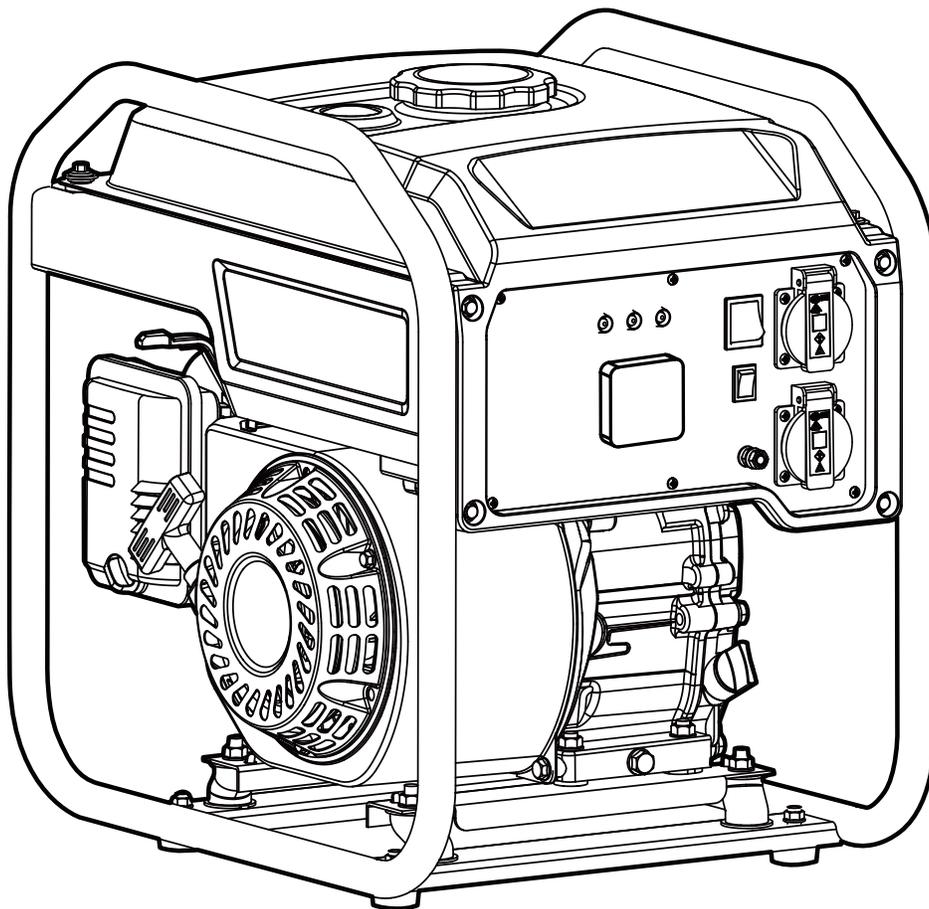




# LYNX<sup>®</sup>

## ELEKTRO MASCHINEN

### GSEm 4002 SBi



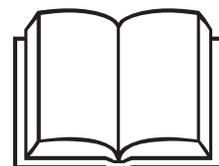
[www.elektro-maschinen.com](http://www.elektro-maschinen.com)



**Lesen und verstehen Sie  
die Bedienungsanleitung,  
bevor Sie die Maschine  
in Betrieb nehmen.**

**Read and understand  
the owner's manual before  
operating the machine.**

**Pred uporabo stroja  
preberite in razumite  
navodila za uporabo.**





**Please keep this instruction properly and carry it with you for future inquiry in case of emergency; This instruction manual is a permanent part of the generator. If you want to lend or resell this generator set, please lend or resell this instruction manual together.**

**The relevant information and technical specifications contained in this manual will come into effect when printing is approved, and the contents are based on the machines in production at the time of publication. The company reserves the right to modify and improve any part described in this document without prior notice.**

# CONTENT

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## Preface

Thank you for purchasing our generator set. The device is a compact, high-performance, forced-air-cooled, home-type generator set powered by an engine-driven generator, suitable for use when there is no utility power or a sudden power outage.

We recommend that the operator read this manual carefully before use, and fully understand all the requirements and operating steps of this equipment. If you do not understand any part of this manual, please contact the nearest authorized dealer, including start-up, operation and maintenance procedures, etc. A technician will instruct you to use the device correctly and safely. At the same time, we also recommend that when purchasing, consult the dealer for the start-up and operation steps of this equipment.

Only when the generator is properly stored, operated and maintained can the generator operate safely, efficiently and reliably. Before operating or servicing the generator:

- Please be familiar with and strictly abide by the local laws and regulations.
- Please read and follow all safety warnings in this manual and on the unit carefully.
- Please familiarize your family with all safety precautions in this manual before use.

Of course, it is impossible for the manufacturer to foresee all possible hazardous situations, therefore, the warnings in this manual, as well as the labels on the unit, cannot be all covered: if we do not make special recommendations for use procedures, working methods or operating techniques, Please use it under the premise of ensuring personal safety. In addition, it is also necessary to ensure that the operating procedures, working methods or operating skills will not cause damage to the generator set during use.

