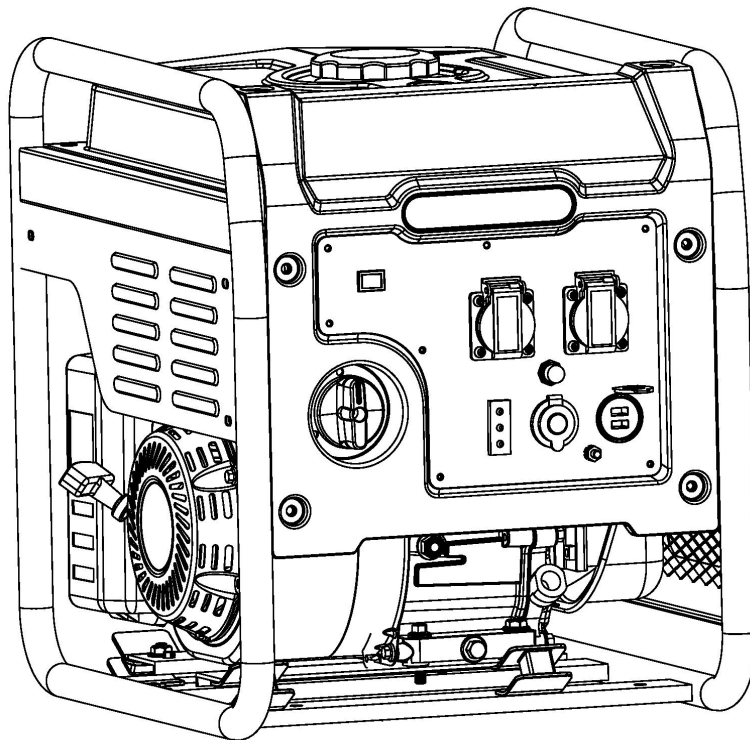


# INVERTER GASOLINE GENERATOR SET

## USER MANUAL



Model: EYG2800i/3800i/4000i/7500i

Original instructions

# 1. SAFETY INFORMATION

## **WARNING!**

The generator sets 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.

- Engine exhaust gases are toxic. Do not operate the generating set in unventilated rooms. When installed in ventilated rooms, additional requirements for fire and explosion protection shall be observed.
- Don't operate in the wet condition.
- Don't directly connect to the household power supply.
- Please keep it 1m at least far away from the inflammable materials.
- Protect children by keeping them at a safe distance from the generating set,
- Fuel is combustible and easily ignited. Do not refuel during operation. Do not refuel while smoking or near naked flames.
- Do not spill fuel.
- Some parts of the internal combustion engine are hot and may cause burns. Pay attention to the warnings on the generating set.

### 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 exhaust can cause loss of consciousness and may lead to death.
- If you run the generator in an areas that is confined, or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust gas. To keep







exhaust gas from accumulating, provide adequate ventilation.

#### Electric Shock Hazards

- Electrical equipment including lines and plug connections should be free from nudity.
- Electrical equipment (including lines and plug connections) should not be defective.
- The generating set must not be connected to other power sources, such as the power company supply mains. In special cases where stand-by connection to existing electrical systems is intended, it shall only be performed by a qualified electrician who has to consider the differences between operating equipment using the public electrical supply network and operating the generating set. In accordance with this part of ISO 8528 the differences shall be stated in the instruction manual.
- Precaution against electrical shock depends on circuit breakers specially matched to the generating set. If the circuit breakers require replacement they must be replaced with a circuit breaker having identical ratings and performance characteristics.
- Due to high mechanical stress only tough rubber-sheathed flexible cable (in accordance with IEC 60245-4) or the equivalent should be used.
- The circuit breakers should be matched with the generator equipment.
- If the circuit breakers require replacement, they must be replaced with a circuit breaker having identical ratings and performance characteristics.
- Don't operate the generator before grounding.
- If using extension lines, the requirement should be met as following: for 1.5mm<sup>2</sup>, the line should not be exceeded 60m; for 2.5mm<sup>2</sup>, the line not exceeded 100m.

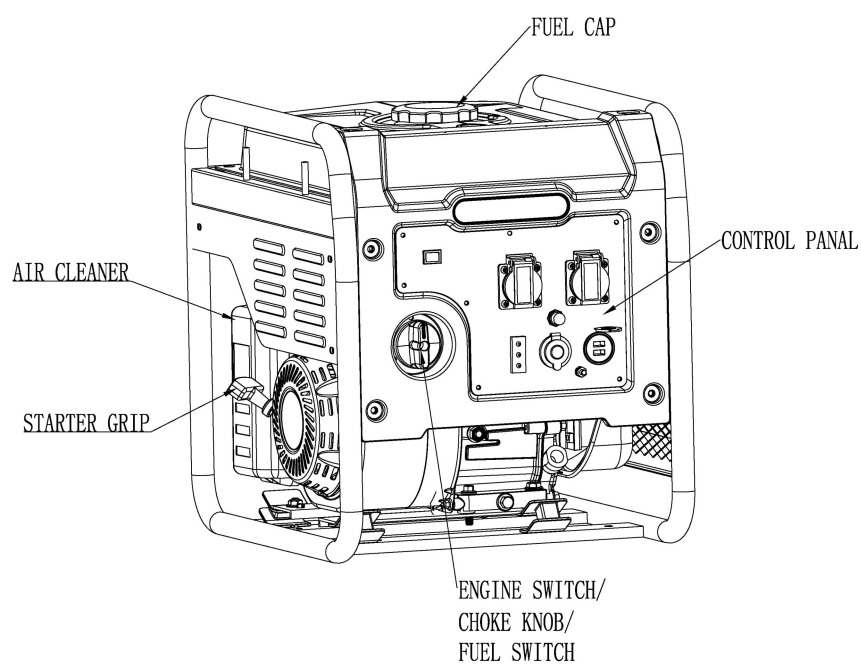
#### **NOTICE!**

When you operate the generator set, please put on protections such as gloves to protect your hands from high temperature.

