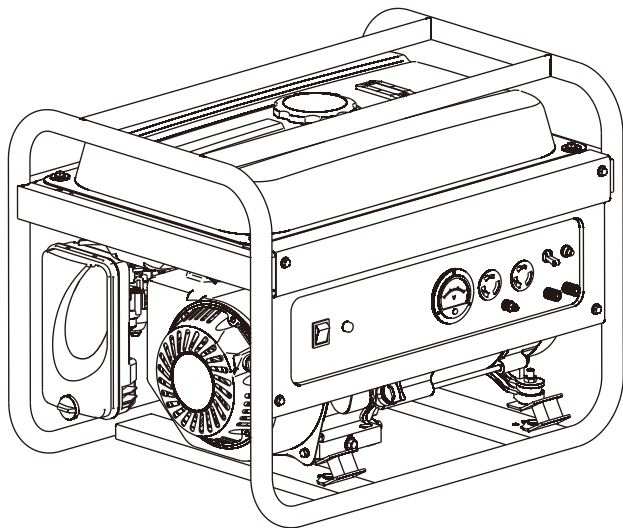


GASOLINE GENERATOR

User's Manual



YS3500



WARNING: SAVE THIS MANUAL FOR FUTURE REFERENCE



This manual contains important information regarding safety. Operation, maintenance and storage of this product. Before use, read carefully and understand all cautions, warnings, instructions and product labels. Failure to do so could result in serious personal injury and/or property damage.

Thank you for choosing a generator set of our company.

This manual contains the information on how to do that. Please read it carefully before operating. Safely and correctly operating can help you get the best results.


All information in this publication is based on the latest product information available at the time of printing. The contents in this manual may be different from the actual parts due to revision and other changes.

Our company reserves the right to make changes at any time without notice and without incurring any obligation. No part of this publication may be reproduced without our company's written permission.

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

SAFETY MESSAGES

Your safety and the safety of others are very important. We have provided important safety messages in this manual and on the generator. Please read these messages carefully.

A safety message alerts you to potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol  and one of three words: DANGER, WARNING, or CAUTION. These mean:

 **DANGER**

You **WILL** be **KILLED** or **SERIOUSLY HURT** if you don't follow instructions.

 **WARNING**

You **CAN** be **KILLED** or **SERIOUSLY HURT** if you don't follow instructions.

 **CAUTION**

You **CAN** be **HURT** if you don't follow instructions.

NOTICE

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

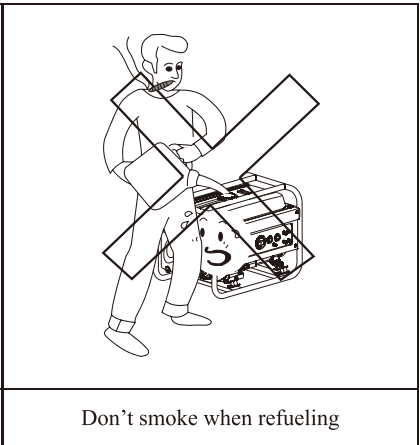
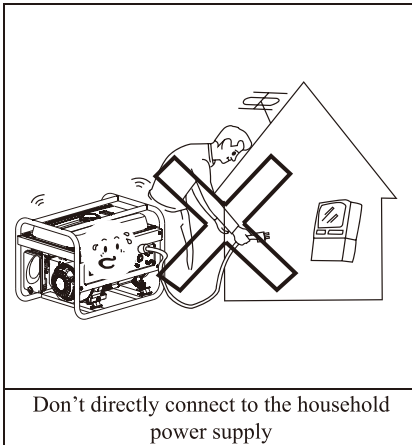
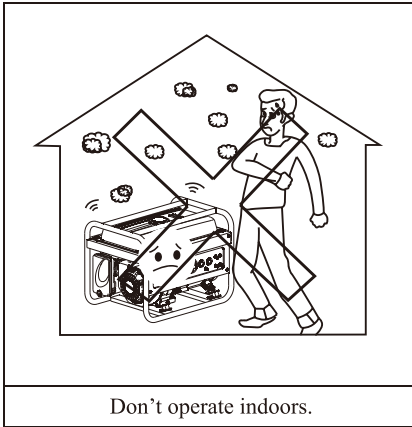
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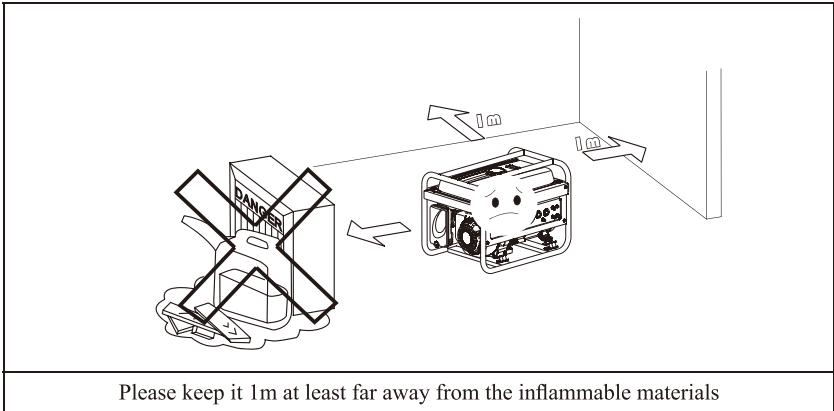
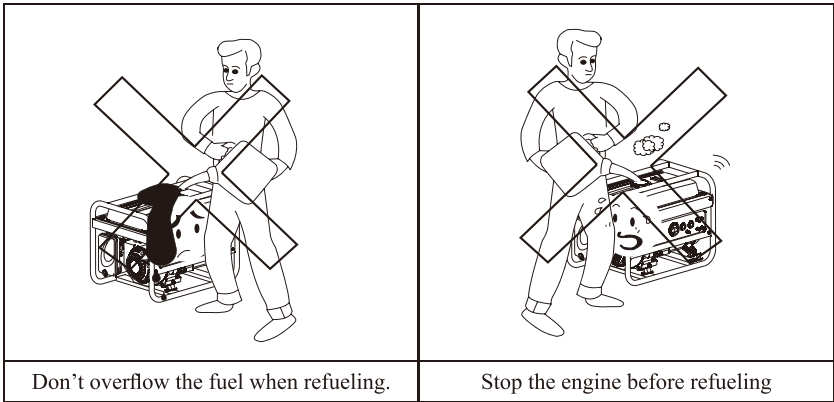
1. SAFETY NOTICE

