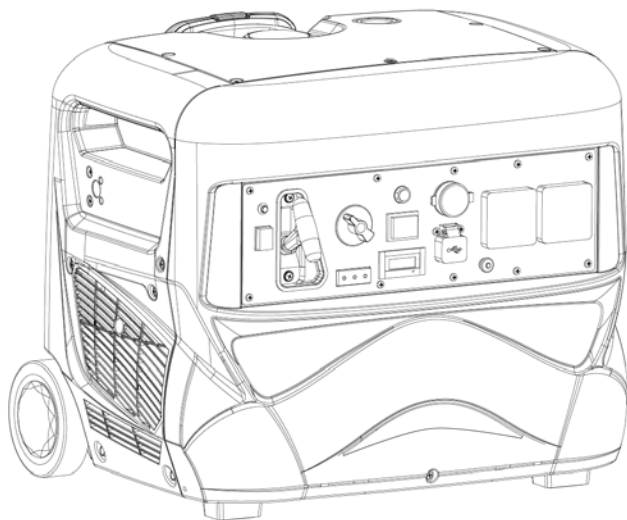




**PORTABLE INVERTER GENERATOR**

**45i SERIES**

# **Owner's Manual**



## INTRODUCTION

Thank you for purchasing our products.

This manual provides you important information about operation and maintenance of the product.

If you have any question regarding the operation or maintenance of your product, please consult a designated dealer.



Read this manual carefully before operating this product. This manual must remain with the product once sold.

**IMPORTANT MANUAL INFORMATION** Particularly important alert information is distinguished in notations as follows:



This safety-alarm symbol alerts you to potential personal injury danger. Please follow all safety information next to the symbol to avoid any possible injury or death.



**WARNING:** WARNING indicates a hazardous situation, which can lead to serious injury or death if not avoided.

**NOTICE:** NOTICE indicates special precautions to avoid damage to this product or other property.

**NOTE:** NOTE provides important information to simplify the operation.



**WARNING:**

**Please read carefully and fully understand this manual before using the product, and operate it as per the instructions.**

**NOTE:**

Our company continually seeks innovation and updates to product design and quality. Therefore, although this manual contains latest product information once printed, there may be minor discrepancies in the actual product. If you have any questions about this manual, please consult a designated dealer.

# INDEX

<b>WARRANTY</b> .....	1
<b>IMPORTANT LABEL LOCATION</b> .....	1
SYMBOL MEANING.....	4
<b>SAFETY INFORMATION</b> .....	4
POISONOUS EXHAUST.....	5
HIGHLY FLAMMABLE AND POISONOUS FUEL.....	5
NO TILT DURING OPERATION OR MOVING.....	6
HOT GENERATOR AND MUFFLER .....	6
ELECTRIC SHOCK PREVENTION.....	7
EXTENSION CABLE NOTE.....	7
CABLE CONNECTION NOTE.....	8
<b>DESCRIPTION</b> .....	9
CONTROL PANEL .....	9
<b>CONTROL FUNCTION</b> .....	10
MAIN SWITCH.....	10
ENGINE SWITCH.....	11
ENGINE START BUTTON.....	11
REMOTE CONTROL.....	11
ECO SWITCH.....	12
AC SOCKET.....	12
LOW OIL ALARM (YELLOW).....	12
OVERLOAD ALARM (RED) AND RESET BUTTON (RED).....	13
OUTPUT INDICATOR (GREEN) .....	13
<b>PRE-OPERATION CHECK</b> .....	14
FUEL .....	14
OIL.....	15
GROUND TERMINAL.....	16
BATTERY.....	16
<b>OPERATION</b> .....	17
STARTING THE GENERATOR .....	18

APPLICATION RANGE.....	21
AC CONNECTION .....	22
DC CONNECTION.....	23
STOPPING THE GENERATOR .....	23
<b>PERIODIC MAINTENANCE</b> .....	24
SPARK PLUG AND AIR FILTER INSPECTION, OIL REPLACEMENT.....	24
FIRE ARRESTOR ELEMENT.....	29
FUEL TANK FILTER.....	30
MAINTENANCE CHART.....	30
TROUBLE SHOOTING.....	32
<b>STORAGE</b> .....	33
DRAIN THE FUEL.....	33
BATTERY.....	34
GENERATOR.....	35
<b>IDENTIFICATION</b> .....	35
<b>WIRE DIAGRAM</b> .....	36
<b>SPECIFICATION</b> .....	38
<b>REMARK</b> .....	39



## WARRANTY

For any questions, please consult a designated dealer. It is extremely important to the usage and maintenance of the generator, as unauthorized, unplanned or incorrect repair may cause the warranty to become void.

Keep in mind that a designated dealer has special tools, technology, and spare parts necessary for proper repair of the generator. Always consult a designated dealer if you have any questions about specifications and/or maintenance procedures. Occasionally, printing errors or production changes can possibly make certain portions of this manual incorrect. Until you are fully familiar with this generator, consult a designated dealer before attempting any maintenance.

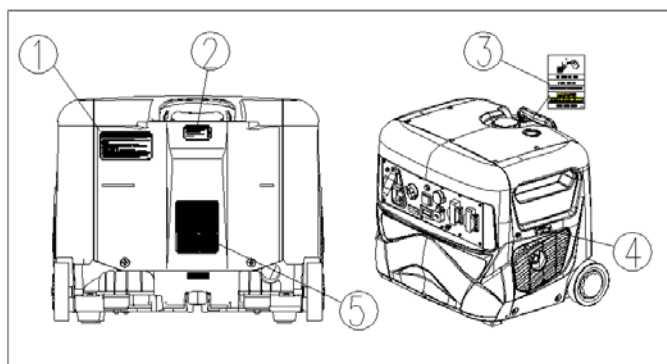
## LOCATION OF IMPORTANT LABELS

Please read the following labels carefully before operating the generator.

### NOTE:

Maintain or replace safety and instruction labels when necessary.

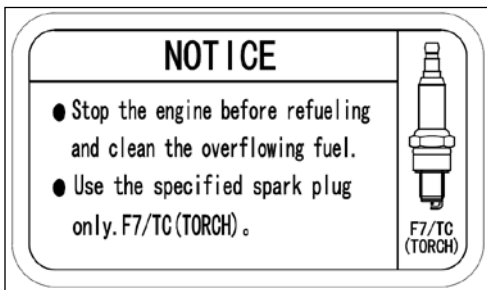
## SAFETY AND INSTRUCTION LABELS



① WARNING LABEL



② SPARK PLUG LABEL









③ NO ENGINE OIL TAG



④ HOT SURFACE WARNING LABEL



⑤ SPECIFICATION LEVEL (230V)

																		
<p>For safety, read carefully the owner's manual before operating this equipment:</p> <ul style="list-style-type: none"> <li>● Do not operate this equipment in poorly ventilated areas.</li> <li>● Do not direct exhaust fumes toward people, buildings or equipment.</li> <li>● When refueling, always stop the engine.</li> <li>● Always immediately wipe up the fuel that is spilled.</li> <li>● Keep any flammable items away from this equipment.</li> <li>● Use gasoline of 92# octane or above and refill oil as required to ensure equipment performance.</li> <li>● Do not expose the equipment directly to rain or snow.</li> <li>● Do not touch or contact the wiring sockets with wet hands.</li> <li>● Do not connect the AC output to any indoor wiring;</li> <li>● When operating the equipment, do not put any barrier or obstacle around the equipment, or anything on top of the equipment. Do not cover the equipment with a box or the like.</li> </ul>																		
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>AC</b></td> <td style="width: 45%;">Frequency</td> <td style="width: 40%;">50Hz</td> </tr> <tr> <td></td> <td>Voltage</td> <td>230V</td> </tr> <tr> <td></td> <td>Running Power</td> <td>3.7kVA</td> </tr> <tr> <td></td> <td>Starting Power</td> <td>4.5kVA</td> </tr> <tr> <td></td> <td>Phase</td> <td>Single</td> </tr> </table>		<b>AC</b>	Frequency	50Hz		Voltage	230V		Running Power	3.7kVA		Starting Power	4.5kVA		Phase	Single	  <b>OIL</b> <b>SAE15W-40</b>	
<b>AC</b>	Frequency	50Hz																
	Voltage	230V																
	Running Power	3.7kVA																
	Starting Power	4.5kVA																
	Phase	Single																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>DC</b></td> <td style="width: 85%;">Voltage/Current: 12V/8A</td> </tr> <tr> <td></td> <td style="text-align: center;">or 5V/2A</td> </tr> <tr> <td><b>Fuel</b></td> <td>92# Octane or above</td> </tr> </table>		<b>DC</b>	Voltage/Current: 12V/8A		or 5V/2A	<b>Fuel</b>	92# Octane or above	<small>MADE IN CHINA</small>										
<b>DC</b>	Voltage/Current: 12V/8A																	
	or 5V/2A																	
<b>Fuel</b>	92# Octane or above																	

## SYMBOL MEANING

Please understand the symbol meaning before operation as follows.