1	2	3	4
			
5	6		
			

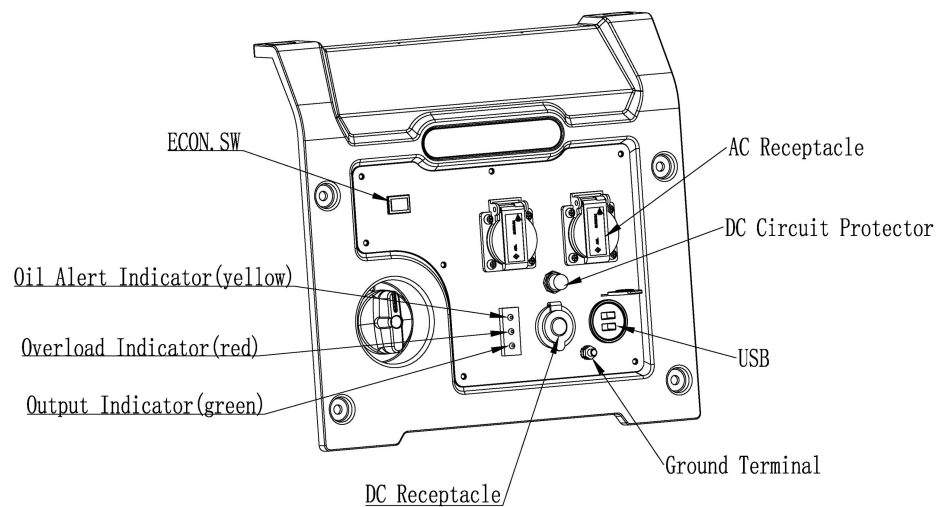
## 2. COMPONENTS IDENTIFICATION

### 1. Names of Parts

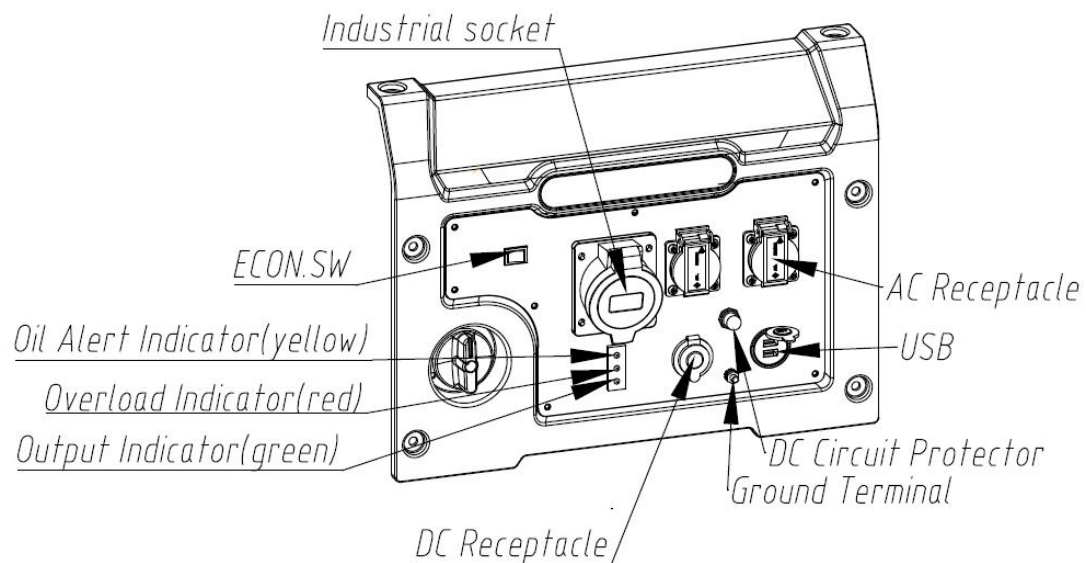


## 1) Control panel

### ①EYG2800i/3800i/4000i



### ②EYG7500i

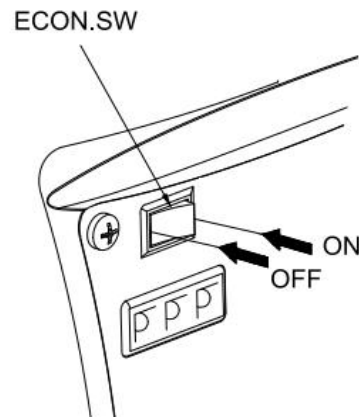


## Note

- For Protection condition, the Output Indicator Light (green) is off, and the Overload Indicator Light (red) is on.
- In the protected state, the overload indicator (red) is on, and the restart output indicator (green) is on after the engine is off.

## 2) ECON. SW (Economy control switch)

- When the Economy control switch is turned to “ON”, the engine keeps running at idle state automatically when the electrical appliance is disconnected, and it will return to the proper speed with the requirement of electrical load.
- The “ON” is recommended to minimize the fuel consumption.



### Note

- When a high load electrical appliance is connected instantaneously, in order to reduce voltage change, turn the Economy control switch to the “OFF” position.
- In DC operation, turn the Economy control switch to the “OFF” position.
- Connect both AC load and DC load; turn the Economy control switch to the “OFF” position.

## 4. PRE-OPEARTION CHECK

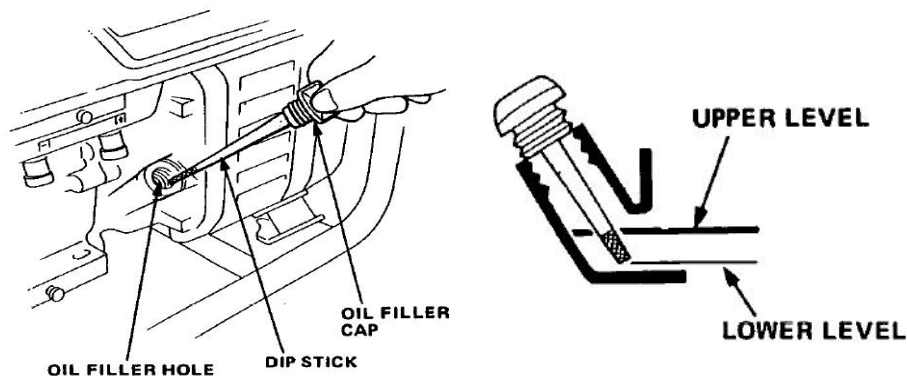
### Caution

Be sure the generator is on the leveled surface and the generator is stopped.