In order for you to use it more safely, please read carefully the three very important safety warnings written in the instruction manual and the decals of the generator set. There are safety warning signs and warning words in front of each safety warning.

Details are as follows:

 **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.

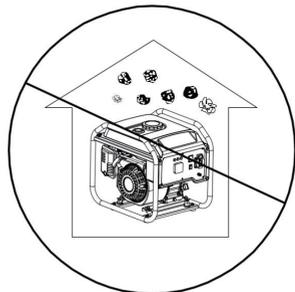
 **NOTICE** Your generator or other property could be damaged if you don't follow instructions.

# SAFETY INFORMATION

Owner's Manual

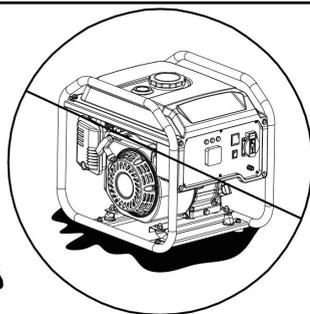
## DANGER

**Do not use indoors.**



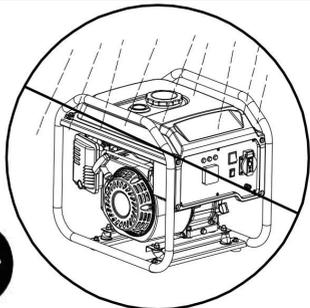
## DANGER

**Please keep the machine clean and tidy, do not spill gasoline or other flammable materials on the machine.**



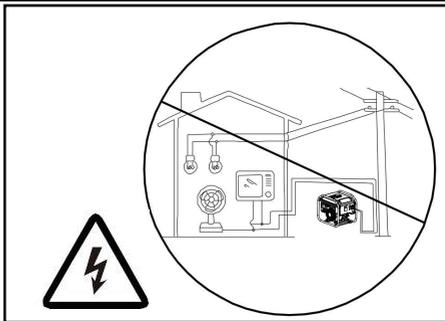
## WARNING

**Do not use in wet environment.**



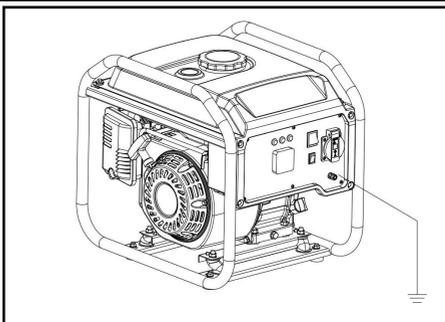
## WARNING

The generator set cannot be connected to the mains power supply and other generator sets, please use it alone.



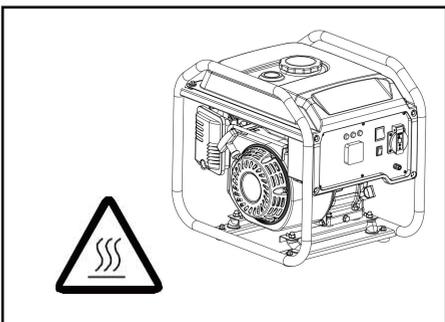
## WARNING

Must be safely grounded.  
Note Please use a ground wire with sufficient electrical flux.  
Diameter of ground wire:  
0.12mm/A Example: 10A-1.2mm



## WARNING

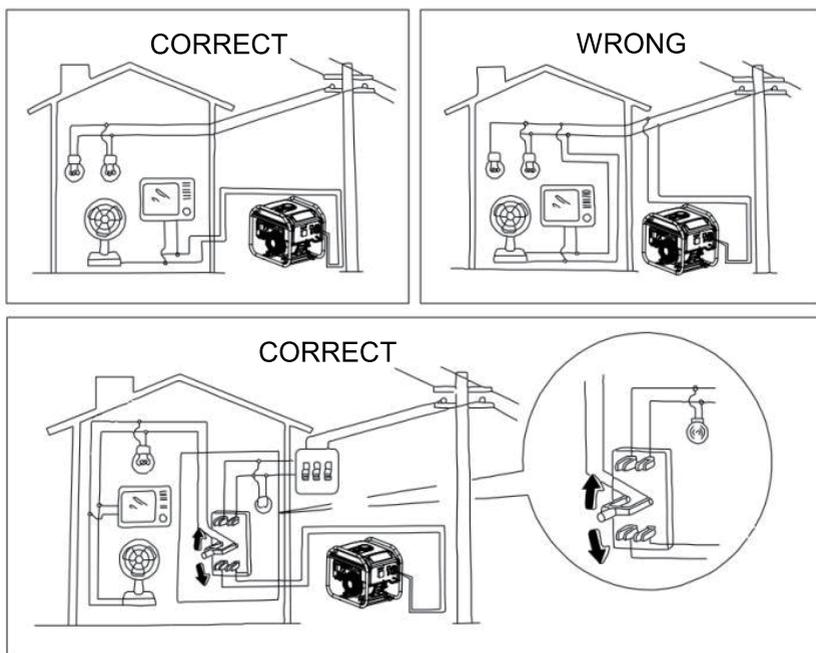
The generator surface temperature is very high, avoid burns.