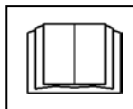
(Refer to SAFETY INFORMATION for more details.)

The Safety alarm symbol means:

Attention! Be alarm! Your safety involved!



Read this manual before operation.



Take care of poisonous exhaust.



Never operate the generator in a closed area.



Never touch hot surface, such as engine and muffler.



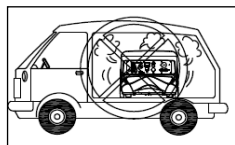
Ground terminal

Make sure the generator grounded.

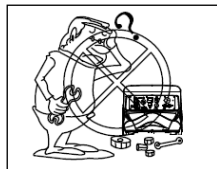


## SAFETY INFORMATION

- Never operate the generator in a closed area.  
For example, never use it in a closed vehicle or marine application.



- Never modify or use the generator when components are removed.

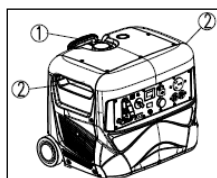


- Never allow children to operate the generator.



- Make sure to move the generator only by carrying its telescoping handle or handlebars.

- ① Telescoping handle
- ② Handlebars



- Never place any obstacle on the generator.



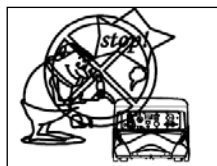
### POISONOUS EXHAUST

- Never operate the generator in a closed area, or it may cause unconsciousness or death in a short time. Operate the generator in a well-ventilated area.

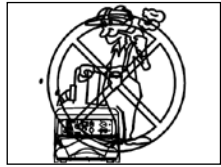


### HIGHLY FLAMMABLE AND POISONOUS FUEL

- Always turn off the engine before refueling.



- Never refuel when smoking or near an open flame.
- Take care not to spill any fuel on the generator or muffler when refueling.



- If you accidentally swallow any fuel, inhale fuel vapor, or spill any fuel into eyes, please seek medical attention immediately. If you spill any fuel on skin or clothes, wash with soap and clean water immediately and change clothes.

### DO NOT TILT DURING OPERATION OR MOVING

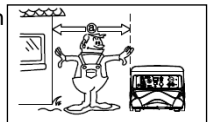
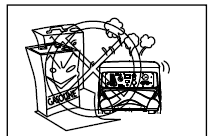
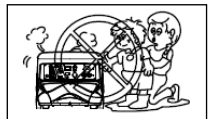
When using or moving the generator, please keep it vertically upright. If it tilts, it could cause the following problems:

- ① Fuel may leak from the carburetor or fuel tank. Meanwhile, during transportation, make sure the fuel tank cap tightened.
- ② Oil overflow could block the air filter element, and cause non-starting of generator. If filter is blocked, solve the problem as per chapter of Periodic Maintenance.

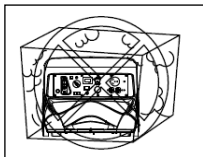


### HOT GENERATOR AND MUFFLER

- Place the generator in a place where pedestrians or children cannot reach.
- During operation, avoid placing any flammable material near the exhaust outlet.
- Keep the generator at least 1 meter (3 feet) away from buildings or other equipment, or the generator may become overheated.



- Never operate the generator when under an dust cover or other coverings.



- Make sure the generator and muffler are completely cooled down before covering the generator.



### ELECTRIC SHOCK PREVENTION

- Never operate the generator in rain or snow, or allow water on the housing to avoid electric shock.

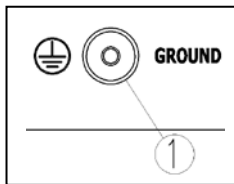


- Never touch the running generator with wet hands, or electric shock can occur.



- Connect a generator ground line to the ground terminal, and the other end to a ground electrode buried in the ground.

① Ground (earth) terminal



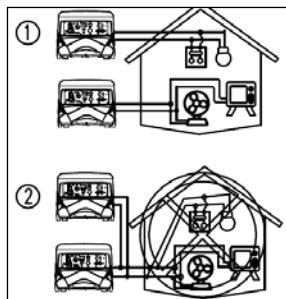
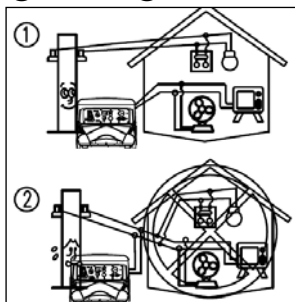
### EXTENSION CORD NOTES:

- When using not less than 4.0 mm<sup>2</sup> (12 AWG) extension cord, its length should not exceed 30.4m (100 Ft.) @ 15 Amps. Use the shortest extension cord possible.
- The longer an extension cord is, the more voltage is reduced between the generator AC socket and connected load. Therefore, choose an appropriate length extension cord.
- Please protect the extension cord by using a tough, flexible rubber sheath (IEC245) or equivalent.

### CABLE CONNECTION NOTICE:

- Avoid connecting the generator to a commercial power socket.
- Avoid parallel connecting a non-parallel-type generator with any other generator. (Connect the generator as per instruction).

① Correct    ② Incorrect



### WARNING:

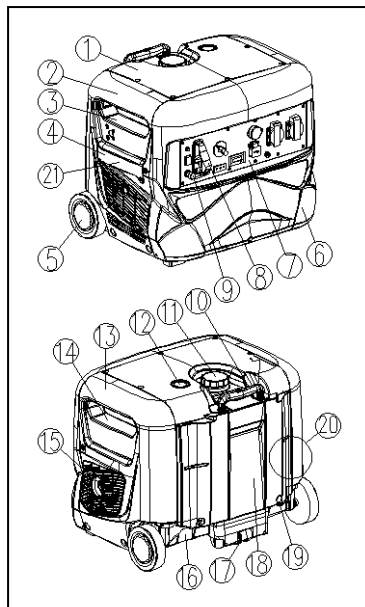
Before connecting any generator to a building's electric system, a licensed electrician must install an isolation (transfer) switch in the building's main fuse box. This switch is the connection transfer point for generator power and allows selection of generator power or main line power to the building. This will prevent the generator from charging the main power line (back-feeding) when the main power supply has failed or been turned off for line repair. Back-feeding can electrocute or injure line maintenance personnel. Also, generator and building electrical system damage can occur when normal operation power returns if the generator is used without an isolation switch.