### 1) Check Oil Level

Remove the oil filler cap, and clean it with cloths. Reinsert it into the crankcase, and take out to check oil level.

If the oil level reduces at the bottom of the oil filler cap, add the engine oil.



Fuel capacity: 0.6L

### Note

- Using non-detergent or 2-stroke oil could shorten the engine's working life.
  - Using the high quality engine oil with strong detergents
  - Using 4-stroke engine oil, certified to meet or exceed API standards: SG, SF
- SAE stickiness rating:

Ambient temperature	Oil brand
-25°C-30°C	10W-30
-15°C-40°C	15W-40

### Note

- Carefully use and store the engine oil, avoid getting dirt or dust into the engine oil.
- Mixing different kinds of engine oil is prohibited.
- Before the engine oil reduces below the safety margin, Low Oil Alert System will close the engine automatically. The Oil Alert Indicator Light (yellow) will be on.
- To avoid the inconvenience caused by unexpected stopping, it is still advisable to check the engine oil level regularly.

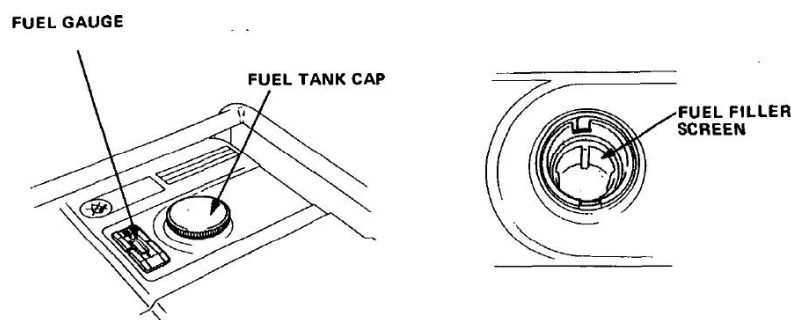
## 2) Check fuel level

Fuel recommendation: use unleaded gasoline (Re-search Octane Number of 92 or higher, Pump Octane Number of 86 or higher)

Never use stale or contaminated gasoline or an oil/gasoline mixture,

Avoid getting dirt or water into the fuel tank.

Do not use a mixture gasoline containing ethanol or methanol; otherwise, it will seriously damage the engine.



### Caution

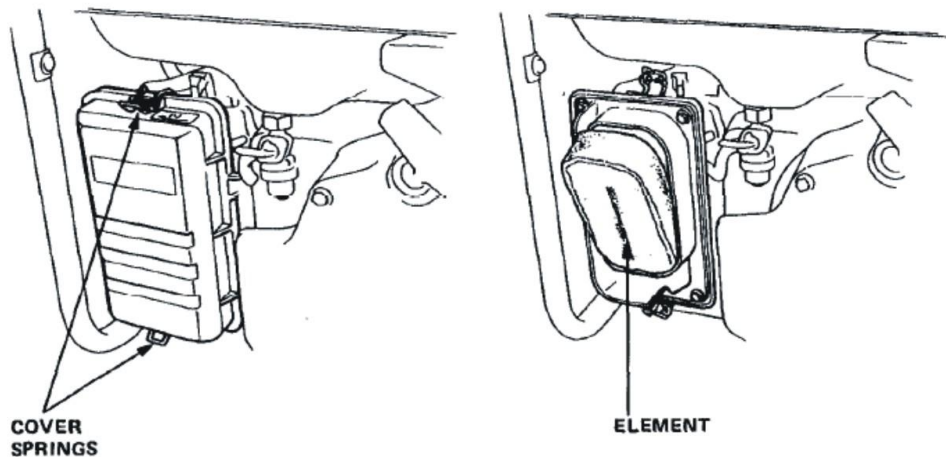
- Gasoline is extremely explosive and flammable.
- Around the refueling area and fuel storage area, prohibit smoking and firing.
- Do not overfill the fuel tank (no fuel above the upper limit mark). After refueling, make sure the fuel cap is closed properly and securely.
- Do not make fuel spill from fuel tank. (No residual fuel around the neck of tank, before starting engine)
- Avoid contacting with skin or breathing the fuel vapor.
- KEEP OUT OF REACH OF CHILDREN.

### 3) Check Air Cleaner

Check the Air Cleaner Element to be sure it is clean and in good condition.

Loose the cover screw, and remove the maintenance cover. Press the tab on the top of the Air Cleaner. Remove the Air Cleaner cover. Check the Element.

Check, clean or replace it, if necessary.



#### Note

- Do not run engine without air Cleaner element, otherwise that makes engine abrasion.

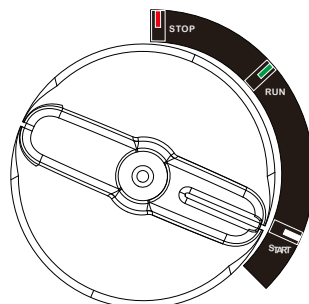
## 5. STARTING THE ENGINE

#### Note

- Before starting engine, disconnect load with AC receptacle.
- Fueling at the first time, refueling, or storing for a long time, the Engine Switch should firstly be opened for ten or twenty seconds, in order to the enough fuel enter into carburetor.

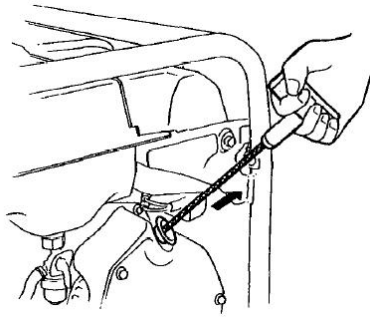
1) Disconnect any load from the AC socket and the DC output.

2) Turn Engine Switch to the “START” position



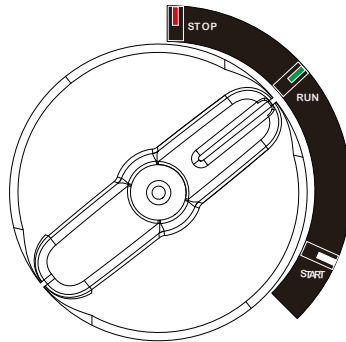


3) Pull the Starter Grip lightly until you feel resistance, then pull quickly toward arrow as shown below.