1. Safety Standard

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.



SAFETY NOTICE



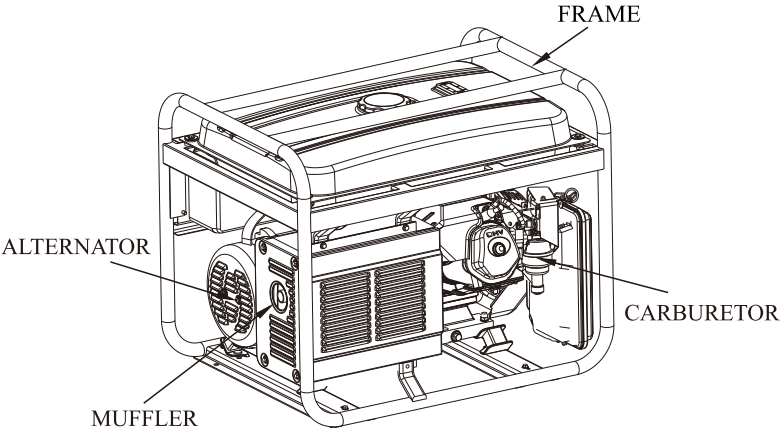
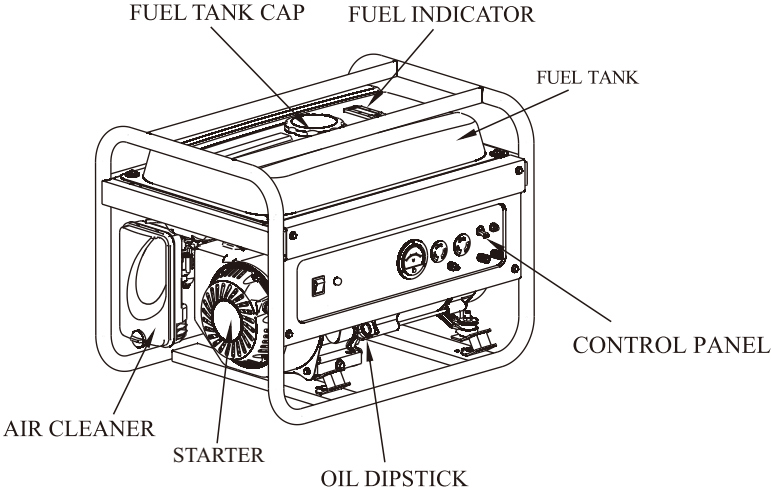
2. Special Requirements

- Electrical equipment including lines and plug connections should be free from nudity.
- 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.

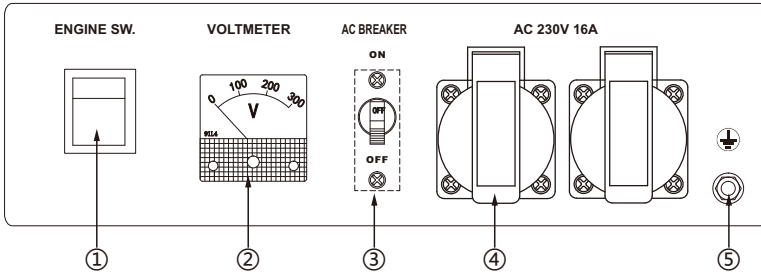
- Don't operate the generator before grounding.
- If using extension lines, the requirement should be met as following:
for 1.5mm^2 , the line should not be exceeded 60m; for 2.5mm^2 , the
line not exceeded 100m.

