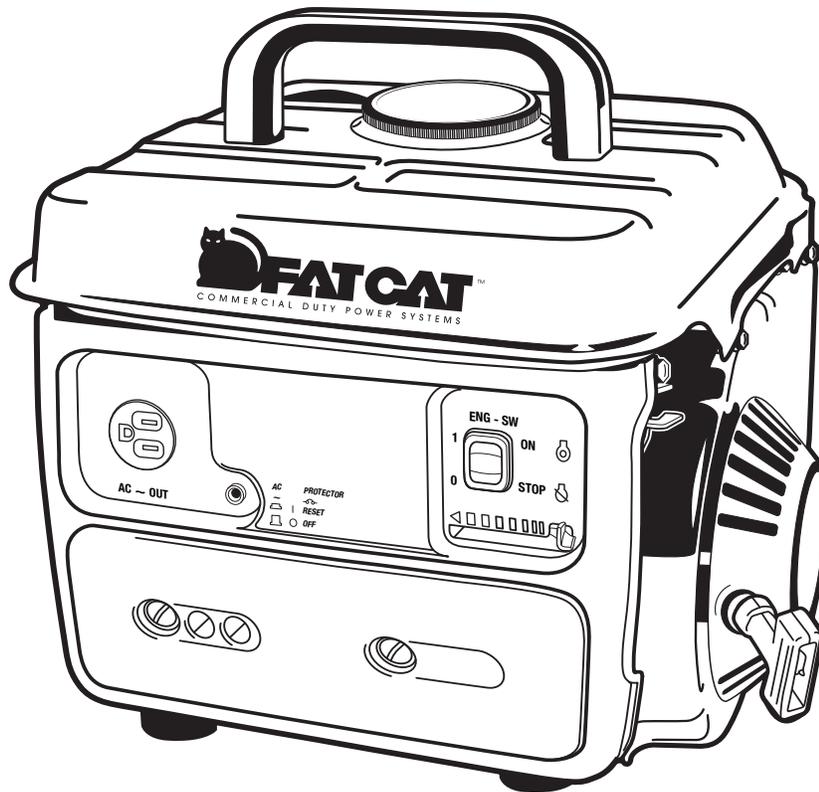




Commercial Duty Power Systems User's Guide

(Model No. GT950)



Serial Number _____ Date Purchased _____

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ECO-SYSTEMS, INC.
—Since 1978

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Dear Customer,

Thank you for your purchase of a Fat Cat™ commercial duty power system. We believe that the Fat Cat™ name represents the finest blend of quality, performance and price on the market.

If you need assistance setting up or operating your generator, then give Aquatic Eco-Systems a call. AES has delivered outstanding products and service since 1978. We have the knowledge and experience to help you accomplish your goals.

Best regards,



Robert C. Heideman
Founder and President

AES is open from 8 a.m. to 7 p.m. Monday-Thursday,
8 a.m. to 5 p.m. Friday and 10 a.m. to 2 p.m. Saturday.
For technical help call 407-886-3939.

This manual contains valuable information to help you get the best results from your generator and provides important safety guidelines for generator operation. Please read this manual carefully. Consider this manual a permanent part of the generator.

Safety Messages

Safety is important to us. We have included safety messages throughout this manual and on the generator for your protection. Please read and follow all directions.

A safety message has a safety alert symbol followed by an explanation of what the hazard is, what can happen and what you should do to avoid injury. This is the safety alert symbol:



The safety alert symbol and "WARNING" or "CAUTION" will precede all safety messages:



WARNING

You can be killed or seriously injured if you don't follow instructions.



CAUTION

You might be injured if you don't follow instructions.

Damage Prevention Messages

A damage prevention message has "ATTENTION" with an explanation of what the equipment hazard is and what you should do to avoid damaging your generator:

ATTENTION

Your equipment may be damaged if you don't follow instructions.

Generator Hazards

Read and understand the information provided in this manual before operating your generator.

Operator Responsibility

Know how to stop the generator quickly in case of an emergency.

Understand the use of all generator controls, output receptacles and connections.

Ensure that anyone who operates the generator has proper instruction. Do not let children operate the generator.

Carbon Monoxide Hazard

Exhaust contains poisonous carbon monoxide, a colorless and odorless gas. Breathing exhaust may cause a loss of consciousness or even death.