## DESCRIPTION

### DESCRIPTION – 45i

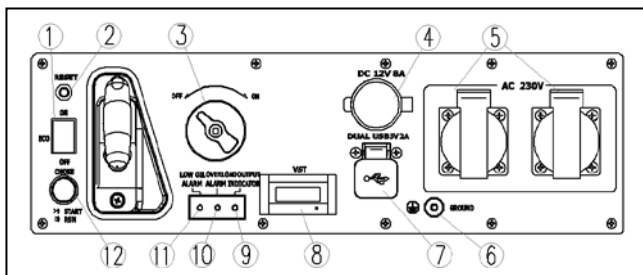
- ① Top plastic housing
- ② Air inlet cover
- ③ Handlebar 1
- ④ Battery cover
- ⑤ Wheel
- ⑥ Left plastic housing
- ⑦ Control panel
- ⑧ Recoil starter bar
- ⑨ Choke
- ⑩ Telescope handle
- ⑪ Fuel tank cap
- ⑫ Fuel gauge window
- ⑬ Muffler
- ⑭ Handlebar 2
- ⑮ Muffler exhaust outlet
- ⑯ Bottom plate
- ⑰ Limit aux wheel
- ⑱ Maintenance cover
- ⑲ Air inlet port, air filter



\*For 45iE (electric start model), there are two choices of battery systems inside generator:

- ⑳ Lithium battery (standard)
- ㉑ Multi-functional mobile battery (optional)

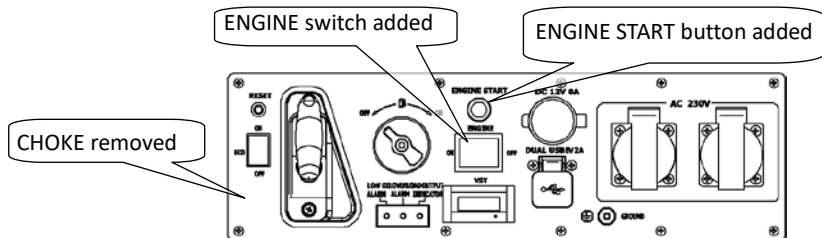
### CONTROL PANEL - 45i



- ① ECO switch
- ② Reset button
- ③ Main switch
- ④ Cig socket
- ⑤ AC socket
- ⑥ Ground terminal
- ⑦ USB outlet
- ⑧ VFT
- ⑨ Output indicator
- ⑩ Overload alarm indicator
- ⑪ Low oil alarm indicator
- ⑫ Choke

## CONTROL PANEL - 45iE

Based on the 45i model control panel, the 45iE removes the manual choke and related components, and adds a engine start button and related components, while other specifications are the same as follows:



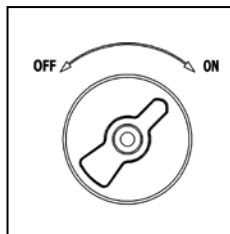
## CONTROL FUNCTION

### MAIN SWITCH

For 45i model, this switch is both fuel switch and electric switch, while for 45iE model, it is only the fuel switch.

- ① OFF: Fuel supply off.

For 45i model, it also shuts the ignition circuit off, and stops the generator.

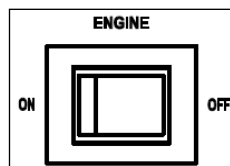


- ② ON: Fuel supply on.

For 45i model, it also connects the ignition circuit on, and the generator is OK to start.

### ENGINE SWITCH (45iE ONLY)

- ① OFF: Ignition circuit off;  
generator stops.
- ② ON: Ignition circuit on;  
generator OK to start;



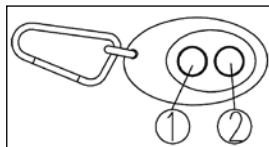
### ENGINE START BUTTON (45iE ONLY)

When engine switch and main switch are both ON, press the engine start button

- ① (green), generator starts automatically.

### REMOTE CONTROL (45iE ONLY)

When main switch and engine switch are both ON, aim the remote control at the generator and press the START ① button. The generator will start automatically. Press the STOP ② button on the remote control, the generator will shut down/stop running.



- ① START
- ② STOP

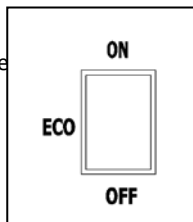
### NOTE:

Remote use distance may be reduced due to obstacle block or remote battery power reduction. Suggested distance should not exceed 20 meters.

## ECO SWITCH

### ① ON:

When the ECO switch is in position ON, the economic control unit will automatically adjust engine speed per the load to achieve low fuel consumption and low noise.



### ② OFF

When ECO switch is in position OFF, the generator starts and runs at the rated RPM. It is applicable to high power or low power factor loads, which need high current once connected with the generator.

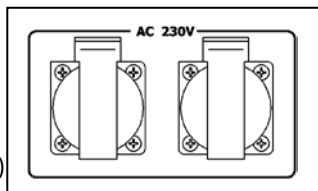
## NOTE:

ECO switch must be in position OFF, when powering electric devices that require a large starting current, such as a compressor or submersible pump.

## AC SOCKET

According to demand, sockets for other countries are available, including US type, UK type, European type, Australia type...etc.

European type socket shown (refer to illustration)



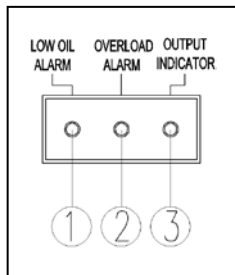
## LOW OIL ALARM (YELLOW)

If the oil level falls below the lower level, the low oil alarm indicator will be on, and the engine will shut down automatically. Unless the oil is refilled above the lower level, the engine cannot be started again.

### ① LOW OIL ALARM

### ② OVERLOAD ALARM

### ③ OUTPUT INDICATOR



**NOTE:**

If the generator cannot start, verify the main switch is in the ON position, and pull the recoil starter. If the low oil alarm light flickers for a few seconds, it means the oil level is insufficient. Place the generator on a level surface, add oil (Refer to Periodic Maintenance) and restart the generator.

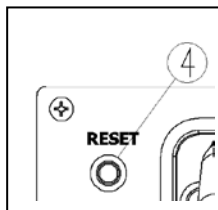
**OVERLOAD ALARM (RED) AND RESET BUTTON (RED)**

When the total power of connected electrical devices is close to the rated power, the Overload Alarm Indicator (Red) ② will be ON and blink.

When the total power of connected electrical devices is overloaded, the overload alarm indicator (Red) ② will be always ON (Red).

The electrical breaker will trip to stop power generation in order to protect the generator and connected electric devices. The AC output indicator (Green) will be off, and the overload alarm indicator (Red) will stay on, but the generator will not stop running.

When generator stops output due to overload, disconnect all electric devices, reduce the total power of connected electric devices to the range of rated power, and press the reset button (Red) ④. The generator will recover power output.

**NOTE:**

The generator will recover output automatically when it is stopped and then restarted.

Overload indicator may flicker for seconds at initial times when using electric devices that require a large starting current, such as a compressor or submersible pump. It is not a fault.

**OUTPUT INDICATOR (GREEN)**

When generator starts and outputs power, the output indicator ③ is ON.

## PRE-OPERATION CHECK

**NOTE:** Do a pre-operation check each time before using the generator.

### FUEL



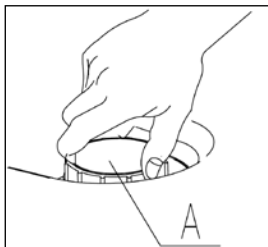
#### WARNING:

- Fuel for the generator is highly flammable and poisonous. Read the SAFETY INFORMATION carefully before refueling.
- Do not refuel over the fuel filter level or fuel may overflow when it heats up and expands.
- Make sure to place the generator horizontally, and tighten the fuel tank cap after refueling.

#### NOTICE:

- Use a clean and dry soft cloth to wipe any spilled fuel, and to avoid corrosion on part surfaces or plastic parts.
- Use fresh unleaded fuel to avoid serious corrosion to engine components.

Remove the fuel tank cap-(Illustration A), and add fuel to the red mark of fuel filter. Install the fuel tank cap, turning until hearing a clicking sound, which means the fuel tank cap is securely tightened.

