

PETROL

Marine GENERATORS



JEC series Manual
Installation

Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

1 Explanation of symbols



DANGER!

Safety instruction: Failure to observe this instruction will cause fatal or serious injury.



WARNING!

Safety instruction: Failure to observe this instruction can cause fatal or serious injury.



CAUTION!

Safety instruction: Failure to observe this instruction can lead to injury, serious injury.



CAUTION!

Failure to observe this instruction can cause material damage and impair the function of the product.



NOTE!

Supplementary information for operating the product.

2 Safety and installation instructions

Please observe the prescribed safety instructions and stipulations from the vehicle manufacturer and service workshops.

The manufacturer accepts no liability for damage in the following cases:.

- Faulty assembly or connection
- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

Note the following basic safety information when using electrical devices to protect against:

- Electric shock
- Fire hazards
- Injury

2.1 Using the device



WARNING

- Installing and repairing the device may only be carried out by qualified personnel who are familiar with the risks involved and the relevant regulations. Inadequate repairs may cause serious hazards. For repair service, please contact the service centre in your country (addresses on the back page).
- Electrical devices are not toys
Keep electrical devices out of reach of children or infirm persons. Do not allow them to use electrical devices without supervision.
- People (including children) whose physical, sensory or mental capacities prevent them from using this device safely may not be allowed to operate it without the supervision of a responsible adult.
- Exhaust fumes contain carbon monoxide which is a highly toxic, odourless and colourless gas. Do not inhale any exhaust fumes. Do not leave the generator motor running in a closed garage or in a room without windows.



CAUTION!

- Fire hazards
Do not install the generator in a box or room without any openings, but in well-ventilated spaces instead.
- Only operate the generator if you are certain that the housing and the cables are undamaged.
- Install the generator on a stable surface.
- Do not tilt the generator more than 20° from the vertical position.



NOTICE!

- Only use the device as intended.
- The generator is not suitable for use in water vessels.
- Do not make any alterations or conversions to the device.
- If a welding operation has been done on the vehicle disconnect all generator cables, otherwise the electronics may be damaged.

2.2 Handling electrical cables



WARNING

- The electrical power supply may only be connected by a qualified electrician



CAUTION!

- Attach and lay the cables so that they cannot be tripped over or damaged.



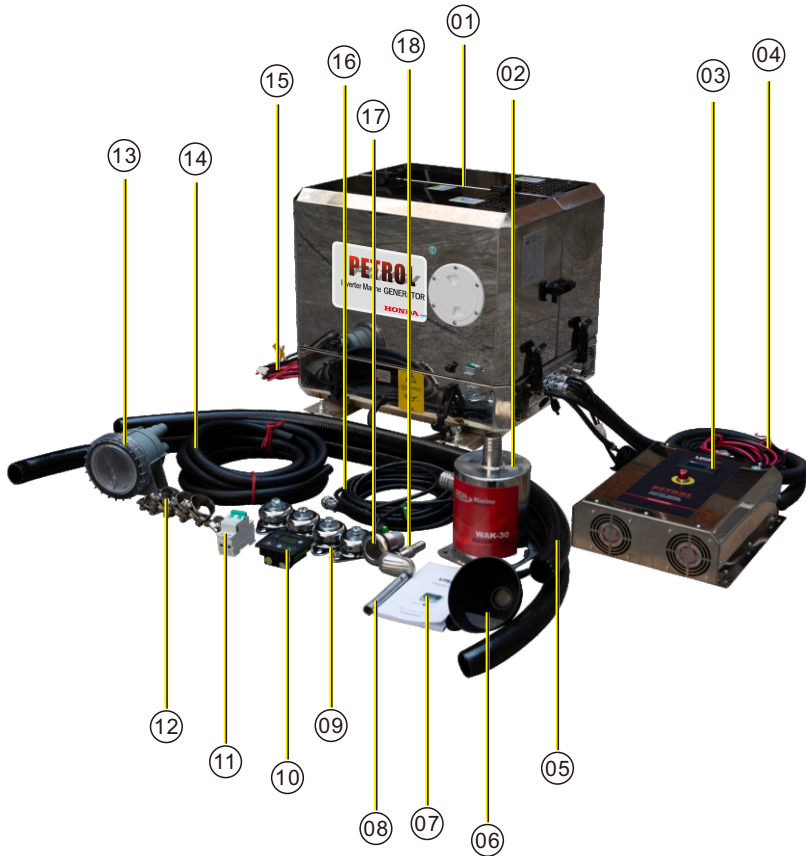
NOTICE!

- Use cable ducts to lay cables through walls with sharp edges.
- Do not lay loose or bent cables next to electrically conductive materials (metal).
- Do not pull on the cables.

3 Target group for this manual

The instructions in this manual are intended for qualified personnel at workshops who are familiar with the guidelines and safety precautions to be applied.

4 Scope of delivery

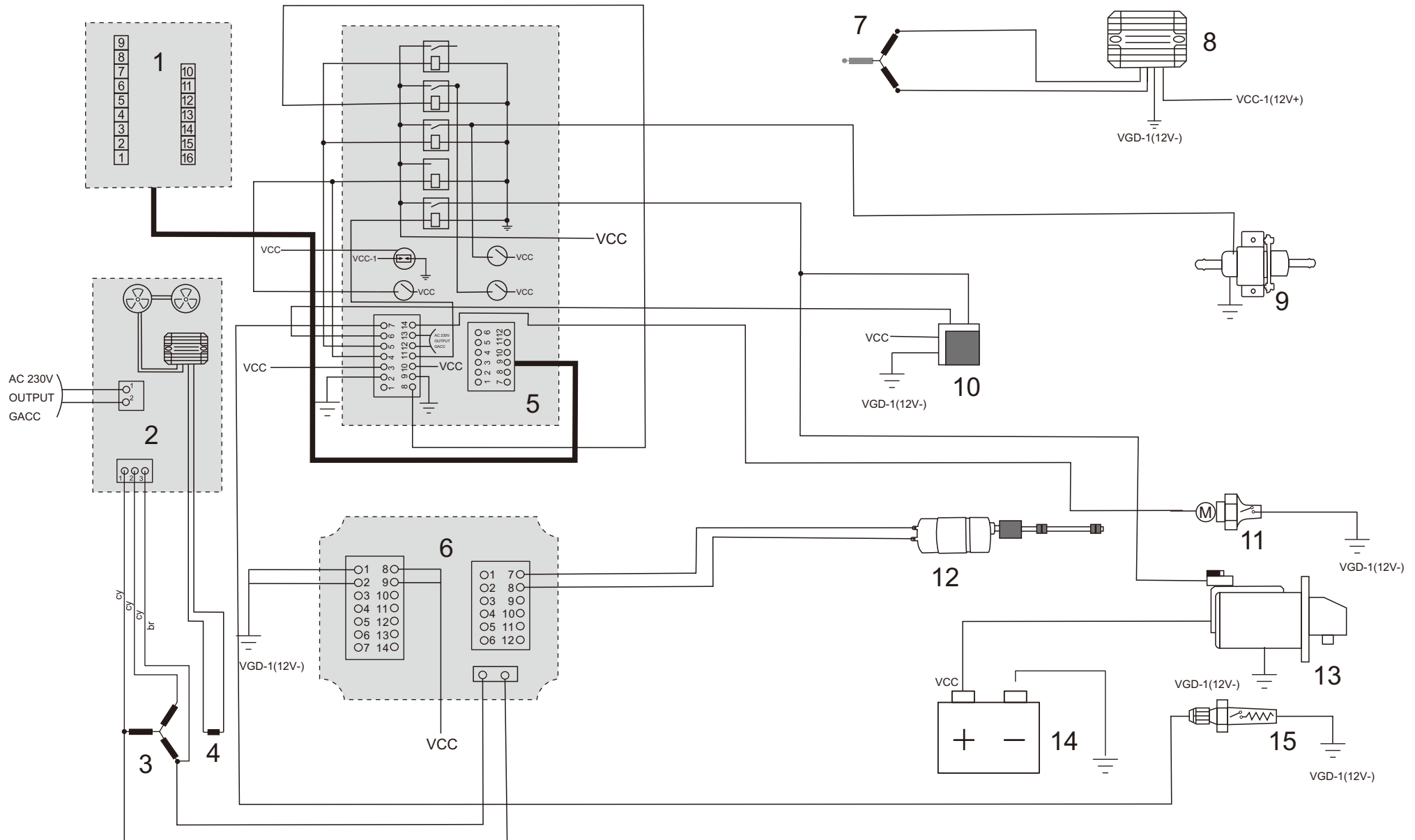


JEC G PMG Series generators

Packing list

No.	Name	Description	quantity	Unit
1	Generator set		1	PC
2	Water lock		1	PC
3	Power inverter kit		2	PCS
4	Genset output wire	Raw generator output three phase 290-400V	2	PCS
5	Exhaust rubble pipe	38mm	2	PCS
6	Oil funnel		1	PC
7	Use's manual	USR Company	4	PCS
8	Spark plug socket		1	PC
9	Steel Gasket +Hexagon Screw	13*50*3/M12*30	4	PCS
10	Controller	USR706	1	PC
11	Breaker		1	PC
12	Pipe buckle	19mm*8,38mm*4	1	SET
13	Seawater filter	sea flow	1	PC
14	Rubble water pipe	Inner diameter 20mm 2 meter *5	2	PCS
15	Battery connection wire		2	PCS
16	Wires of remote controller	10meters	1	SET
17	Water and exshhaust outlet		1	PCS
18	Seawater inlet valve		1	PC

5 Inside of circuit diagrams (JEC60,80,100)

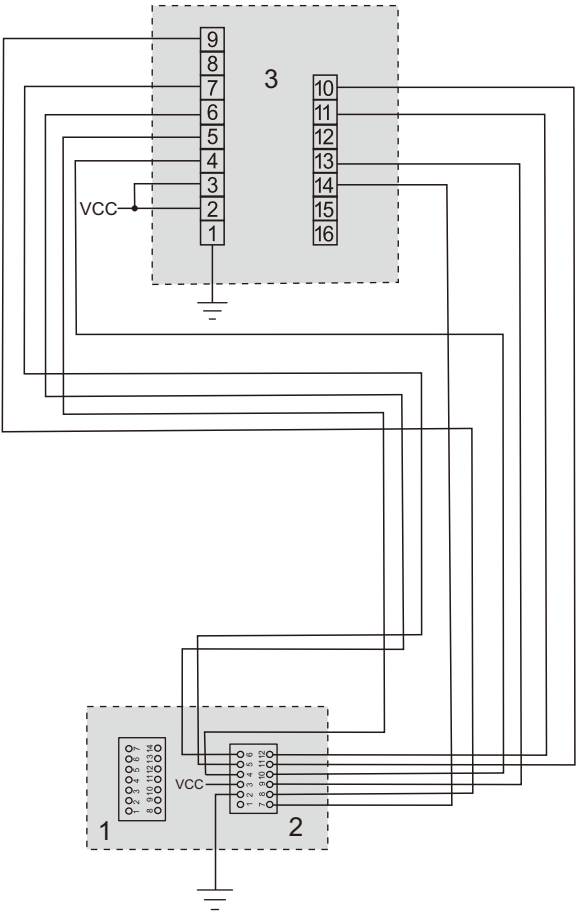


JEC Series generators

The inside circuit diagram can be found in fig page 7-8.

Item	Description
1	Control Panel
2	Inverter box
3	3-phase winding
4	Auxiliary winding
5	Junction box
6	Speed control module
7	12V Alternator
8	Regulator_2
9	Fuel pump
10	Wireless remote control receiver
11	Oil pressure switch
12	Speed-regulated DC 12V motor
13	Starter motor
14	Battery
15	Water temperature switch

6 Outside of Circuit diagrams



Item	Description
1	Controller (Control panel)
2	Junction box 12 core line sockit

Description

1_1-----	2_1	Blank
1_2-----	2_2	3_1 Battery DC 12V Negative (12v Earth)
1_3-----	2_3	3_2 Battery DC 12V Positive (VCC)
1_4-----	2_9	3_13 Stop relay
1_5-----	2_10	3_4 Fuel pump
1_6-----	2_6	3_6 Remote start input
1_7-----	2_8	3_9 Engine water temperature sensor/Fuel level
1_8-----	2_7	3_14 Engine heating(Heating relay)
1_9-----	2_2	3_1 Battery DC 12V Negative (12v Earth)
1_10-----	2_3	3_2 Battery DC 12V Positive (VCC)
1_11-----	2_4	3_5 Start motor relay
1_12-----	2_12	3_11 Generator output (L)
1_13-----	2_11	3_10 Generator output (N)
1_14-----	2_5	3_7 Oil pressure input/Fuel level

7 Intended use

The JEC JEC series generators are designed for fishing boats, yachts and ship.

The generator can be used for on-board power supply if coupled with fresh water circulation.

The generator produces a pure sine wave voltage of 120-240 V/50-60 Hz which can be connected to the consumer with a total continuous load of 5.6-25kW according to different models. The power quality is also suitable for sensitive consumers (such as PCs).

The generator can charge a 12 V battery.

8 Labels

A label is attached to the generator. This label provides the user and fitter with information on the device specifications.

 PETROL Marine GENERATORS Gasoline Generators ISO 8528-13 EAN BARCODE  4058399130648 			
Model :	ON60-G-M	Engine	Honda GX630-M
Rated Power	5.6kW	Rated Voltage	230V
Max Power	6.0kW	Rated Frequency	50Hz
Displacement	420cc	Rated Speed	2200-3000
Rated Current	24.3	Max. Speed	3200r/min
Fuel Tank Capacity	-----	Power Factor	0.98
Main Cooling Method	Seawater heat Oil cooling	Maximum Torque	29.2 N.m
Combustion Cycle	2 Cylinders 4-Stroke	Insulation Grade	F
Protection Degree	IP23M	Performance Class	G2
Starting Mode	Key Star & Remote control	Net Weight	168 kg
Maximum ambient temperature	98 °C	Serial Number	
Please ensure that the ventilation of the generator compartment is installed, otherwise the generator will overheat and shut down.			

9 Technical description

Installing the generator must be configured according to one of the following options:

- Automatic mode switch, see chapter "Configuring the automatic mode" on page 29.
- Priority circuit which prioritises the 230 V external voltage over the voltage produced by the generator, see chapter "Creating a priority circuit" on page 30.

10 Installation



CAUTION! Beware of injury

The generator may only be installed by qualified personnel from a specialist company. The following information is intended for technicians who are familiar with the guidelines and safety precautions to be applied.

10.1 Note on Installation

Read the installation manual carefully before you install the generator. When installing the generator, note the following:



DANGER! Danger of electrocution

Disconnect all power supplies when working on the generator.



- Improper installation of the generator can result in irreparable damage to the device and put the safety of the user at risk.
- Always wear the recommended protective clothing (e.g. protective goggles, gloves).

10.2 Securing the generator

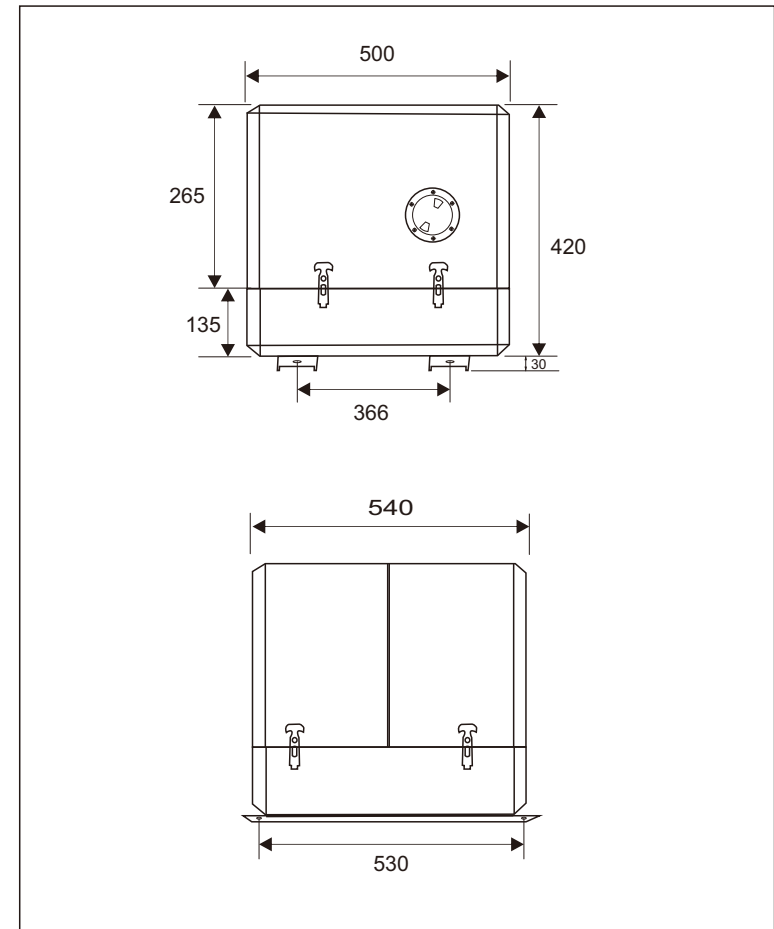
Note on installation location

- Make sure that no combustible objects are stored or installed near the air outlet or the ventilation slots. A distance of at least 50 cm should be kept.
- For a correct ventilation keep a distance of at least 30 cm from the generator's air outlet.
- For safety reasons, note the location of existing wiring harnesses, wires and other components within the installation area, in particular those which are not visible, when installing the generator (when drilling or screwing etc.).