Maintain adequate ventilation when operating the generator to keep a dangerous amount of exhaust gas from building up. Do not operate in a partially confined or enclosed area.

Electric Shock Hazard

A generator is a potential source of electrical shock that could cause electrocution. Do not expose the generator to moisture, rain or snow. Do not operate the generator with wet hands.

If the generator is stored outdoors and unprotected from weather, check all electrical components on the control panel before each use. Moisture or ice can cause a malfunction or short circuit in electrical components, which can result in electrocution.

Do not connect the generator to a building's electrical system unless an isolation switch has been installed by a qualified electrician.

Fire and Burn Hazards

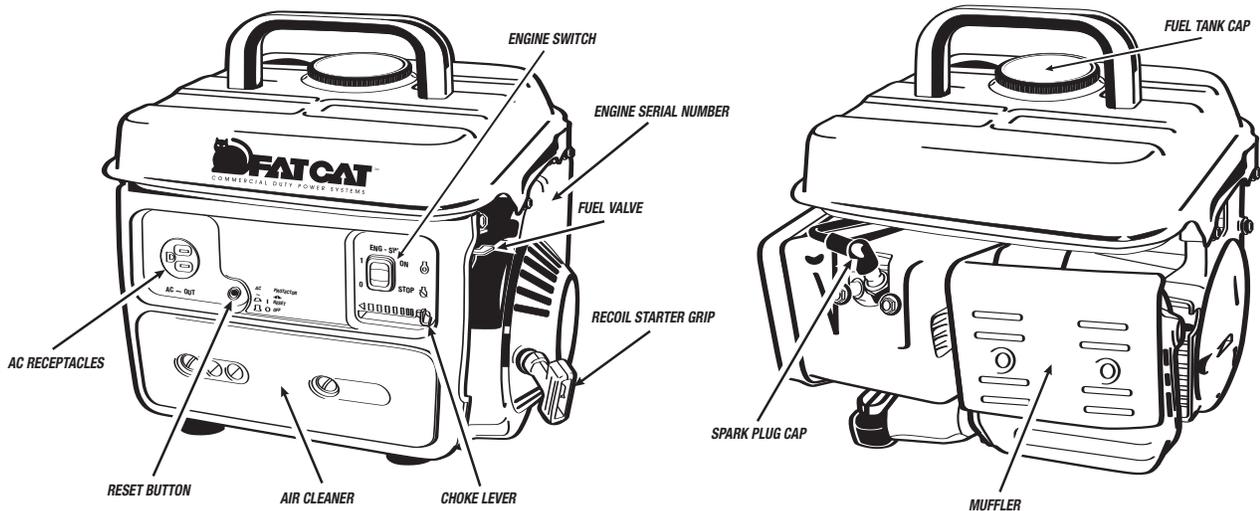
The exhaust system gets hot enough to ignite some materials. Keep the generator at least three feet (one meter) away from buildings and other equipment. Do not enclose the generator in any structure. Keep flammable materials away from the generator.

The generator's muffler becomes very hot during operation and remains hot for some time after stopping the engine. Be careful not to touch the muffler while it's hot. Allow the engine to cool before storing it indoors.

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks during refueling 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 starts. Wipe up any spilled fuel before starting the generator.

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Before Starting

System Ground

You must connect the ground wire to a metal stake, spike or screw in the earth before using the generator.

Follow any federal or state Occupational Safety and Health Administration (OSHA) regulations, local codes or ordinances that apply to the intended use of the generator. Consult a qualified electrician, electrical inspector or the local agency having jurisdiction.

In some areas, you must register your generator with local utility companies.

Generators used at construction sites may have additional regulations.

Fuel/Oil Mix

Do not operate this generator using gasoline alone or the engine will overheat! Use a fuel/oil mix of 50 to 1. The oil must be 2-stroke oil. Make sure to pour the fuel/oil mix through the fuel tank filter to keep solid material out of the fuel tank. Do not fill the fuel tank above the fuel filter top. Shake the fuel tank before starting. Avoid repeated or prolonged contact with skin or breathing of fuel vapor.



WARNING

Gasoline and its vapors are extremely flammable and can be explosive in certain conditions. Fire or explosion can cause severe burns or death.