**Note**

- Return the Starter Grip slowly by hand. Do not make the Starter Grip spring back quickly.
- 4) When the temperature of engine increase, Turn Engine Switch to the “RUN” position.



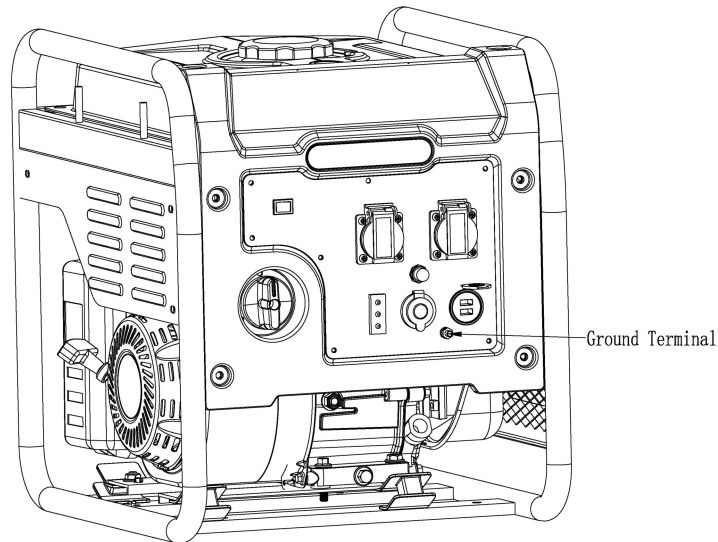
**Note**

- If the generator stops and can not restart, check the oil level firstly.

## 6. GENERATOR USE

### Caution

- Be sure to ground the generator when the connected electrical appliance is grounded.
- Do not connect to the building's electrical system, in order to avoid the electric shocks and fires.



### Note

- For continuous operation, do not exceed the rated out-put power of generator.
- Do not connect the generator to household circuit. This could cause damage to the generator or to electrical appliances in the house.
- Do not make parallel connection with other generators.
- Do not connect an extension to the exhaust pipe.
- When an extension cable is required, be sure to use a tough rubber sheathed flexible cable (according to IEC60245 or equivalent standards). The length of the extension cable: 60m for cable of 1.5mm<sup>2</sup>; 100m for cable of 2.5mm<sup>2</sup>
- Keep away from other electric cables or wires. Such as: commercial power supply lines.

### Note

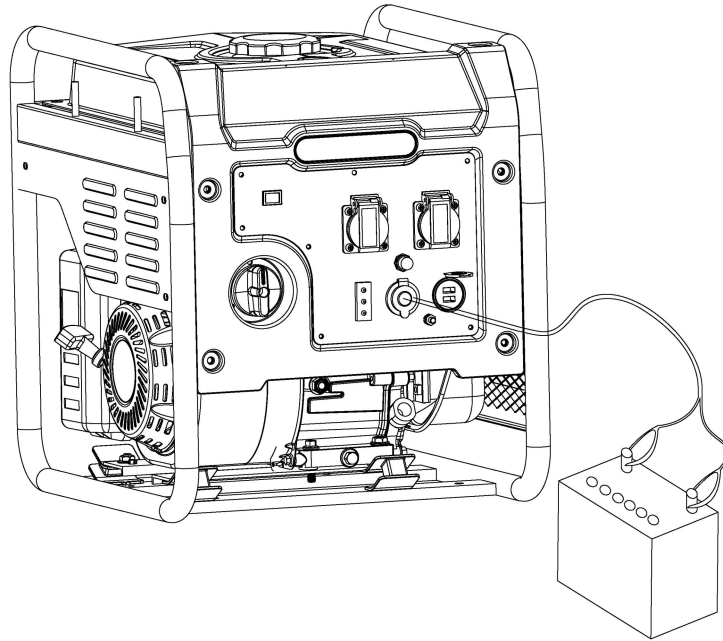
- The DC receptacle can be used while the AC power is in use. If use both at same time, be sure not to exceed the total power for AC and DC.
- Most of motor appliances require more than their rated wattage, when starting.

### 1) DC Application

The DC receptacle, 15-30V under no-load condition, may be used for charging 12 volt automatic-type battery only.

In DC operation, turn the ECON.SW to the "OFF" position.

Connect the DC receptacle to battery terminals with the charging cable.



### Caution

- In order to avoid producing the spark at the terminals of battery, connect the charging cable firstly to the battery terminals, and then to the generator. When removing, disconnect to the generator firstly.
- Before connecting the charging cable to a battery that is installed in vehicle, disconnect the grounded cable of battery. Reconnect the grounded cable of battery after the charging cable is removed. This sequence will prevent sparks or short-circuit from happening, if you accidentally contact a battery terminal with the vehicle's frame or body.

### Note

- Do not start the automobile engine when the generator is still connected to the battery, otherwise the generator will be damaged.
- Connect the positive battery terminal to the positive charging cable. Do not reverse the charging cable, otherwise generator or battery will be damaged seriously.

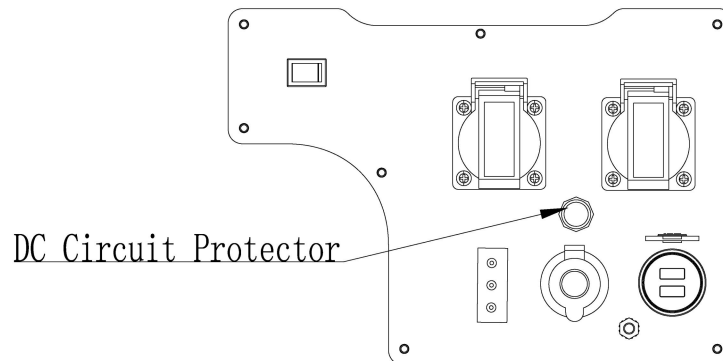
### Caution

- The battery can release the explosive gases. Keep the battery away from spark/fire. Charge the battery in ventilated condition.
- Battery electrolyte contains sulfuric acid that will cause severe burn of skin and eyes. Therefore it is necessary to wear the protective clothing and mask.
- If battery electrolyte gets into eyes, flush thoroughly with warm water for 15min at least, and call a doctor immediately.
- If you swallow a little of battery electrolyte accidentally, flush thoroughly with water your mouth, and then drink large quantities of water or milk (with magnesia or vegetable oil), and call a doctor immediately.
- KEEP OUT OF REACH OF CHILDREN.