## Connect to home power

When connecting the generator to a home power source as a backup power source, it should be done by a dedicated electrician or someone familiar with electricity.

After connecting the load to the generator, double check that the electrical connections are secure. Incorrect electrical connections may result in generator damage, burning or fire.

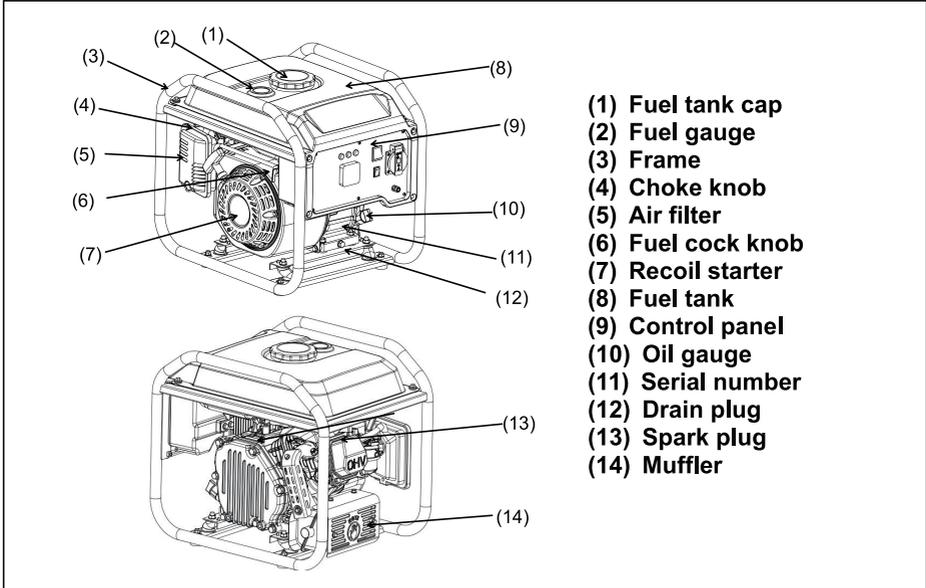


## OTHER

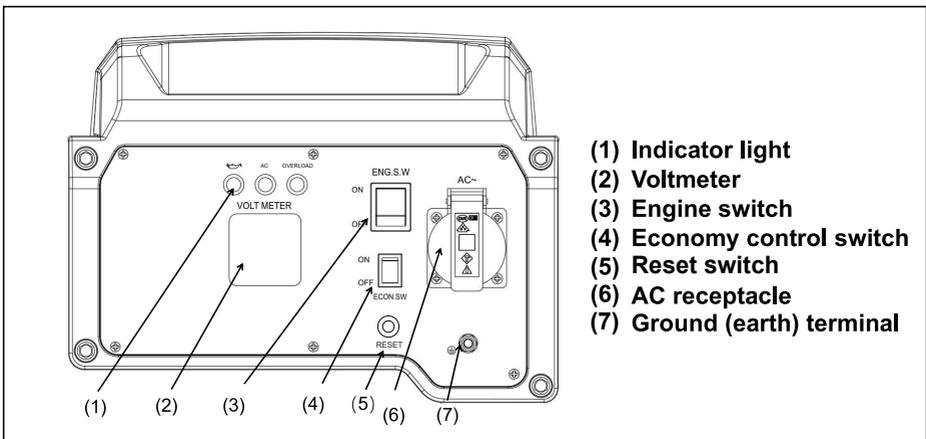
The air inlet of the inverter air hood and the exhaust port of the muffler should be kept clear and no debris, mud, water, etc. should enter. If these vents are blocked, damage to the engine, inverter or motor may occur.

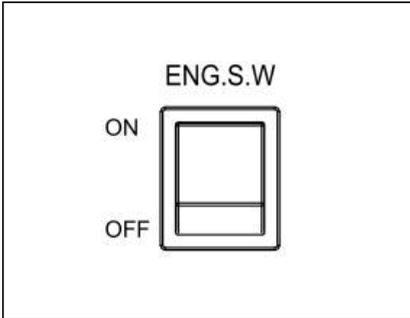
When carrying, storing and using the generator, do not keep it together with other things. If oil leaks, it could damage the engine or your property.

## CONTROL FUNCTION



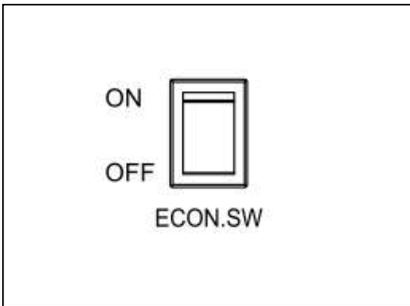
## CONTROL PANEL





## Engine switch

- ① Engine switch "STOP": Ignition circuit is switched off. The engine will not run.
- ② Engine switch "ON": Ignition circuit is switched on. The engine can be running.