If the engine has been running, allow it to cool before adding any fuel/oil mix. Refill the tank outdoors. Remove the gas cap slowly to relieve any pressure inside the tank. Keep sparks, flames, heat and other ignition sources away while adding or storing oil and fuel. Do not light a cigarette or smoke when refueling. Wipe up any fuel spills.



WARNING

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



CAUTION

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.

Use a ground fault circuit interrupter (GFCI) in any damp or highly conductive area, such as metal decking or steel work. Do not touch bare wires or receptacles. Do not use the generator with electrical cords that are worn, frayed, bare or damaged in any way. Do not operate the generator in the rain. Do not handle the generator or electrical cords while standing in water, while barefoot or while hands or feet are wet.

Do not allow children or unqualified people to operate the generator.

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Operation Guidelines



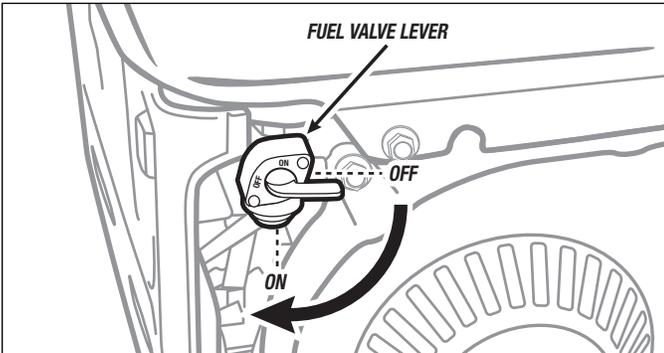
CAUTION

Exceeding the generator's wattage/ampere capacity may damage the generator and electrical devices connected to it.

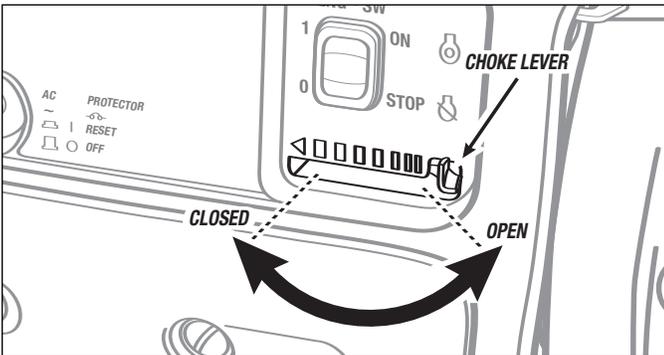
Do not connect any electrical loads before starting the engine and allowing it to warm up. Make sure electrical devices are "off" when you do connect them.

Starting the Engine

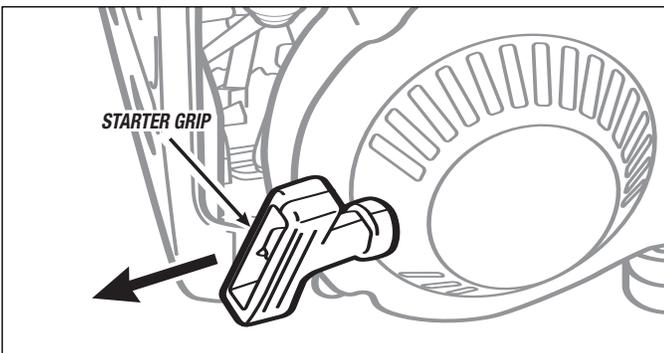
1. Place the generator on a level surface.
2. Turn the fuel valve to the "on" position.



3. Move the choke lever to the "closed" position.



4. Pull slowly on the starter cord until it engages, then pull sharply.



CAUTION

Do not allow the starter cord to snap back. Return it slowly by hand.

5. Move the choke lever back to the "open" position after the engine warms up.

High-Altitude Operation

The standard carburetor air-fuel mixture will be too rich at high altitude (5,000 feet or 1,500 m and above), decreasing performance and increasing fuel consumption.

Electrical Loads

Before connecting an appliance or power cord to the generator, make sure the appliance or cord is in good working order. Do not overload the generator! The GT950's specifications are:

Rated Voltage (V)	120
Rated Frequency (Hz)	60
Rated Current (A)	7.3
Rated Output (VA)	800

To make sure that your generator can supply enough rated (running) and surge (starting) watts for the items you will power at the same time, follow these steps:

1. Select the items you will power at the same time.
2. Add up the rated (running) watts of these items. The generator must produce this total amount of power to keep your items running.
3. Estimate how many surge (starting) watts you will need; in other words, the short burst of power needed to start electric tools or appliances. Because not all motors start at the same time, total surge watts can be estimated by adding only the item with the highest additional surge watts to the total rated watts.