2. COMPONENT IDENTIFICATION

1. Structure Feature

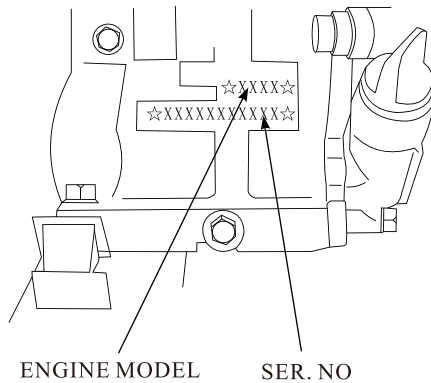


2. Control Panel



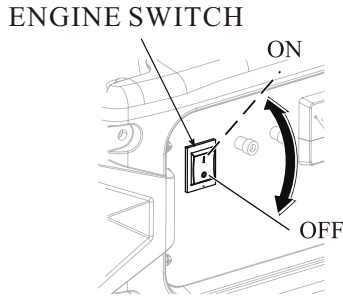
- ① **Engine Switch:** Press ON to start the engine, press OFF to turn off the engine.
- ② **Voltmeter:** Display voltage.
- ③ **AC Breaker:** When the socket exceeds the current, reset the circuit breaker trip to block the current.
- ④ **230-Volt, 16-Amp Outlet:** The outlet is capable of carrying a maximum of 20 amps.
- ⑤ **Ground Terminal:** The ground terminal is used to externally ground the inverter.

3. Engine Type & Serial Number



3. CONTROL

1. Generator Switch



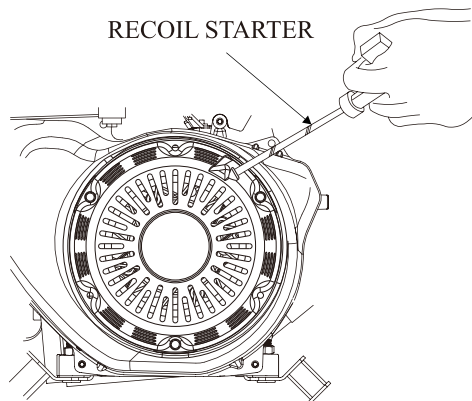
2. Recoil Starter

To start the engine, pull the starter grip lightly until resistance is felt, then pull briskly.

NOTICE

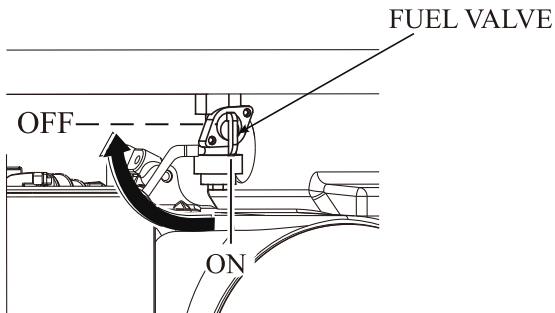
Do not allow the starter to snap back against the engine.

Return it gently to prevent damage to the starter.



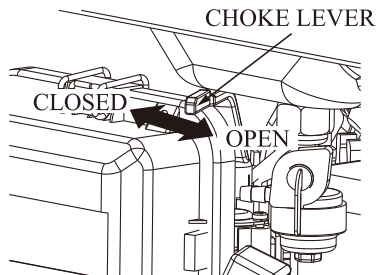
3. Fuel Valve

The fuel valve controls fuel flowing from the fuel tank to carburetor. Be sure to return the lever to “OFF” after stopping the engine.



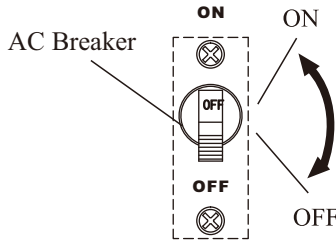
4. Choke Lever

The choke lever is used to provide an enriched fuel mixture when starting a cold engine. Slowly put the choke lever to “OPEN” position after the engine is heated.



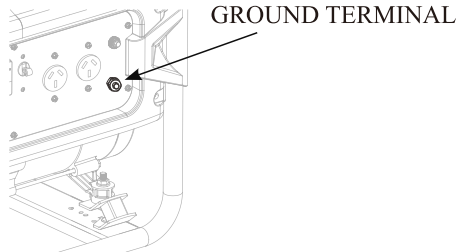
5. AC Breaker

The overload current will automatically switch OFF circuit breaker to avoid short circuit of the load or overload. If the circuit breaker is switched OFF automatically, check load before switching the circuit breaker ON again.



6. Ground Terminal

This ground terminal is specially used to connect the generator.



7. Oil Alert System

The oil alert system is especially designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. When the oil level in the crankcase fall down below a safe limit, the oil alert system will automatically shut down the engine(though the generator switch still remain in the ON position), so that the engine can't be damaged resulting from the insufficient amount of the oil.

4. GENERATOR OPERATION

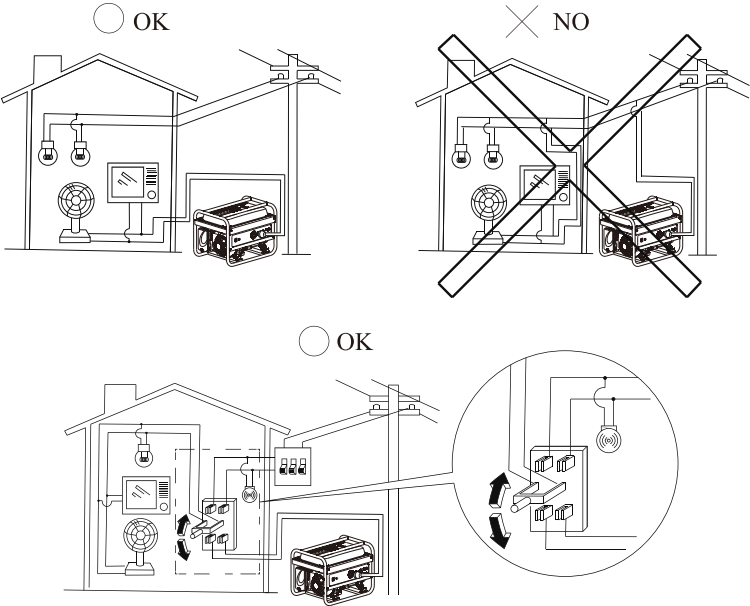
Generator operation environment:

- Temperature: $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Humidity: 95% lower.
- Height above sea level: 1000 m lower (If the area is 1000 m over, the power should be lowered in operation).

1. Connection to the Household Power Supply

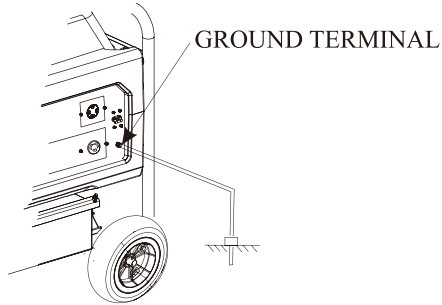
NOTICE

When connecting the generator to the household power supply, connection must be made by a qualified electrician. After connecting, carefully check electric connection for their safety and reliability, if not, will result in generator damaged and burning and firing.



2. Generator Grounding

To prevent electrical shock or misuse from faulty appliances, the generator should be grounded with insulated lead.



3. AC Current

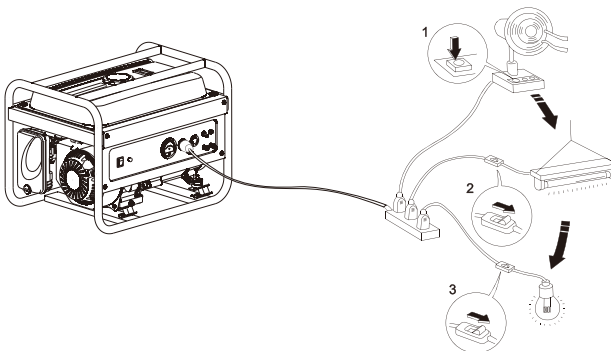
Before starting the generator, make sure that.

Total load appliance power (Total resistance, capacitive and inductive) does not exceed rated power of the generator.

NOTICE









Overload operation will greatly shorten generator service life.

If the generator set is connected to multi- loads or electric appliances, please first connect to current maximum, in turn, current second, and final, current minimum.



GENERATOR OPERATION

In general, capacitive and inductive load, especially, motor-driven devices have a big starting current when starting. The following table is a reference for when connecting to the electric appliances

Type	Wattage		Typical Device	Examples		
	Start	Rated		Device	Starting	Rated
Incandescent Lamp Heating Device	×1	×1	 Incandescent Lamp  Tv Set	 Incandescent Lamp 100W	100VA (W)	100VA (W)
Fluorescent Lamp	×2	×1.5	 Fluorescent Lamp	 Fluorescent Lamp 40W	80VA (W)	60VA (W)
Motor Drive Device	×3-5	×2	 Refrigerator  Electric Fan	 Refrigerator 150W	450-750VA (W)	300VA (W)

4. High Altitude Operation

At high altitude, the standard carburetor air-fuel mixture will be excessively rich. Output power will decrease, and fuel consumption will increase.

Engine performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the engine at altitudes above sea level 1000 meters, have our company authorized dealer perform this carburetor modification. If not, should lower load power in operating generator.

Even equipped with suitable carburetor, engine horsepower will decrease

approximately 3.5% for each 300 meter increase in altitude. The effect of altitude on horsepower will be lowered greater than this if no carburetor modification is made.

NOTICE

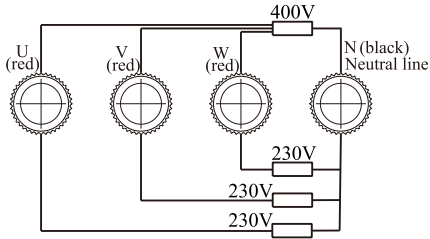
If a carburetor for high altitude is equipped with engine suitable to a lower altitude, the lean air fuel mixture will cause the engine output power lowering, over-heat and seriously damage.

5. Wiring method of three phase generator

1. Environmental requirements of generator: applicable temperature: $-5^{\circ}\text{C} \sim 40^{\circ}\text{C}$, applicable humidity: below 95%, applicable altitude: below 1000m (power reduction is required for areas above 1000m)
2. The generator can not be overloaded for a long time, and the load operation for a long time should not exceed 80% of the rated power.
3. When the unit has three-phase symmetrical load, it can output according to the rated power, but the current of each phase shall not exceed the rated current of the unit. If it runs for a long time, it will run at 80% load.
4. When the unit is used as single power supply:
 - a. The single-phase power shall not be higher than 30% of the three-phase power. Single phase power of single-phase three-phase generator shall not be higher than 80% of rated power.
 - b. It is not allowed to use two wires (such as u phase and V phase) as single-phase power supply, otherwise, if the voltage is too high (380V), the electrical equipment will be burned. Only one phase line (any one of the u.v.w phase) and N in the zero line diagram can be used as single-phase power supply (230V), so as to ensure the safety of electrical equipment (it is better to measure the voltage before use).