## Economy control switch

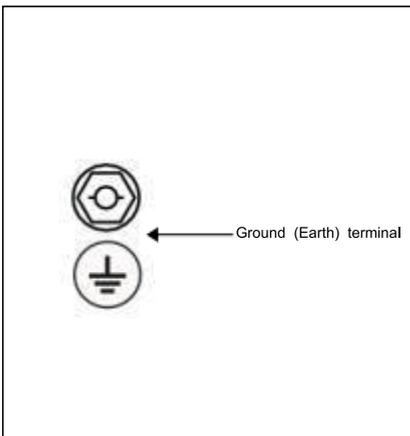
- ① "ON"

When the ECO switch is turned to "ON", the economy control unit controls the engine speed according to the connected load. The results are better fuel consumption and less noise.

- ② "OFF"

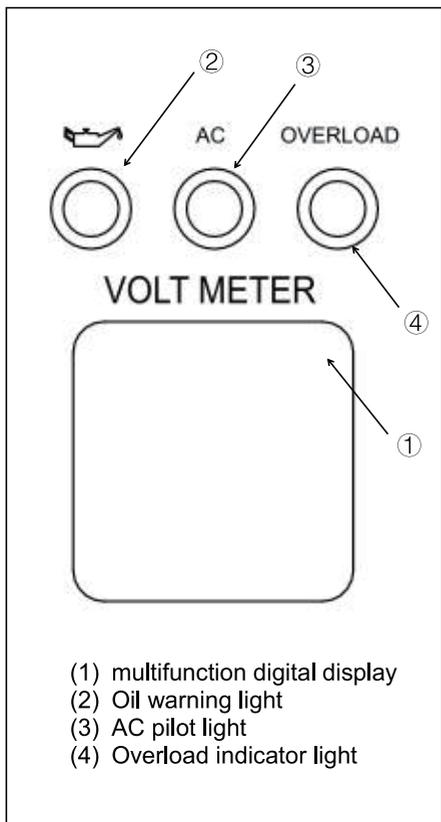
When the ECO switch is turned to "OFF", the engine runs at the rated speed (3600r/min) regardless of whether is a load connected or not.

**Tips:** The ECO switch must be turned to "OFF" when using electric devices that require a large starting current, such as a compressor or a submersible pump.



## Ground (Earth) terminal

Ground (Earth) terminal connects the earth line for prevention of electric shock. When the electric device is earthed, always the generator must be earthed.



## ① Multifunction digital display

During normal operation, the digital display shows the real-time voltage, real-time frequency, and cumulative running time of the machine.

## ② Oil warning light

When the oil level falls below the lower level, the oil warning light comes on and then the engine stops automatically. Unless you refill with oil, the engine will not start again.

**Tips:** If the engine stalls or does not start, turn the engine switch to "ON" and then pull the recoil starter. If the oil warning light flickers for a few seconds, the engine oil is insufficient. Add oil and restart.

## ③ AC pilot light (Green)

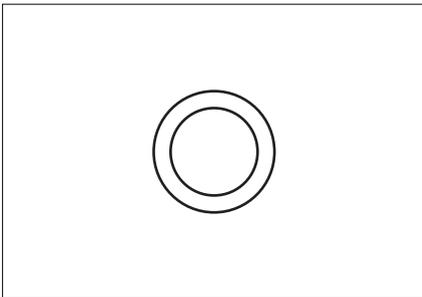
The AC pilot light comes on when the engine starts and produces power.

## ④ Overload indicator light

The overload indicator light comes on when an overload of a connected electrical device is detected, the inverter control unit overheats, or the AC output voltage rises. Then, the AC protector will trip, stopping power generation in order to protect the generator and any connected electric devices. The AC pilot light (Green) will go off and the overload indicator light (Red) will stay on, but the engine will not stop running. When the overload indicator light comes on and power generation stops, proceed as follows:

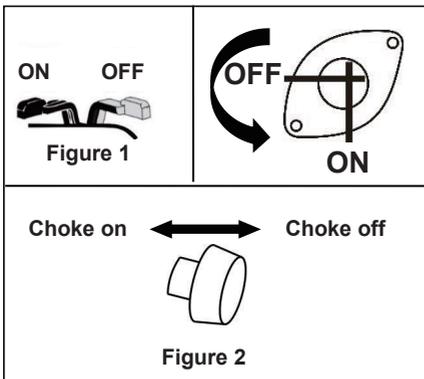
1. Turn off any connected electric devices and stop the engine.
2. Reduce the total wattage of connected appliance into the rated output.
3. Check for blockages in the cooling air inlet and around the control unit. If any blockages are found, remove.
4. After checking, restart the engine.

**Tips:** The overload indicator light may come on for a few seconds at first when using electric devices that require a large starting current, such as a compressor or a submersible pump. However, this is not a malfunction.