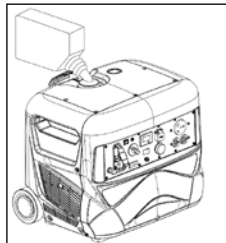
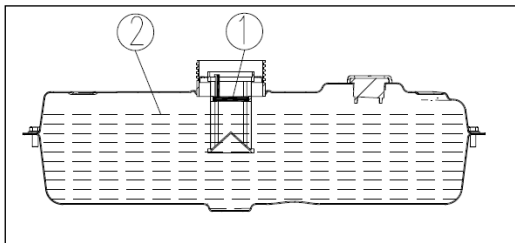


Recommended fuel:

Unleaded gasoline : #92 or above;

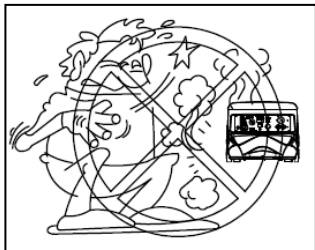
Fuel tank capacity: 7.0L (1.8 US gal, or 1.5 Imp gal)

- ① Red mark in fuel filter
- ② Fuel level



**WARNING:**

Engine and muffler will become very hot when the engine runs. Avoid touching the engine and muffler with any part of your body or clothing while they are not cooled down during inspection or repair.



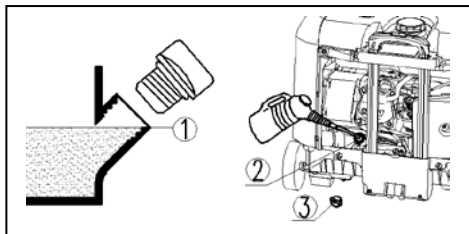
**OIL**

**NOTICE:**

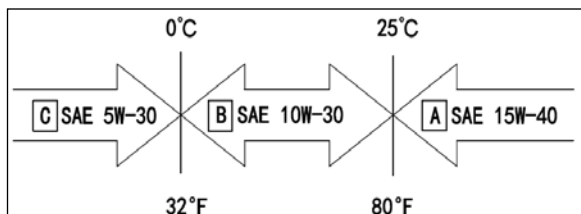
- The generator leaves factory without oil. Generator will be protected for non-start without sufficient oil.
- Do not tilt the generator when filling engine oil, as it may result in overfilling and damage to the generator.

For new unit or changing oil, place the generator horizontally, remove the maintenance cover (refer to Periodic Maintenance), take out oil plug, fill oil with a funnel until oil level reaches oil port lower level. When refilling oil, oil level should be at the same level of oil port lower level. Install the oil plug and maintenance cover in reverse procedure.

- ① Oil port lower level
- ② Oil port
- ③ Oil plug



Recommended oil viscosity chart: A: SAE15W-40; B: SAE10W-30; C: SAE5W-30



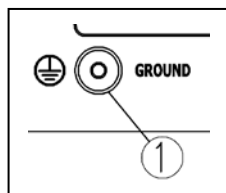
Oil capacity: 0.6L (0.63US qt, 0.53Imp qt)

### GROUND (EARTH) TERMINAL

Make sure the ground (earth) terminal of the generator is connected to avoid electric shock.

When an electric device is applied, the generator should connect with earth ground.

① Ground (earth) terminal



### BATTERY (45iE ONLY)

There are two choices of battery for this generator:

- 1) Lithium battery (standard) just for electric starting use.
- 2) Multi-functional mobile battery (optional) for electric starting use, but also for use as a power pack for cell phone, laptop, PSP, MP3/MP4...etc, with lighting function, as well as a jump starter for emergency car starting (remove battery within 20 seconds after car starting).

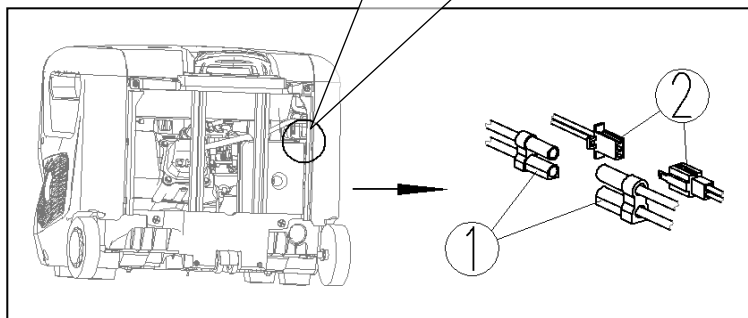
### NOTE:

Output cable and charging cable are not connected with mobile battery from manufacturer for package. Please connect the connecting cable and charging cable as per instruction before initial use.



## Lithium battery

Take out connecting cable and charging cable.

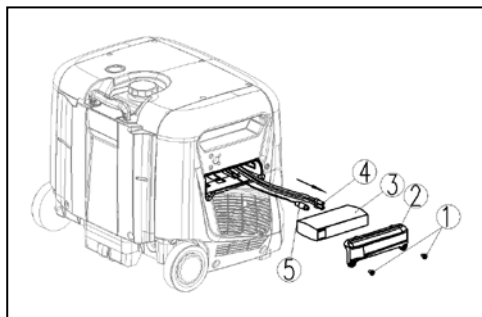


① Connecting cable

② Charging cable

## Mobile battery

- ① Two screws
- ② Battery cover
- ③ Mobile battery
- ④ Connecting cable
- ⑤ Charging cable



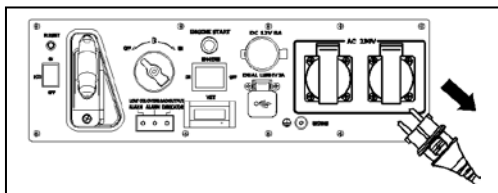
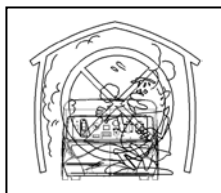
## OPERATION

### STARTING THE GENERATOR



WARNING:

- Never operate the generator in a closed area or it may cause unconsciousness or death within a short time. Operate the generator in a well-ventilated area.
- Before starting the engine, do not connect any electric device.
- Clean dust, dirt or water off the socket before use.



#### NOTICE:

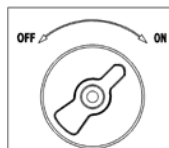
Read PRE-OPERATION CHECK carefully before operating the generator.

#### NOTE:

- The generator runs optimally at rated power output in standard atmospheric conditions as follows:  
Ambient temperature: 25 °C (77F)  
Atmospheric pressure: 1000KPa  
Relative humidity 30%
- Power output will differ due to changes in temperature, altitude (the higher altitude, the lower air pressure) and humidity. Power output will reduce when temperature, humidity and altitude are higher than standard atmospheric condition.
- In addition, please reduce the load in a confined area, as generator cooling will be affected.

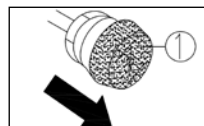
#### STARTING THE GENERATOR 45i

1. Turn the main switch to position ON.



2. Pull out choke completely ①.

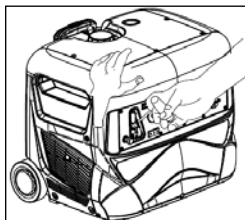
① Choke



**NOTE:**

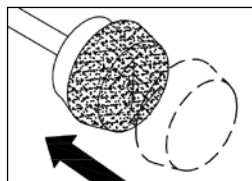
Do not pull out choke to start a warm generator. Push the choke back to the original position.

3. Pull slowly on the recoil starter handle until it is tightened, and then pull it fast and hard.

**NOTE:**

Hold the top of generator firmly to obtain maximum pulling force and to prevent the generator from falling over when pulling the recoil starter.

4. After starting, warm up the engine until the engine does not stop when pushing back the choke to its original position.

**NOTICE:**

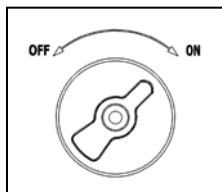
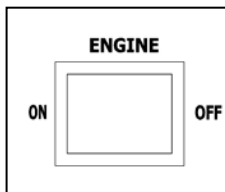
Push back choke when generator runs normally, otherwise it will not work well.