Example of determining the total output required:

Tool/Appliance	Rated (Running) Watts	Surge (Starting) Watts
Refrigerator	800	1,600
Television	500	n/a
Window AC	1,200	1,800

Total Rated (Running) Watts = 2,500

Highest Surge Watts = 1,800

Total Generator Output Required = 4,300

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Take care when adding electrical loads to the generator. Never connect any load to the generator before starting the engine. The safe way to manage generator power is to sequentially add loads:

1. Start the engine and allow it to warm up.
2. Plug in the first load (turned off), which is preferably the largest load.
3. Let the generator output stabilize (engine runs smoothly and device operates correctly).
4. Plug in and turn on the next load.
5. Let the generator stabilize again.

Repeat steps 4 and 5 for each additional load.

If an appliance begins to operate abnormally, becomes sluggish or stops suddenly, then turn it off and disconnect it.

ATTENTION

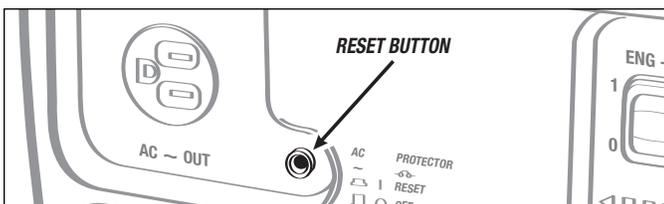
Heavy overloading will trip the circuit breaker. Slight overloading may not trip the circuit breaker but will shorten the life of the generator.

Wattage Reference Chart

Tool/Appliance	Rated (Running) Watts	Surge (Starting) Watts
Light Bulb	100	100
Microwave Oven (625 W)	625	625
Battery Charger (15 amps)	380	380
Computer, Desktop	100	400
Computer, Monitor	100	200
AM/FM Clock Radio	300	—
Small Hand Drill	500	750
Jigsaw	600	80
Home Security System	100	300
Small T.V.	400	—
Slow Cooker	450	—

*Wattages listed are for reference only. Check the appliance or tool for the actual wattage.

If the load exceeds the rated capacity of the generator, then the AC protector will trip, stopping the electricity flow to connected devices. Reduce the load to within the rated capacity and press the reset button to use the generator again.



Stopping the Engine

Turn off all attached appliances and tools and unplug their cords. Move the AC switch, then the engine switch and finally the fuel lever to "off" positions.

Transport

Make sure the engine switch and fuel lever are in the "off" positions. Keep the generator level to prevent fuel spillage. Fuel vapor or spillage may ignite.



WARNING

Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before transporting the generator.

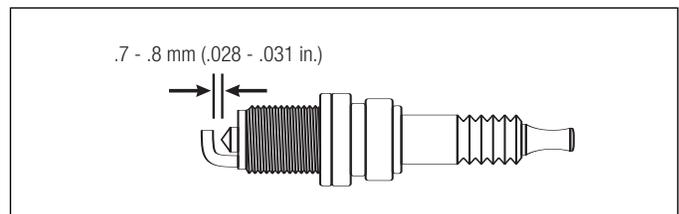
Take care not to drop or strike the generator while transporting. Do not place heavy objects on the generator.

Never operate a damaged or defective motor! When adjusting or making repairs to your generator disconnect the spark plug wire from the spark plug and place that wire where it cannot contact the spark plug. Do not use a garden hose to clean the generator because water can enter the fuel system and cause problems.

Periodic Maintenance

Spark Plug Inspection

1. Remove the spark plug cap.
2. Remove the spark plug.
3. Inspect the spark plug—it should be a tan color. Discard if the insulator is cracked or chipped.
4. Clean the spark plug with a wire brush if it will be reused.
5. Measure the plug gap with a feeler gauge. Make sure the plug gap is between .028 and .031 in (.7 and .8 mm).



