move the lever to the CLOSED position to enrich the mixture for cold starting.



AC CIRCUIT PROTECTOR

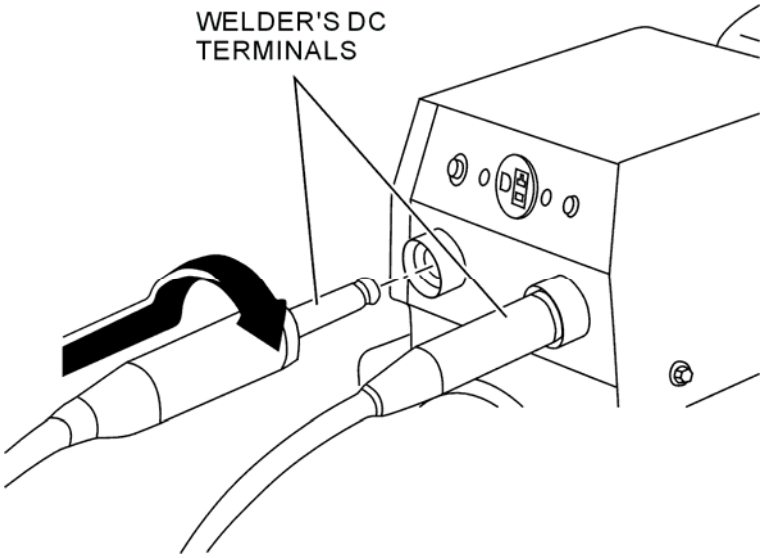
The AC circuit protector will automatically switch OFF if there is an overload of the generator at the AC receptacle. If the AC circuit protector is switched OFF(PUSH button extends out) automatically, check that the appliance is working properly and does not exceed the rated load capacity of the AC circuit before pushing the AC circuit protector ON again.



WELDING CABLE TERMINAL

A separate terminal is provided for connection to the welding cable.

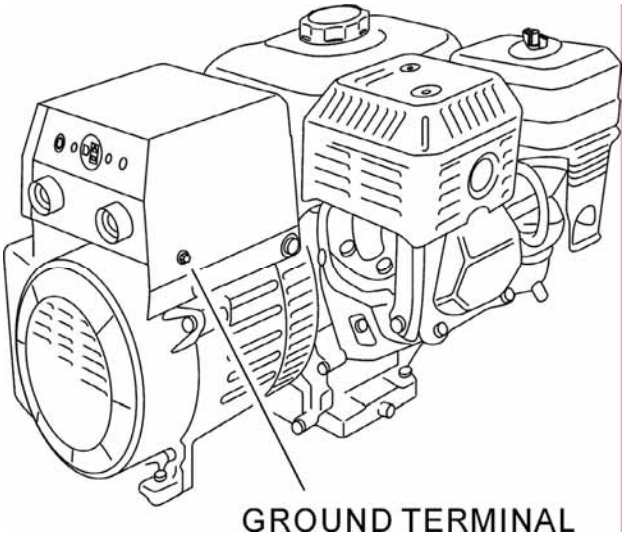
CAUTION: Failure to use the proper gauge cable may lead to painful burns and/or damage to equipment.



GROUND TERMINAL

The generator ground terminal is connected to the frame of the generator, the metal non-current-carrying parts of the generator, and the ground terminals of each receptacle.

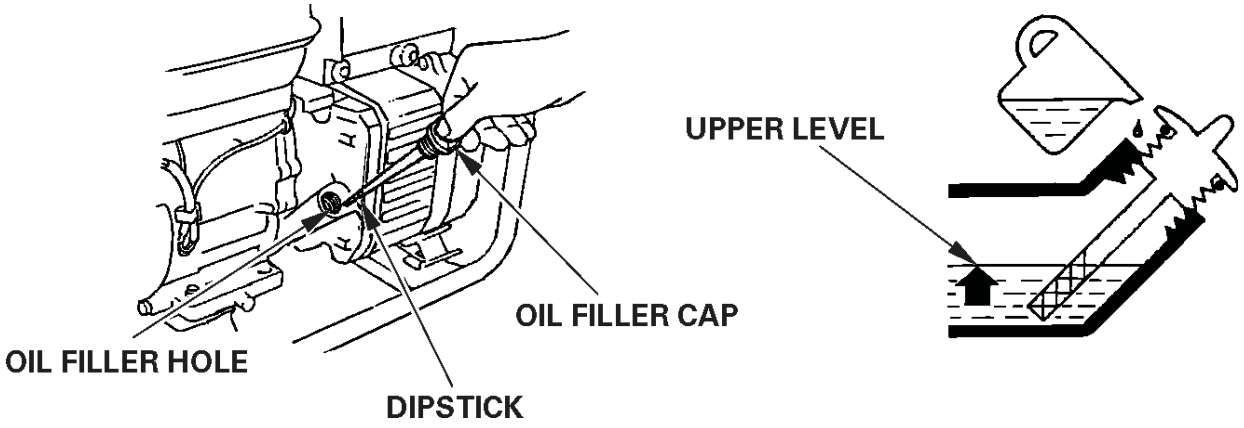
Before using the ground terminal, consult a qualified electrician, electrical inspector or local agency having jurisdiction for local codes or ordinances that apply to the intended use of the generator



OIL ALERT SYSTEM

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 before troubleshooting in other areas.



GENERATOR / WELDER USE

CONNECTIONS TO A BUILDING ELECTRICAL SYSTEM

Connections for standby power to a building 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 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, and the generator may explode, burn, or cause fires when utility power is restored. Consult the utility company or a qualified electrician.

GROUND SYSTEM

Portable generators have a system ground that connects generator frame components to the ground terminals in the AC output receptacles. The system ground is not connected to the AC neutral wire. If the generator is tested by a receptacle tester, it will not show the same ground circuit condition as for a home receptacle.