GENERATOR OPERATION

c. The single three-phase generator has independent 230V and 400V output ports. Please refer to the panel instructions to selectively access the corresponding voltage output port of the generator according to the electrical voltage you use, and use it with the transfer switch.



5. PRE-OPERATION CHECK

1. Engine Oil

NOTICE

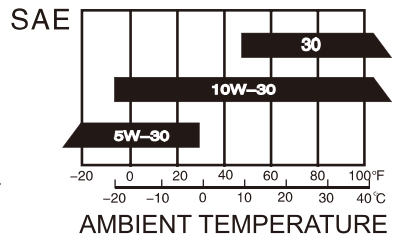
Engine oil is a major factor affecting engine performance and service life. Non-detergent and 2-stroke engine oils will damage the engine and are not recommended. Check the oil level before each use with the generator on a level surface with the engine stopped.

Recommended oil

4-stroke gasoline oil

API service Classification's SF

or SAE10W-30 of equivalent SG class.



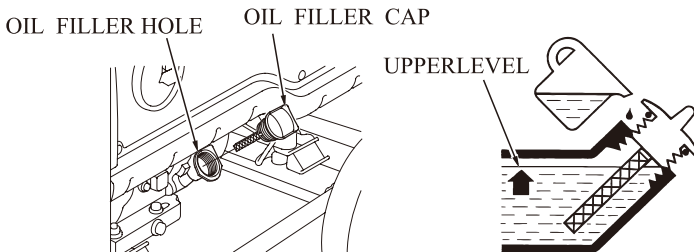
Method of check oil level:

Remove the oil filler cap and wipe the dipstick clean.

Check the oil level by inserting the dipstick into the filler neck without screwing it in.

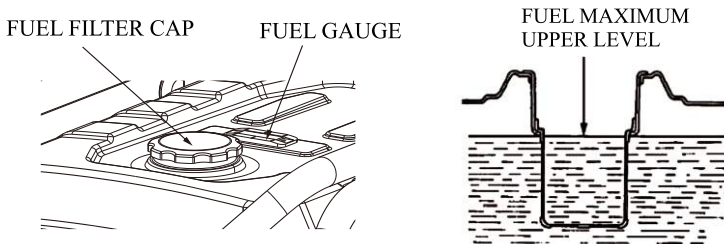
If the level is low, add the recommended oil to the upper mark on the dipstick.

After adding, don't forget to refit and screw down the oil dipstick.



2. Fuel

- 1) Check the fuel level gauge,
- 2) Refill the tank if the fuel level is low. Do not fill above the shoulder of the fuel strainer.
- 3) Refit and screw down the fuel tank cap after refueling.



WARNING

- **Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.**
- **Do not overfill the fuel tank.**
- **Avoid repeated or prolonged contact with skin or breathing of vapor.**
- **Keep out of reach of children.**
- **Don't use the oil and gasoline mixture or gasoline contained impurity.**

Use gasoline with octane rating ≥ 90 .

We recommend unleaded gasoline because it produces fewer engine and spark plug deposits and extends exhaust system life.

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

3. Battery

NOTICE

Don't connect the battery positive and negative poles in reverse, if not, can seriously damage the generator set and battery.

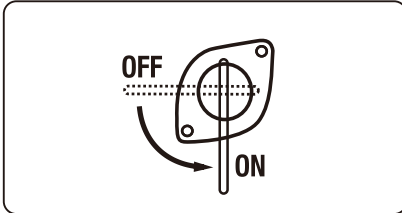
⚠ WARNING

- **If improper operation, the battery may be explosive and potentially hurt others nearby. Keep the fire and inflammable materials far away from.**
- **The battery will release the explosive gas, please keep the fire far away from. Keep the air ventilating when battery is charging and using.**

6. STARTING THE ENGINE

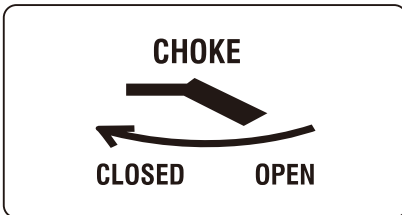
(1) Remove all the loads out of the output.

(2) Turn the fuel switch to the “ON” position.

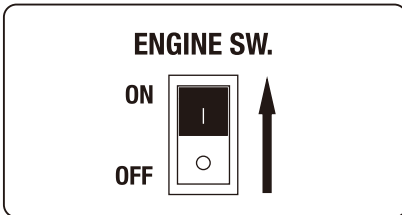


(3) Turn the choke lever to the “CLOSED” position.

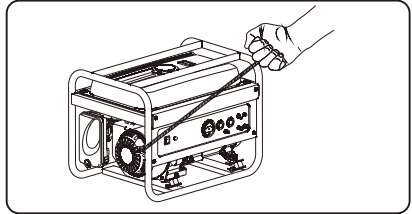
Tip: it is not necessary to pull up choke when generator is in heat engine state.