## 2) Start the engine

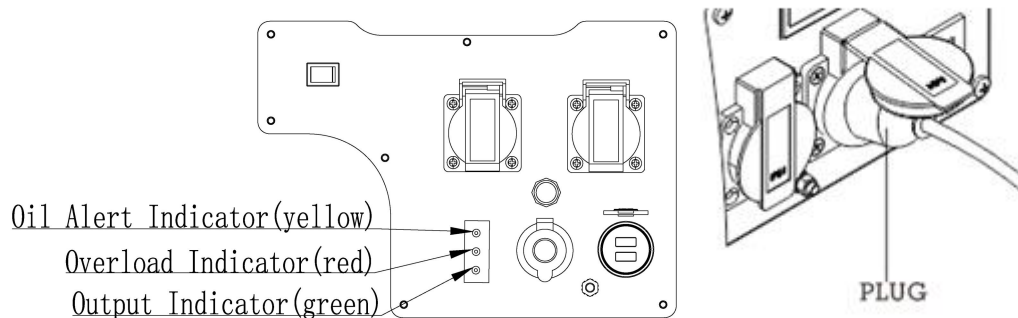
### Note

- The DC receptacle can be used while the AC power is in use.
- When DC circuit overload will trip the DC circuit protector, remove load firstly, and then reset the protector after a few minutes.



## 3) AC applications

- (1) Start engine and make sure the Output Indicator Light (green) is on.
- (2) Confirm all electrical appliances are switched off, and connect the appliance plugs to the generator receptacle.
- (3) To obtain the best working efficiency and longest working life of the generator, a new generator is supposed to run for 20 hours at 50% rated load.



### Note

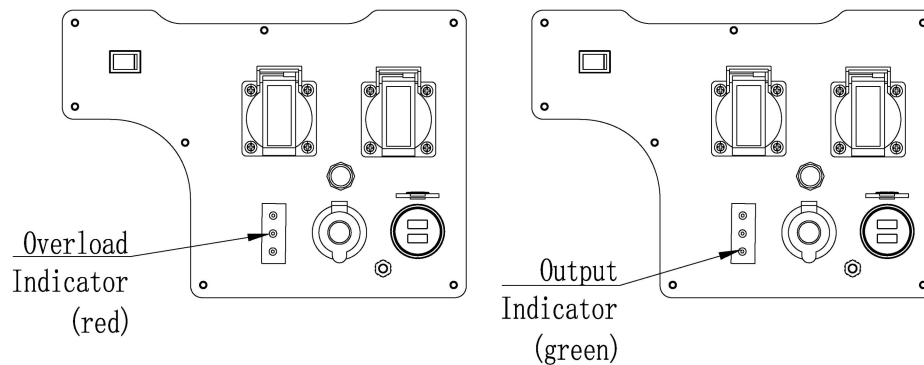
- Confirm all electrical appliances are in good working condition before connecting them to the generator. If an electrical appliance becomes abnormal, sluggish, or stops suddenly, shut off the generator engine immediately, and disconnect the appliance.

## 4) Output and Overload Indicator

In normal operating, Output Indicator Light (green) will remain "ON".

If the generator is overload, or the connected appliance is short-circuit, the Output Indicator Light (green) is OFF, and Overload Indicator Light (red) is ON. The AC power will be switched off, but engine is still running

If the overload indicator (red) is on, disconnect the electrical appliance, stop the engine and check the generator, then restart the engine.



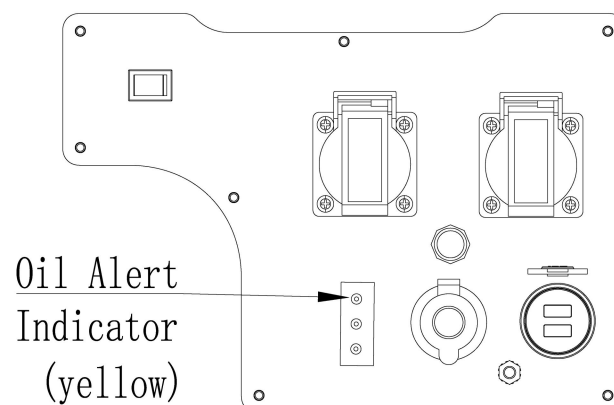
**Note:**

- When you start the engine, it is normal that both of the Overload Indicator Light (red) and Output Indicator Light (green) are ON simultaneously. Overload Indicator Light will be OFF after 5 seconds, otherwise contact with your dealer.

## 5) 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 falls below a safe limit, the Oil Alert System will automatically shut down the engine (the Engine Switch remains in the "ON" position).

If the Oil Alert System shuts down the engine, the Oil Alert Indicator Light (yellow) will be on when you operate the recoil starter, the engine will not run, check the engine oil level.



## 7. STOPPING THE ENGINE

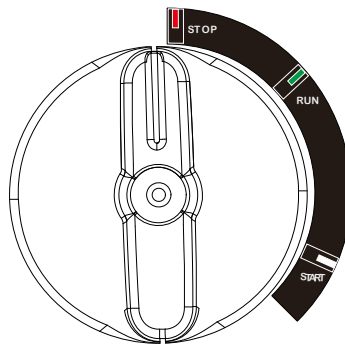
### Emergency Operation:

To stop the engine in an emergency, turn the Engine Switch to the "STOP" position.

### Normal Operation:

(1) Switch off the connected electrical appliances, and pull out their plugs.

(2) Turn the Engine Switch to the "STOP" position.



## 8. MAINTENANCE

**Notice:** To maintenance of the large assembly, you need a professional.

<div> <div>REGULAR SERVICE PERIOD</div> <div>Perform at every indicated month or operating hour interval, whichever occurs first</div> </div> <div>ITEM</div>		Daily	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.
Engine oil	Inspection	•				
	Change		•		•	
Air cleaner element	Inspection	•				
	Cleaning			•(1)		
Fuel filter cleaning					•	
Spark plug maintenance					•	
Valve clearance adjustment						•(2)
Combustion chamber and valve cleaning						•(2)
Fuel line inspection(Replace if necessary)						•
Spark arrester		Clean every 100 operating hours.				