**STARTING THE GENERATOR 45iE**

The 45iE generator has three types of starting; recoil start, electric start, and remote start.

Recoil start:

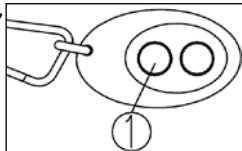
Press the ENGINE switch to position ON, and refer to START THE GENERATOR 45i, but no need to operate choke (auto choke).



Remote start:

When ENGINE switch and main switch are in position ON, remote control can start the generator by pressing the START button.

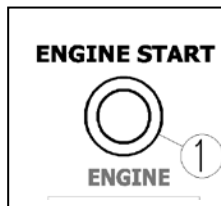
① START button



Electric start:

1. Turn the ENGINE switch to position ON.
2. Turn the main switch to position ON.
3. Press the ENGINE START button (green) ① to start the generator

① ENGINE START







**NOTE (FOR STARTING GENERATOR):**

- Remote distance may be shorter due to obstacle block or battery power reduction, suggested not exceeding 20 meters.
- During electric start or remote start, press ENGINE START on generator or START on remote control one time, and the generator will start automatically. There is no need to press and hold the button a long time.
- When starting the generator, place ECO switch in position OFF, with no load connected to the generator.
- In ambient temperature below 3°C (37°F) , generator should run at idle speed for 5 minutes to warm up.
- In ambient temperature above 3°C (37°F) , generator should run at idle speed for 3 minutes to warm up.
- After warm-up, place ECO switch in position ON, and run the generator in economy status.

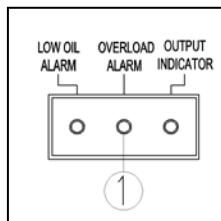
## APPLICATION RANGE

When operating generator, make sure the total load applied is under the range of the generator rated output, or the generator may be damaged.

<b>A</b> <b>AC</b>				<b>D</b> <b>DC</b>
<b>B</b> Power factor	1	0.8–0.95	<b>C</b> 0.4–0.75 (Efficiency 0.85)	
45i/45iE	3700VA	2960VA	1258VA	<b>E</b> Rated voltage 12V Rated current 8A

### NOTE:

The overload alarm indicator ① is on (red) when total load exceeds the application range. (Refer to CONTROL FUNCTION).



### NOTICE:

- Make sure the total load is under the range of generator rated output, otherwise generator damage will occur.
- The simultaneous usage of AC and DC power is possible, but total load should not exceed the rated output, otherwise the generator will enter auto-protection status, or damage will occur.
- Do not overload. The total load of all electrical devices must not exceed the range of the generator rated power. Overloading will damage the generator.

- When powering precision equipment, electronic controllers, PCs, electronic computers, microcomputer-based equipment or battery chargers, keep the generator a sufficient distance away to prevent electrical interference. Also, ensure that electrical noise from the generator will not interface with any other electrical devices located near the generator.
- If the generator is to power medical equipment, consult the manufacturer, a medical professional or hospital first.
- Some electrical appliances or general-purpose electric motors have high starting current, and cannot be used, even if their watts are within the range of the rated output. Consult the equipment manufacturer for further advice.

## AC CONNECTION



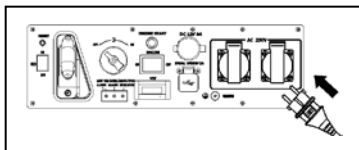
### WARNING

Make sure all electric devices are off before connection.

### NOTICE:

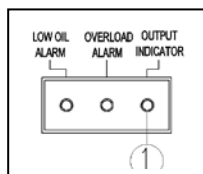
- Be sure all electric devices including lines and plug connections are in good condition before connecting to a generator.
- Be sure the total load is within the generator rated output.
- Be sure the socket load current is within socket rated current.
- Make sure the generator is connected to ground (earth).

1. Start the generator.
2. Connect the plug to the AC socket.

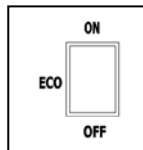


3. Make sure the output indicator is ON (Green) ①.

① Output indicator



- Turn the ECO switch to the position ON, and then turn on electric devices.



#### NOTICE:

When using electric devices that require a large starting current, such as a compressor, submersible pump, or high-power DC equipment, the ECO switch must be placed in position OFF.

#### DC CONNECTION

- USB port (Dual)

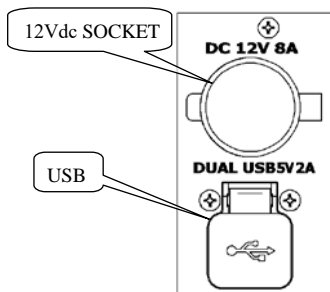
DC output: 5V/2A

Applicable to device or battery charge in this range of voltage and power.

- 12Vdc socket

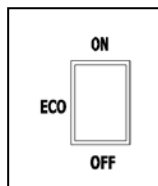
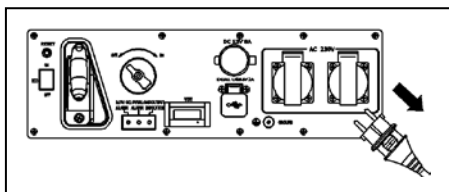
DC output: 12V/8A

Applicable to device or battery charge in this range of voltage and power.



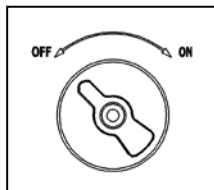
#### STOPPING THE GENERATOR

- Disconnect all electric devices, and place ECO switch in position OFF.

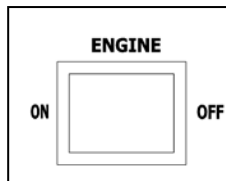


For 45i model, turn the main switch to position OFF. The fuel supply and ignition circuit will turn off.

For 45iE model, if short-term stopping, press the ENGINE button to position OFF, or press the STOP button on the remote control;



If long-term storage, turn the main switch to position OFF, and run the engine to drain fuel inside the carburetor until the engine shuts automatically.



## PERIODIC MAINTENANCE

The user must pay attention to product safety. Periodic inspection, adjustment and lubrication will keep the generator in the safest and most efficient condition. The key points of periodic maintenance are as follows:



**WARNING:**

If you are not familiar with maintenance work, please consult a designated dealer.

### NOTICE:

Use only specified genuine parts for replacement. Consult a designated dealer for further information.

## SPARK PLUG AND AIR FILTER INSPECTION, OIL REPLACEMENT

Remove maintenance cover, then inspect the spark plug, the air filter, and change oil. After inspection and maintenance of related items, install the maintenance cover.

### MAINTENANCE COVER REMOVAL AND ASSEMBLY

1. Remove maintenance cover:

Loosen screws ①, pull up maintenance cover ②, loosen connectors A, B, C and D on generator, push out the cover in parallel, and turn back the cover to remove it.

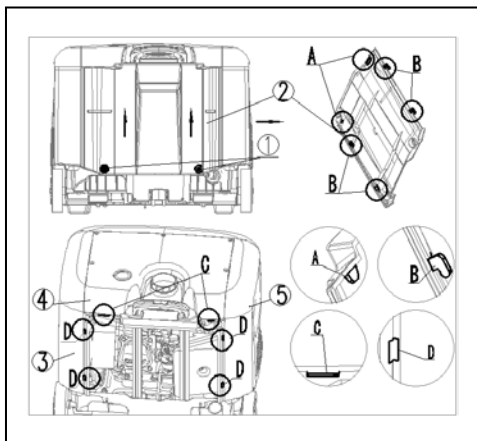
2. Perform inspection and maintenance on related items (Refer to related info).



3. Assemble maintenance cover as per reverse procedure of above removal.

Attention: 2pcs connector A and 4pcs connector B should align at connector hole C and D first, then pull it down and tighten 2pcs screws.