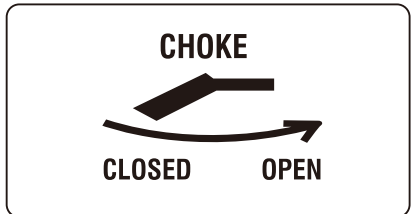
(4) Turn the engine switch to “ON”.



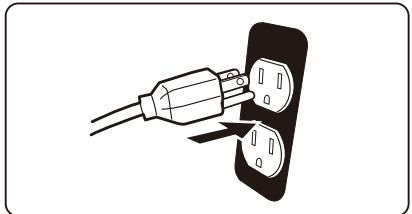
(5) Pull the starting rope to start the generator.



(6) Turn the choke lever to the “OPEN” position after the engine is warm.



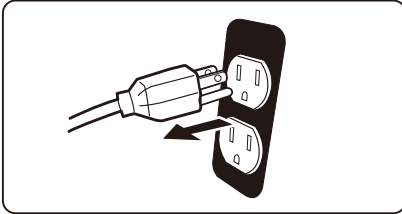
(7) Connect in the load plug.



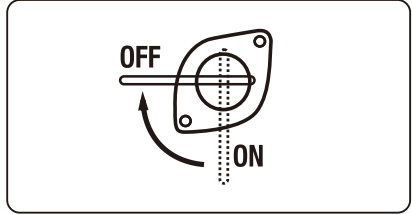
NOTE: Check whether the AC breaker is in "ON". If not, there is no output from the socket.

7. STOPPING THE ENGINE

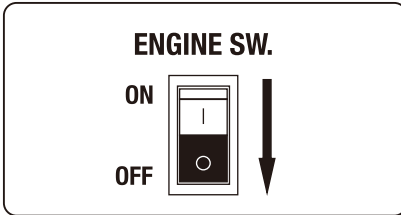
(1) Unplug the power cord.



(3) Turn fuel switch to “OFF” position.



(2) Turn the engine switch to “OFF”.



8. MAINTENANCE

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



Exhaust gas contains poisonous carbon monoxide. Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated.

Periodic maintenance and adjustment is necessary to keep the generator in good operating condition. Perform the service and inspection at the intervals shown in the Maintenance schedule below:

REGULAR SERVICE PERIOD		Each Use	First Month or 20 Hrs. (3)	Every 3 Months or 50 Hrs. (3)	Every 6 Months or 100 Hrs. (3)	Every Year or 300 Hrs. (3)
Engine oil	Check Level	○				
	Change		○		○	
Air cleaner	Check	○				
	Clean			○ (1)		
Sediment Cup	Clean				○	
Spark plug	Clean				○	renew
Valve clearance	Check-Adjust					○(2)
Cylinder Cover	Clean	Every 300 Hours (2)				
Fuel tank and strainer	Clean	Every 2 Years (2)				
Fuel line	Replace	Every 2 Years (2)				
Cylinder head and the head of piston	Clean carbon	Every 250 hours(2)				

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

(2) These items should be serviced by an authorized generator dealer.

(3) When more often use, only servicing according to above correct intervals can insure the generator set long-term use.



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

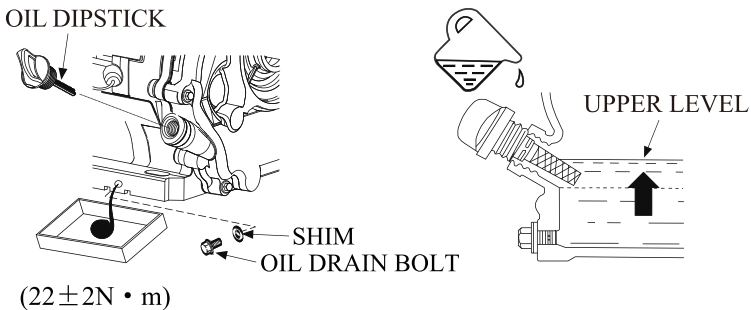
Always follow the inspection and maintenance recommendations and schedules in this owner's manual.

1. Engine Oil Change

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

1. Remove the oil dipstick and drain plug to drain the oil.
2. Reinstall the drain plug, then tighten the plug securely.
3. Refill oil and check the oil level.

Oil capacity: 0.6L



 CAUTION

Used engine 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.

Please dispose of used engine oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local service station or recycling center 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.

 CAUTION

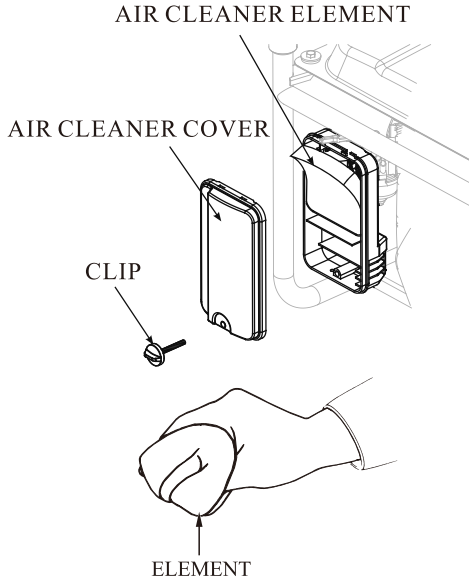
Using gasoline or flammable solvent to clean the filter element can cause a fire or explosion. Use only soapy water or nonflammable solvent.