## ⑤ Reset switch

When the generator is overloaded with no output, please press the reset button. At this point, the generator should deliver power.



## ⑥ Fuel switch, choke

When the fuel switch is "on", the fuel passage is open, allowing the fuel tank to supply gasoline continuously. When the switch is "off", the fuel passage is closed, stopping the fuel supply from the tank.

When the choke is "off", the carburetor intake channel is closed, and it is easy to start when the fuel concentration is increased. When the choke is fully on, and the engine can operate normally; Figure 1 shows the carburetor choke handle, Figure 2 shows the choke plug.

## PRE-OPERATION CHECK

**⚠ CAUTION** Always pre-check before each use.

**⚠ WARNING** The engine and muffler can become very hot after engine operation starts. Before the engine and muffler have cooled down, be careful not to touch the engine and muffler with any part of your body or clothing during inspection and repair.

## Fuel

**⚠ DANGER**

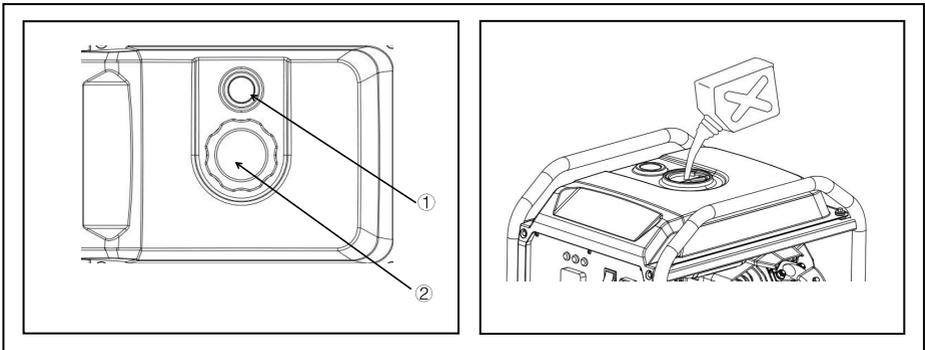
- Fuel is highly flammable and poisonous. Please read the safety instructions carefully before refueling (page 2-5).
- Do not overfill the fuel tank, otherwise it may overflow when the fuel warms up and expands. Make sure the fuel tank cap is tightened securely.
- After fill the fuel, immediately wipe off spilled fuel.
- Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts.

Verify that there is sufficient fuel in the fuel tank.

Recommended fuel: unleaded gasoline

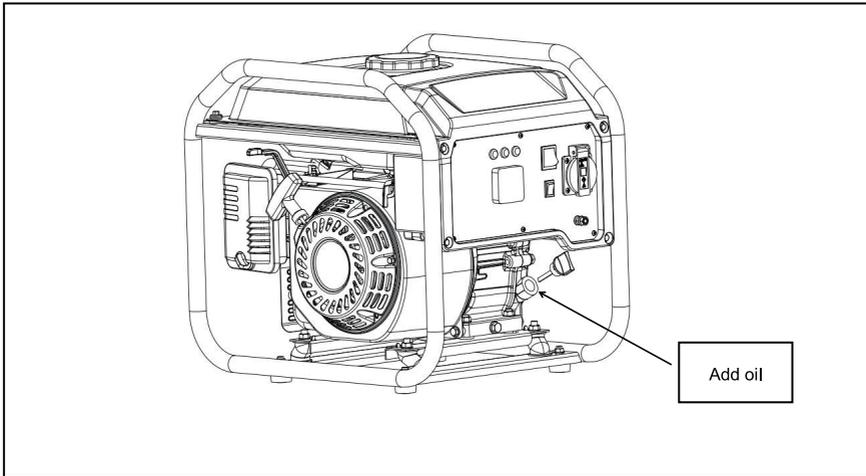
Fuel tank capacity: 8L

① Fuel gauge ② Fuel tank cap



## Engine oil

The generator has been shipped without engine oil. Do not start the engine till fill with the sufficient engine oil. When adding oil, do not tilt the generator to prevent the engine from being damaged by adding excess oil.



## Engine oil level

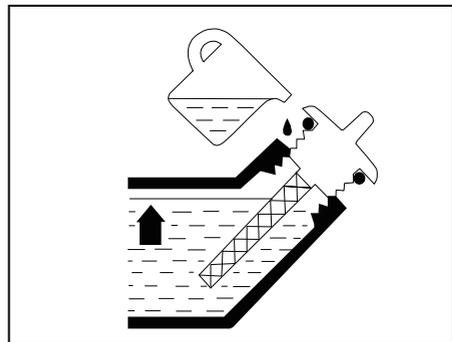
Recommended engine oil:

SAE 10W-30

Recommended engine oil grade:

API Service SE type or higher

Engine oil quantity: 0.6L



## OPERATION

**⚠ WARNING** Never operate the engine in a closed area or it may cause unconsciousness and death within a short time. Operate the engine in a well ventilated area.

The generator has been shipped without engine oil. Do not start the engine til fill with the sufficient engine oil.