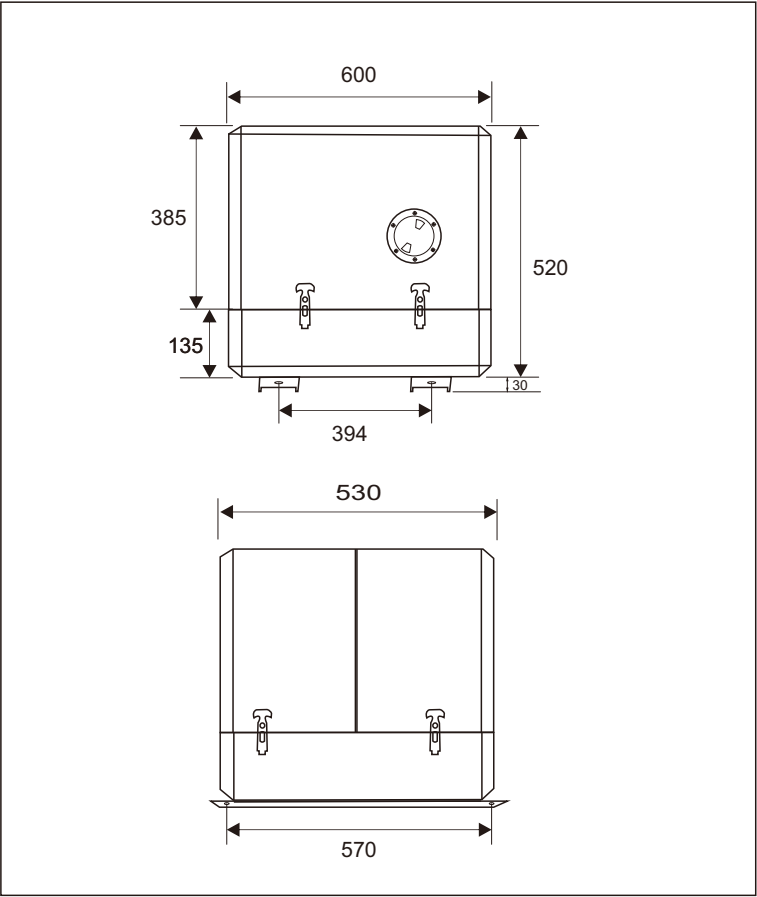
You can secure the generator with the holders supplied in two ways:

- External installation
External installation has the following benefits: lower space requirement, fast installation, easy access for maintenance work.
 - To ensure the generator is attached securely, use the retaining bracket supplied.
 - If the air intake opening of the generator is located behind a vehicle wheel, you need to prevent the wheel from splashing any water into the generator interior when it rains (e.g. by using a splash guard).

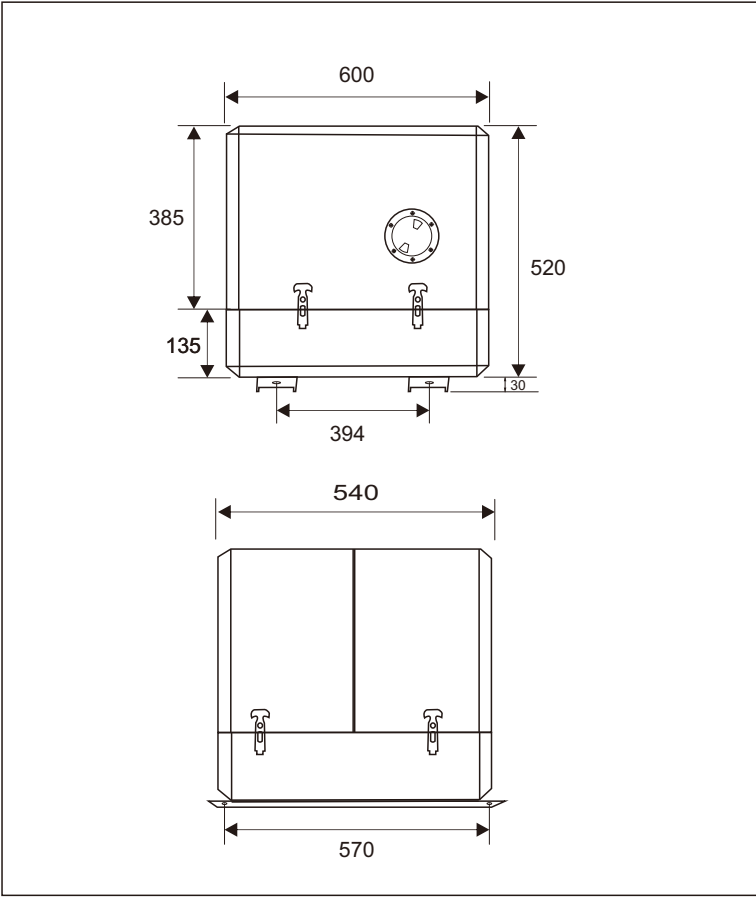
Model: JEC40G PMG



Model: JEC60G PMG



Model: JEC80/100 PMG



11 Connecting the electrical power to the Generator



DANGER! Danger of electrocution

Make sure there is no voltage at electrically operated components before carrying out work on them!



NOTE

Observe the applicable guidelines in the country of the consumer.

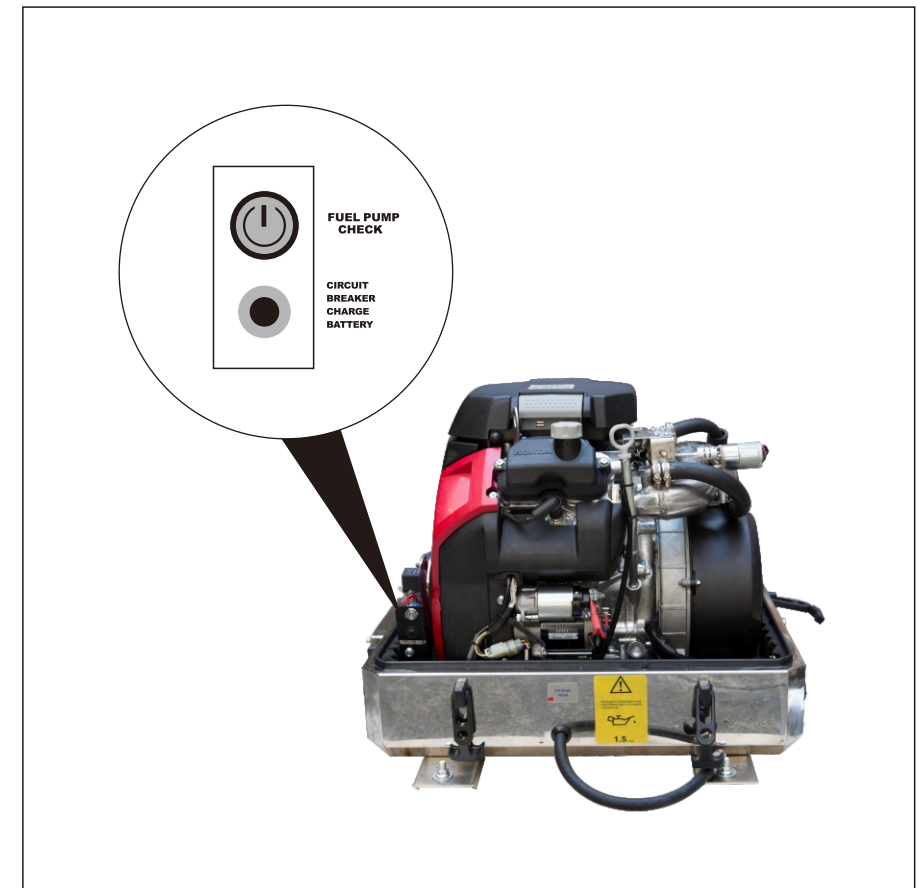
11.1 Important notes on the electrical connection

- Only a qualified electrician should connect the generator to the electrical power.
- Check that the voltage specification on the type plate is the same as that of the power supply.
- Do not lay the 230 Vw mains cable and the 12 Vg cable together in the same cable duct.
- Do not lay cables which are loose or bent next to electrically conductive material (metal).
- Connect the generator to a power circuit which can supply the necessary current (see chapter "Technical data" on page 32).
- Select the cross-section of the cable as follows:
 - 230 V: 2.5 mm²
 - 12V battery charger: 4.0mm²
 - Battery connection (length < 6 m): 6 mm²
 - Battery connection (length > 6 m): 10 mm²
- Install a manual main switch which can disconnect all the consumers from the generator with the exception of the battery.

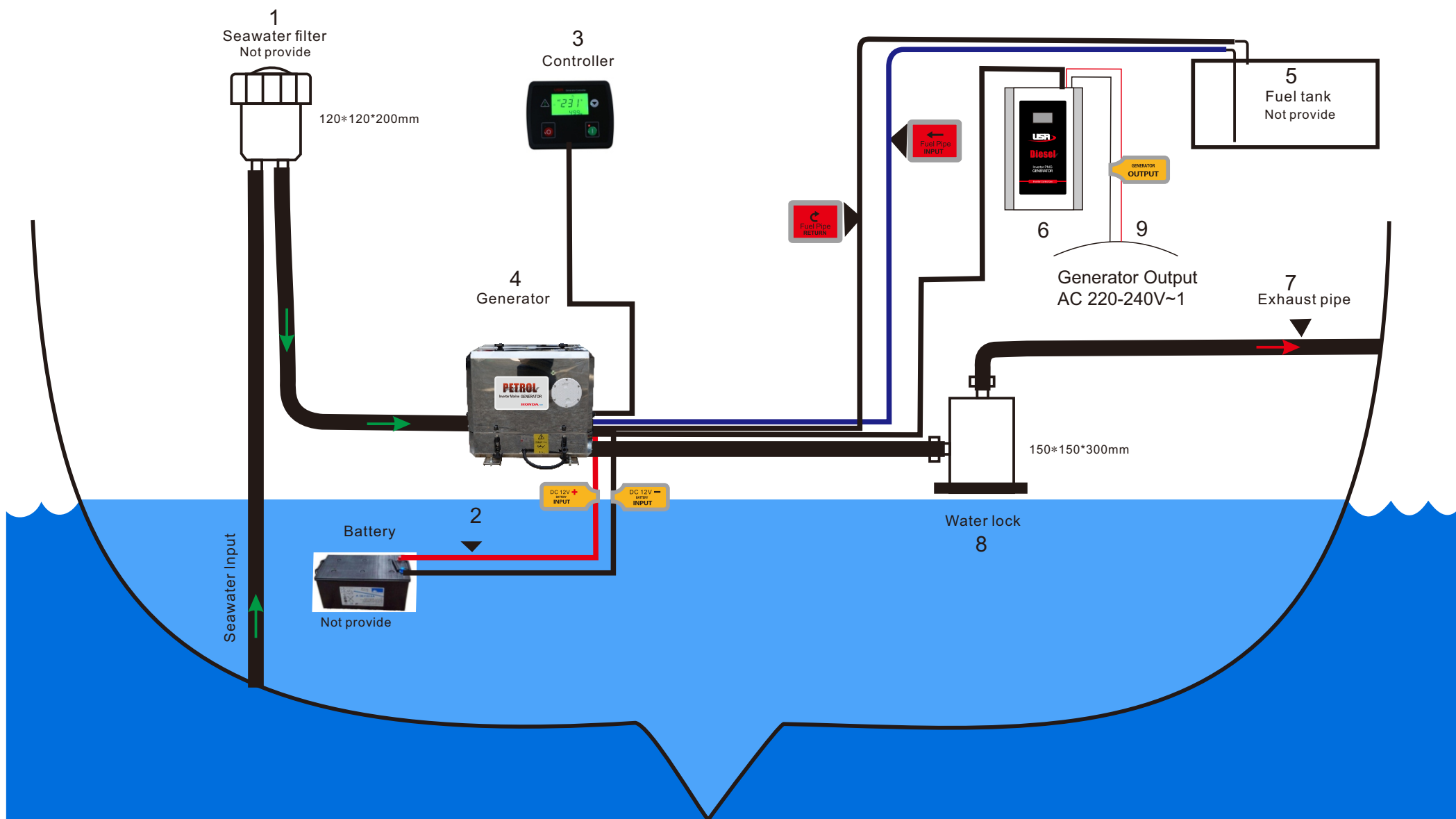
12 Internal junction box

Internal junction box as shown in fig page 28.

Item	Description
1	Fuel pump check switch
2	DC 12V Circuit Breaker Charge Battery (18A)



13 Installation diagram (outside Exchanger type)



14 Accessories Group Antu

The Complete installation diagram as shown in page 23-24.

Item	Description
1	Seawater filter (not provided)
2	Battery (not provided)
3	Controller
4	Generator
5	Fuel tank (not provided)
6	Inverter box
7	Exhaust pipe
8	Water lock
9	Generator power output

15 Installation Generator



WARNING!

Safety instruction: Only qualified electricians or those with experience in generator installation can install the generator set, otherwise it may cause fatal or serious injury.



CAUTION!

Safety instruction: Failure to observe this instruction can lead to injury. serious injury.

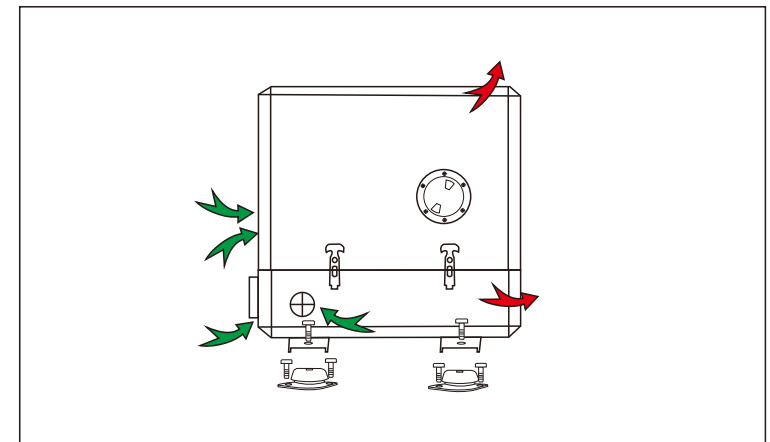


CAUTION!

Failure to observe this instruction can cause material damage and impair the function of the product.

Find a suitable location to install the generator set according to the size of the generator set you ordered. diagram fig.16, page 25.

- Consider that the generator needs enough air to get inside the generator case.
- Different types of generators have different intake parts, please refer to the generator you get.
- If the height of the space is enough, please use the 4 shock-absorbing feet provided with the accessories. The shock-absorbing feet will reduce the vibration of the generator.



15.1 Installation seawater cooling system

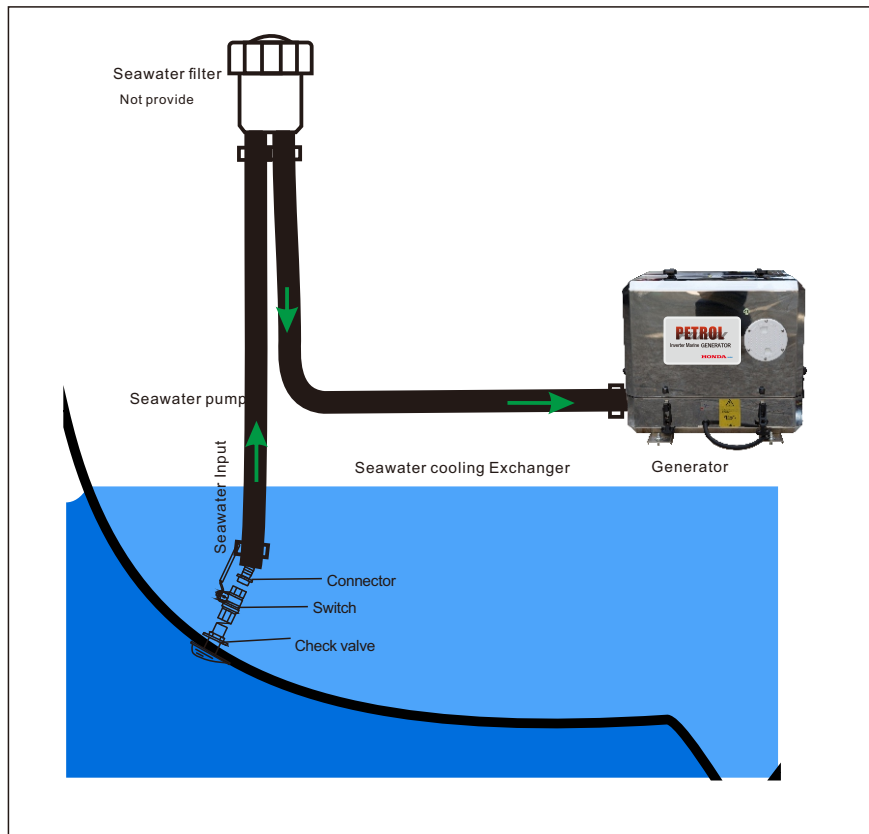


NOTE!