6. Thread the spark plug back in by hand to prevent cross-threading. The correct torque to use is 14 ft-lbs (20 Nm).

ATTENTION

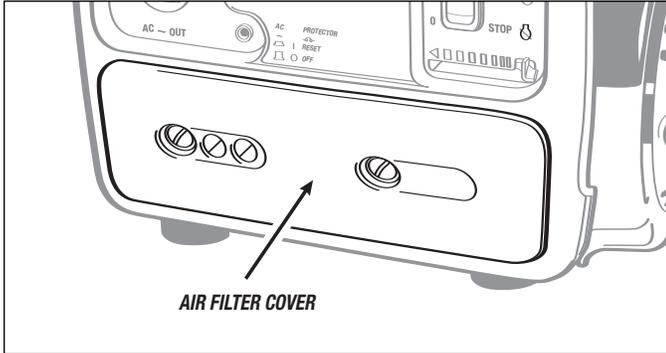
The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and could damage the engine.

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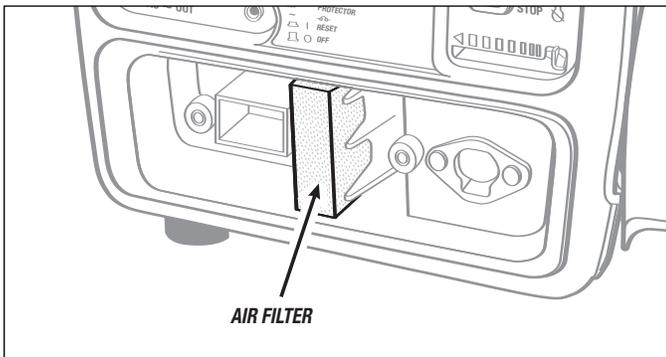
Air Filter Cleaning

A dirty air filter will restrict airflow to the carburetor. Service the air filter regularly to prevent carburetor malfunction (service more frequently in extremely dusty areas).

1. Unscrew the air filter cover.



2. Remove the filter element and wash well with an inflammable solvent or soap and water.



WARNING

Using gasoline or other flammable solvent to clean the filter element can cause a fire or explosion.

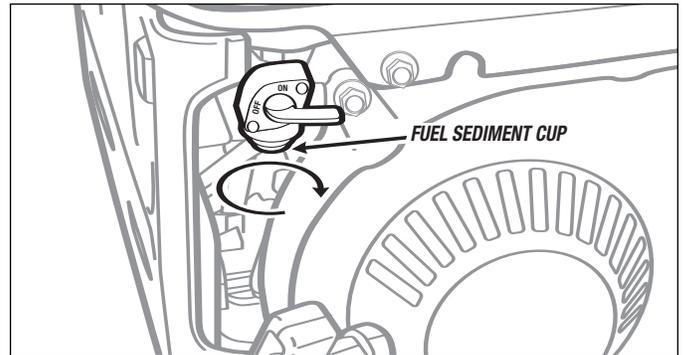
ATTENTION

Never run the generator without the air cleaner; this will cause rapid engine wear.

3. Pour a small amount of oil (foam-air-filter or SAW #20 motor oil recommended) into the filter element and gently squeeze out excess oil. Never wring out the filter element, as it may tear. The generator will smoke if too much oil remains in the filter element.
4. Reinstall the filter element and air filter cover. Be sure both projections of the air filter cover fit the control box slots before tightening the mount screws.

Fuel Sediment Cup Cleaning

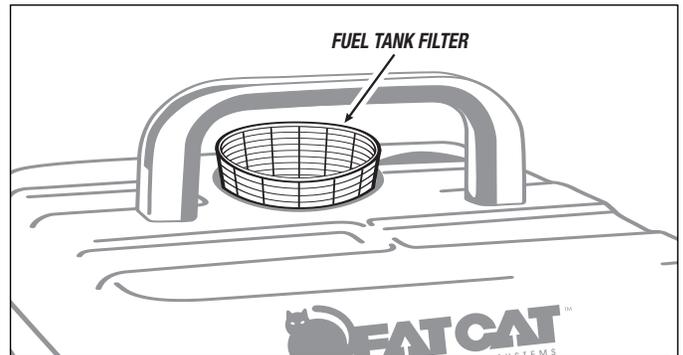
1. Remove the cup at the bottom of the fuel valve using a small spanner.