### Notice:

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

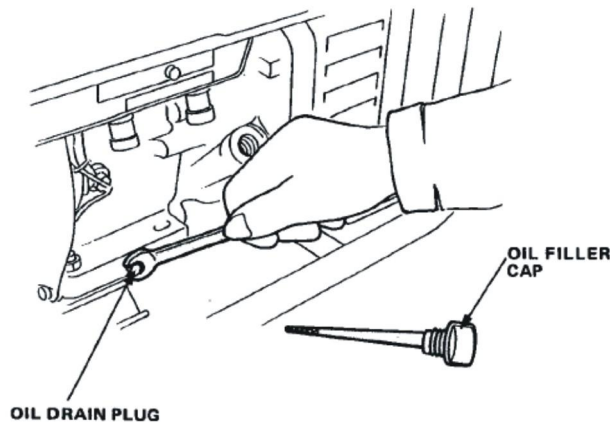
(2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient.

### (1) Changing oil

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

1. Remove the drain plug and filler cap, and drain the oil. Retighten the plug securely.
2. Refill with the recommended oil and check the level.

#### **OIL CAPACITY: 0.6L**



**CAUTION:** Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

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

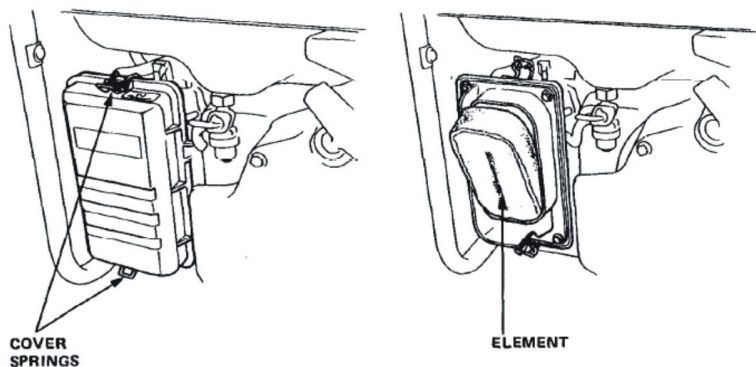
### (2) Air cleaner service

A dirty air cleaner 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!** Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.

**CAUTION:** Never run the generator without the air cleaner. Rapid engine wear will result.

1. Unsnap the air cleaner cover spring, remove the air cleaner cover and remove the element.
2. Wash the element in a non-flammable or high flash point solvent and dry it thoroughly.
3. Soak the element in clean engine oil and squeeze out the excess oil.
4. Reinstall the air cleaner element and the cover.

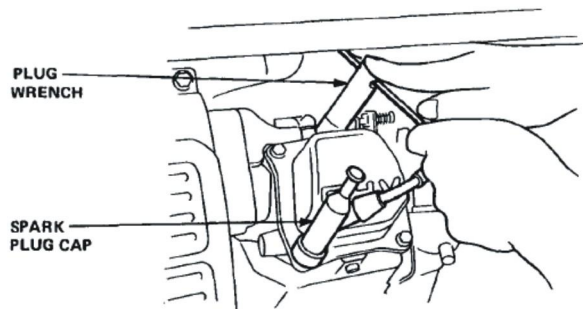


### (3) Spark plug service

**Recommended spark plug: BP6ES, SPR6ES (NGK)  
F6TC, F6RTC (LD)**

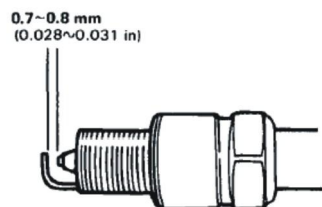
To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug cap.
2. Clean any dirt from around the spark plug base.
3. Use the wrench supplied in the tool kit to remove the spark plug.

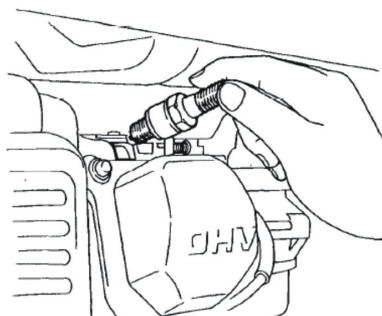


4. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the plug gap with a feeler gauge.

The gap should be 0.7~0.8mm (0.028~0.031 in). Correct as necessary by carefully bending the side electrode.



6. Attach the plug washer and thread the plug in by hand to prevent cross threading.





7. After a new spark plug has been seated by hand, it should be tightened 1/2 turn with a wrench to compress its washer.
- If a used plug is being reinstalled, it should only require 1/8 to 1/4 turn after being seated.

**CAUTION:**

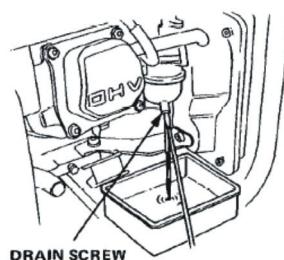
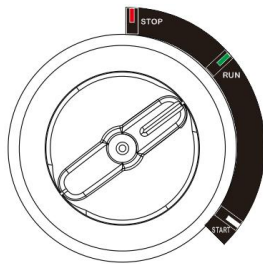
- The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly damage the generator.
- Never use a spark plug with an improper heat range.

## 9. TRANSPORTING AND STORING

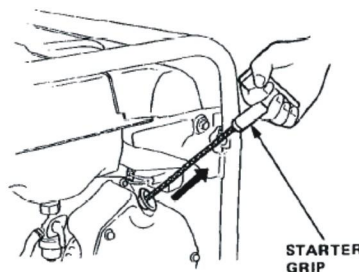
**WARNING!** When transporting the generator, turn the engine switch OFF and keep the generator level to prevent fuel spillage. Fuel vapor or spilled fuel may ignite.

Before storing the unit for an extended period:

1. Be sure the storage area is free of excessive humidity and dust.
2. Drain the fuel:
  - a. Turn the circular valve to “RUN” position. and drain the gasoline in the fuel tank into a suitable container.
  - b. Loosen the carburetor drain screw and drain the gasoline from the carburetor into a suitable container.