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 the 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 switch off the AC circuit breaker.***

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

Limit operation requiring maximum power to 10 minutes. Maximum power is: 2500W

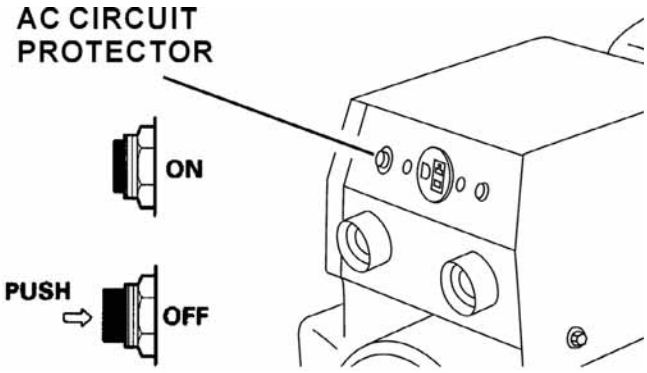
For continuous operation, do not exceed the rated power. Rated power is: 2000W

The total power requirements (W) 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. Start the engine.
2. Pushing ON the AC circuit protector.
3. 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 protector to switch OFF (PUSH button extends out), reduce the electrical load on the circuit, wait a few minutes and then reset the AC circuit protector.

HIGH ALTITUDE OPERATION

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your generator at altitudes above 5,000 feet (1,500 meters), have your servicing dealer perform this carburetor modification. This engine, when operated at high altitude with the carburetor modifications for high altitude use, will meet each emission standard throughout its useful life.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each

1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

NOTICE ***When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 5,000 feet (1,500 meters) with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.***

WELDING

WARNING: Welding is potentially a very hazardous activity. It should only be attempted by a trained welder with a thorough knowledge of proper welding techniques and safety procedures. Be sure to read and follow the safety rules of this manual.

1. Put the Engine Switch in the OFF position. Remove any plugs from the AC receptacles.

NOTICE: *Voltage is present at the welding terminals whenever the engine is running.*

2. Connect the welding cables to the welder's DC terminals.

NOTICE: ***Failure to use the proper gauge cable may lead to painful burns.***

3. Start the engine and when it has warmed up fully.

4. Set the proper electrode diameter for the job being done.

SELECTING THE CORRECT WELDING CURRENT

Measure the thickness of the metal you are welding and then refer to the table below to select the proper electrode size.

PLATE THICKNESS N INCHES	ELECTRODE DIAMETER IN INCHES	CURRENT USING
UP TO 3/16	1/16	50-60
	5/64	60-70
	3/32	70-80

Always make a sample weld on a piece of scrap material to be sure you have chosen the correct electrode.

WELDING CABLE SELECTION

The table below shows the current carrying capacity of various lengths and gauges of standard copper welding cable. Whenever possible, refer to the cable manufacturer's recommendations.

Always allow a considerable safety margin when selecting welding cables. The cable's length and gauge (diameter), along with the material it is made from, all combine to determine how much current it can safely carry.

An undersize welding cable will offer unacceptable high resistance to current flow. This

high resistance will shorten the service life of the generator/welder, and can even make the welding cables become hot enough to cause painful burns.

CABLE GAUGE	CABLE DIA	LENGTH IN FEET*		
		0-50 FT.	50-100 FT.	100-250 FT.
		CURRENT CAPACITY AMPERES		
1	.644	250	200	170
2	.604	200	195	——

NOTE: The cable lengths given in the table above are the combined lengths of the negative and positive cables.

Welding Duty Cycle

The duty cycle is the percentage of time that the welder can be operated in a given 10 minute period.

For example, at a rated output of 80 amperes, the duty cycle is 40%. This means that at 80 amperes, welding can be performed for a total of 4 minutes out of every 10 minute period. The duty cycle is longer at lower operating currents, and shorter at higher currents.

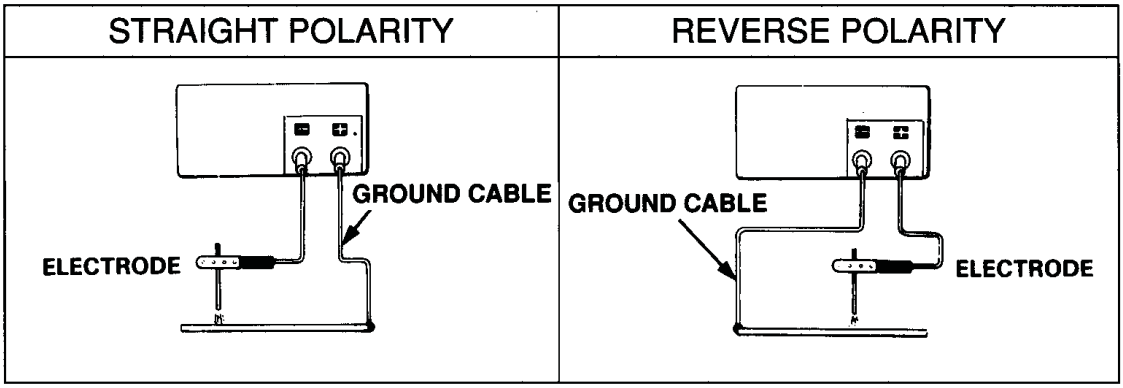
Current	80A	50A
Rate	40%	60%

Do not operate the welder beyond its duty cycle; doing so will decrease the performance and service life of the generator/welder.

Polarity Selection

The welding terminals are labeled "+" (positive) and "-" (negative). Changing the polarity of the cables will affect the weld. The correct polarity selection is dependent on the type of electrode you are using and the type of material you are welding; refer to the electrode manufacturer's recommendations for best results.

For straight polarity, attach the electrode cable to the negative terminal, and attach the ground cable to the positive terminal. To reverse polarity, reverse the cables.



HIGH ALTITUDE OPERATION

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich mixture will also foul the spark plug and cause hard starting. Operation at an altitude that differs from that at which this engine was certified, for extended periods of time, may increase emissions.