- ① Screws (2pcs)
- ② Maintenance cover
- ③ Exhaust cover
- ④ Top plastic housing
- ⑤ Air inlet cover



In above illustration:

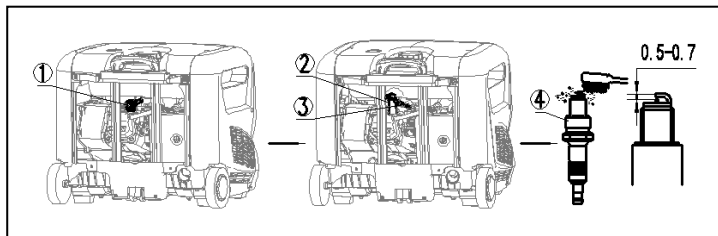
Connector A (2pcs) on maintenance cover to match connector hole C (2pcs) on top plastic housing ④;

Connector B (4pcs) on maintenance cover to match connector hole D (4pcs) with 2pcs on air inlet cover ⑤ and 2pcs on exhaust cover ③.

#### NOTE:

Remove maintenance cover under appropriate force in order not to damage connectors and holes.

#### SPARK PLUG INSPECTION



- ① Spark plug cap
- ② Spark plug socket
- ③ Two-way screwdriver
- ④ Spark plug

1. Remove spark plug cap ①, place spark plug socket ② on spark plug ④, turn it counter-clockwise with screwdriver ③, and remove the spark plug.

2. Check for discoloration and remove any carbon.

Standard electrode color: Medium-to-light tan color.

3. Check spark plug type and clearance.

Standard spark plug: F7TC (TORCH)

Spark plug clearance: 0.5-0.7mm

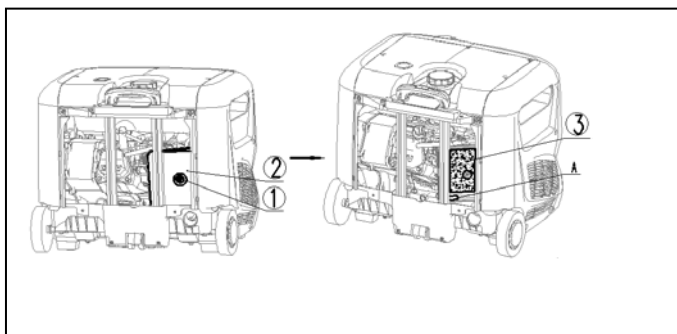
4. Install and tighten spark plug.

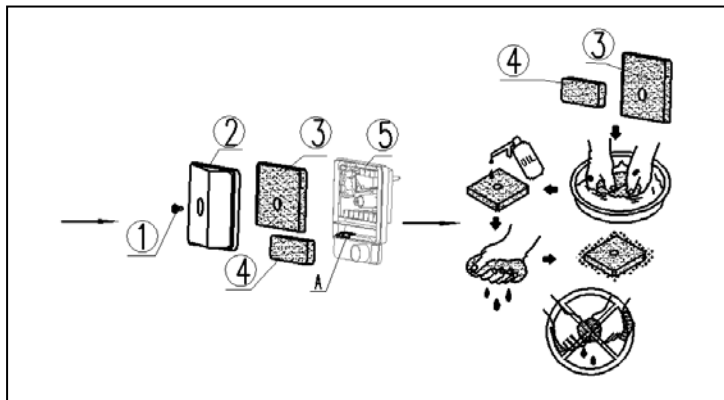
**NOTE:**

When installing spark plug, turn it by hand, and then tighten it by socket.

5. Instal spark plug cap, and maintenance cover as per procedure.

**AIR FILTER INSPECTION**





- ① Screw
  - ② Air filter cover
  - ③ Fine element, Air filter
  - ④ Coarse element, Air filter
  - ⑤ Air filter body
- A—Coarse element location

1. Loosen screw ①, remove air filter cover ②, remove air filter fine element ③, and remove air filter coarse element ④ from location (A) of air filter body ⑤.
2. Clean the fine element and coarse element with solvent and dry them. Apply an appropriate amount of 4-stroke engine oil on elements, rub by hand to distribute evenly, and squeeze out the excessive oil.

**NOTICE:**

Do not wring out the element sponge, or it will be damaged.

3. Insert air filter coarse element to location (A) evenly. Then place fine element to air filter body (A) evenly.
4. Install the air filter cover, and tighten it with screws.
5. Install the maintenance cover.

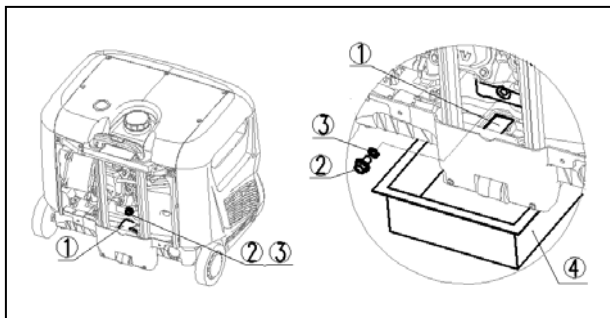
**NOTE:**

Never run the generator without the air filter element or it may cause excessive poisonous gas and accelerate engine wear.

**OIL REPLACEMENT****WARNING:**

Never drain oil immediately after generator shutdown to avoid scald.

1. Place generator horizontally, and start the engine for 2-3 minutes to warm the oil, then shut down the engine. Remove the maintenance cover.



- ① Rubber gasket
- ② Oil drain screw
- ③ Aluminum gasket
- ④ Oil container

2. Remove rubber gasket of oil drain hole ① from bottom plate (pull up from bottom plate), place an oil container ④ bigger than 1L below generator, remove oil drain screw ② and aluminum gasket ③, then tilt the generator to drain all oil. (If possible, a more convenient is to use a pump to drain the oil from the engine crankcase )

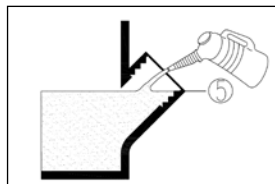
**NOTE:**

Replace the aluminum drain plug gasket once removed.

3. Remove the oil container, place a new aluminum gasket on the oil drain screw, then insert it into othe drain port by hand. Tighten it by tool, and install the rubber gasket on the oil drain port.

4. Place generator horizontally, and fill oil to the port lower level. Refer to OIL FILLING AND CHANGE.

⑤ Oil port lower level



#### NOTICE:

Do not tilt the generator when filling oil. This would result in overfilling and damage to the engine.

Be sure no other material enters the engine crankcase.

Dispose the waste oil at a professional disposal point.

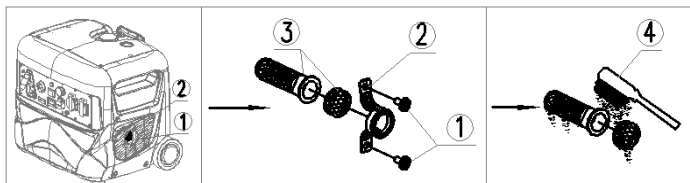
5. Wipe any spilled oil around oil port, and tighten oil port plug.

6. Install the maintenance cover.

#### FIRE ARRESTOR ELEMENT

When abnormal noise emanates from the engine, or output power is reduced, it may be caused by blockage of the fire arrestor. Please check the fire arrestor.

Before check, please refer to WARNING for more safety info.



① Screw (2pcs)

② Ring flange

③ Element, fire arrestor

④ Steel brush

1. Loosen screws ① on both side of exhaust outlet, and remove the ring flange ② and fire arrestor element ③.

2. Take out fire arrestor element, and remove and carbon deposits by steel brush ④.

**WARNING:**

Use the steel brush lightly to avoid damaging or scratching fire arrestor element during cleaning.

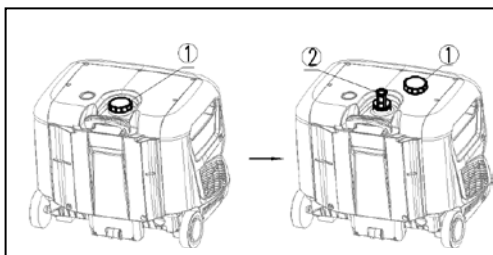
3. Check the fire arrestor element. Replace it if damaged.
4. Assemble fire arrestor element on muffler, the ring flange, then tighten the screws on both sides.