3. Slowly pull the starter grip until resistance is felt. 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.



**Warning**

**Transporting Generator:**

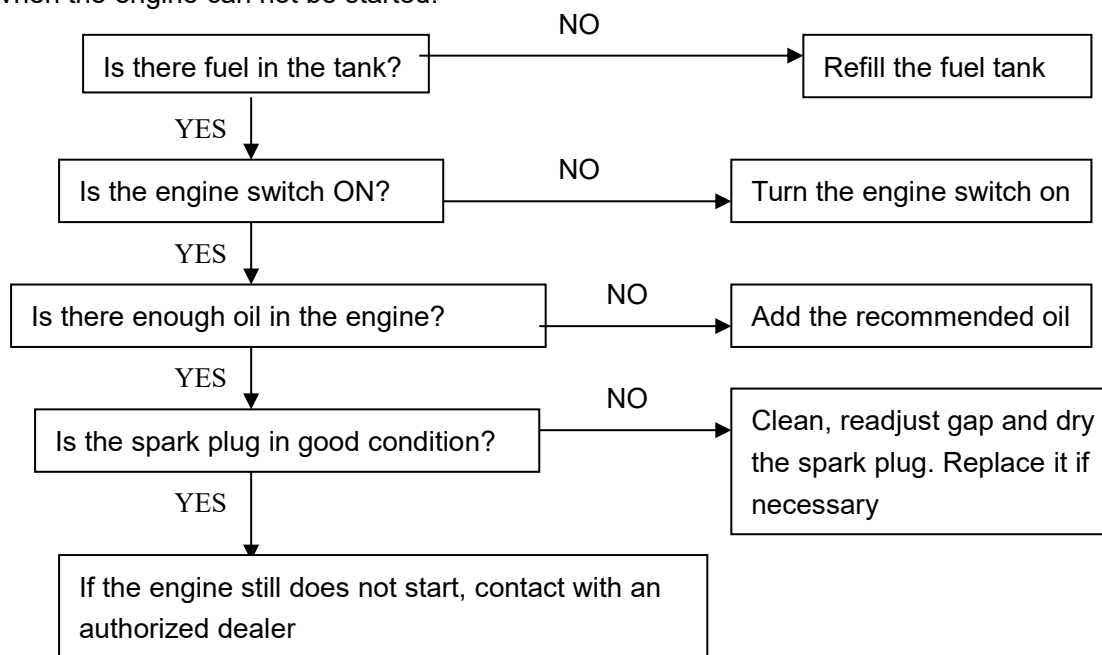
- Do not overfill the fuel tank. (No residual fuel on the neck of tank)
- Do not use the generator on the transport vehicle. The generator should be

used under a good ventilated condition.

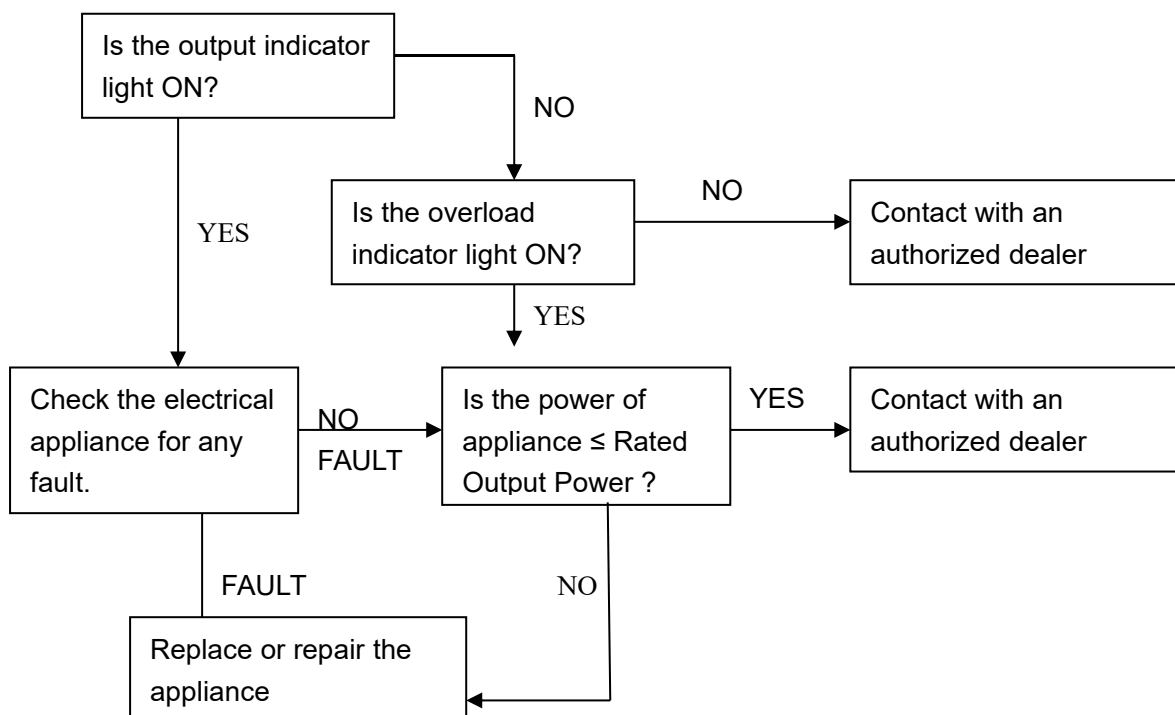
- Avoid exposing directly in the sunshine when the generator place in the enclosed transport vehicle for a long time. The high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.
- Drain off the fuel, when the generator is transported on rough road.