High altitude performance can be improved by specific modifications to the carburetor. If you always operate your generator at altitudes above 5,000 feet (1,500 meters), have your servicing dealer perform this carburetor modification. This engine, when operated at high altitude with the carburetor modifications for high altitude use, will meet each emission standard throughout its useful life.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000-foot (300-meter) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

NOTICE ***When the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at altitudes below 5,000 feet (1,500 meters) with a modified carburetor may cause the engine to overheat and result in serious engine damage. For use at low altitudes, have your servicing dealer return the carburetor to original factory specifications.***

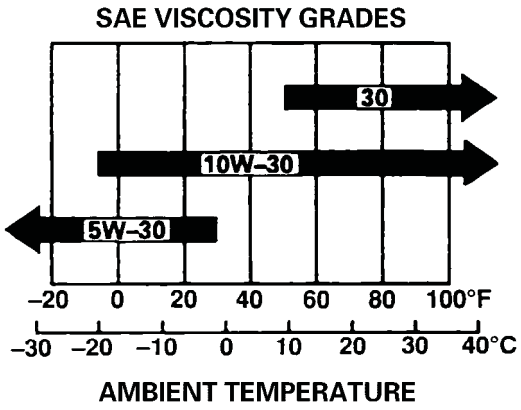
PRE-OPERATION CHECK

ENGINE OIL

Check the oil level BEFORE EACH USE with the generator on a level surface and the engine stopped.

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

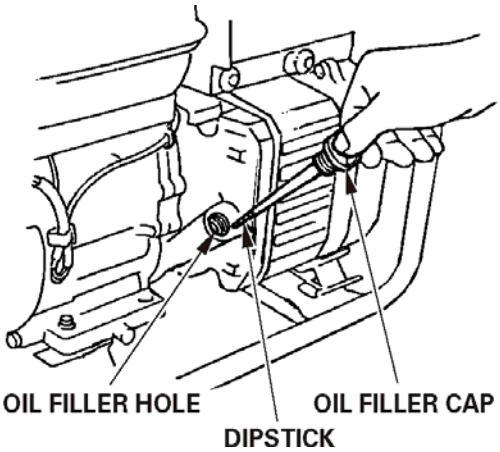
SAE 10W-30 is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

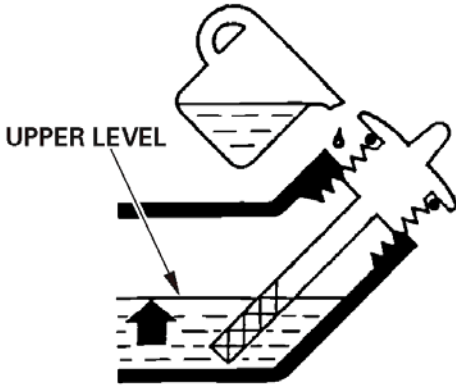


CAUTION:

· **Do not apply engine oil with additives or 2-stroke gasoline engine oil,** as they haven't enough lubrication, which may shorten the engine's service life.

1. Remove the oil filler cap and wipe the dipstick clean.
2. Check the oil level by inserting the dipstick into the filler neck without screwing it in.
3. If the level is low, add the recommended oil to the upper mark on the dipstick.





REFUELING

With the engine stopped, remove the fuel tank cap and check the fuel level. Refill the fuel tank if the fuel level is low.

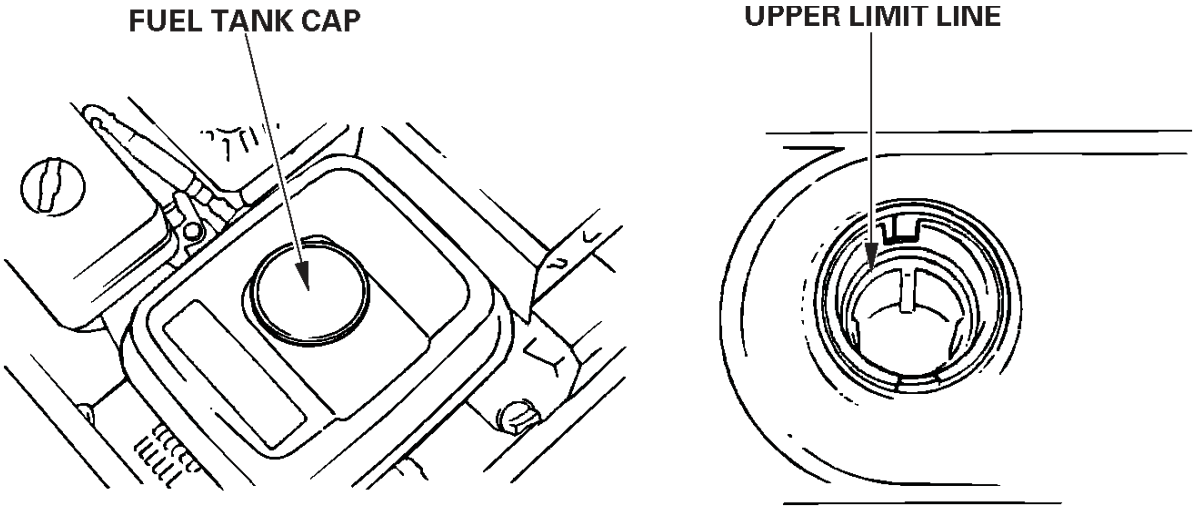
Refuel carefully to avoid spilling fuel. Do not fill above the upper limit line.

⚠WARNING **Gasoline is highly flammable and explosive.**

You can be burned or seriously injured when handling fuel.

- **Stop the engine and keep heat, sparks, and flame away.**
- **Handle fuel only outdoors.**
- **Wipe up spills immediately.**

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



After refueling, reinstall the fuel tank cap securely.

FUEL RECOMMENDATIONS

This engine is certified to operate on unleaded gasoline with a pump octane rating of 86 or higher.