The most important thing in the installation of the seawater cooling system is that the pipe buckle of the water pipe must be locked to avoid water leakage.

Please refer to the illustration for installing the seawater cooling system show down in fig.page 37.

- Connect the inlet of the seawater filter to the seawater inlet, connect the outlet of the seawater filter to the seawater inlet joint of the generator set, and tighten all pipe buckles.



15.2 Installation Exhaust and Drainage Systems

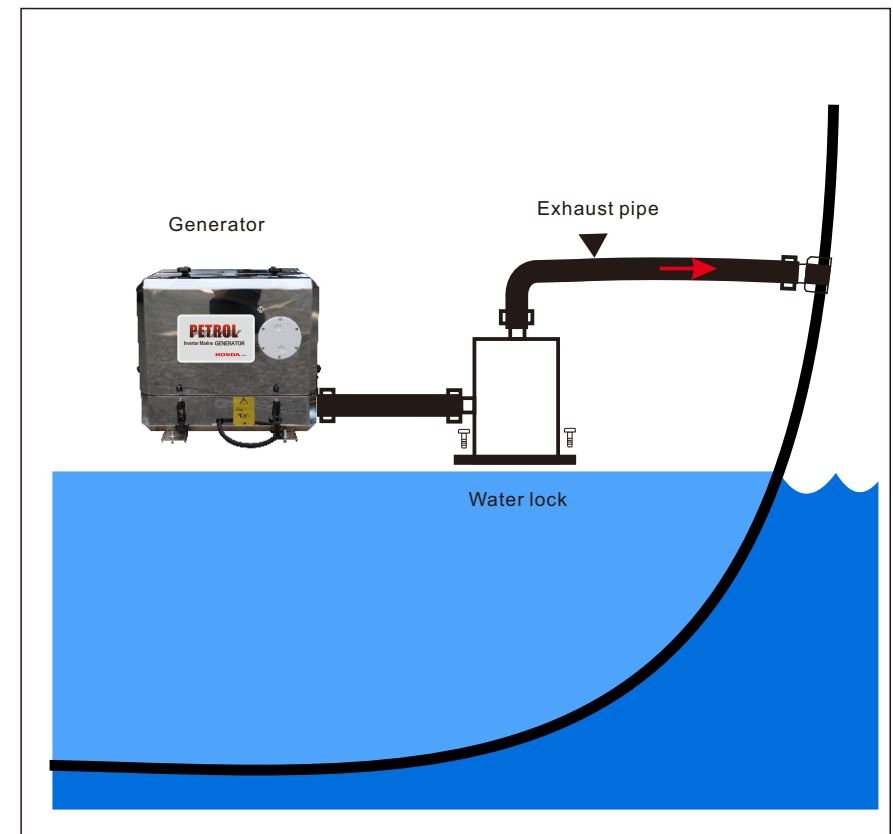


NOTE!

The most important thing in the installation of the seawater cooling system is that the pipe buckle of the water pipe must be locked to avoid water leakage.

Exhaust and Drainage Installation show down in fig.page 38.

- Fix the water lock in a suitable position not far from the generator
- Connect the hybrid generator exhaust and drain outlet to the inlet of the water lock, Connect the outlet of the water lock to the cabin drain.



15.3 Connect the fuel line

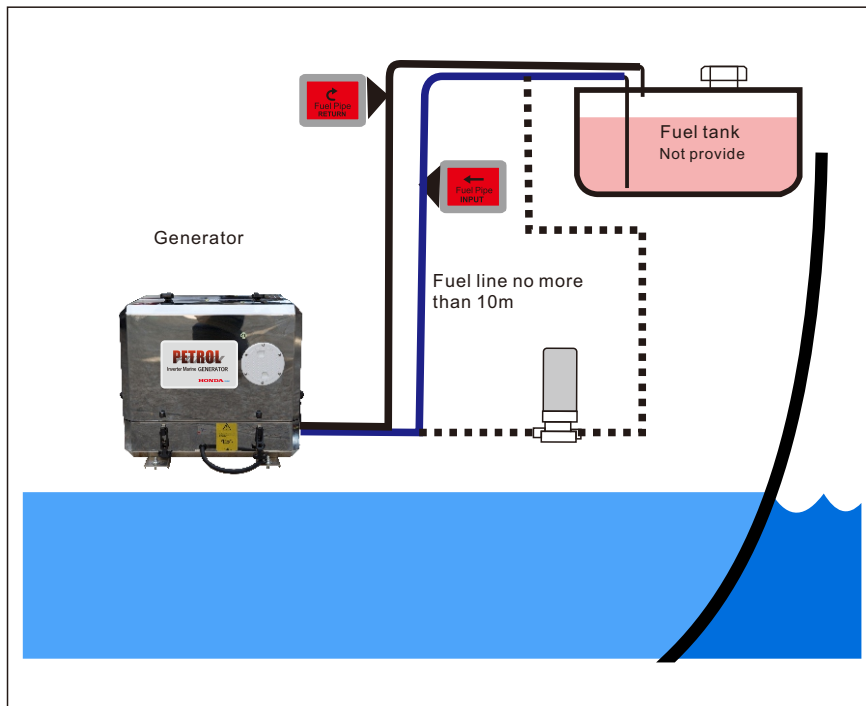


NOTE!

The USR generator is equipped with a DC12V fuel pump, but the power of the fuel pump is small and the suction range is limited. The installed fuel length cannot exceed 10 meters. If the fuel length exceeds 10 meters, an additional fuel pump needs to be installed.

Install the fuel line show down in fig. page 40.

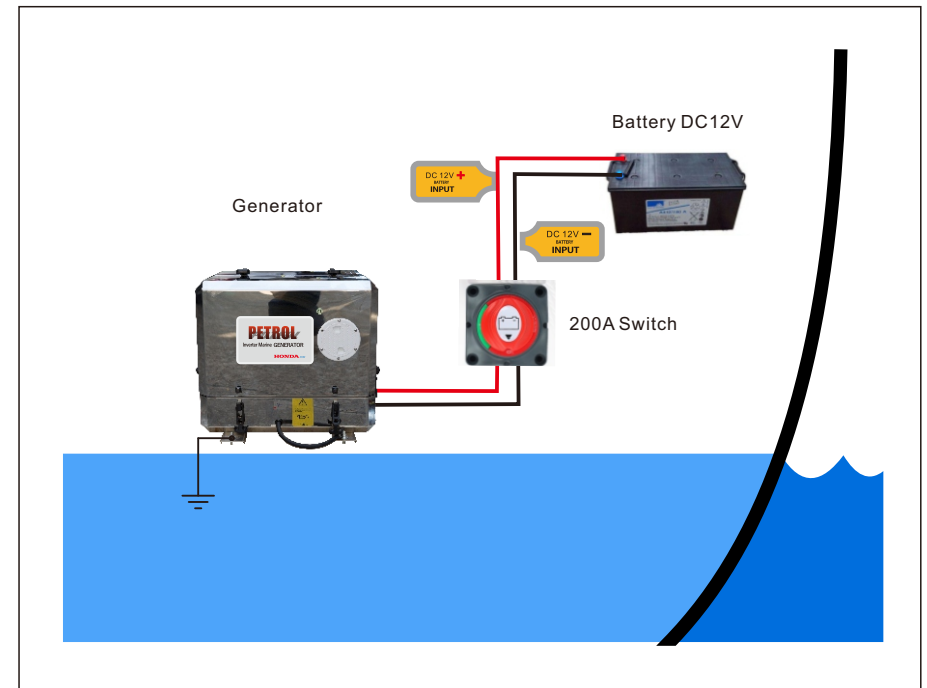
- The length of the installed fuel cannot exceed 10 meters. If the length of the fuel exceeds 10 meters, an additional fuel pump needs to be installed.
- There are two fuel rod pipes on the generator, one is the fuel inlet pipe and the other is the fuel return pipe. Do not install it wrongly.



15.4 Connect the battery

Connect generator to battery cable show down in fig. page 41.

- 12V battery charger: 10.0mm²
- Battery connection (length < 6 m): 16 mm²
- Battery connection (length > 6 m): 24 mm²
- Make sure that the positive pole + of the red cable is connected to the positive pole of the battery, and that the negative pole - of the black cable is connected to the negative pole of the battery.
- Make sure that the cable connector connected to the battery has been tightened
- A 200A switch must be installed between the generator and the battery cable for debugging and maintenance



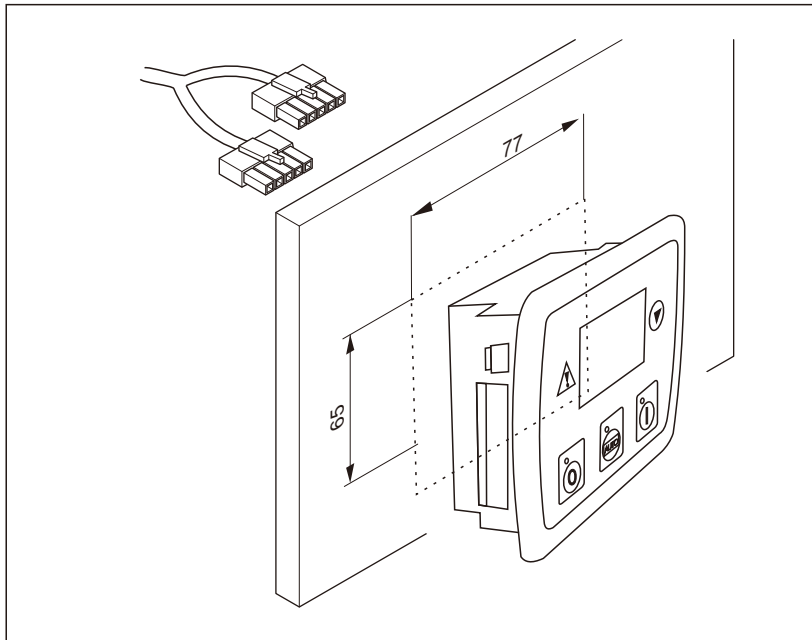
NOTE!

Make sure that the cable connector connected to the battery has been tightened. Poor contact will cause the generator to fail start or turn off the fire.

15.5 Installation the Control panel

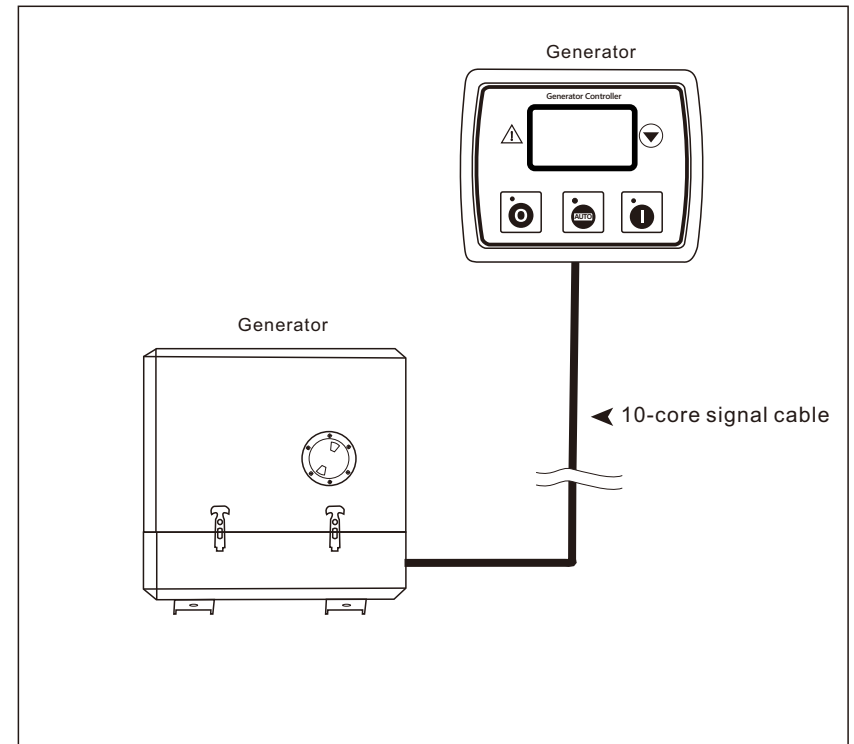
Install the control panel in a suitable location show down in fig. page 42.

- The length of the 10-pin signal cable is 5m, and the installation position from the controller to the generator should not exceed 5m.
- The opening size is 77*65mm at a suitable position under the seat inside the vehicle
- Insert the wiring heads of the two rows into the corresponding sockets of the controller respectively, and make sure that they have been inserted tightly. Fix the control panel at the opening hole, stick it with glass glue, and make sure that it will not loosen.



NOTE!

To install the controller, make sure that the two rows of connectors have been plugged into the socket of the controller, otherwise the generator will not start or it will stop immediately after it starts.



15.6 Generator output connected to mains power



WARNING!

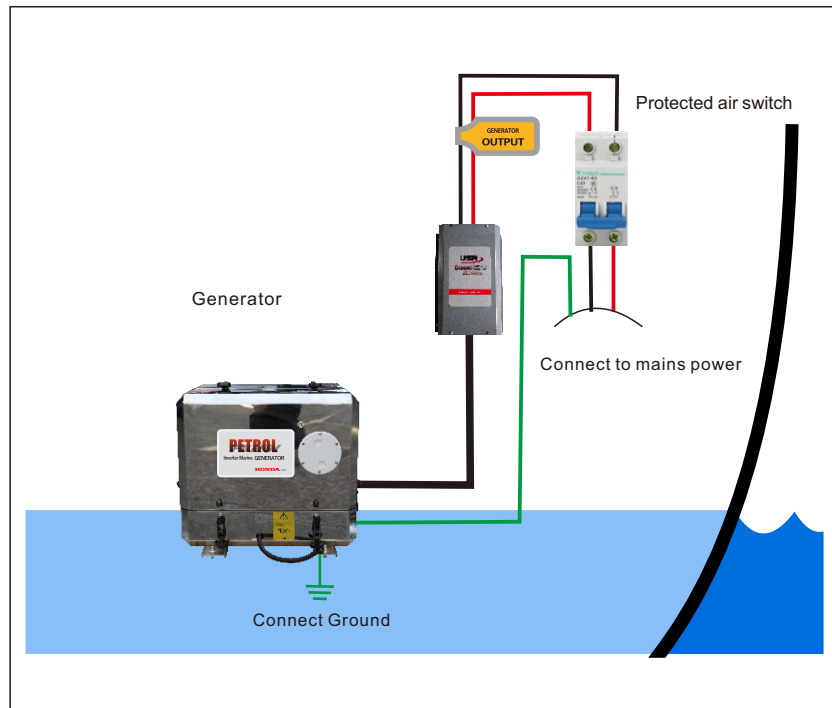
When the generator is connected, it must be ensured that the generator is stopped to avoid electric shock. otherwise it may cause fatal or serious injury.



WARNING!

If the cable provided by the manufacturer is not long enough, please use a cable with a cross-section more than 6.0mm^2 . When connecting the cable, make sure that the connection is strong. It is best to use an electric iron and solder to solder firmly, otherwise the power will not be smooth. Even cause a fire

- Generator output connected to mains power show down in fig. page 44.
 - An air protection circuit breaker must be installed between the inverter of the generator and the main power control box for easy debugging and maintenance of the generator.



16 Disposal

- Place the packaging material in the appropriate recycling waste bins wherever possible.