2. Clean with a scouring pad and brush, rinse with water and allow to air dry, then reinstall.

Fuel Tank Filter Cleaning

1. Remove the filter from below the fuel tank cap using your fingers.



2. Clean with a scouring pad and brush, rinse with water and allow to air dry, then reinstall.

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Maintenance Chart

<i>Item</i>	<i>Remarks</i>	<i>Daily (Preoperation Check)</i>	<i>First Month (20 hrs)</i>	<i>Three Months (50 hrs)</i>	<i>Six Months (100 hrs)</i>	<i>Twelve Months (300 hrs)</i>
Spark Plug	Check condition. Adjust gap and clean. Replace if necessary.			X		
Air Filter	Clean, replace if necessary.			X		
Fuel Filter	Clean fuel valve and fuel tank filter. Replace if necessary.				X	
Fuel Line	Check fuel hose for cracks or other damage. Replace if necessary.	X				
Exhaust System	Check for leakage. Retighten or replace gasket if necessary.	X				
	Check muffler screen. Clean or replace if necessary.				X	
Carburetor	Check choke operation.	X			X	
Cooling System	Check for rain damage.					X
Starting System	Check recoil starter operation.	X				
Decarbonization	Remove carbon deposits in muffler, combustion chamber. Increase frequency if necessary.					X
Fittings/Fasteners	Check. Replace if necessary.				X	

Miscellaneous

Do not expose the generator to excessive moisture, dust, dirt or corrosive vapors.

Use a soft bristle brush to loosen caked-on dirt or oil.

Use low-pressure air (less than 25 psi) to blow away dirt.

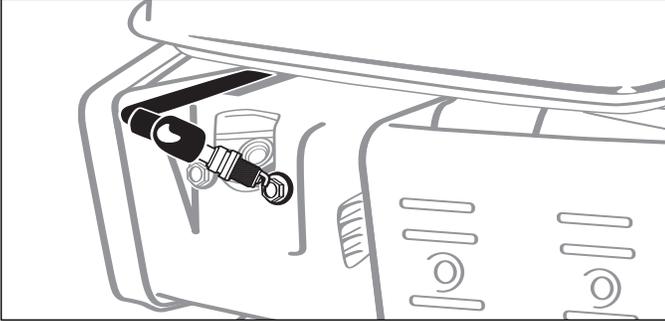
Do not insert any objects through cooling slots. Cooling slots must not become clogged with snow, leaves or any other foreign material.



Troubleshooting

Generator Won't Start

1. Check the fuel/oil mix level and add more if necessary.
2. Make sure the engine switch and fuel valve are set to the "on" positions.
3. Test the spark plug using the following procedure:
 - Remove the spark plug cap and clean any dirt from around the spark plug.
 - Remove the spark plug and install the spark plug in the plug cap.
 - Set the plug side electrode on the bolt by the cylinder head.



- Pull the starter cord gently; sparks should jump across the gap. Reinstall the spark plug or replace if necessary.



WARNING

Make sure no spilled fuel is near the spark plug when testing. The fuel may ignite.

4. Make sure the fuel valve filter, fuel line and carburetor are not clogged.
5. Check cylinder heads for looseness and tighten the bolts that secure them if necessary.
6. Check the cylinder head gasket for damage and replace it if necessary.
7. Contact AES if the generator still won't start.

No AC Output

1. Make sure the AC protector has not been not tripped. Press the reset button if necessary.
2. Check for poor connections or defective cords.
3. Test the connected device(s) for proper operation.

Generator Falts Under Load

1. The load is too heavy. Reduce the number of devices connected (see "Electrical Loads" on page 5).
2. A connected device has a short circuit. Disconnect the shorted load.
3. The generator has a short circuit. Contact AES.

Generator Shuts Down While Running

1. Check the fuel/oil mix level and add more if necessary.

Storage

Your generator should be started at least once every seven days and allowed to run at least 30 minutes. If you must store the generator for longer periods of time, use the following guidelines:

Storage Time	Service Procedure
One to Two Months	Fill with fresh gasoline/oil mix and add fuel stabilizer. Run the engine for several minutes to circulate the additive through the carburetor.
Two Months to One Year	Fill with fresh gasoline/oil mix and add fuel stabilizer. Run the engine for several minutes to circulate the additive through the carburetor. Drain the carburetor bowl and carburetor.
Over One Year	Fill with fresh gasoline/oil mix and add fuel stabilizer. Run the engine for several minutes to circulate the additive through the carburetor*. Drain the carburetor bowl and carburetor. Remove the spark plug, pour in 1 spoonful of oil, pull the starter cord gently several times (engine switch in the "off" position!) and reinstall the spark plug. Pull the starter cord until you feel resistance and stop.