## TIPS

- The generator can be used with the rated output load at standard atmospheric conditions.
- "Standard atmospheric conditions": Ambient temperature 25°C, Barometric pressure 100kPa, Relative humidity 30%.
- The output of the generator varies due to change temperature, altitude (lower air pressure at higher altitude) and humidity.
- The output of the generator is reduced when the temperature, the humidity and the altitude are higher than standard atmospheric conditions.
- The output of the generator is reduced when the temperature, the humidity and the altitude are higher than standard atmospheric conditions.

## Starting the engine

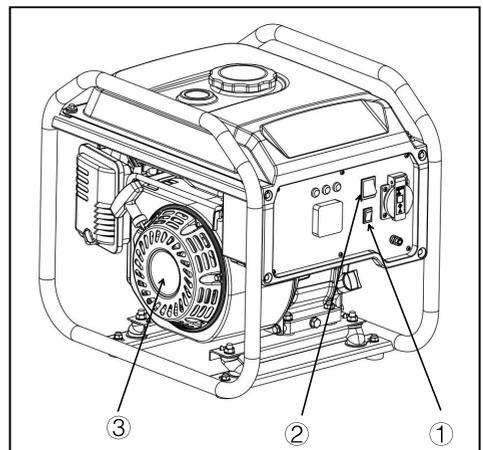
1. Turn the ECO switch ① to "ON".

2. Turn the engine switch ② to "ON":

Turn on the fuel cork knob, turn on the ignition system, close the choke knob, the engine is in a normal cold working state.

**Tips:** The choke is not required to start a warm engine.

3. Pull slowly on the recoil starter ③ until it is engaged, then pull it briskly.



**Tips:** Grasp the carrying handle firmly to prevent the generator from falling over when pulling the recoil starter.

## TIPS(Warm up the engine)

- When starting the engine, with the ECO switch "ON", and there is no load on the generator.

- In ambient temperature below 0°C (32°F), the engine will run at the rated speed (4500r/min) for 5 minutes to warm up the engine.

In ambient temperature below 5°C (41°F), the engine will run at the rated speed (4500r/min) for 3 minutes to warm up the engine.

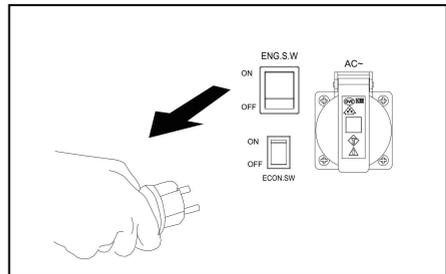
The ECO switch unit operates normally after the above time period, while the ECO switch is "ON".

## Stopping the engine

Before stopping the engine, do not connect any electric devices.

**Tips:** Turn off any electric devices.

1. Turn the ECO switch to "OFF".
2. Disconnect any electric devices.
3. Turn the engine switch to "STOP".



## Alternating Current (AC) connection

**⚠ WARNING** Be sure any electric devices are turned off before plugging them in.

**⚠ CAUTION**

- Be sure all electric devices including the lines and plug connections are in good condition before connection to the generator.
- Be sure the total load is within generator rated output.
- Be sure the receptacle load current is within receptacle rated current.

**Tips:** Make sure to ground (Earth) the generator. When the electric device is earthed, always the generator must be earthed.

1. Start the engine.
2. Turn the ECO switch to "ON".
3. Make sure the AC pilot light is on.
4. Plug in to AC receptacle.
5. Turn on any electric devices.

**Tips:** The ECO switch must be turned to "OFF" to increase engine speed to rated speed.

- When the generator starts, the overload indicator (red light) will illuminate. Normally, the overload indicator (red light) goes out within 3 seconds. If the overload indicator (red light) stays on, consult your generator dealer.
- If the generator provides power for multiple loads or electrical equipment, please start them in order from large to small according to the load of each electrical equipment.
- When the generator is overloaded or there is a short circuit in the connected equipment, the overload indicator (red light) will illuminate. After about 5 seconds, the generator output indicator (green light) will go out and the generator has no voltage output. Stop the generator, check the problem, determine if it is caused by short circuit or overload of the connected equipment, remove the problem and restart the generator.

## APPLICATION RANGE

When using the generator, make sure the total load is within rated output of a generator. Otherwise, generator damage may occur.

AC			
Power factor	1	0.8-0.95	0.4-0.75 (Efficiency 0.85)
4000i	~2800W	~2200W	~1100W
5000i	~3500W	~2800W	~1400W
6000i(E)	~4200W	~3500W	~1680W
8000i(E)	~6000W	~4800W	~2400W
9500iE	~7500W	~6000W	~3000W
15000iEDG	~10000W	~8000W	~4000W

**Tips:** "~" means no more than.

When each device is working by itself, it will display the number of application functions, but the total power number cannot exceed the rated output power.

For example:

Generator rated output		2800VA
AC	Power factor	
	1.0	~2800W
	0.8	~2200W

The overload indicator light comes on when total wattage exceeds the application range. (See page 9 for more details.)