If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

17 Technical data

Generator	JEC40G PMG	JEC60G PMG
Voltage	1-Phase 110-120V~ 60Hz / 220-240V~ / 50 -60Hz	
Max power	4.5kW	6.0kW
Rated power	4.0kW	5.6kW
Rated Speed	2200-2300rpm	2600-3000rpm
Battery charger output voltage	12A 12V	
Operating temperature range:	-15°C to +50°C	
Distortion factor	1%	1%
Sound level	63 dB(A)	64 dB(A)
Fuel pump	DC12V	DC12V
Weight:	96kg	146kg
Dimension:	500*540*420	600*530*520

Engine	GX270W-E3	GX630S-E3
Brand	Honda Gasoline Engine	
Emission regulation	EU Stage V	
Type	4-cycle	
Cylinders	1	2
Bore and stroke	77.0 x 58.0 mm	78.0 x 72.0 mm
Displacement	270 cm ³	450 cm ³
Aspiration	Naturally aspirated	
Stand-by output / speed*1	6.3 kW (8.4 HP) / 3600 rpm	15.5 kW (20.8 HP) / 3600 rpm
Continuous output / speed*2	4.0 kW (5.3HP) / 3000 rpm	10.5 kW (14.1 HP) / 3000 rpm
Combustion system	indirect injection	
Fuel system	Electronic fuel pump	
Inspection/certification:		

Generator	JEC80G PMG	JEC100G PMG
Voltage	1-Phase 110-120V~ 60Hz / 220-240V~ / 50 -60Hz	
Max power	8.0kW	10.0kW
Rated power	7.2kW	8.0kW
Rated Speed	2600-3200rpm	2600-3300rpm
Battery charger output voltage	12A 12V	
Operating temperature range:	-15°C to +50°C	
Distortion factor	1%	1%
Sound level	65 dB(A)	65 dB(A)
Fuel pump	DC12V	DC12V
Weight:	158kg	173kg
Dimension:	600*530*520	600*530*520

Engine	GX630S-E3	GX690S-E3
Brand	Honda Gasoline Engine	
Emission regulation	EU Stage V	
Type	4-cycle	
Cylinders	2	2
Bore and stroke	78.0 x 72.0 mm	78.0 x 72.0 mm
Displacement	580 cm ³	650 cm ³
Aspiration	Naturally aspirated	
Stand-by output / speed*1	15.5 kW (20.8 HP) / 3600 rpm	16.5 kW (22.1 HP) / 3600 rpm
Continuous output / speed*2	10.5 kW (14.1 HP) / 3000 rpm	11.5 kW (15.4 HP) / 3000 rpm
Combustion system	indirect injection	
Fuel system	Electronic fuel pump	
Inspection/certification:		

PETROL

Marine GENERATORS



JEC series Manual
Installation

Please read this instruction manual carefully before installation and first use, and store it in a safe place. If you pass on the product to another person, hand over this instruction manual along with it.

1 Explanation of symbols



WARNING!

Safety instruction: Failure to observe this instruction can cause fatal or serious injury.



CAUTION!

Safety instruction: Failure to observe this instruction can lead to injury, serious injury.



CAUTION!

Failure to observe this instruction can cause material damage and impair the function of the product.



NOTE!

Supplementary information for operating the product.

2 Safety and installation instructions

The manufacturer accepts no liability for damage in the following cases:

- Damage to the product resulting from mechanical influences and excess voltage
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in the operating manual

In particular, the manufacturer will not be liable for any consequential damage, especially consequential damage caused by failure of the generator.

Note the following basic safety information when using electrical devices to protect against:

- Electric shock
- Fire hazards
- Injury

2.1 General safety



WARNING!

- **Electrical devices are not toys**
Keep electrical devices out of reach of children or infirm persons. Do not allow them to use electrical devices without supervision.
- People (including children) whose physical, sensory or mental capacities prevent them from using this device safely may not be allowed to operate it without the supervision of a responsible adult.
- Only use the device as intended.
- Do not make any alterations or conversions to the device.
- Installation, maintenance and repairs of the generator may only be carried out by qualified personnel who are familiar with the risks involved when handling generators as well as the relevant regulations. Inadequate repairs may cause serious hazards. For repair service, please contact the manufacturer's branch office in your country (addresses on the back page).
- Exhaust fumes contain carbon monoxide which is a highly toxic, odourless and colourless gas. Do not inhale any exhaust fumes. Do not leave the generator motor running in a closed garage or in a room without windows.



CAUTION!

- The generator may only be used with the front door closed.
- Remove all flammable materials such as petrol, paints, solvents, etc., from the vicinity of the generator.
- Ensure that hot parts of the generator do not come in contact with any flammable materials.
- Only refuel the generator when it is switched off and in a well-ventilated area. Petrol and liquid gas are highly flammable and can explode.
- Do not refuel the generator when the vehicle engine is running if the tank is in the vicinity of the generator.

2.2 Operating the device safely



WARNING

- Always disconnect the power supply when working on the device.



NOTICE!

- Only operate the device if you are certain that the housing and the cables are undamaged.

3 Operating the device safely

This operating manual is for the user of the generator.

4 Scope of delivery

JEC Series

No.	Name	Description	quantity	Unit
1	Generator set		1	PC
2	Oil drain pipe		1	PC
3	Genset output wire	Raw generator output three phase 290-400V	2	PCS
4	Battery input wire	One positive pole and one negative pole respectively	2	PCS
5	Fuel pipe	One inlet pipe and one return pipe each	2	PCS
6	Power inverter kit		1	PC
7	Steel Gasket +Hexagon Screw	13*50*3/M12*30	4	PCS
8	Water lock		1	PC
9	Rubble water pipe	Inner diameter 20mm 2 meter *5	2	PCS
10	Breaker		1	PC
11	Engine manual	Honda Gasoline engine	1	PC
12	Wireless remote		1	PC
13	Use's manual	USR Company	1	PC
14	Exhaust rubble pipe	38mm	1	PC
15	Oil funnel		1	PC
16	Pipe buckle	19mm*8,38mm*4	8	PCS
17	Controller	USR706	1	PC

5 Intended use

The JEC JEC series generators are designed for fishing boats, yachts and ship.

The generator can be used for on-board power supply if coupled with fresh water circulation.

The generator produces a pure sine wave voltage of 120-240 V/50-60 Hz which can be connected to the consumer with a total continuous load of 5.6-25kW according to different models. The power quality is also suitable for sensitive consumers (such as PCs).

The generator can charge a 12 V battery.

6 Technical description

The combustion engine drives the alternator connected to it, which in turn generates AC voltage.

The inverter transforms this AC voltage into a stable voltage of 230 V and 50 Hz.

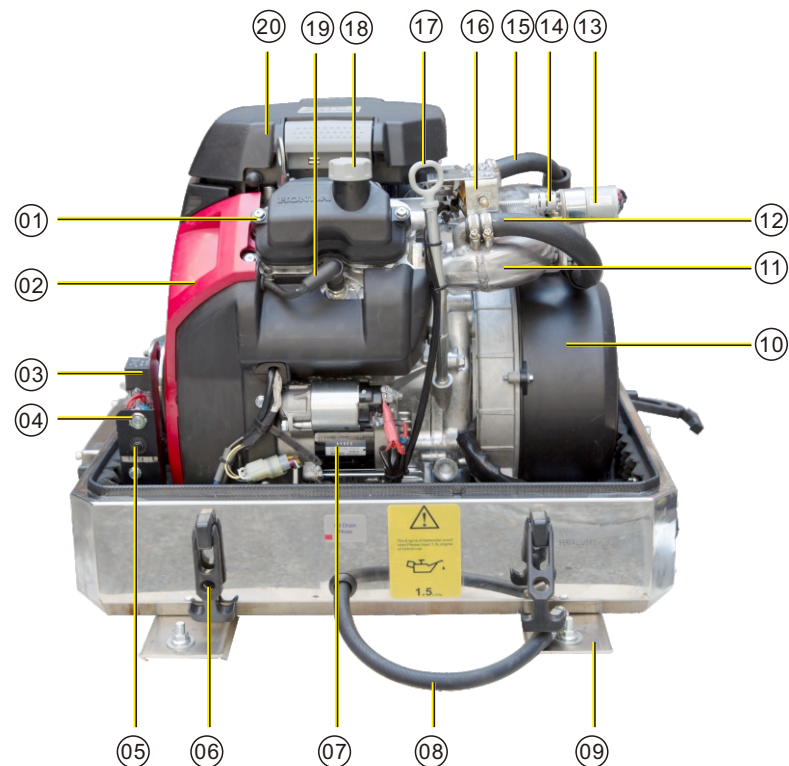
The terminals, the socket for the connection cable to the remote control and the main switch are installed in the internal control panel

The generator has the following features:

- Integrated battery charger for charging the connected battery
- Automatic mode for charging the connected battery automatically (must be configured accordingly when installed)

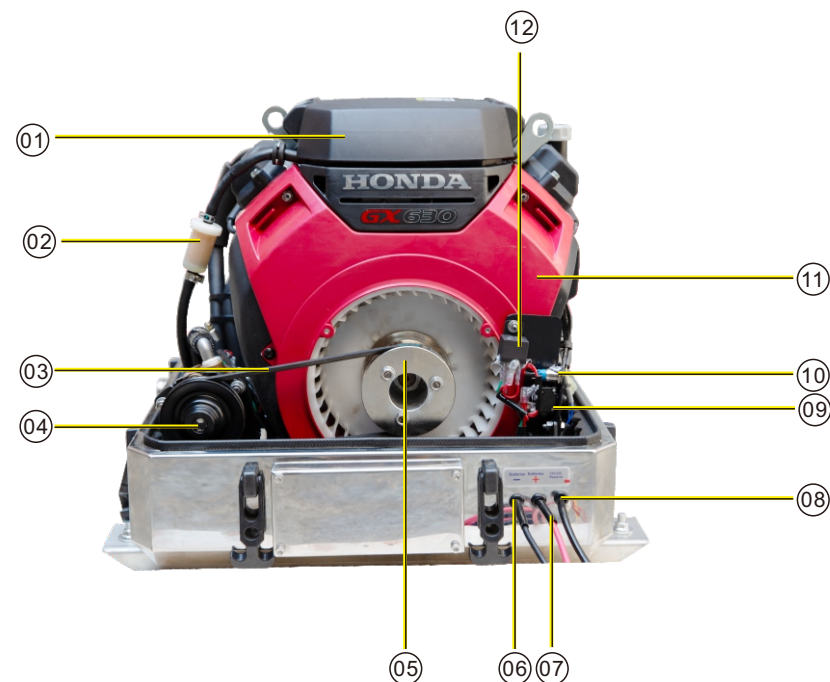
7 Description of the generator

7.1 Front view



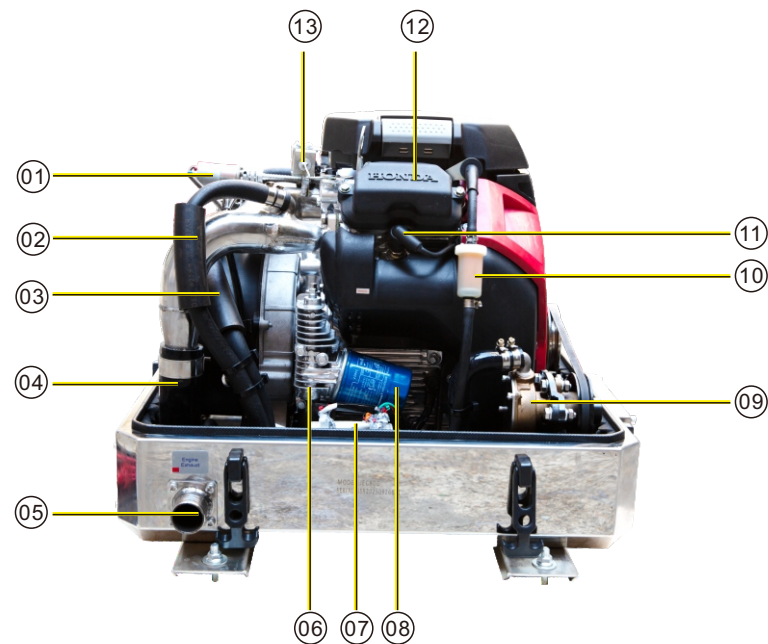
- | | |
|-----------------------------|------------------------------------|
| 01 Gasoline Engine | 11 Seawater & Air exhaust Catheter |
| 02 Air guide cover | 12 Left Seawater rubber hose |
| 03 Throttle 12V relay | 13 Adjustable speed motor |
| 04 Check fuel pump | 14 Coupling |
| 05 12V DC protection switch | 15 Right Seawater rubber hose |
| 06 Rubber buckle | 16 Throttle electromagnet |
| 07 Starter motor | 17 Oil dipstick |
| 08 Oil drain hose | 18 Oil filler cap |
| 09 Fixed bracket | 19 spark plug |
| 10 Alternator | 20 Air filter |

7.2 right side view



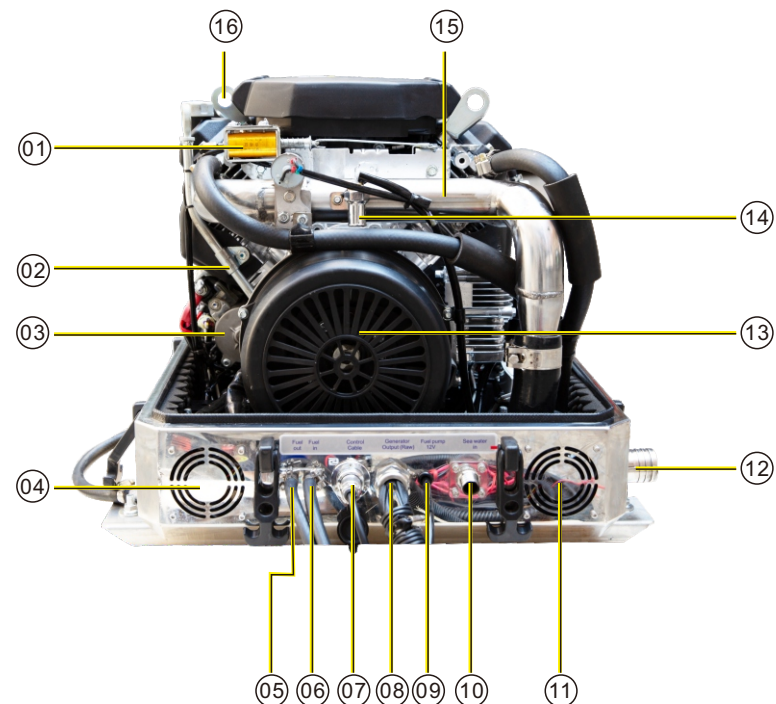
- | | |
|-------------------------|------------------------------|
| 01 Air filter | 07 12V battery negative pole |
| 02 Fuel filter | 08 12V-DC Reserve |
| 03 3-corner belt | 09 12V DC protection switch |
| 04 Seawater pump | 10 Check fuel pump |
| 05 Pulley | 11 Air guide cover |
| 06 12V battery positive | 12 Throttle 12V relay |

7.3 Back view



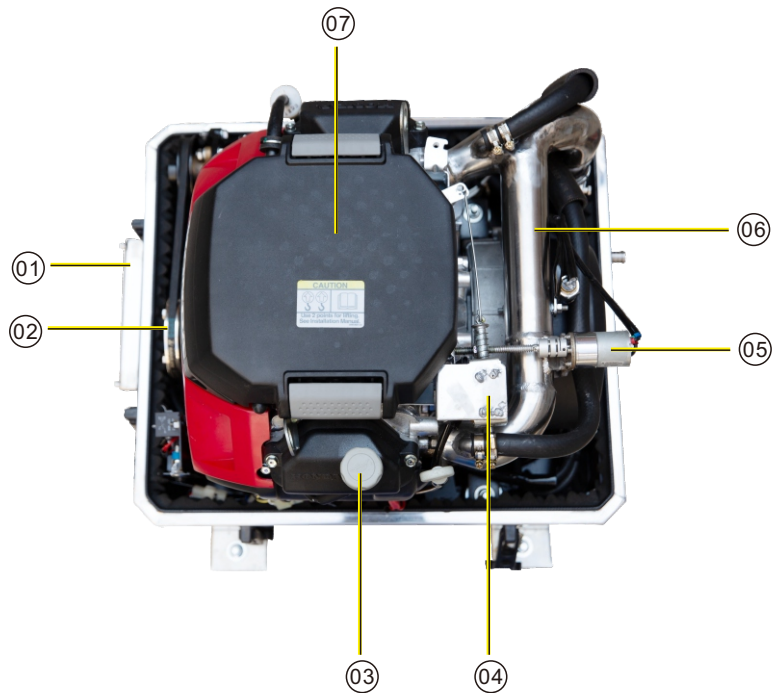
- | | |
|-------------------------------|---------------------------|
| 01 Adjustable speed motor | 08 Oil filter |
| 02 Right Seawater rubber hose | 09 Seawater pump |
| 03 Left Seawater rubber hose | 10 Fuel filter |
| 04 Exhaust | 11 Spark plug |
| 05 Cooling water in | 12 Valve Cylinder Head |
| 06 Oil cooler | 13 Throttle electromagnet |
| 07 Speed control module | |

7.4 Left side view



- | | |
|---------------------------|------------------------------------|
| 01 Throttle electromagnet | 09 Fuel pump 12V |
| 02 Oil dipstick | 10 Seawater in |
| 03 Starter motor | 11 Exhaust fan 2# |
| 04 Exhaust fan 1# | 12 Cooling water in |
| 05 Fuel out | 13 Alternator |
| 06 Fuel in | 14 Temperature sensor |
| 07 Control cable | 15 Seawater & Air exhaust Catheter |
| | 16 Hook |

7.5 View from Above



- 01 Air intake
- 02 Pulley
- 03 Oil filler cap
- 04 Throttle electromagnet
- 05 Adjustable speed motor
- 06 Seawater & Air exhaust Catheter
- 07 Air Filter

8 Operating the generator



DANGER!