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

You may use regular unleaded gasoline containing no more than 10% Ethanol (E10) or 5% Methanol by volume. In addition, Methanol must contain cosolvents and corrosion inhibitors.

Use of fuels with content of Ethanol or Methanol greater than shown above may cause starting and/or performance problems. It may also damage metal, rubber, and plastic parts of the fuel system.

Engine damage or performance problems that result from using a fuel with percentages of Ethanol or Methanol greater than shown above are not covered under warranty.

STARTING THE ENGINE

STARTING THE ENGINE

For your safety, avoid starting or operating the generator in an enclosed area such as a garage. Your generator's exhaust contains poisonous carbon monoxide gas that can collect rapidly in an enclosed area and cause illness or death.

⚠WARNING Carbon monoxide gas is toxic. Breathing it can cause unconsciousness and even kill you.

Avoid any enclosed areas, partially enclosed areas or activities that may expose you to carbon monoxide.

1. Perform PRE-OPERATION CHECK.
2. Make sure that the AC circuit breaker is in the OFF position.
3. Turn the fuel valve lever to the ON position.
4. To start a cold engine, move the choke lever to the CLOSED position. To restart a warm engine, leave the choke lever in the OPEN position.
5. Turn the engine switch to the ON position.
6. Pull the starter grip lightly until you feel resistance, then pull briskly.

NOTICE ***Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter or housing.***

7. If the choke lever was moved to the CLOSED position to start the engine, gradually move it to the OPEN position as the engine warms up.
8. Refer to the AC OPERATION for connecting loads to the generator.

STOPPING THE ENGINE

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.

1. Unplug appliances from the generator AC receptacles.
2. Turn the engine switch to the OFF position.
3. Turn the fuel valve lever to the OFF position.

MAINTENANCE

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 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 it in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

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 parts or their equivalents for repair or replacement.

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 gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts.

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 are 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.

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

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 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 or backfiring under load.
- Afterburning (backfiring).
- Black exhaust smoke or high fuel consumption.

Replacement Parts

The emission control systems on your engine were designed, built, and certified to conform with EPA and California emission regulations (models certified for sale in California). We recommend the use of 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. 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. 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.

AIR INDEX

(Models certified for sale in California)

An Air Index Information hang tag/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 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)

The Air Index Information hang tag must remain on the generator until it is sold. Remove the hang tag before operating the generator.

MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD(3) ITEM 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
Engine oil	Check level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○(1)		
Sediment cup	Clean				○	
Spark plug	Check-adjust				○	
	Replace					○
Spark arrester	Clean				○	
Valve clearance	Check-adjust					○(2)
Combustion chamber	Clean	After every 500 hrs(2)				
Fuel tank and filter	Clean				○(2)	
Fuel tube	Check	Every 2 years(Replace if necessary)(2)				

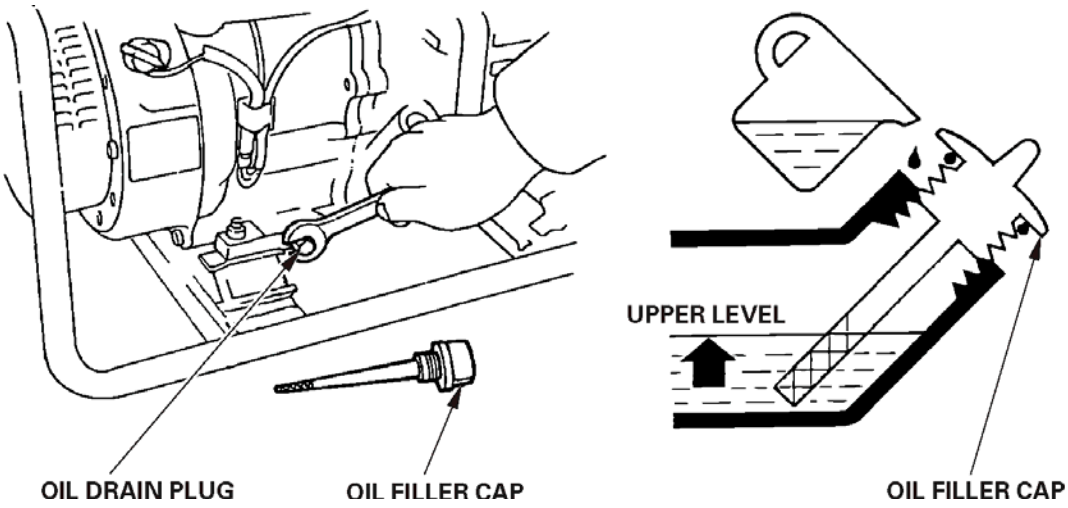
NOTE: (1) Service more frequently when used in dusty areas.
(2) These items should be serviced by an authorized dealer, unless the owner has the proper tools and is mechanically proficient. See the Shop Manual.
(3) For commercial use, log hours of operation to determine proper maintenance intervals.

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

ENGINE OIL CHANGE

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

1. Place a suitable container under the drain plug, then remove the oil drain plug, sealing washer and oil filler cap, and drain the oil.



2. Reinstall the oil drain plug and sealing washer. Tighten the plug securely.
3. Refill with the recommended oil and check the oil level.
4. Reinstall the oil filler cap and tighten it securely.

Wash your hands with soap and water after handling used oil.

NOTICE ***Improper disposal of engine oil can be harmful to the environment. If you change your own oil, please dispose of it properly. Put it in a sealed container, and take it to a recycling center. Do not discard it in a trash bin or dump it on the ground.***

AIR CLEANER SERVICE

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

⚠WARNING Using gasoline or flammable solvent to clean the air filter can cause a fire or explosion. Use only soapy water or nonflammable solvent.