## CAUTION

- Do not overload. The total load of all electrical appliances must not exceed the supply range of the generator. Overloading will damage the generator.
- When supplying precision equipment, electronic controllers, PCs, Electronic computers, microcomputer based equipment or battery chargers, keep the generator a sufficient distance away to prevent electrical interference from the engine. Also ensure that electrical noise from the engine does not interfere with any other electrical devices located near the generator.
- If the generator is to supply medical equipment, advice should first be obtained from the manufacturer, a medical professional or hospital.
- Some electrical appliances or general-purpose electric motors have High starting currents, and cannot therefore be used, even if they lie within the supply ranges given in the above table. Consult the equipment manufacturer for further advice.

## MAINTENANCE

The user should operate the machine safely. In order to keep your gasoline engine in good working condition, it must be periodically serviced. The following maintenance schedule and routine inspection procedures must be carefully followed:

 **WARNING** you are not familiar with maintenance work, please leave it to a dealer to serve you.

### Maintenance Chart

 **WARNING** Stop the engine before servicing.

Replace only with specified genuine components. For specific precautions, please contact the dealer.

Items	Routine inspection	Each time	every 6 months or every 100 hrs of operation	12th month or every 300 hrs of operation
Spark plug	Check status Clean or replace if necessary		○	
Fuel	Check oil level for leaks	○		
Fuel pipe	Check the pipe for cracks or damage and replace if necessary	○		
Oil	Check oil level	○		
	Replace		○ (1)	
Air filter	Check status and clean		○ (2)	
Muffler grille	Check status, Clean or replace as necessary		○	
Spark collector	Check status, Clean or replace as necessary		○	
Fuel filter	Clean or replace as necessary			○
Crankcase breather	Check for cracks or damage, replace if necessary			○

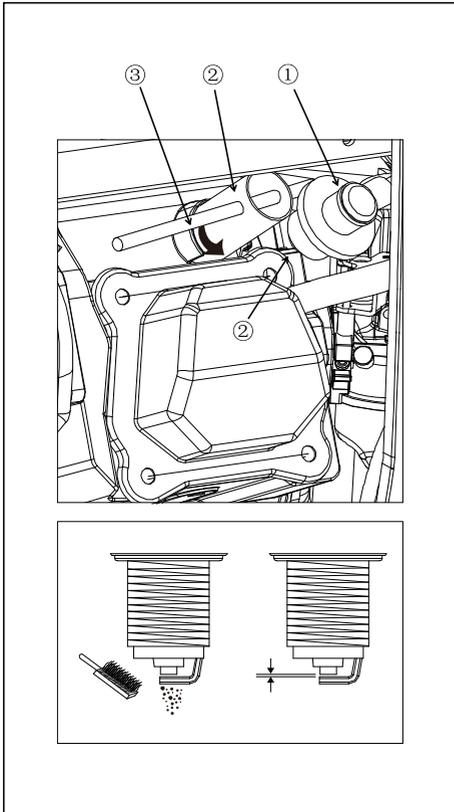
# MAINTENANCE

Owner's Manual

Cylinder head	Clean up carbon deposits (multiple operations if necessary)			★
Valve clearance	After the engine has cooled (check and adjust)			★
Fittings/fixtures	Check all fittings/fixtures adjust if necessary			★
Problems found when using		○		

- (1) The first oil change should be in the previous month or after 20 hours of operation.
- (2) The air filter should be cleaned more frequently when it is used in damp or dusty places.

★ These items should be maintained by the company's authorized dealers.



## Spark plug inspection

The spark plug is important engine components, which should be checked periodically.

- 1.Remove the spark plug cap ①, and insert the tool ② to the spark plug.
- 2.Insert the handlebar ③ into the tool and turn it counterclockwise to move the spark plug.
- 3.Check for discoloration and remove the carbon. The porcelain insulator around the center electrode of spark plug should be a medium-to-light tan color.
- 4.Check the spark plug type and gap.

Standard Spark Plug:

BPR6ES/BP6ES(NGK)

F6RTC/F6TC(TORCH)

Spark Plug Gap: 0.6-0.7mm

- 5.Install the spark plug.

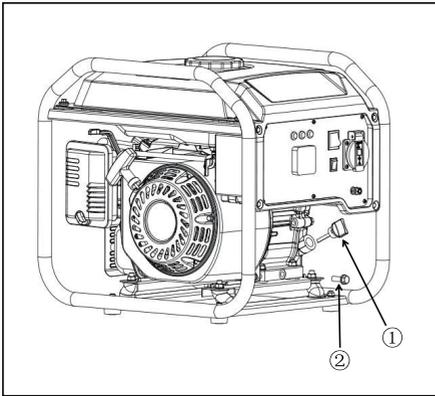
**Tips:**If a torque wrench is not available

when installing a spark plug, a good estimate of the correct torque is 1 to 2 turn past finger tight. However, the spark plug should be tightened to the specified torque (22N·m) .