**FUEL TANK FILTER**

1. Remove the fuel tank cap, and pull the fuel filter from the fuel port.
2. Clean the fuel filter if required. Check the filter screen. Replace it if damaged.

**NOTE:**

Please dispose any unused gasoline at a special disposal point after cleaning.



① Fuel tank cap

② Fuel filter

3. Wipe the filter ② clean, and install it in the fuel tank port.
4. Install and turn fuel tank cap ① until a clicking sound is heard, which means the fuel tank cap is tightened securely.

**WARNING:**

Make sure to tighten the fuel tank cap to avoid fuel flow and cause danger.

**MAINTENANCE CHART****WARNING:**

Stop the generator before starting any maintenance work.

Item	Normal check	Pre-operation check	Every 6 months or 100 hour	Every 12 months or 300 hour
Spark plug	Check, clean and replace it if necessary		○	
Fuel	Check fuel level, and leakage	○		
Fuel hose	Check fuel hose for cracks or damage. Replace if necessary.			○
Oil	Check oil level for leakage		○	
	Replace		○(1)	
Air filter	Check, Clean		○(2)	
Fire arrester element	Check, clean and replace it if necessary		○	
Waste air cycling hose	Check for crack or damage. Replace it if necessary.			○
Cylinder head	Decarbonizes combustion chamber, inlet valve, and exhaust valve of cylinder head. More frequently if necessary			★
Valve clearance	Check and adjust it when generator cooled down.			★
Fitting, fastener	Check all fittings and fasteners for looseness. Replace it if necessary.			★
Verify abnormal point and correct it when using.		○		

**Note:**

- 1) Initial oil replacement is within one month or after 20 hours of operation.
- 2) Air filter must be cleaned more frequently when using in unusually wet or dusty areas.

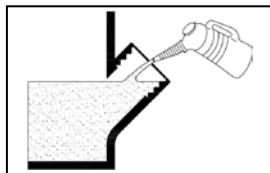
★ since these items require special tools, data and technical skills, have a designated dealer do it for you.

## TROUBLESHOOTING

Generator not starting or Generator no output

1. Check opening of following switches, and open it if closed:

- ENGINE switch ON
  - Main switch ON
  - Choke pull out, and push in after running
  - Refer to OPERATION: ENGINE START
2. Check LOW OIL ALARM (Yellow) flash
- If the indicator flashes, oil is insufficient.



Fill the oil, and restart. Refer to CONTROL

FUNCTION: Low oil alarm and PRE-OPERATION CHECK: Oil.

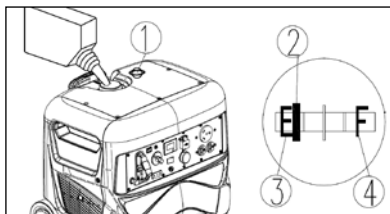
3. Generator tilts to cause air filter blocked.

Generator tilt to cause oil flow-out and block the air filter element, which leads to non-start. Dry the excessive oil and clean the air filter element. Refer to PERIODIC MAINTENANCE.

4. Insufficient fuel

- Check fuel gauge window on top of generator. If red mark is on side of E (as illustration), it means insufficient fuel.

Fill with fuel.



① Fuel gauge window

② Red fuel level mark

③ E—Empty

④ F—Full

5. Fuel supply blocked

- Carburetor blocked

Old fuel inside carburetor after long time will block carburetor.

Solution: Turn on fuel switch (Place fuel switch to position ON), loosen the carburetor fuel bowl drain screw, and allow fuel to flow out and clean the carburetor bowl for 10-20s. Catch old fuel in a container.

- If no fuel flows out after loosening fuel bowl drain screw in above operation, it means fuel supply blocked, please consult a designated dealer.

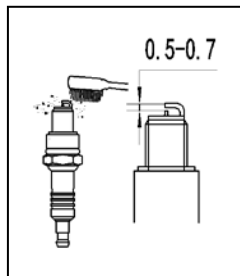


6. Air flow blocked
  - Air filter coarse and fine element blocked. Refer to PERIODIC MAINTENANCE: Air filter.
  - Fire arrestor blocked. Refer to PERIODIC MAINTENANCE: Fire arrestor.

7. Poor spark

Spark plug is dirty with carbon or wet:

- Remove carbon or wipe and dry spark plug.
- Check spark plug clearance 0.5~0.7mm: Replace it if worn over tolerance.
- Faulty ignition system: Consult a designated dealer.



8. Overload, and generator no output

- Refer to CONTROL FUNCTION: Overload alarm indicator (Red) and Reset (Red).

## STORAGE

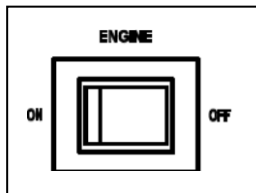
Generator will require some preventive procedures for long term storage, and be kept in venting area.

## DRAIN THE FUEL

Two methods to drain fuel are as follows (choose one as per demand):

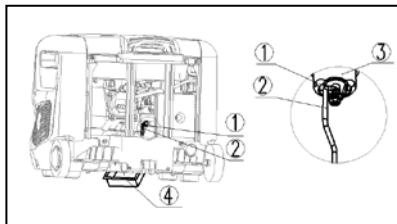
First method (For 45iE only):

1. Start the generator. Refer to OPERATION: START THE GENERATOR.
2. Turn the main switch to position OFF.
3. Generator will shut down automatically after using the remaining fuel inside the carburetor.
4. Turn off ENGINE switch to position OFF.
5. Remove fuel tank cap, drain fuel from fuel tank into an approved fuel container by special tool. Install fuel tank cap.



## Second Method:

- ① Fuel drain screw
- ② Fuel drain pipe
- ③ Carburetor
- ④ Fuel container



1. Turn main switch to position ON.
2. Remove fuel tank cap, drain the fuel from fuel tank into an approved fuel container by special tool. Install fuel tank cap.
3. Place generator horizontally, and remove the maintenance cover. Refer to PERIODIC MAINTENANCE.
4. Drain remaining fuel from carburetor:  
Place a clean fuel container④ on bottom of fuel drain pipe②, loosen fuel drain screw① at the bottom of the carburetor③ and drain remaining fuel. Turn the main switch to position OFF when there's no more fuel.

### NOTICE:

Please use an appropriate fuel container not less than 1L during fuel drain. The drained fuel should kept in approved fuel container.

5. Tighten the fuel drain screw, and install the maintenance cover.



### WARNING:

Fuel is highly flammable and poisonous. Check SAFETY INFORMATION carefully before operation. Make sure to wipe up any spilled fuel immediately to avoid damage on rubber or plastic parts.

## BATTERY

1. For 45iE model, press the ENGINE switch to position OFF.
2. If storing the generator more than 2-3 months, it is recommended to charge the battery once every month to extend the battery life.

## GENERATOR

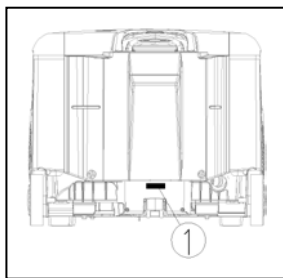
To protect the engine cylinder, piston rings and other parts during storage, please proceed with the following steps:

1. Turn the ENGINE switch and main switch to position OFF.
2. Remove the spark plug, pour about one spoonful of SAE10W-30 or 15W-40 oil into the spark plug hole, then install the spark plug. Pull the recoil starter several times to coat the cylinder wall, piston rings and other parts with oil. (Perform after DRAIN THE FUEL)
3. Pull the recoil starter until you feel compression and then stop pulling (This prevents the cylinder and valves from rusting).
4. Clean the exterior parts of the generator.
5. Store the generator in a dry and well-ventilated place, with a clean cloth covering.
6. The generator must remain in a vertical position when stored, carried and operated.