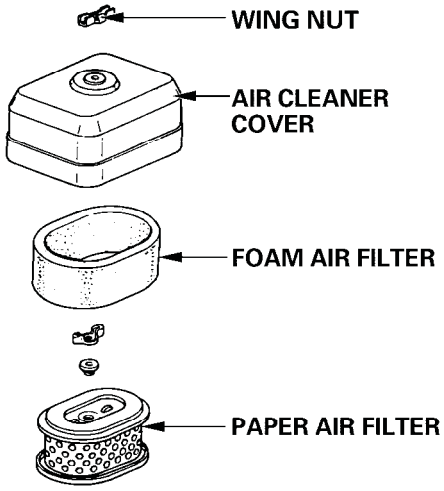
NOTICE ***Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty.***

1. Remove the wing nut and the air cleaner cover. Remove the air filters and separate

them. Carefully check both air filters for holes or tears and replace if damaged.

2. Foam air filter: Wash the element in a solution of household detergent and warm water, then rinse thoroughly, or wash in nonflammable or high flash point solvent. Allow the air filter to dry thoroughly. Soak the air filter in clean engine oil and squeeze out the excess oil. The engine will smoke during initial start-up if too much oil is left in the foam.

3. Paper air filter: Tap the air filter lightly several times on a hard surface to remove excess dirt, or blow compressed air [not exceeding 207 kPa (30 psi)] through the filter from the inside. Never try to brush off dirt. Brushing will force dirt into the fibers. Replace the paper air filter if it is excessively dirty.



SPARK PLUG SERVICE

In order to service the spark plug, you will need a spark plug wrench (commercially available).

Recommended spark plugs: BPR6ES (NGK), F7RTC

NOTICE : ***An incorrect spark plug can cause engine damage.***

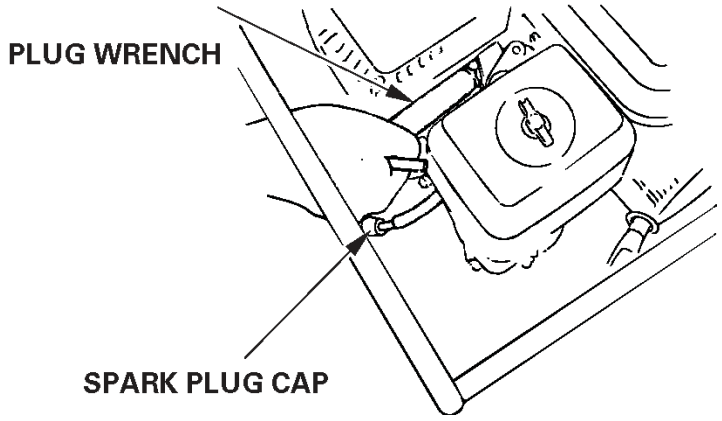
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

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

1. Remove the spark plug cap.

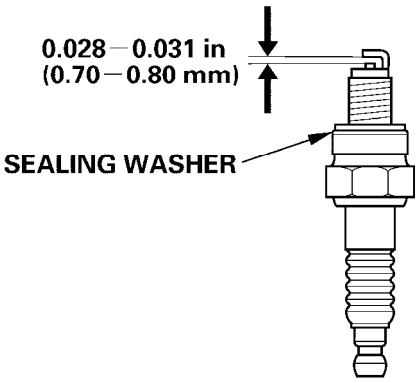
2. Clean any dirt from around the spark plug base.

3. Use a spark plug wrench to remove the spark plug.



4. Visually inspect the spark plug. Replace it if the electrodes are worn or if the insulator is cracked, chipped, or fouled.

5. Measure the plug gap with a wire-type feeler gauge. Correct as necessary by carefully bending the side electrode.



The gap should be:

0.028—0.031 in (0.70—0.80 mm)

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

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

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

NOTICE ***The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and could damage the engine. Never use spark plugs which have an improper heat range. Use only the recommended spark plugs or equivalent.***

FUEL SEDIMENT CUP CLEANING

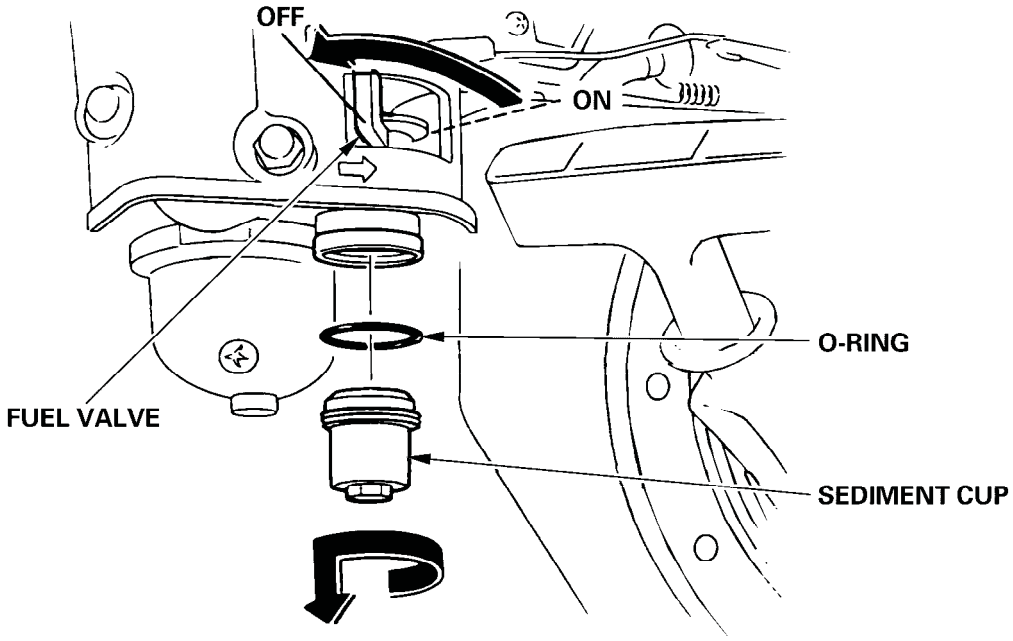
The sediment cup prevents dirt or water which may be in the fuel tank from entering the carburetor. If the engine has not been run for a long time, the sediment cup should be cleaned.