 NOTICE

Never run the generator without the air cleaner. If not, rapid engine wear will result.

- (1) Open the air cleaner clip and open the air cover. Check the air cleaner element for complete and clean.
- (2) If the air cleaner element is dirt, please clean the air cleaner element:
Wash the air cleaner element in a solution of household detergent and

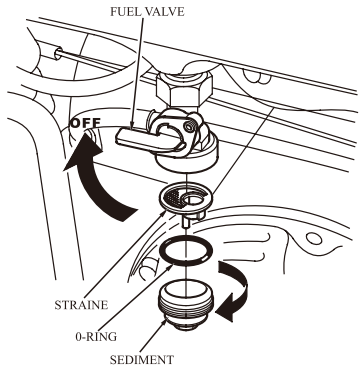
warm water, then rinse thoroughly or wash in nonflammable or high flash point solvent: Drop a few points engine oil in, then, squeeze out.



(3) Reinstall the air cleaner element and the cover.

3. Fuel Sediment Cup Cleaning

- (1) Turn the fuel valve to the OFF position. Remove the sediment cup, o-ring and strainer according to the arrow direction.
- (2) Clean the sediment cup, and o-ring, and strainer in nonflammable or high flash point solvent.



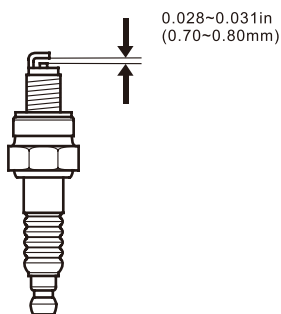
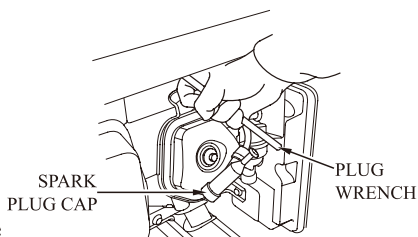
- (3) Reinstall o-ring, and strainer and screw down the sediment cup.
- (4) Turn the fuel valve ON and check for leaks.

4. Spark Plug Service

Recommended spark plugs:

F7RTC or other equivalents

- (1) Remove the spark plug cap.
- (2) Use the plug wrench to remove the spark plug.
- (3) Visually inspect the spark plug if the insulator is cracked, if cracked, replace with new the spark plug.
- (4) Measure the plug gap with a feeler gauge. Correct as necessary by carefully bending the side electrode. The gap should be: 0.70-0.80 mm.
- (5) Check the spark plug washer for good.
- (6) Reinstall the spark plug, tighten it with plug wrench and impact the washer. Reinstall the spark plug accurately.



NOTICE

Please use the spark plug with suitable heat range.

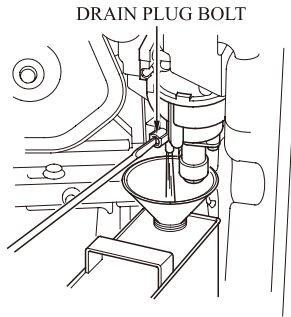
9. STORAGE

⚠ WARNING

In order to contact with a hot engine or exhaust system causing burns or fires. Let the engine cool before storing the generator.

If storing the unit for an extended period, be sure the storage area is free of excessive humidity and dust.

- (1) Drain the fuel in the fuel tank out, clean strainer, o-ring and sediment, then refit then well. Drain fuel out of the carburetor by loosening the drain bolt, then refit it and screw down the carburetor bolt.



⚠ WARNING

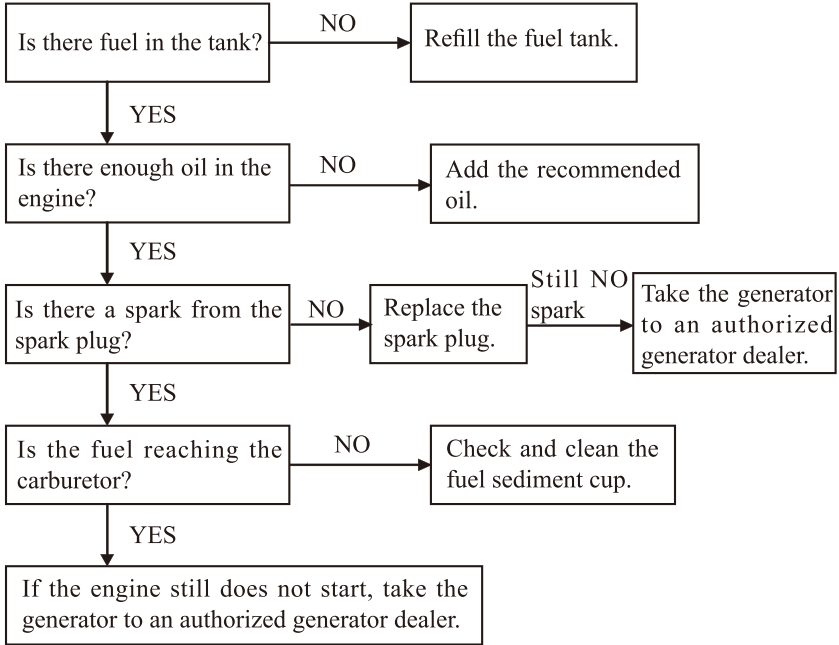
Gasoline is extremely flammable and is explosive under certain conditions. Drain fuel in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area during this procedure.