Safety instruction: Failure to observe this instruction will cause fatal or serious injury.



WARNING!

Safety instruction: Failure to observe this instruction can cause fatal or serious injury.



CAUTION!

Safety instruction: Failure to observe this instruction can lead to injury, serious injury.



CAUTION!

Failure to observe this instruction can cause material damage and impair the function of the product.



NOTE!

Supplementary information for operating the product.

8.1 Basic notes on operation



NOTICE!

Do not run the generator over 70% of the maximum constant output for the first 50 operating hours (run-in phase).



NOTE

Run the generator at a maximum of approx. 75% of the maximum continuous load after the run-in phase.
By doing this you can prolong the service life of the generator and maximise its efficiency.



CAUTION! Beware of injury

Do not insert your fingers or objects into the air nozzles or the intake grille.

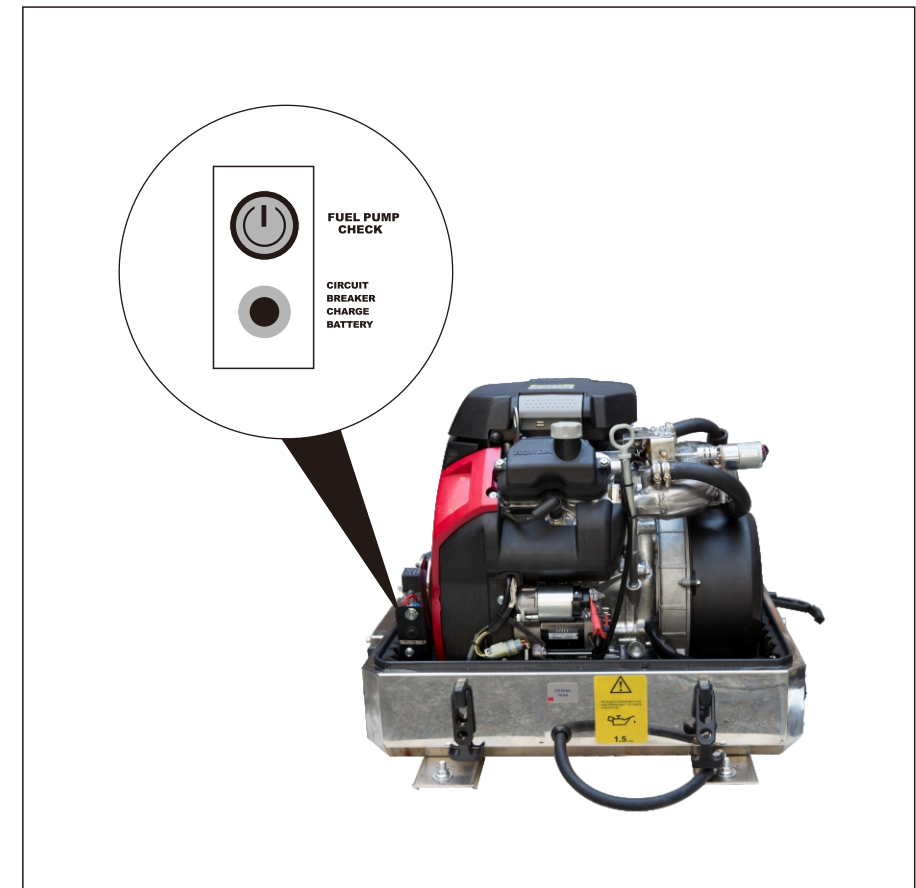
Please note the following basic information:

- Always check the oil level before use (chapter "Checking the oil level" on page 21).
- JEC LPG only: Check there are no leaks from the gas supply using a leak detection spray before every use.
- Even small overloads in the long-run will cause the cut-out switch or the fuses to trigger.
- Leave the generator running for a few minutes after use without any consumers before stopping it.
- Abrupt braking, accelerating and driving round bends in the vehicle can cause problems in the generator's pump system and lead to unwanted shutdown.
- If you are not using your generator for a longer period of time, start it up at least every 30 days and leave it running for 15 minutes or more.

8.2 Internal junction box

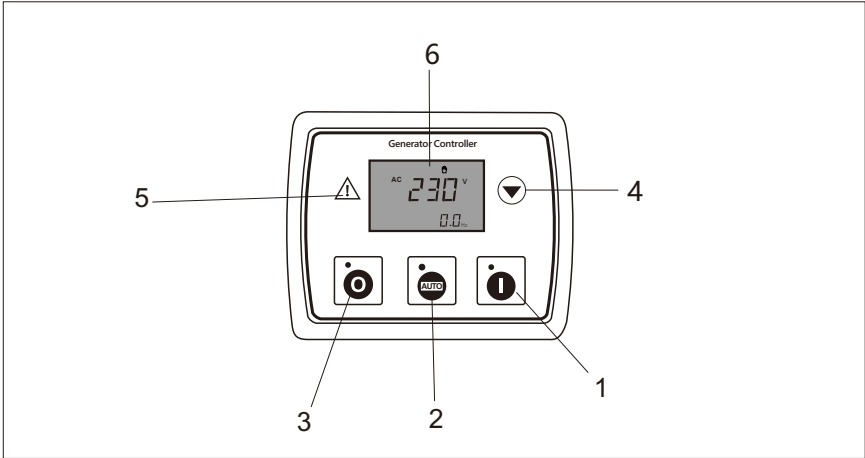
Internal junction box as shown in fig page 28.

Item	Description
1	Fuel pump check switch
2	DC 12V Circuit Breaker Charge Battery (18A)



8.3 Generator controller (control panel)

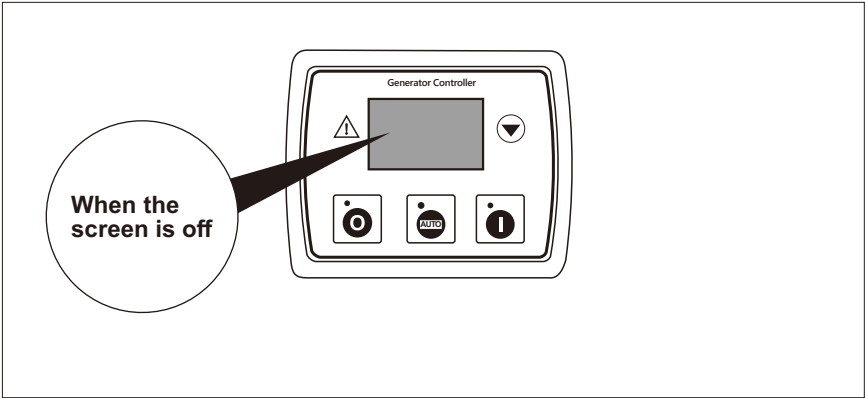
the control panel diagram show down in fig page 15.



No.	Defined	Description
1	Manual start button	Push this button, generator will start, and the module comes into manual state
2	Auto state button	Push this button, Wireless remote control mode
3	Stop butttn	Push this button, generator will stop, and the module comes into stop state. In the standby mode, if long pressing the button for 3 seconds all LED lights
4	LCD page button / confirm button	Change the page display, used for LCD and can move the cursor in the parameter Settings and confirm set information
5	Alarm light	When an alarm occurs, exhibit of lanterns flicker
6	LCD Display	Show current content



NOTICE!
When the generator is stopped for more than 5 minutes, the controller screen will automatically turn off to reduce battery consumption. When the generator needs to be used, press any key to activate the controller.



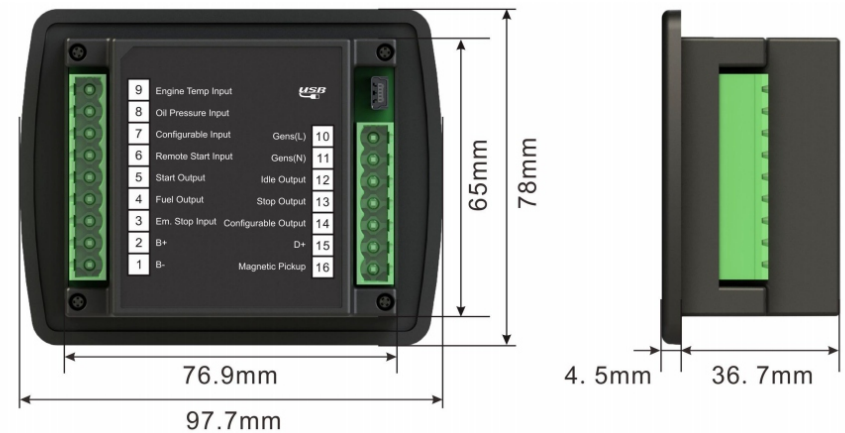
8.4 Controller function

The meaning of each icon of the controller

Symbol	Defined	Symbol	Defined
	High Temperature		Automatic state
	Low Oil Press		Stop state
	Over Speed		Manual states
	Under speed	AC	Generator voltage
	Emergency Stop	DC	Battery voltage
	High voltage	%	Amount of fuel
	Low voltage	RPM	Speed units (rpm/minute)
	Over Crank	kPa	Oil pressure unit
	Warning	V	Voltage unit
	Stop alert	A	Current unit
	Stop Failure	%	Fuel level units (Percentage)
	Rotation during normal operation	°C	Temperature unit
	flywheel tooth number	Hz	Frequency unit
	Battery voltage is abnormal	H	Total running time
	External alarm	SET	Parameter setup instructions
	Low fuel level	L1-L2	L1-L2 Line voltage
L2-L3	L2-L3 Line voltage	L3- L1	L3-L1 Line voltage
L1- - -N	L1 Phase voltage	L2- -N	L2 Phase voltage
L3-N	L3 Phase voltage		Panel lock (Close button function)

8.5 Case dimensions

(Hole:78mm*66mm)



8.6 Display discription

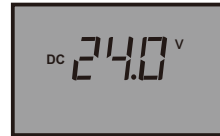
Generate output voltage V,
Frequency Hz



Oil pressure
Temperature



Battery voltage,



Fuel level %,
Total running time



8.6.1 Operation of Controller

Module has three states: stop state  AUTO state  Man start state 

8.6.2 Man start

Start by pressing the start button  on the control panel is a manual start.
At this time, a small hand  will be displayed on the LDC.

8.6.3 AUTO state

- The generator is in the state of wireless remote control when it leaves the factory, the AUTO light  is on.
- When the generator is under manual control, first press the stop button, then press the AUTO button , the generator is in the wireless remote control state, and the wireless remote control can be used to control the switch.

8.6.4 Stop state

- When the generator is in the AUTO state, it can be stopped by the wireless remote control, or it can be stopped by the stop button  on the control panel

- When in manual mode, press the stop button to stop 

In the case of troubleshooting, when the Alarm light  is flashing, you can use the stop button to cancel

8.6.5 Alarm light

Alarm light will flash in the following situations

- Low Oil Pressure: check after the safe delay, the duration of 5 seconds above, the module will alarm and stop engine.
- High Temperature : check after the safe delay, the duration of 10 seconds above, the module will alarm and stop engine.
- Low Fuel Level: When the fuel level is consistently below the preset value of 10 seconds, and issuing fuel level is too low signal, this value is only a warning will not stop.
- Over speed: check after the preheat delay, the duration of 2 seconds above, the module will alarm and stop engine.
- Under speed: check when engine run at full tilt, the duration of 15 seconds above, the module will alarm and stop engine.
- Over Crank: when engine crank fail over the times of configure, the module will alarm and stop engine.
- Stop Failure: when engine is stop fail, the module will warn.
- Battery over voltage: The DC supply has risen above the high volts setting level for the duration of the high battery volts 20 seconds.
- Battery under voltage: The DC supply has low above the under volts setting level for the duration of the low battery volts 20 seconds.
- Emergency Stop: When emergency stop input, ETS solenoid stop immediately output, and then fuel disconnect, preheat and start signal emit emergency stop alarm signal.
- Gen Over Voltage: When the continuous sampling voltage higher than the preset value, at the end of the abnormal delay, signal generator voltage is too high, outage alarm at the same time.
- Gen Under Voltage: When sampling the voltage is lower than the preset value continuously, at the end of the abnormal delay signal generator voltage is too low, outage alarm at the same time.

9 Inject engine oil, show following in fig.3,page 19



NOTICE!

No oil is added to the generator when it leaves the factory.



NOTICE!

This manual is a series of product manuals. The amount of oil added to engines of various models is also different. Please refer to the yellow oil volume prompt outside the chassis.



NOTICE!

Please use SAE 20W-50 engine oil

Pour fresh oil into the nozzle. The amount of oil is injected according to the yellow tip stuck to the chassis of the housing.



Please use SAE 20W-50 engine oil

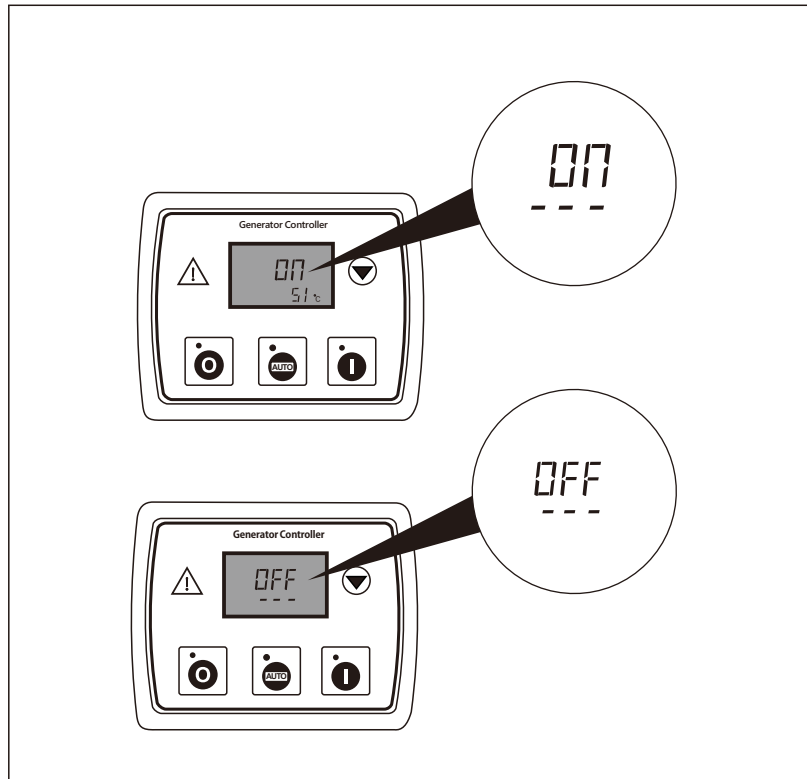
- Open the generator door, find the oil injection port, and unscrew the oil dipstick.
- According to the amount of oil injected into different generator models, there is a sticker on the outer box of each generator to indicate the amount of oil that needs to be added to the generator, until the oil dipstick marks the middle level.