## 10. TROUBLESHOOTING

When the engine can not be started:



Appliance does not operate :

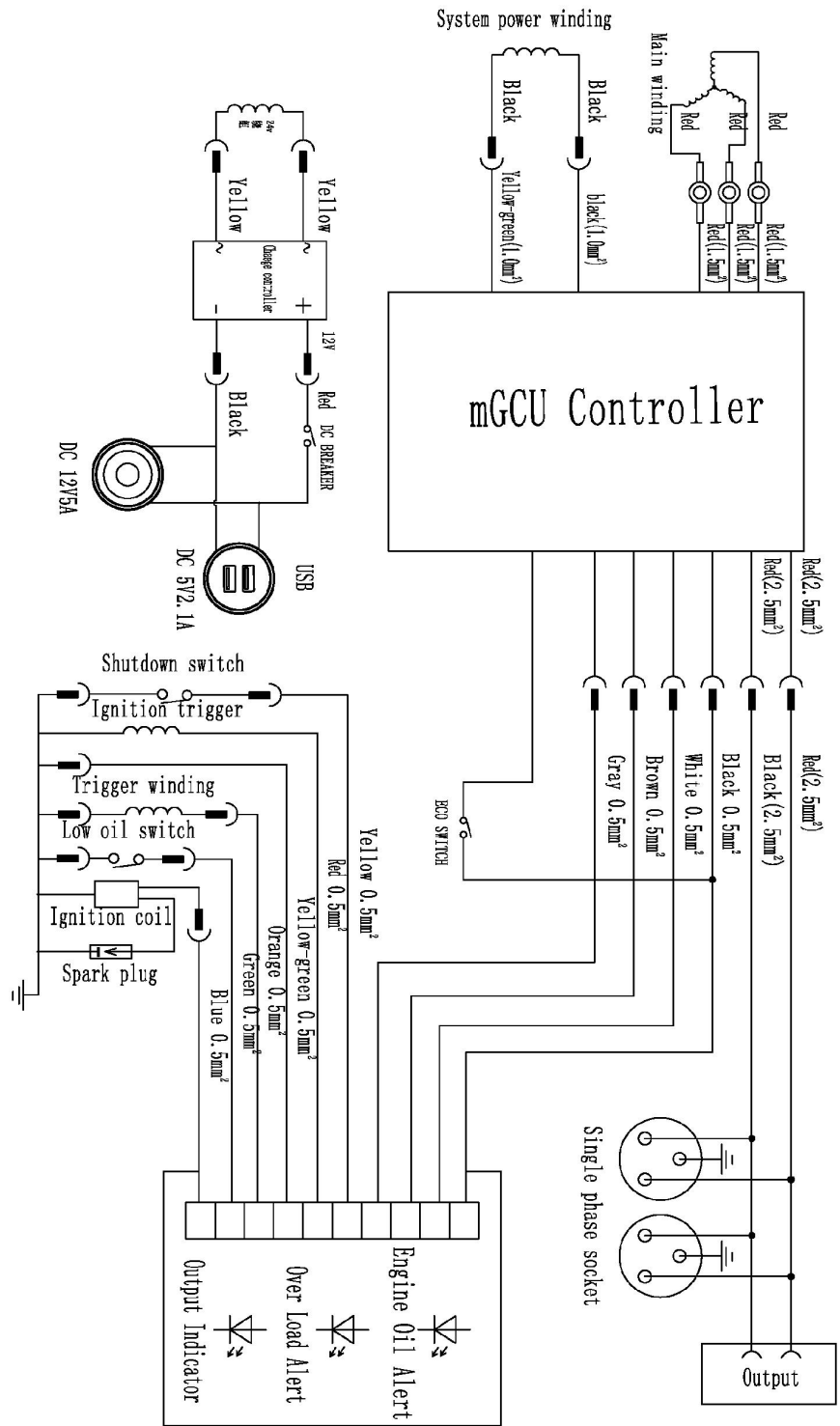


Stop and restart the engine

## 11. TECHNICAL SPECIFICATIONS

	Specifications	Parameters			
ENGINE	Model	LY170F			LY172F
	Type	Single cylinder, four stroke, forced air cooling, overhead valve			
	Engine Displacement (cm <sup>3</sup> )	212			236
	Bore*Stroke (mm)	70*55			72*58
	Compression Ratio	8.5:1			
	Rated Power(kW/min <sup>-1</sup> )	4.6/3600			6.65/4600
	Ignition System	Full transistor			
	Start System	Recoil starter			
	Fuel Type	Gasoline without lead			
	Fuel Tank Volume（L）	12			18
	Oil Type	SE 15W-30			
	Oil Capacity（L）	0.6L			
GENERATOR SET	Model	EYG2800i	EYG3800i	EYG4000i	EYG7500i
	Rated Frequency（Hz）	50			
	Rated Voltage（V）	230			
	Rated Current（A）	10.9	13	15.2	21.7
	Rated Speed（min <sup>-1</sup> ）	3600			
	Rated Output Power COP（kW）	2.5	3.0	3.5	5
	Max. Output Power（kW）	2.8	3.3	3.8	5.5
	DC Output	12V/5A			
	USB Output	5V/2.1A			
	Continuous Running Time (h)	9（Rated power）	8.0（Rated power）	7.0（Rated power）	8.0（Rated power）
	Working Ambient Temperature（℃）	-15~40			
	Max. Altitude (m)	0~1000			
	Measured sound pressure (dBA)	59		60	62
	Measured sound power (dBA)	61		63	65
	Measured uncertainty (dBA)	2			
	Dimensions（L*W*H）(mm)	480*410*490mm			500*480*490mm
	Net Weight(kg)	29	29.5	29.5	32

# 12. ELECTRICAL DIAGRAMS



## 13. ENVIRONMENT CORRECTION

The standard condition of rated power output:

Altitude: 0m

Ambient temperature: 25°C

Relative humidity: 30%

Factor of environment correction:

Altitude (m)	Ambient temperature°C				
	25	30	35	40	45
0	1	0.98	0.96	0.93	0.90
500	0.93	0.91	0.89	0.87	0.84
1000	0.87	0.85	0.82	0.80	0.78
2000	0.75	0.73	0.71	0.69	0.66
3000	0.64	0.62	0.6	0.58	0.56
4000	0.54	0.52	0.5	0.48	0.46

**Note:**

Relative humidity 60%; correction factorC-0.01;

Relative humidity 80%; correction factorC-0.02;

Relative humidity 90%; correction factorC-0.03;

Relative humidity 100%; correctionfactorC-0.04

Example:

Rated power ( $P_N$ ) 3.0KW generator, Altitude: 1000m, Ambient temperature: 35°C, Relative humidity: 80%

$$P = P_N * (C - 0.02) = 3.0 * (0.82 - 0.02) = 2.4KW$$