1. Turn the fuel valve lever to OFF. Remove the sediment cup and O-ring.

2. Clean the sediment cup and O-ring in nonflammable or high flash point solvent.

3. Reinstall the O-ring and sediment cup.

4. Turn the fuel valve ON and check for leaks.



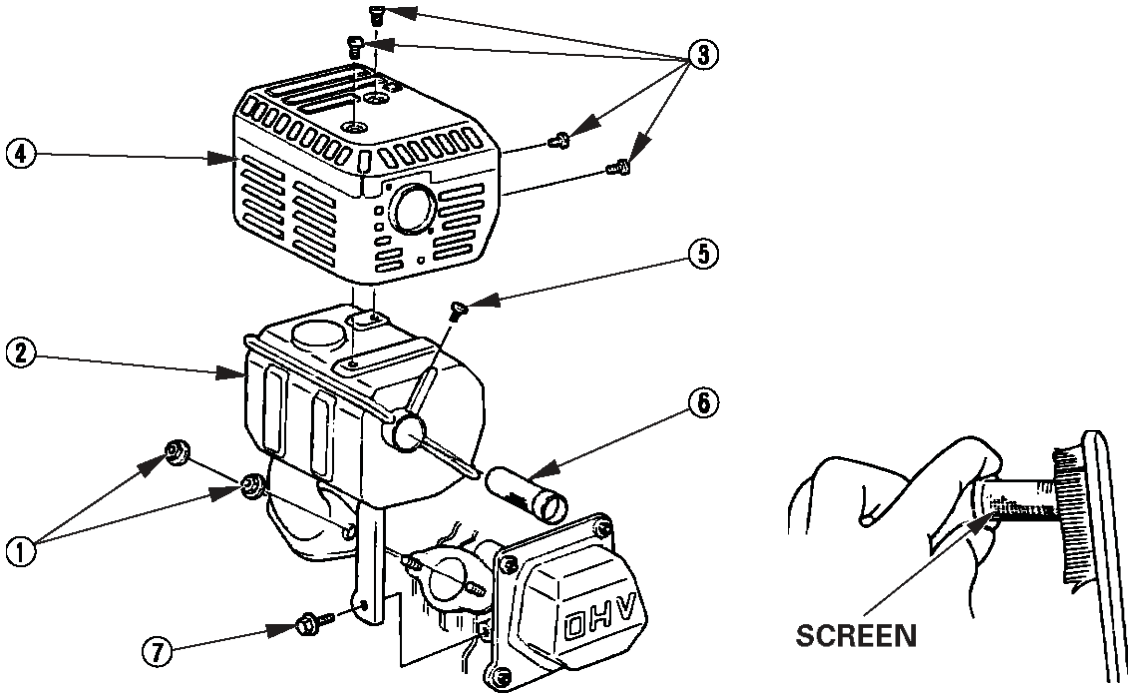
SPARK ARRESTER MAINTENANCE

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

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

Clean the spark arrester as follows:

1. Remove ① two 8 mm nuts and ⑦ 6 mm bolt to remove the② muffler assembly.
2. Remove ③ four 5 mm screws and remove the ④muffler protector from the muffler.
3. Remove ⑤ 4 mm screw and remove ⑥ spark arrester from the muffler.



4. Use a brush to remove carbon deposits from the spark arrester screen. Inspect the screen for breaks or tears and replace it if necessary.

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

TRANSPORTING/STORAGE

TRANSPORTING

If the generator has been used, allow it cool for at least 15 minutes before loading the generator on the transport vehicle. A hot engine and exhaust system can burn you and can ignite some material. When transporting the generator, turn the engine switch and the fuel valve lever OFF, and keep the generator level to reduce the possibility of fuel leakage.

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

STORAGE

Before storing the unit for an extended period:

1. Be sure the storage area is free of excessive humidity and dust.

2. Service according to the table below:

STORAGE TIME	RECOMMENDED SERVICE PROCEDURE TO PREVENT HARD STARTING
Less than 1 month	No preparation required
1 to 2 months	Fill with fresh gasoline and add gasoline stabilizer *.
2 months to 1 year	Fill with fresh gasoline and add gasoline stabilizer *. Drain the carburetor float bowl. Drain the fuel sediment cup.
1 year or more	Fill with fresh gasoline and add gasoline stabilizer *. Drain the carburetor float bowl. Drain the fuel sediment cup). Remove the spark plug. Put a tablespoon of engine oil into the cylinder. Turn the engine slowly with the starter grip to distribute the oil. Reinstall the spark plug. Change the engine oil. After removal from storage, drain the stored gasoline into a suitable container, and fill with fresh gasoline before starting.
* Use gasoline stabilizers that are formulated to extend storage life. Contact your authorized generator dealer for stabilizer recommendations.	

Storage Procedure

1. Drain the fuel tank, the carburetor and the fuel sediment cup.

   a. Remove the carburetor drain screw and gasket.

   b. Drain the gasoline from the carburetor into a suitable container.

c. Install and tighten the carburetor drain screw and gasket.

d. Turn the fuel valve lever OFF and drain the fuel sediment cup and O-ring.

e. Turn the fuel valve lever ON and drain the gasoline from the fuel tank into a suitable container.