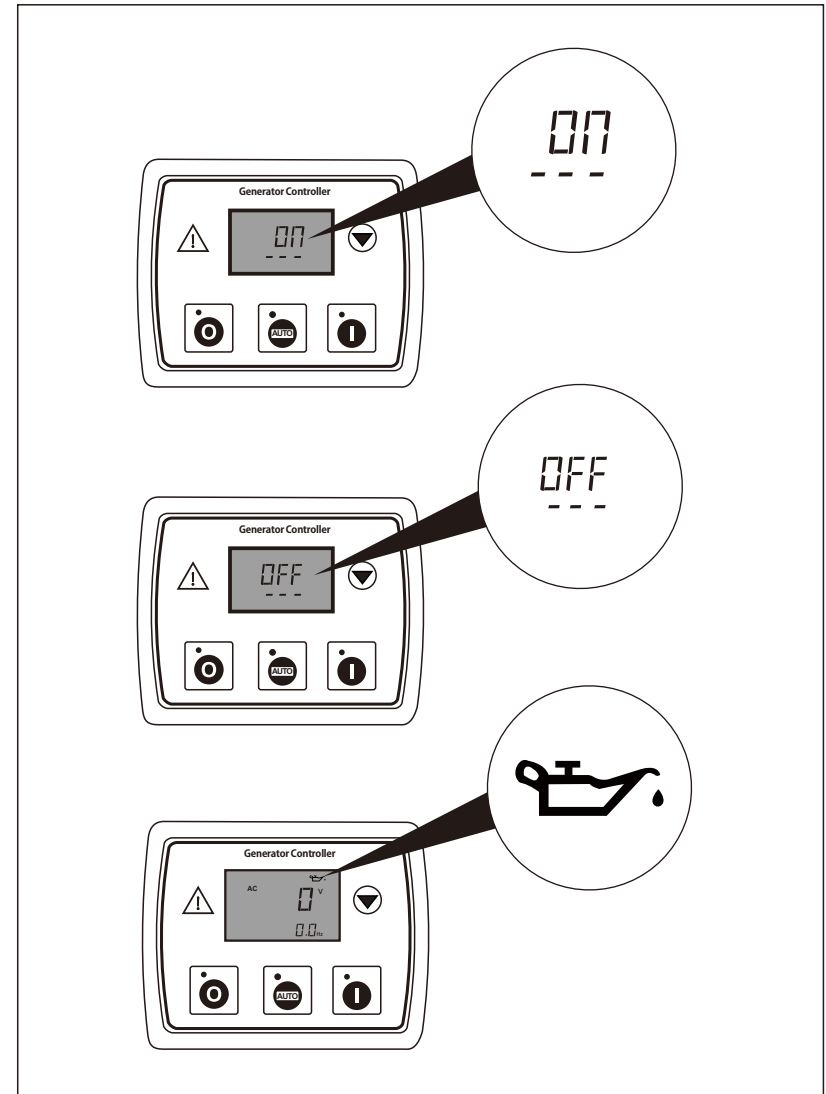
Check whether the oil is also added show down in fig.4,page 20.

- Press the LCD page button  to check whether the oil has been added,
When the generator is stopped, the engine is ON after adding oil, and the display is the same as when no oil is added.

After the generator has been running for 10 minutes, if oil is added to the engine, the oil pressure value will be displayed, usually 400-580kPa. If no oil is added, the oil pressure value will be lower than 300kPa after the generator has been running for 10 minutes, and the generator will shut down.



When the water temperature of the engine reaches 98 degrees, the generator will start high temperature protection and shut down immediately. The oil engine icon and warning light will flash.



10 Start and control the generator with the control panel



WARNING !

Please check multiple times before starting the generator, the cable wiring is correct, the air intake is sufficient, the exhaust is smooth, and the oil pipeline is unobstructed



NOTICE!

It usually takes 5-9 times to start the generator for the first time, please be patient and wait

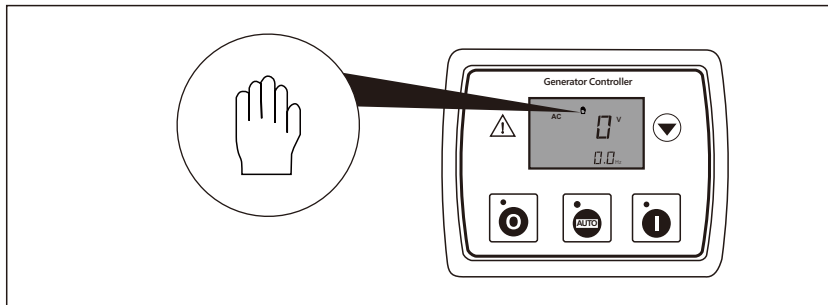
The generator controller is designed to start a group of 1 times, and it will start continuously 1 times until it starts.



DANGER!

Safety instruction: The generator is modulated to start a group of 5 times. During the start of the generator, it is forbidden to perform any operation on the generator. It is forbidden to open the generator cover or reach out to touch the flywheel of the generator, which may cause injury and electric shock.

Control panel button to start the generator: diagram show down in fig page 23



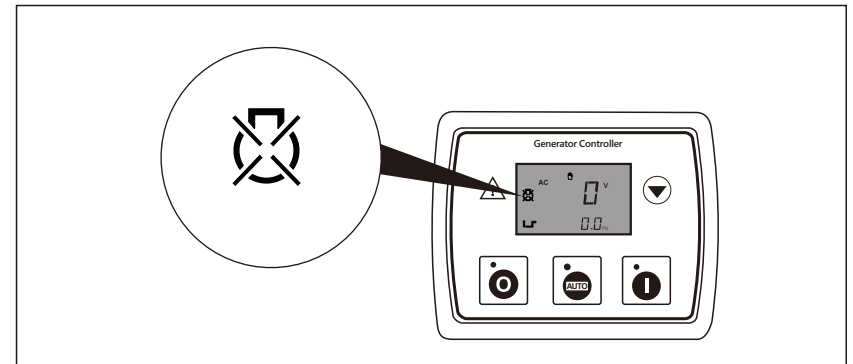
- The generator is in the state of wireless remote control when it leaves the factory, the AUTO light  is on.
- Start by pressing the start button  on the control panel is a manual start.
At this time, a small hand  will be displayed on the LDC.
- Press the start button  to start the generator, and you will hear the sound of the starter motor driving the rotor. The generator controller is designed to start a group of 5 times, and it will start continuously 5 times until it starts.



NOTICE!

The new generator needs to run-in with low power for about 20 hours, and the load power should be kept within 2000W

- When the generator is not started for the first 5 times, the control panel will display the start failure icon , then press the stop button  to clear the start failure icon, and then press the start button  to start 5 times until the generator is started, diagram as following fig page 24



- The new generator needs to run-in with low power for about 20 hours, and the load power should be kept within 2000W

Control panel button to stop the generator:

- Press the stop button  to stop the generator
- Press the stop button  and the generator will stop after 11 seconds, and press the generator again to stop immediately



NOTICE!

Press the stop button and the generator will stop after 11 seconds, and press the generator again to stop immediately

11 Use wireless remote control



NOTICE!

Due to export customs restrictions, there is usually no battery installed inside the wireless remote control

The wireless remote control can only start and stop, and has no other functions. If you need to use the wireless remote control, please install the battery in the wireless remote control.



NOTICE!

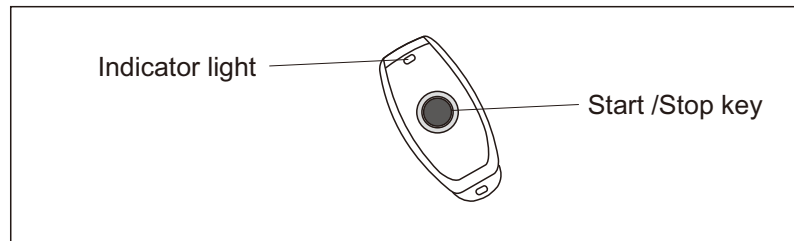
Press the AUTO button before using the wireless remote control



NOTE!

This is a self-locking wireless remote control. Just press it once and release it for an operation. Do not press for a long time or press continuously. This will cause the generator to be out of control.

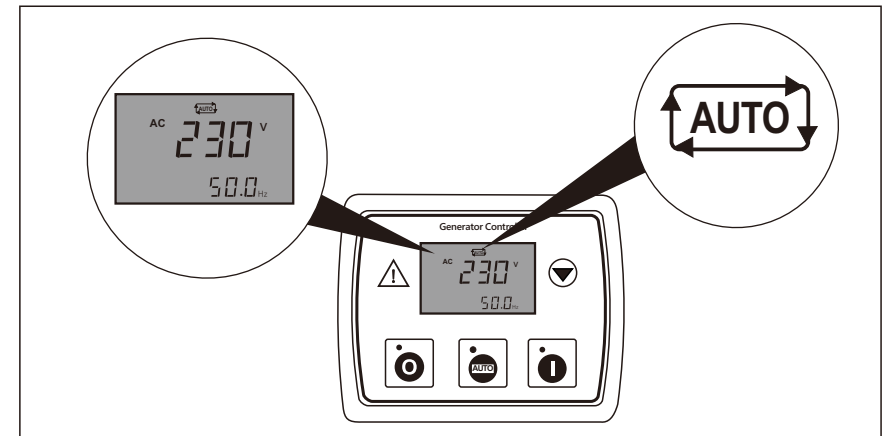
the wireless remote control show down in fig page25.



- Before using the wireless remote control, first install the 3V battery in the wireless remote control
- Press the AUTO button  before using the wireless remote control. At this time, the generator is in the automatic wireless remote control state. The AUTO icon will appear on the LCD screen of the generator (automatic control mode can be used if necessary)
- This is a self-locking wireless remote control. Just press it once and release it for an operation. Do not press for a long time or press continuously. This will cause the generator to be out of control.

LCD screen show down in fig page 26.

- When you press the Start/Stop key of the wireless remote control, the indicator light will light up. You can release it and wait for **10** seconds for the generator to start. When you press the Start/Stop key again, wait **35** seconds for the generator to stop. Please wait patiently. Don't press continuously, and don't press for a long time to relax
- When the generator starts normally, the LCD displays the voltage and frequency



11.1 Operating two generators in parallel (optional)



NOTICE!

The maximum power of two generators in parallel cannot exceed the sum of the rated powers of the two generators.

Without the parallel cable or with a damaged parallel cable the proper operation of the system is not guaranteed, especially in terms of load sharing.

You can independently turn each generator on and off. If the load is more than rated power, you can start both generators in parallel.

**In case both generators are turned on:
Disconnect the load before switching off the system.**

12 Engine temperature rise reminder and protection



NOTICE!

Before using the generator, please confirm that there is enough refrigerant in the water tank to avoid damage to the generator due to overheating or overheating protection.



NOTICE!

When the generator is running for a long time, the load power cannot exceed 50%. Otherwise, the temperature of the generator will rise, if the fresh water temperature of the engine reaches 98 degrees, The generator will turn on the overheat protection function and stop immediately.



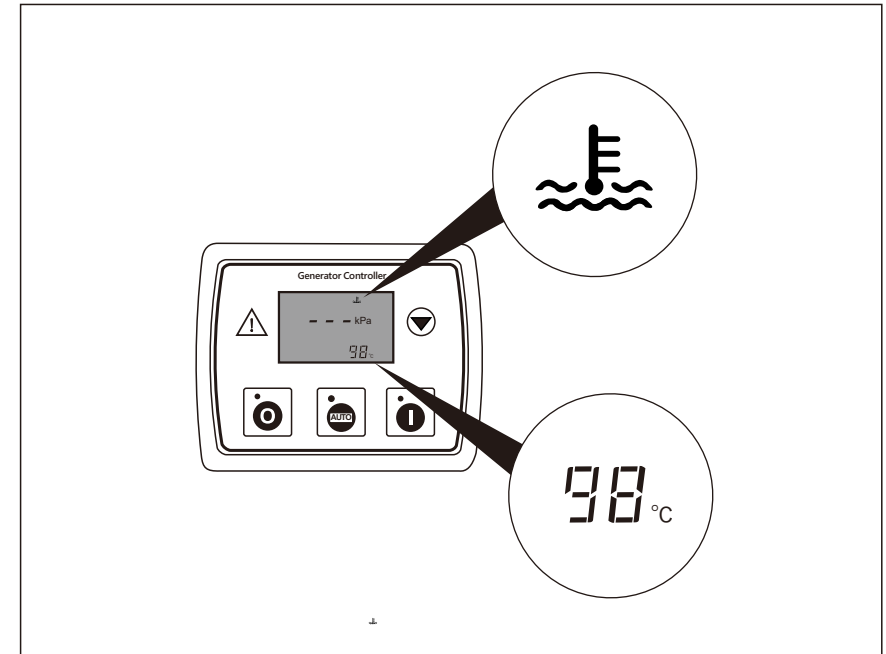
NOTICE!

Before using the generator, please check whether the water pipe joints are tightened and observe whether there is any water leakage.

Please see the water heating and protection functions of the controller as follows in fig page27.

- Press the LCD page button  twice, the same interface as the right will be displayed on the LCD screen, and you can check the water temperature at this time.
- When the water temperature of the engine exceeds 98 degrees, the generator will immediately start overheat protection and stop

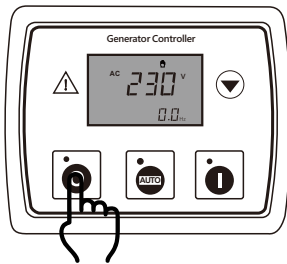
The water temperature interface of the controller is as follows in fig page 28.



13 Stopping the generator

There are three modes of stopping the generator show down

- When the generator is in the AUTO state, it can be stopped by the wireless remote control, or it can be stopped by the stop button  on the control panel
- When in manual mode, press the stop button to stop 
- You can also open the cover of the generator, and use the emergency stop on the junction box to turn off to stop.



14 Generator commissioning

After the generator installation is completed, enter the commissioning stage



WARNING !

Please check multiple times before starting the generator, the cable wiring is correct, the air intake is sufficient, the exhaust is smooth, and the oil pipeline is unobstructed



NOTICE!

It usually takes 5-9 times to start the generator for the first time, please be patient and wait

The generator controller is designed to start a group of 1 times, and it will start continuously 1 times until it starts.



DANGER!

Safety instruction: The generator is modulated to start a group of 5 times. During the start of the generator, it is forbidden to perform any operation on the generator. It is forbidden to open the generator cover or reach out to touch the flywheel of the generator, which may cause injury and electric shock.

15 Generator commissioning

After the generator installation is completed, enter the commissioning stage



WARNING !

Please check multiple times before starting the generator, the cable wiring is correct, the air intake is sufficient, the exhaust is smooth, and the oil pipeline is unobstructed



NOTICE!

It usually takes 5-9 times to start the generator for the first time, please be patient and wait

The generator controller is designed to start a group of 1 times, and it will start continuously 1 times until it starts.



DANGER!

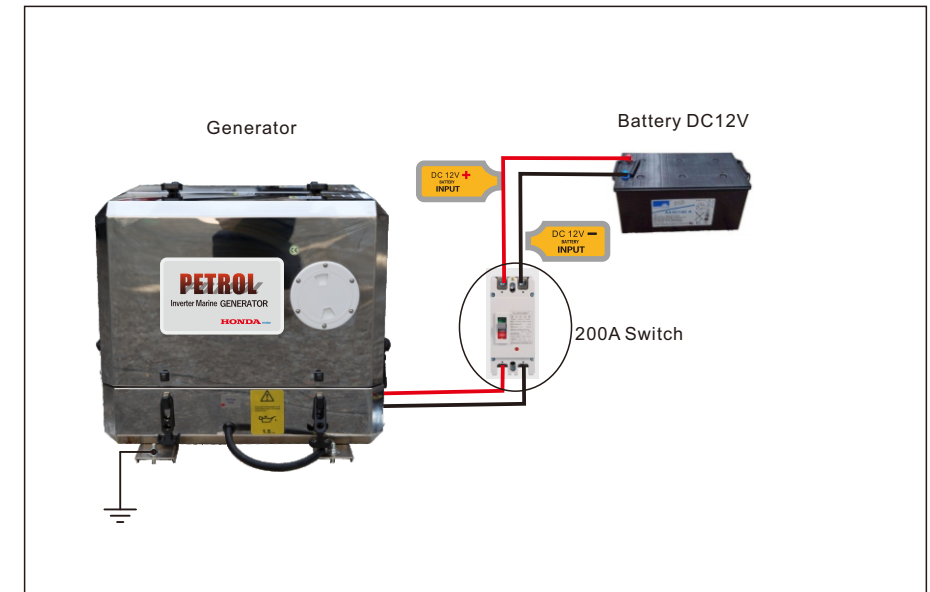
Safety instruction: The generator is modulated to start a group of 5 times. During the start of the generator, it is forbidden to perform any operation on the generator. It is forbidden to open the generator cover or reach out to touch the flywheel of the generator, which may cause injury and electric shock.