- 6.Install the spark plug cap and spark plug cover.

## Carburetor adjustment

The carburetor is a vital part of the engine. Adjusting should be left to our company authorized dealer with the professional knowledge, specialized date, and equipment to do so properly.



## Engine oil replacement

Avoid draining the engine oil immediately after stopping the engine. The oil is hot and should be handled with care to avoid burns.

1. Place the generator on a level surface and warm up the engine for several minutes. Then top the engine.

2. Remove the oil gauge ①.

3. Place the oil pan under the machine base plate and remove the oil drain plug ②. The oil will be drained from the tank.

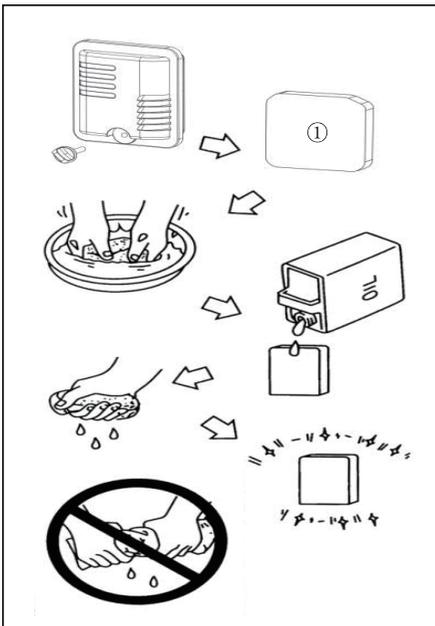
4. Check the oil gauge, sealing ring, oil drain plug and gasket. If damaged, replace immediately.

5. Reinstall the oil drain plug and gasket.

6. Refill the oil to the proper level and tighten the oil gauge.

**CAUTION** Do not tilt the generator when adding engine oil. This could result in over filling and damage to the engine.

Be sure no foreign material enters the crankcase.



## Air filter

1. Remove the cover, and then remove the foam element ①.

2. Wash the foam element in solvent and dry it.

3. Oil the foam element and squeeze out excess oil. The foam element should be wet

but not dripping. Do not wring out the foam element when squeezing it. This could cause it to tear.

4. Insert the foam element into the air filter case.

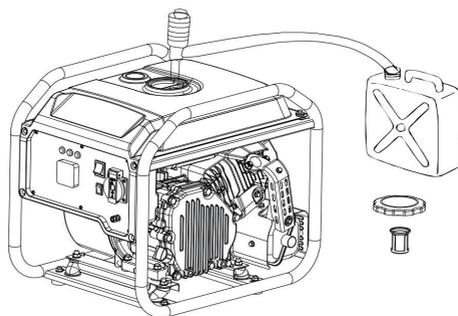
5. Install the air filter case cover in its original position.

**Tips:** Be sure the foam element sealing surface matches the air filter so there is no air leak. The engine should never run without the foam element excessive piston and cylinder wear may result.

## STORAGE

Long term storage of your machine will require some preventive procedures to guard against deterioration.

### Drain the fuel



1. Remove the fuel tank cap, remove the filter.

2. Extract the fuel from the fuel tank into an approved gasoline container. Then, install the fuel tank cap.

3. Fuel is highly flammable and poisonous. Check "SAFETY INFORMATION" carefully. Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts.

4. Start the engine and the engine stops in approx. 20 minutes by running out of fuel.

#### Tips:

- Do not connect with any electrical devices.

- Duration of the running engine depends on the amount of the fuel left in the tank.
- 5. Drain the fuel from the carburetor by loosening the drain screw on the carburetor float chamber.
- 6. Make sure to turn all the switch to "STOP".
- 7. Tighten the oil drain plug.

## ENGINE

Perform the following steps to protect the cylinder, piston ring, etc. from corrosion.

1. Remove the spark plug, pour about one table- spoon of SAE 10W-30 into the spark plug hole and rein stall the spark plug.
2. Recoil start the engine by turning over several times to coat the cylinder walls with oil.
3. Pull the recoil starter until you feel compression. (This prevents the cylinder and valves from rusting.)
4. Stop pulling.
5. Clean exterior of the generator.
6. Store the generator in a dry, well-ventilated place, with the cover placed over it.
7. Always lay the generator flat and vertical.

## TROUBLESHOOTING

### Engine won't start

#### 1. Fuel systems

- No fuel supplied to combustion chamber.
- No fuel in tank .... Supply fuel.
- Fuel in tank.
- Clogged fuel filter .... Clean fuel filter.
- Clogged carburetor .... Clean carburetor.

#### 2. Engine oil system

- Oil level is low .... Add engine oil.

#### 3. Electrical systems

- Normally pull the recoil starter .... Poor spark.
- Spark plug dirty with carbon or wet .... Remove carbon or wipe spark plug dry.
- Faulty ignition system .... Consult our company authorized dealer.

### Generator won't produce power

- The AC pilot light (Green) go off .... Stop the engine, and then restart.

# WIRING DIAGRAM

Owner's Manual