*After removal from storage, drain the stored gasoline/oil mix into a container and fill the fuel tank with fresh gasoline/oil mix before starting.

Place the generator in a dust-free, dry area and cover with a clean cloth.



Warning

Storage covers can be flammable. Do not place a storage cover over a hot generator.

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General Specifications

Model	GT950
L x W x H	12.5 x 12.5 x 14 in (32 x 32 x 36 cm)
Weight (Empty)	44 lbs (20 kg)
Engine Type	2-Stroke
Fuel/Oil Mix	Fuel/Oil Mix of 50 to 1
Displacement	63 cc
Operation Time	8 hrs
Noise Level @ 25 ft (7 m)	64 dB
Cooling System	Forced Air
Ignition System	Transistor Control Ignition (T.C.I.)
Fuel Tank Capacity	1.1 gal (4 liters)
Spark Plug	BPR5ES (NGK) .028 to .031 in (.7 to .8 mm) Gap

12-Month Standard Warranty

Aquatic Eco-Systems, Inc. (AES) products, when properly installed and operated under normal conditions of use, are warranted by AES to be free from defects in material and workmanship for a period of 12 months from the date of invoice from AES, unless otherwise stated. In order to obtain performance under this warranty, the buyer must promptly give verbal or written notice of the defect by calling the AES Returns Department at 407-886-3939, sending a fax to 407-886-6787 or by e-mail to fatcat@aquaticceco.com. The buyer is responsible for freight charges, both to and from AES, in all cases.

AES warranties do not extend to any goods or parts which have been subjected to misuse, modification, lack of maintenance, neglect, transit damage or damage resulting from lightning, natural or accidental flooding, fire or accident. Operating use or circumstances outside normal conditions, such as high heat or high moisture, may also be excluded from this warranty.

THIS EXPRESS WARRANTY EXCLUDES ALL OTHER WARRANTIES OR REPRESENTATIONS EXPRESSED OR IMPLIED BY ANY LITERATURE, DATA OR PERSON. THE MAXIMUM LIABILITY OF AES UNDER THIS EXCLUSIVE REMEDY SHALL NEVER EXCEED THE COST OF THE SUBJECT PRODUCT AND AES RESERVES THE RIGHT, AT ITS SOLE DISCRETION, TO REFUND THE PURCHASE PRICE IN LIEU OF REPAIR OR REPLACEMENT.

AES WILL NOT BE RESPONSIBLE OR LIABLE FOR INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, however arising, including but not limited to those for use of any products, loss of time, inconvenience, lost profit, labor charges or other incidental or consequential damages with respect to persons, animals, business or property, whether as a result of breach of warranty, negligence or otherwise. Notwithstanding any other provision of this warranty, BUYER'S REMEDY AGAINST AES FOR GOODS SUPPLIED OR FOR NONDELIVERED GOODS OR FAILURE TO FURNISH GOODS, WHETHER OR NOT BASED ON NEGLIGENCE, STRICT LIABILITY OR BREACH OF EXPRESS OR IMPLIED WARRANTY IS LIMITED SOLELY, AT THE OPTION OF AES, TO REPLACEMENT OF OR CURE OF SUCH NONCONFORMING OR NONDELIVERED GOODS OR RETURN OF THE PURCHASE PRICE FOR SUCH GOODS AND, IN NO EVENT, SHALL EXCEED THE PRICE OR CHARGE FOR SUCH GOODS. AES EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE WITH RESPECT TO THE GOODS SOLD. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTIONS SET FORTH IN THIS WARRANTY, notwithstanding any knowledge of AES regarding the use or uses intended to be made of goods, proposed changes or additions to goods or any assistance or suggestions that may have been made by AES personnel.

Unauthorized extensions of warranties by the customer shall remain the customer's responsibility.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF AES PRODUCTS FOR CUSTOMER'S USE OR RESALE OR FOR INCORPORATING THEM INTO OBJECTS OR APPLICATIONS THAT THE CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.

This warranty can be modified only by AES personnel by signing a specific, written description of any modifications