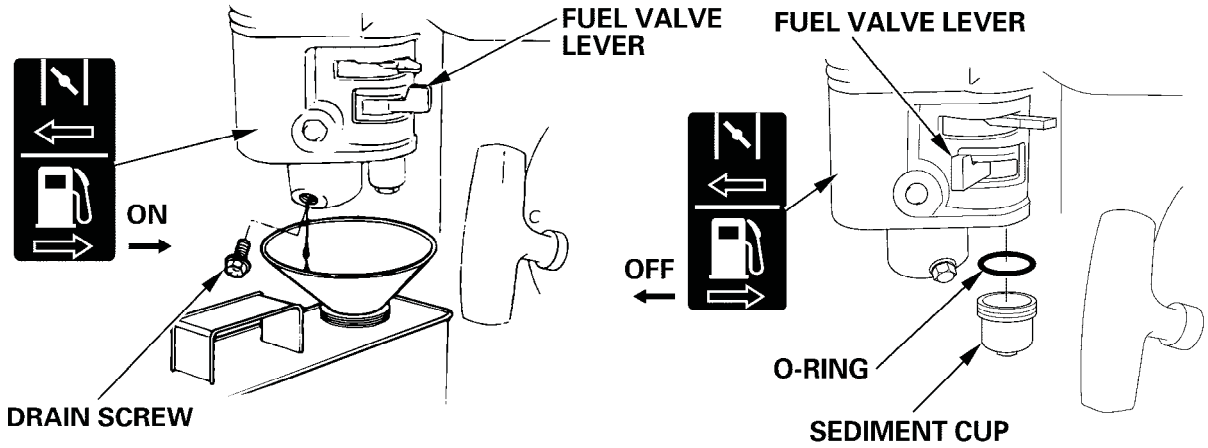
f. Install and tighten the fuel sediment cup and O-ring securely.

g. Turn the fuel valve lever OFF.

Gasoline is highly flammable and explosive.

⚠WARNING You can be burned or seriously injured when handling fuel.

- **Keep heat, sparks, and flame away.**
- **Handle fuel only outdoors.**
- **Wipe up spills immediately.**



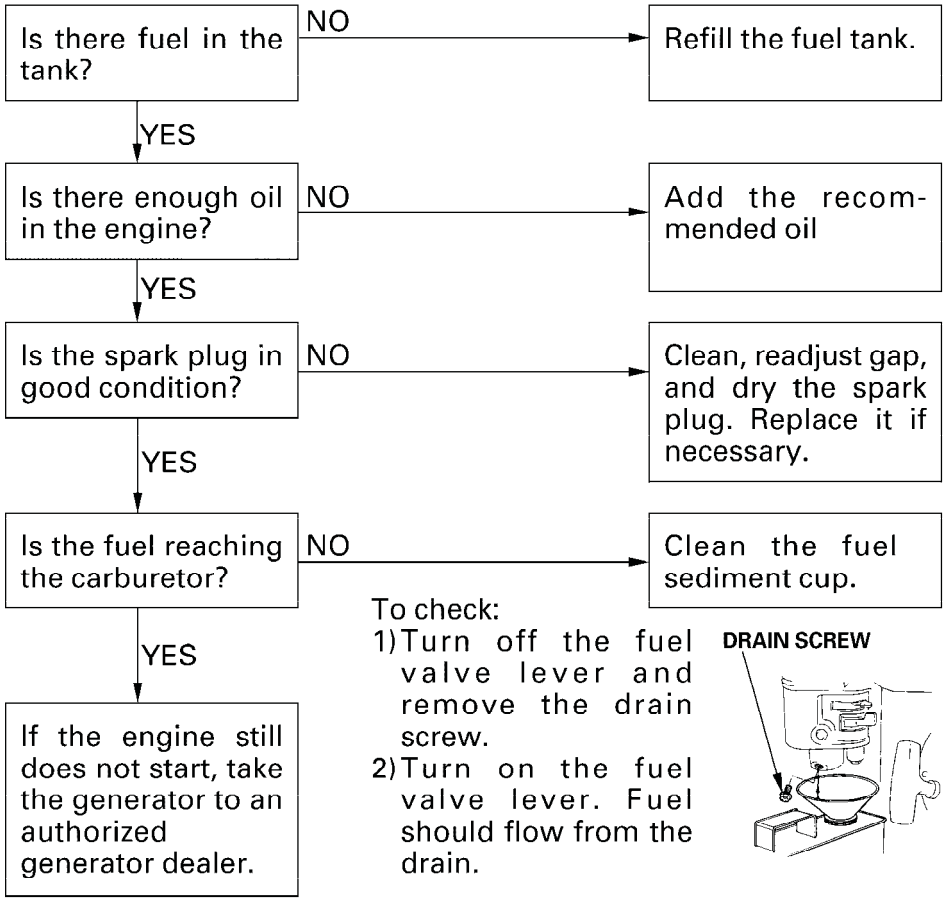
2. Change the engine oil.

3. Remove the spark plug, and pour about a tablespoon of clean engine oil into the cylinder. Slowly crank the engine several revolutions to distribute the oil, then reinstall the spark plug.

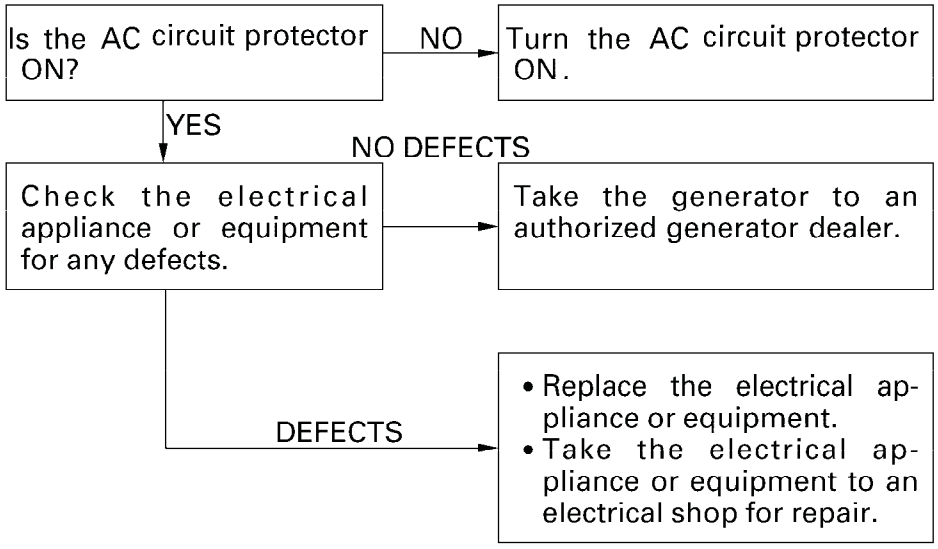
4. Slowly pull the starter grip until you feel resistance. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed. Storing the engine in this position will help to protect it from internal corrosion.