- (2) Screw the oil dipstick off and screw the drain bolt off the crankcase to completely drain the oil out. Then screw down the drain bolt and fill fresh oil to upper mark, finally refit the oil dipstick well.

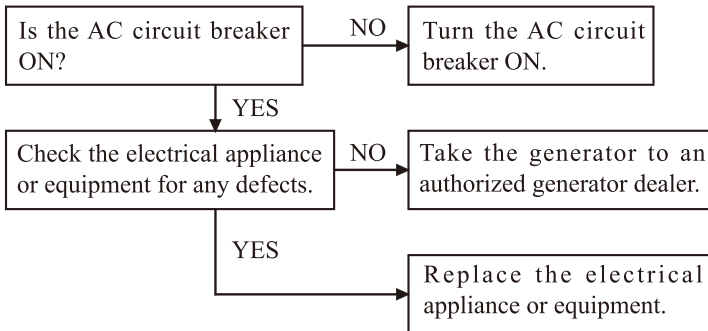
- (3) Remove the spark plug, and pour about a tablespoon of clean engine oil into the cylinder. Crank the engine several revolutions to distribute the oil, then reinstall the spark plug.
- (4) Slowly pull the starter grip until resistance is felt. Let the intake and exhaust valves in closing position.
- (5) Place the generator in the clean area.

10. TROUBLESHOOTING

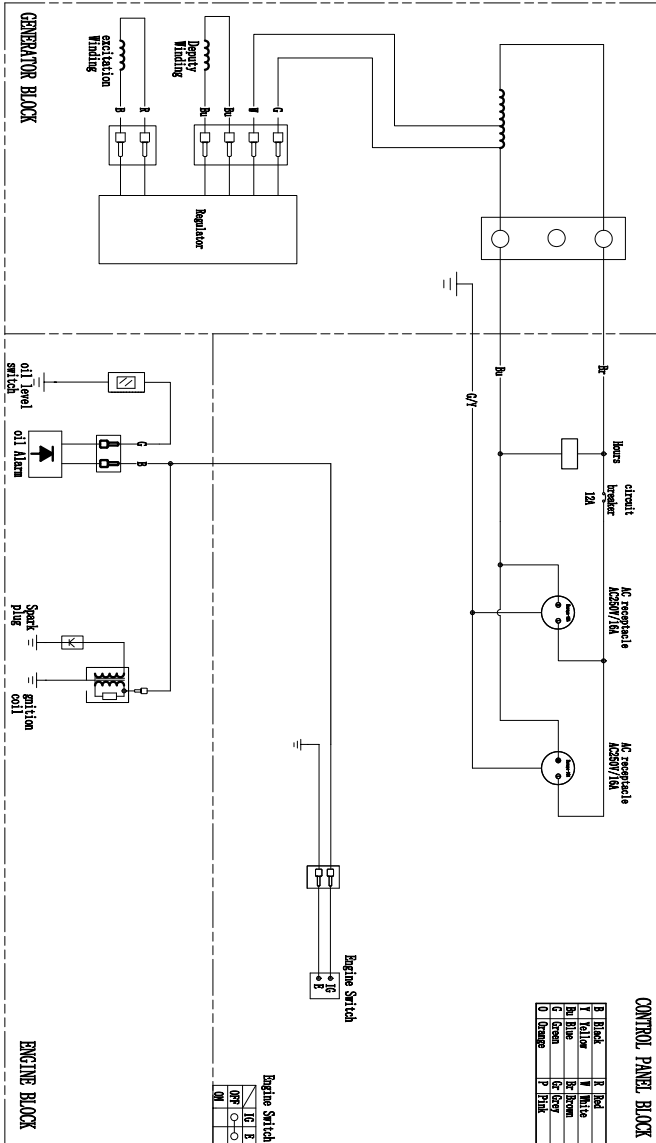
Engine not to start:



No power supply:



11. WIRING DIAGRAM



12. SPECIFICATIONS

Engine	Engine Model	170F/P
	Engine Type	Single Cylinder, Four Stroke, Air Cooled, Overhead Valve
	Cylinder Diameter×Stroke(mm)	70x55
	Displacement(cc)	212
	Compression Ratio	8.5±1
	Gas Distribution Mode	OHV
	Cooling Mode	Forced Cold Air
	Output Power(kW/rpm)	≥4.5/3600
	Starting Mode	Manual Recoil Starting
	Fuel Tank Capacity(L)	15
	Type And Grade Of Fuel	Unleaded Gasoline For Vehicles
	Lubricating Oil Capacity(L)	0.6
	Lubricating Oil Model	SAE 10W/30
	Lubrication Way	Splash Lubrication
Generator	Noise dB(25% load 7m)	67
	Rated Power(kW)	2.8
	Max Power(kW)	3.0
	Rated Voltage(V)	230
	Rated Frequency(Hz)	50
	Power Factor	1
	Number of Phase	Single phase
	DC Output	12V/8.3A
Configure	Electric Machinery	Permanent Magnet
	Voltage Regulation	Controller Regulation
	Frequency regulation	Controller Regulation
Dimensions(mm)	590*430*420	
Net Weight(kg)	42.5	