## IDENTIFICATION

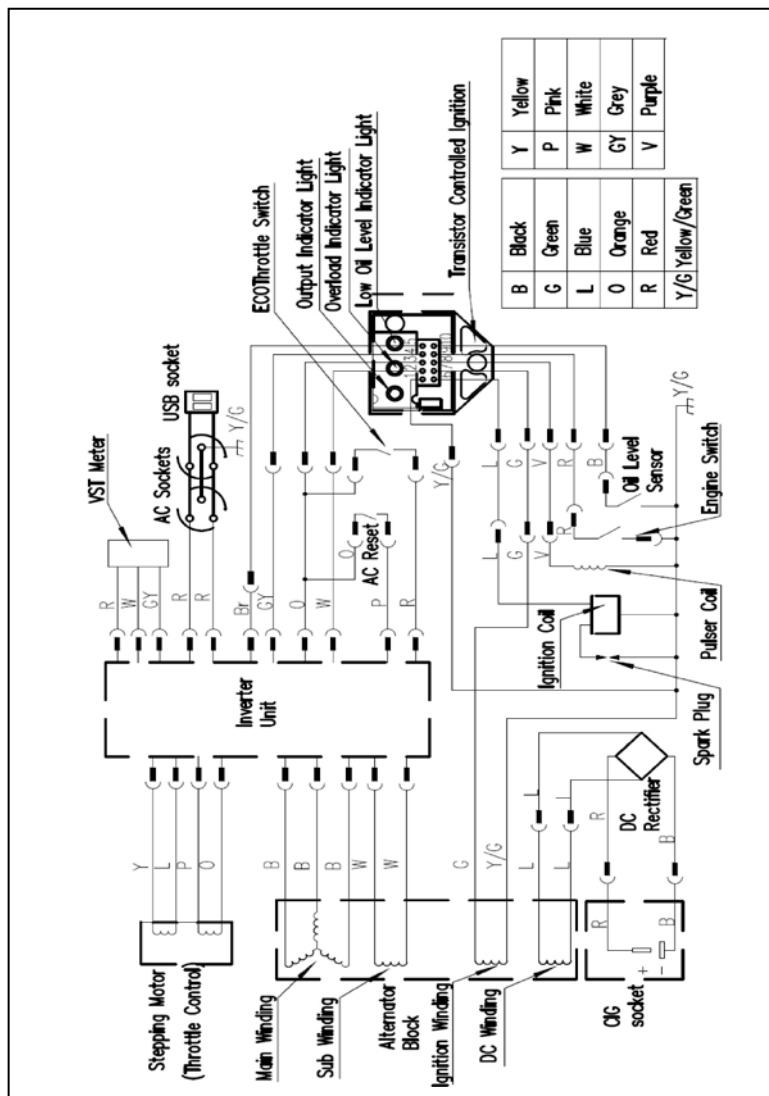
The machine identification series number is attached in the location as shown in drawing.

- ① Machine series number

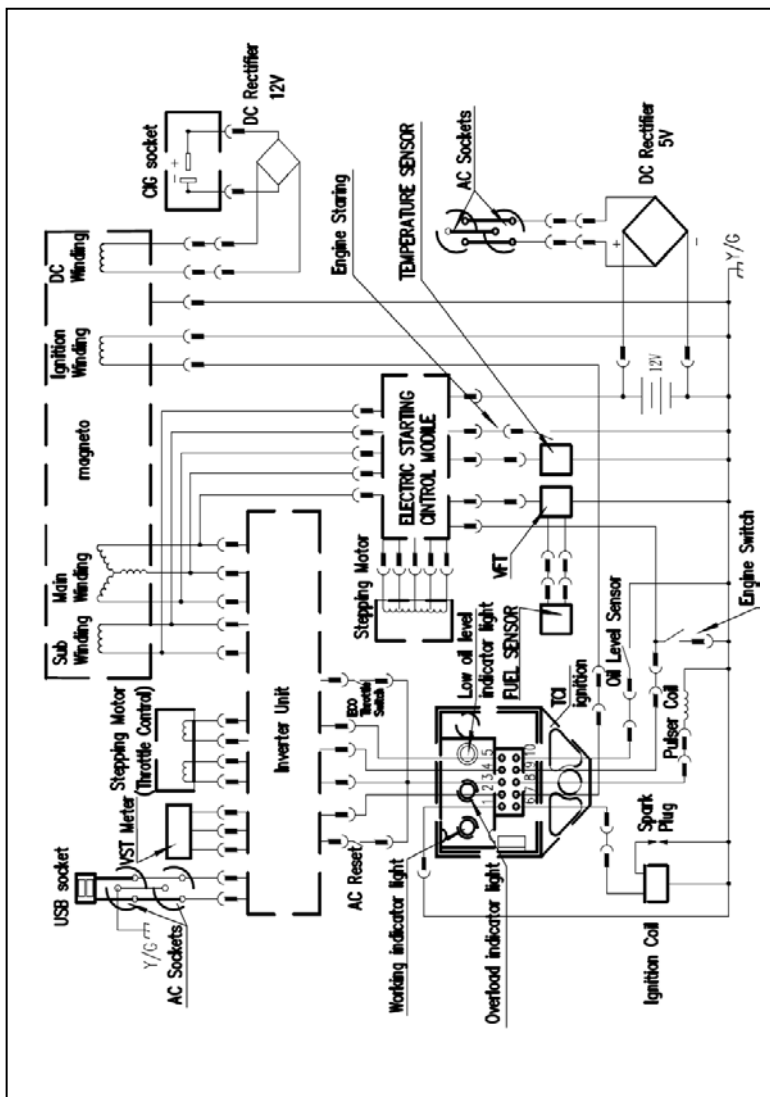


# WIRE DIAGRAM

## 1. 45i wire diagram



2. 45iE wire diagram



## SPECIFICATION

Item	Unit	Model	
		45i	45iE
Starting type		Recoil	Recoil/Electric/Remote
Engine model		LH170F	
Engine type		4 Stroke, OHV gasoline engine	
Displacement	ml	211.5	
Oil	ml	600	
AC rated Voltage and Frequency	V/Hz	230/50 or 120/60	
Running Power	VA	3700	
Starting Power	VA	4500	
Power factor		1.0	
Fuel tank capacity	L	7.0	
Noise level *	dB/LWA	55~60	
DC rated voltage	V	12	
DC rated current	A	8	
Dimension	mm	580x453x481	
N.W.	kg	36.6	37.7

★ Noise level is measured, when the ECO switch is ON.

LWA shows the sound power level under the ISO3744 standard test condition.

The noise level in dB (A)/7M is the arithmetic mean value in four directions measured 7 meters away from each side of the generator.

The noise level may vary in different environments.

★ NOISE LEVEL

The figures quoted are emission levels and are not necessarily safe working levels. While there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of work-force include the characteristics of the work room, other sources of noise, etc. (i.e. the number of machines and other adjacent processes), and the length of time for which an operator is exposed to the noise. Also the permissible exposure level can vary in different countries. This information, however, will enable the user of the generator to make a better evaluation of the hazard and risk.





## WARNING

- For safety, read owner's manual carefully before operating this machine, according to the rules of operation and maintenance.
- Il convient de lire attentivement ce manuel avant la première utilisation de la machine.
- Lea este manual atentamente antes de utilizar este equipo.
- Bitte lesen Sie diese Bedienungsanleitung sorgfältig durch, bevor Sie die Maschine in Betrieb nehmen.
- Les denne håndboken nøye før du tar maskinen i bruk.
- Διαβάστε προσεκτικά αυτό το βιβλίο πριν λειτουργήσετε τη μηχανή.
- Lees deze handleiding aandachtig door voordat u deze machine gaat gebruiken.
- Leggere attentamente questo manuale prima di utilizzare questa macchina.
- 为保证安全，使用前请务必仔细阅读使用说明书并按规定操作保养。

400002