TROUBLESHOOTING

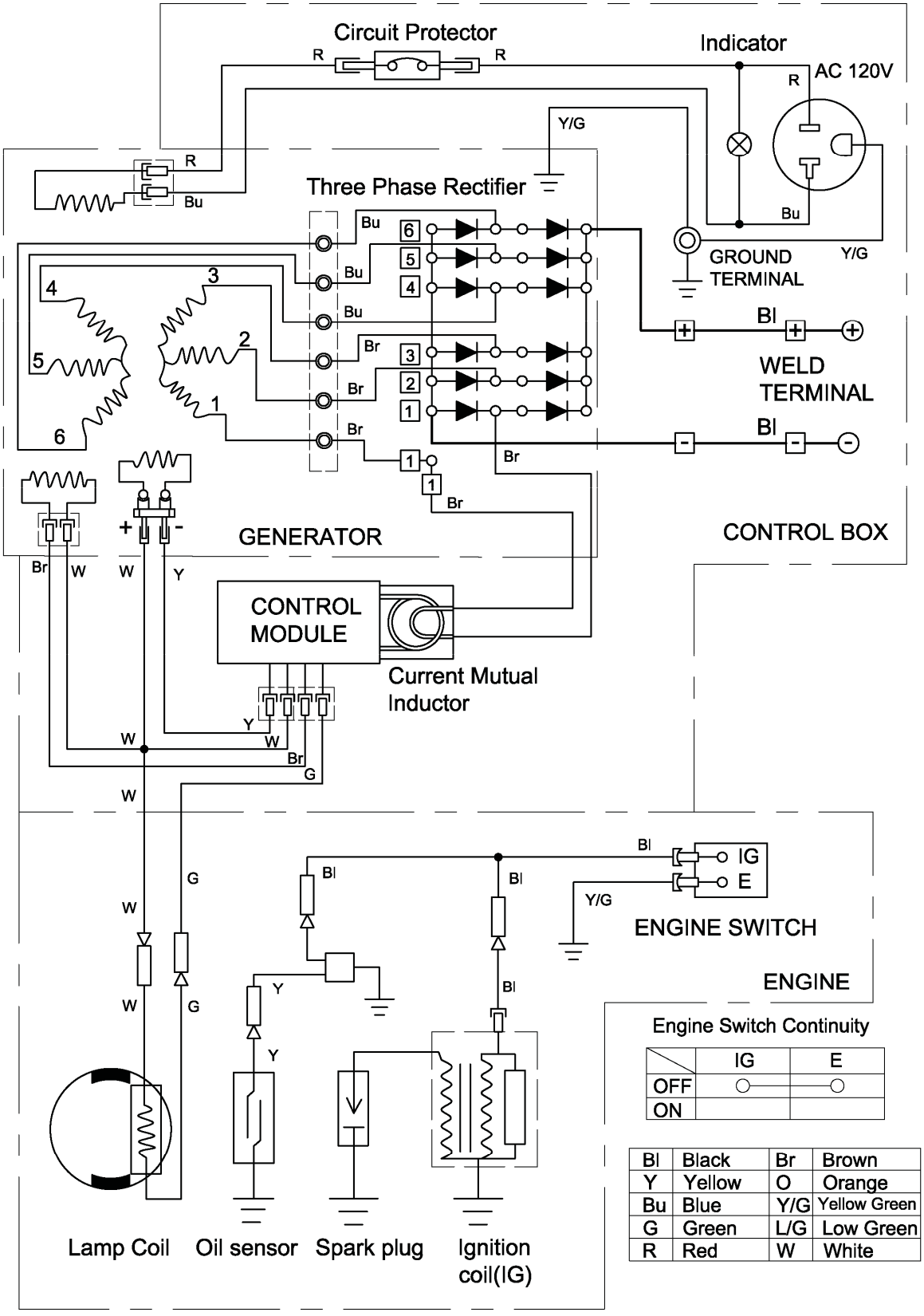
When the engine will not start:



Appliance does not operate:



WIRINGDIAGRAM



Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Y/G	Yellow Green
G	Green	L/G	Low Green
R	Red	W	White

SPECIFICATIONS

Dimensions

Model	PDW-100
Length	21.6 in (550 mm)
Width	17.3 in (440 mm)
Height	18.9 in (480 mm)
Dry weight	80 lbs. (36 kg)

Engine

Model	168F
Engine type	4-stroke, overhead valve, single cylinder
Displacement (Bore x Stroke)	196 cm^3 〔 2.7x2.1 in (68x45mm) 〕
Compression ratio	8.5 : 1
Engine speed	3,600 rpm
Cooling system	Forced air
Ignition system	Transistorized magneto
Oil capacity	0.6 US qt (0.6L)
Fuel tank capacity	0.95 US gal (3.6L)
Spark plug	BPR6ES (NGK) , F7RTC(LG)

Generator

Model		PDW-100
DC (WELDING) Output	Rated current	80A
	Rated voltage	23.2V
	Welding current	50-100A
	Duty cycle	40% -80A
	Electrode diameter	1/16, 5/64, 3/32 in (1.5-2.5mm)
AC output	Rated voltage	120 V
	Rated frequency	60 Hz
	Rated current	4.2 A
	Rated output	500W
	Maximum output	600W

Tune-up Specifications

ITEM	SPECIFICATION
Spark plug gap	0.028－0.031 in (0.70－0.80 mm)
Valve clearance	IN: 0.15±0.02 mm (cold) EX: 0.20 ±0.02 mm (cold)
Other specifications	No other adjustments needed.

NOTE: **Specifications may vary according to the types, and are subject to change without notice.**