15.1 Connect the battery DC12V to the generator

Different models use different battery capacities, please match the battery capacity according to the following models:

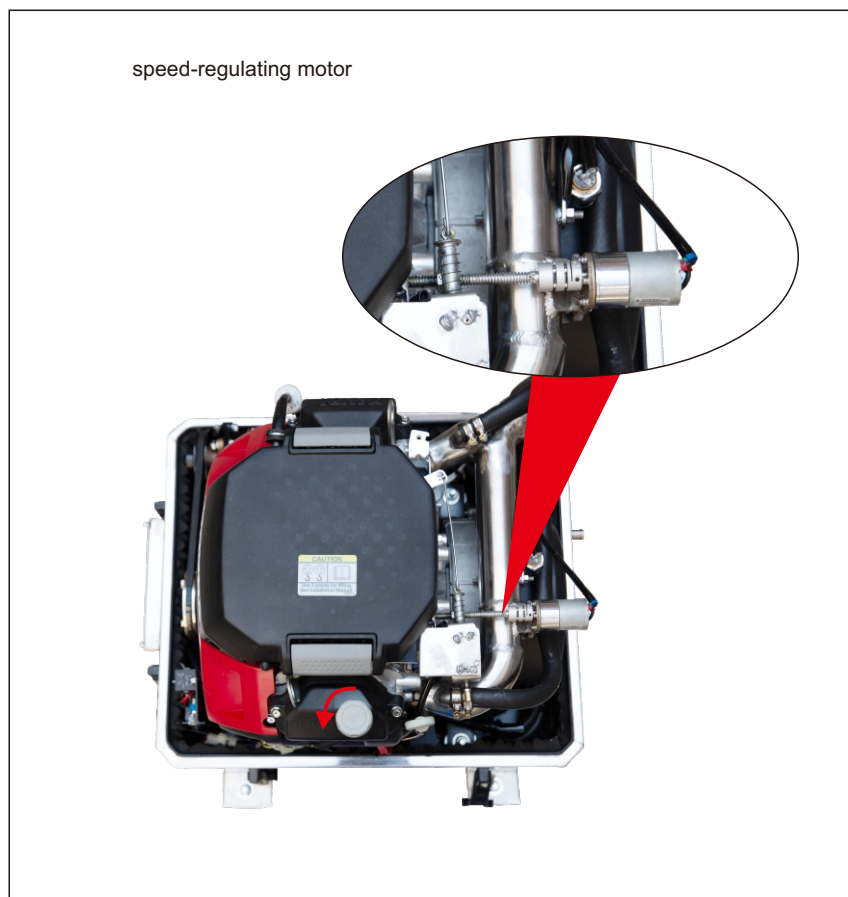
JEC40, JEC60, JEC80 Battery 45Ah/DC12V

JEC100, JEC120, 120Ah/DC12V



Please see the picture below for the location of the speed regulating motor

- Turn on the 200A switch and observe whether the speed-regulating motor of the generator can rotate and return to its original position. If it can rotate and return to its original position, it means that your installation is correct.
- Because of the different resistances, the speed-regulating motor sometimes turns to the right and blocks it, and it will not return and will make a buzzing sound, which is normal.



16 Inject fuel, diagram in fig.page 21.

The fuel tank is not provided by default, this content is only for users who have fuel for the tank



DANGER!

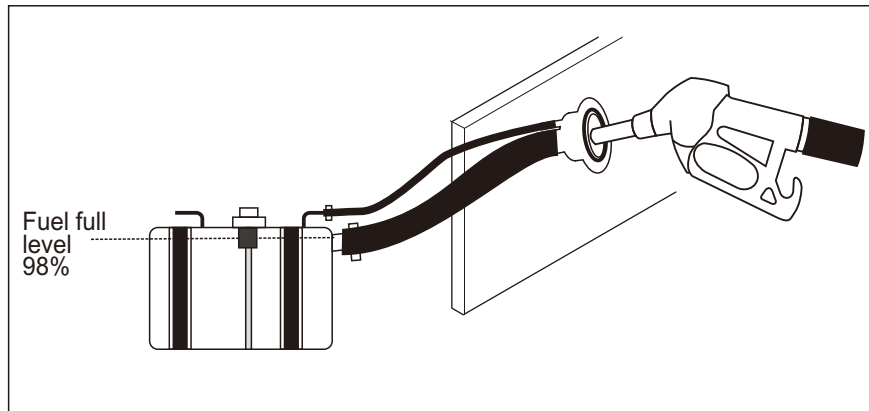
Safety instruction: Gasoline is a flammable and explosive dangerous product. Make sure there is no fire nearby when filling it.



WARNING!

Make sure that the fuel tank and the fuel pipe have been fixed.
Make sure that all tubing and pipe clamps are fastened.
Make sure that all pipes from the fuel tank to the generator are unblocked.

Inject Gasoline



- Please use unleaded gasoline above 92#
- The manufacturer provides a 20L fuel tank, Do not overfill when filling gasoline, and do not exceed 98%

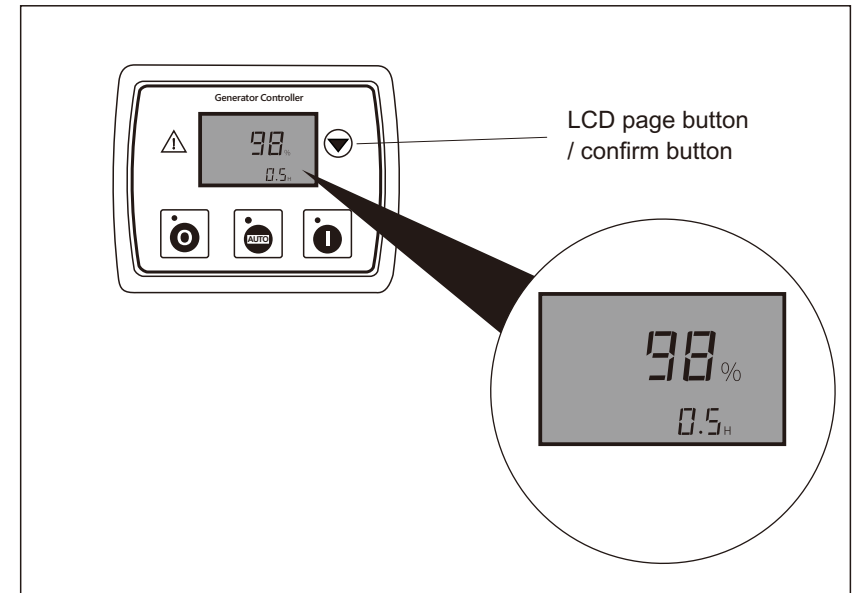
Check the fuel level on the control panel



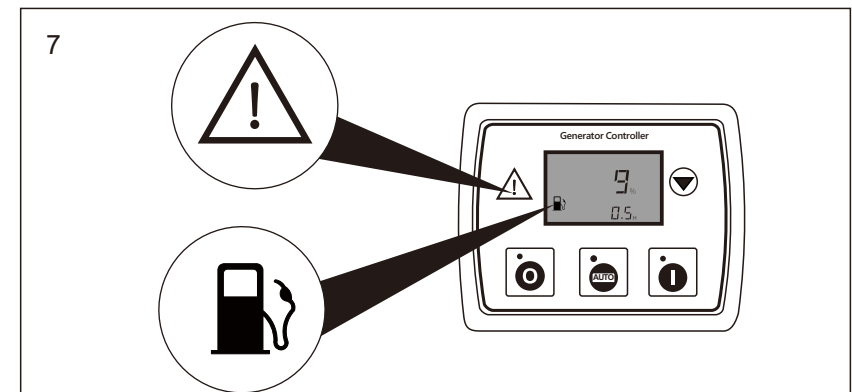
NOTICE!

The fuel level can only display the accurate fuel level when the fuel tank is completely stationary

Check the fuel level on the control panel

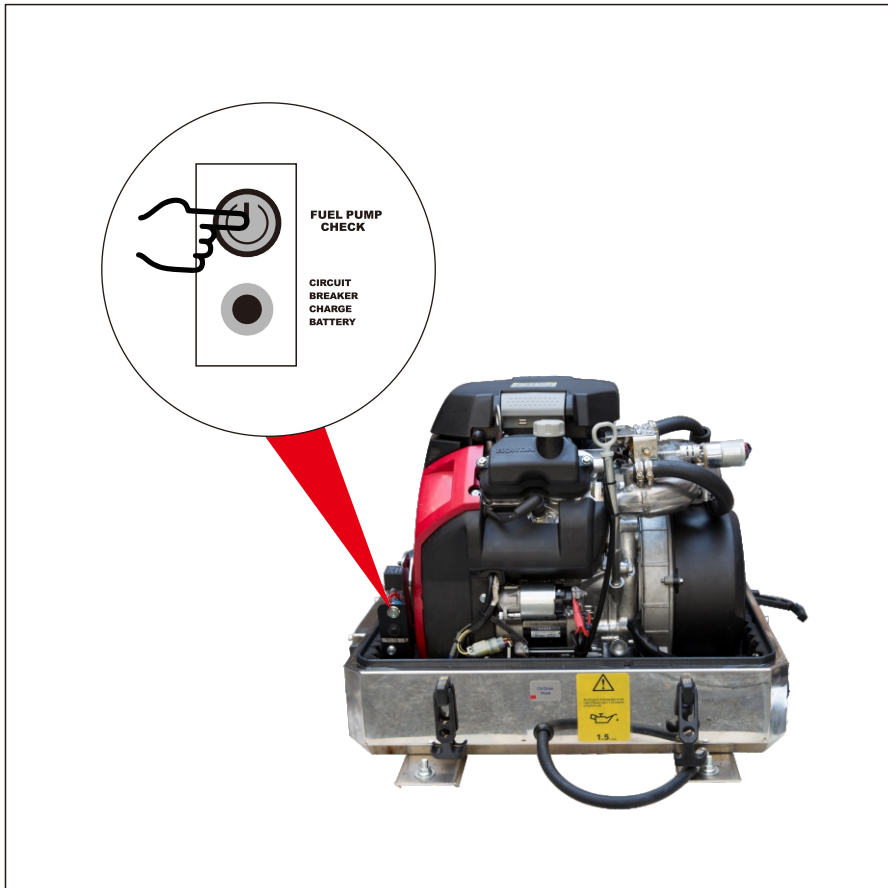


- Press the LCD page button, when the oil level is displayed as %, it means the current tank oil level
- When the fuel in the fuel tank is less than 10%, the Alarm light will flash and the low fuel level icon will appear on the LCD screen.

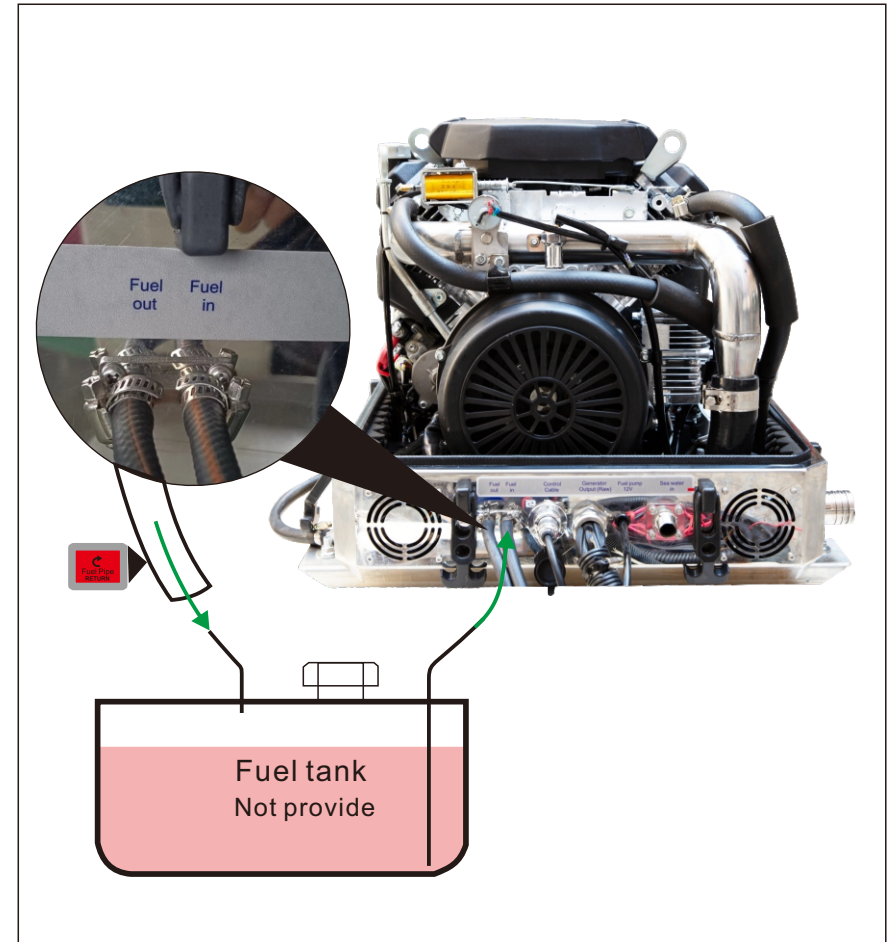


16.1 Fuel pump check

Press the fuel pump check button with your finger and release it. You will hear the sound of the electronic fuel pump turning until the fuel is pumped out and the fuel flows out continuously from the return pipe. Then disconnect the fuel pump check button.

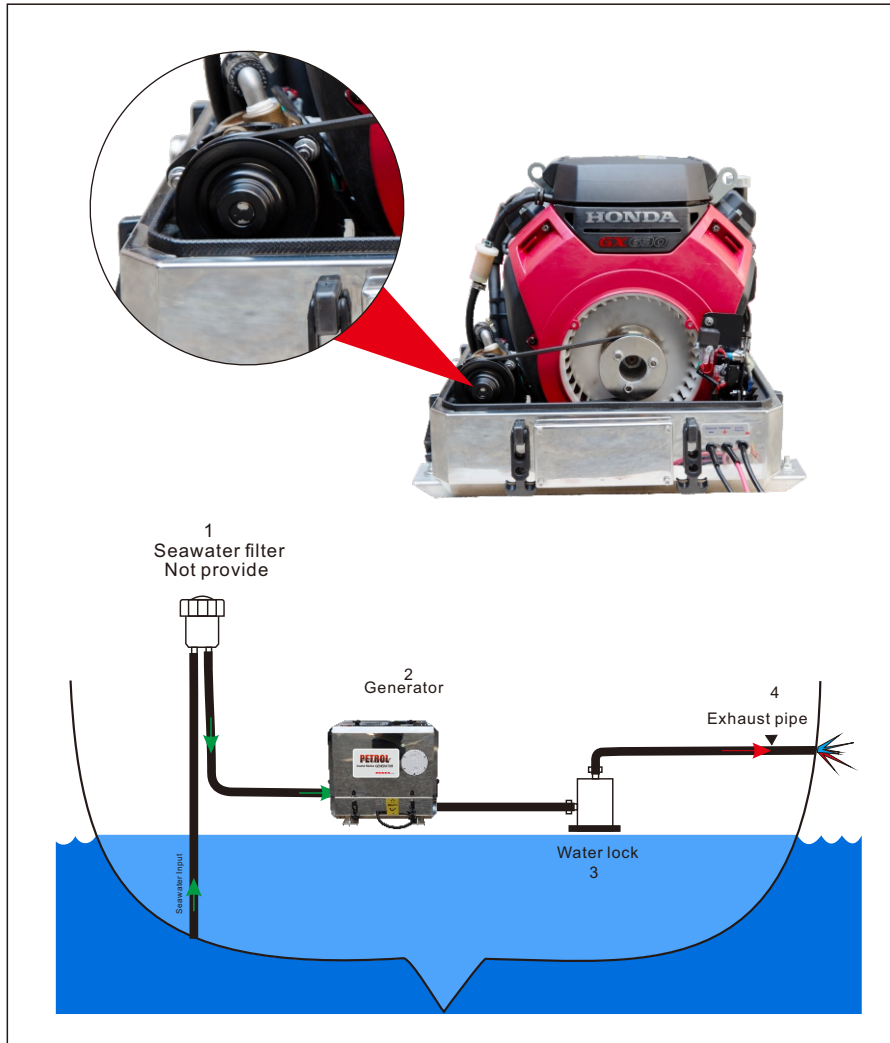


Press and hold the Fuel pump check button with your finger until the fuel is pumped out, and the fuel will come out continuously from the fuel return pipe, which proves that the fuel pipe of the generator is unblocked and installed correctly.



16.4 Check the sea water pump

Within 5 minutes after the generator is started, seawater will be discharged from the exhaust pipe. If no seawater is discharged, the generator must be stopped to check whether the water inlet is blocked. It is strictly forbidden to run the water pump without water for a long time, otherwise the water pump will be damaged.



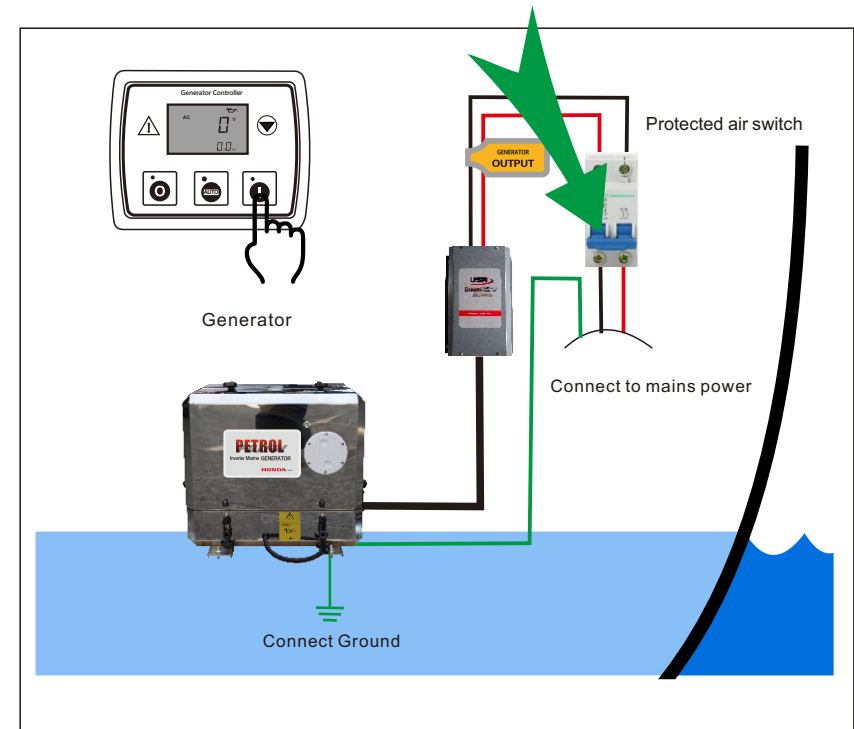
17 Start the generator



WARNING!

When the generator is connected, it must be ensured that the generator is stopped to avoid electric shock, otherwise it may cause fatal or serious injury.

- Generator output connected to mains power show down in fig. 22, page 29.
 - Make sure that the power output switch of the generator is disconnected before starting, and then close the switch when the generator runs smoothly.
 - Press the manual start button  on the control panel and the generator will start
 - This generator has a heating function. When the start button  of the control panel is pressed, the engine starts to heat for 3-8 seconds (the heating time can be changed by the USB data cable of the computer), the starter motor starts to rotate and the generator starts. It can take 2-5 times to start the generator for the first time.



18 Changing the oil



CAUTION!

Hot oil can cause burns.



NOTE!

Only dispose of used oil at a specialist recycling station and observe the local laws for environmental protection.

Open the generator front door.

Disconnect the positive terminal of the supply battery.

Take the dipstick out of the filler neck .

Clean the dipstick with a cloth.

Put the dipstick back into the filler neck.

Take the dipstick out of the filler neck.

Check that the oil level is between the notch (maximum filling level) and the tip of the dipstick. If not, top up with more oil.

Put the dipstick back into the filler neck .

Check that the oil level is not above the maximum level.

Connect the generator to the positive terminal of the supply battery.

Close the generator front door.

You may use the following oil:

- API SG or SF grade oil for four-stroke engines.
- SAE 10W-30 grade oil (can be used at any temperature).
- Oil with single grade oil viscosity.
Select the appropriate viscosity according to the average temperature on-site.

Change the oil as follows:

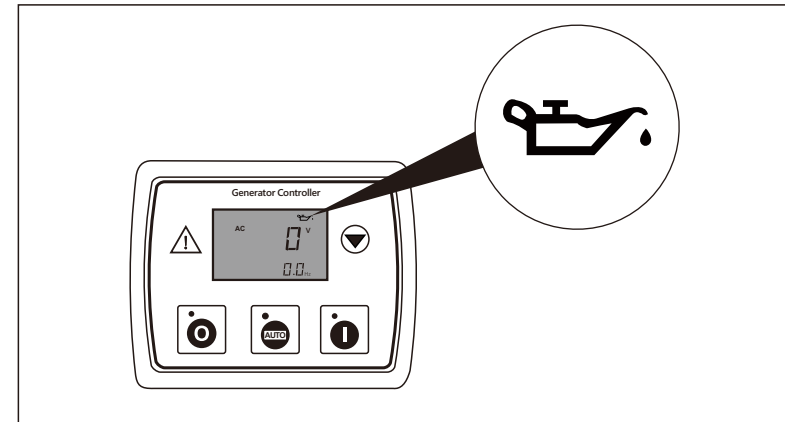
Allow the generator to run until warm so that the oil can drain off faster and completely.

Place a suitable receptacle under the drain plug (1).

Take out the drain plug (1).

Low oil reminder and replacement:

- When there is no engine oil or insufficient engine oil, the Alarm light  will flash, and the Low oil Press icon  will appear in the upper right corner of the LCD screen.



The oil drains off

Pour fresh oil into the nozzle. The amount of oil is injected according to the yellow tip stuck to the chassis of the housing.



19 Cleaning the generator.



OTICE! Beware of damage

- Do not clean the generator with a high-pressure cleaner. Exposure to water can damage the generator.
- Do not use sharp or hard objects or cleaning agents for cleaning as these may damage the generator.
- To clean the generator, use water with a gentle cleaning agent. Never use petrol, diesel or solvents.

Loosen the screws (1) on both sides

Hold the generator shell (3) and pull out the chassis(2) with the generator

Clean the generator with a damp cloth from time to time.

Remove any dirt from the air vents in the generator at regular intervals. Make sure you do not damage the grilles of the generator in the process.

20 Servicing the air filter



WARNING! Danger of explosions

Do not use diesel oil or solvents with low boiling points for cleaning the air filter. They could ignite or explode.



NOTICE!

Never leave the engine running without an air filter. Otherwise this quickly wears out the engine.



NOTE!

If the air filter is dirty, the air flow to the carburettor is reduced. Check the filter regularly so that the carburettor can function properly. Check this more frequently if the generator is being used in particularly dusty environments.

Prepare the maintenance work and pull the generator out of the housing slightly: see chapter "Preparing maintenance work".

Remove the butterfly nut and the filter cover.

Remove the butterfly nut.

Take out the air filter.

The air filter consists of two parts: a sponge filter and a paper filter.

Check the condition of both parts of the filter carefully. Replace the damaged filter parts.

Clean the undamaged filter parts; see the following section.

Finish the maintenance work, see chapter "Finishing maintenance work".

Cleaning the sponge filter

Wash the sponge with a neutral detergent solution and rinse it thoroughly.

Leave the sponge to dry completely.

Soak the sponge in fresh engine oil.

Squeeze out the excess oil.

21.1 Cleaning the air filter, diagram in fig.17,page 33.



WARNING!

Replace the air filter on time to prevent it from being clogged by dirt, causing insufficient air intake, damaging the engine or causing a decrease in power.

Knock the dirt off the paper by banging it lightly on a hard surface or use compressed air to blow through the filter.

Do not brush the paper as this will push the dirt into the fibres of the paper filter. Change the paper filter if it is heavily soiled.



22 Replacing the Oil Filter



WARNING!

Replace the oil filter on time to prevent the filter from becoming too dirty and damaging the engine or causing a decrease in power.

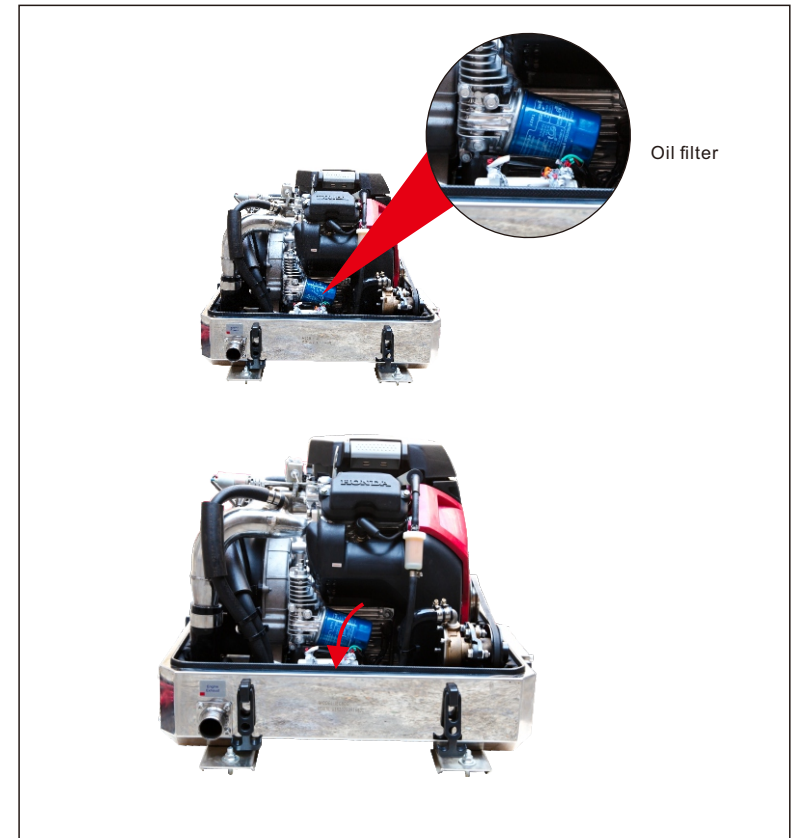


NOTE

Have the following maintenance work performed at regular intervals or after the specified number of operating hours, whichever is sooner.

Rotate the oil filter counterclockwise and remove it.

After cleaning and checking the dirt at the connection port, install the new filter.



23 Replacing the fuel filter



WARNING!

When replacing the fuel filter, stop the generator first and the generator must be in the shutdown state.



WARNING!

When replacing the fuel filter, do not allow flames to approach to avoid the risk of combustion or explosion.

Use a Phillips screwdriver to loosen the clips locked at both ends of the fuel pipe, remove the fuel filter, and replace it with a new one.



24 Servicing the generator



NOTE
Find your local agent
<http://www.usrgenerator.com>

24.1 Maintenance table



WARNING!

Only have maintenance work carried out by specialist personnel who are familiar with the relevant regulations. Inadequate maintenance may cause serious hazards.



NOTE

Have the following maintenance work performed at regular intervals or after the specified number of operating hours, whichever is sooner.

Interval	Inspection/maintenance
In the first month or after 20 hours	➤ Change the oil ➤ Check the air filter (chapter "Servicing the air filter")
Every 3 months or after 50 hours	➤ Check the airfilter (chapter "Servicing the air filter")
Every 6 months or after 100 hours	➤ Change the oil ➤ Check the spark plug (chapter "Servicing the spark plugs").
Once a year or every 300 hours	➤ Check the valves' adjustment. ➤ Check the fuel tank and fuel filter. ➤ Check the vibration damper (rubber feet).
Every two years	➤ JEC Check the petrol supply lines. ➤ LPG model Check the gas supply lines.

24.2 Preparing maintenance work



CAUTION!

Note the following for all maintenance work:

- The generator must not be running.
- All the parts must be cooled down.

- Switch the generator to no function with the main switch.
- Disconnect the positive terminal of the supply battery.
- Open the generator front door.

For maintenance work, you can take the generator out



WARNING!

The mounting plate with generator is very heavy (> 40 kg) and could fall out the housing if you take it out too far.

- Undo the fastening screws (1).
- Remove the mounting plate (2) with the generator from the housing (3).

24.3 Finishing maintenance work

- Connect the generator to the positive terminal of the supply battery.
- Switch the generator to standby with the main switch.
- Close the generator front door.

25 Troubleshooting

Fault	Cause	Remedy
The controller does not come on when the on/off switch is pressed.	Starter battery is flat.	➤ Charge the starter battery.
	Power cable is disconnected or the plug is removed.	➤ Contact an authorised workshop.
	Generator earth cable is disconnected or the fuse (if available) is blown.	
The starter does not work when the start button is pressed.	Starter battery is flat.	➤ Charge the starter battery.
	The main switch is at "0" .	➤ Set the main switch to "I" or "1" .
	Starter shaft is dirty.	➤ Clean the starter shaft.
	Too much oil in the engine.	➤ Drain the oil.
	Inverter is damaged.	➤ Contact an authorised workshop or agent.
	Power cable is disconnected or the plug is removed.	
	Generator earth cable is disconnected or the fuse (if available) is blown.	
The starter turns but the generator does not start.	Starter is not receiving any p	
	No petrol/LPG.	➤ Fill up with petrol/LPG.
	Spark plug is not receiving any power.	➤ Check the electric connections.
	Carburettor is not receiving any petrol.	➤ Clean the carburettor.
	Air intake is blocked.	➤ Check the air filter (see chapter "Servicing the air filter"
	The ambient temperature is below 0°C.	➤ Use pure propane gas.
	Inverter is damaged.	➤ Contact an authorised workshop.
	Power cable is disconnected or the plug is removed.	

Fault	Cause	Remedy
The generator tends to stall.	Too much oil in the engine.	➤ Drain the oil.
	Load is over Rated power.	➤ Reduce the consumers.
	Carburettor is not receiving any petrol.	➤ Clean the carburettor.
	Air intake is blocked.	➤ Check the air filter (see chapter "Servicing the air filter"
	Inverter is damaged.	➤ Contact an authorised workshop.
	Electromagnet is blocked.	
The generator is running but does not supply any voltage.	Air filter is dirty.	
	Inverter is damaged.	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	
	Electromagnet is blocked.	
	The throttle valve is blocked.	
The generator start up very fast and then the "GENERATOR ALERT" message appears.	Inverter damaged	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	
The generated voltage is unstable.	Inverter damaged	➤ Contact an authorised workshop.
	The stepper motor is faulty or the cable is disconnected	

26 Warranty

The statutory warranty period applies. If the product is defective, please contact the service partner in your country.

Our experts will be happy to help you and will discuss the warranty process with you in more detail.

27 Disposal

- Place the packaging material in the appropriate recycling waste bins wherever possible.



If you wish to finally dispose of the product, ask your local recycling centre or specialist dealer for details about how to do this in accordance with the applicable disposal regulations.

28 Technical data

Generator	JEC40G PMG	JEC60G PMG
Voltage	1-Phase 110-120V~ 60Hz / 220-240V~ / 50 -60Hz	
Max power	4.5kW	6.0kW
Rated power	4.0kW	5.6kW
Rated Speed	2200-2300rpm	2600-3000rpm
Battery charger output voltage	12A 12V	
Operating temperature range:	-15°C to +50°C	
Distortion factor	1%	1%
Sound level	63 dB(A)	64 dB(A)
Fuel pump	DC12V	DC12V
Weight:	96kg	146kg
Dimension:	500*540*420	600*530*520

Engine	GX270W-E3	GX630S-E3
Brand	Honda Gasoline Engine	
Emission regulation	EU Stage V	
Type	4-cycle	
Cylinders	1	2
Bore and stroke	77.0 x 58.0 mm	78.0 x 72.0 mm
Displacement	270 cm ³	450 cm ³
Aspiration	Naturally aspirated	
Stand-by output / speed*1	6.3 kW (8.4 HP) / 3600 rpm	15.5 kW (20.8 HP) / 3600 rpm
Continuous output / speed*2	4.0 kW (5.3HP) / 3000 rpm	10.5 kW (14.1 HP) / 3000 rpm
Combustion system	indirect injection	
Fuel system	Electronic fuel pump	
Inspection/certification:		

Generator	JEC80G PMG	JEC100G PMG
Voltage	1-Phase 110-120V~ 60Hz / 220-240V~ / 50 -60Hz	
Max power	8.0kW	10.0kW
Rated power	7.2kW	8.0kW
Rated Speed	2600-3200rpm	2600-3300rpm
Battery charger output voltage	12A 12V	
Operating temperature range:	-15°C to +50°C	
Distortion factor	1%	1%
Sound level	65 dB(A)	65 dB(A)
Fuel pump	DC12V	DC12V
Weight:	158kg	173kg
Dimension:	600*530*520	600*530*520

Engine	GX630S-E3	GX690S-E3
Brand	Honda Gasoline Engine	
Emission regulation	EU Stage V	
Type	4-cycle	
Cylinders	2	2
Bore and stroke	78.0 x 72.0 mm	78.0 x 72.0 mm
Displacement	580 cm ³	650 cm ³
Aspiration	Naturally aspirated	
Stand-by output / speed*1	15.5 kW (20.8 HP) / 3600 rpm	16.5 kW (22.1 HP) / 3600 rpm
Continuous output / speed*2	10.5 kW (14.1 HP) / 3000 rpm	11.5 kW (15.4 HP) / 3000 rpm
Combustion system	indirect injection	
Fuel system	Electronic fuel pump	
Inspection/certification:		