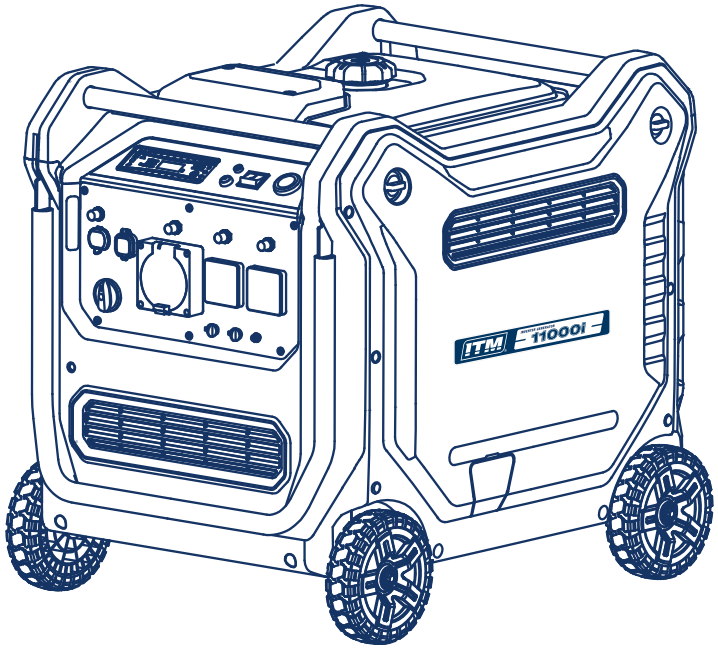
INVERTER GENERATOR

OPERATOR'S MANUAL



Part No: TM523-11000

Ver: 1.2

TO PREVENT SERIOUS INJURY OR DAMAGE TO YOUR GENERATOR, READ AND UNDERSTAND ALL WARNINGS AND INSTRUCTIONS BEFORE USE

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LIMITED WARRANTY

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twelve (12) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship.
This warranty is void if the item has been damaged by accident, neglect, improper service or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, or modified in any way, or subjected to overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

Our goods come with guarantees which cannot be excluded under the Australian Consumer Law.
You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

THE MANUFACTURER RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

PRODUCTS IMPORTED AND DISTRIBUTED NATIONALLY BY:
INDUSTRIAL TOOL & MACHINERY SALES
11 EASTERN SERVICE ROAD, STAPYLTON, QLD, 4207
T: 07 3287 1114 E: sales@itmtools.com.au
F: 07 3287 1115 W: www.itmtools.com.au

TM523-11000 INVERTER GENERATOR
OPERATOR'S MANUAL

PRODUCT SPECIFICATIONS

Thank you for purchasing your ITM Inverter Generator. This generator is equipped with an industrial quality engine with a sophisticated 3 way cooling system to lower the running temperature and extend engine life. A large volume muffler increases fuel efficiency and reduces noise and a permanent magnet inverter with E.S.C. (Engine Smart Control) intelligently controls rpm to further reduce noise and fuel consumption giving you the ideal pure sine wave generator for the busy tradesman.

Whether you take them onto the jobsite to power corded tools & machinery, use it to power your appliances and devices on your weekend camping trip or at home in emergency power outages, ITM inverter generators also have the added feature of parallel connection capability, this means that when you join any two ITM inverter generators together in parallel connection, you get the full combined rated power output whenever you need it. Keep your options open and add power as and when your demand changes.

Please read and understand the content of this manual for safety guidelines, start-up, shut-down, operation, adjustment and maintenance instructions before using this product. Take all possible precautions to protect your own safety and that of the people in the immediate vicinty.

Parameters

Model No.			TM523-11000
Generator	Type		Inverter
	Rated frequency /Hz		50
	Rated voltage /V		230
	Max Power		11000W
	Rated Power		10000W
	Power factor		1.0
	AC output quality		ISO8528 G1
	THD/%		≤3
	Noise Level dB		65 - 71
	DC Output	DC Socket	12V/8A
		USB-C (V-A)	5-3、9-2
		USB-A (V-A)	5-3、9-3、12-2.5
	Overload Protect	DC	Non-fuse Protector
		AC	Control by inverter overloadprotect program
Engine	Engine		H550G-2
	Engine type		Single cylinder, 4-Stroke, forced air cooling, OHV
	Displacement/cc		550
	Fuel type		Unleaded Petrol
	Fuel capacity/L		27
	Continue Running Time (50% Load) / h		7.0
	Oil Capacity/L		1.8
	Spark Model No.		F7TC/F7RTC
	Starting mode		Remote Control / Electric / Recoil
Generator	Length×Width×Height/mm ★		820×630×732
	Wheel / inch		4×8
	Net weight/kg ★		110

GENERAL SAFETY RULES FOR OPERATION

DANGER

Never use the generator in a location that is wet or damp. Never expose the generator to rain, snow, water spray or standing water while in use. Protect the generator from all hazardous weather conditions. Moisture or ice can cause a short circuit or other malfunction in the electrical circuit.

Never operate the generator in an enclosed area. Engine exhaust contains carbon monoxide. Only operate the generator outside and away from windows, doors and vents.

WARNING

Voltage produced by the generator could result in death or serious injury.

- Never operate the generator in rain or a flood plain unless proper precautions are taken to avoid being subject to rain or a flood.
- Never use worn or damaged extension cords.
- Always have a licensed electrician connect the generator to the utility circuit.
- Never touch an operating generator if the generator is wet or if you have wet hands.
- Never operate the generator in highly conductive areas such as around metal decking or steel works.
- Always use grounded extension cords. Always use three-wire or double-insulated power tools.
- Never touch live terminals or bare wires while the generator is operating.
- Be sure the generator is properly grounded before operating.

WARNING

Petrol and petrol vapors are extremely flammable and explosive under certain conditions.

- Always refuel the generator outdoors, in a well-ventilated area.
- Never remove the fuel cap with the engine running.
- Never refuel the generator while the engine is running. Always turn engine off and allow the generator to cool before refueling.
- Only fill fuel tank with petrol.
- Keep sparks, open flames or other form of ignition (such as match, cigarette, static electric source away when refueling.
- Never overfill the fuel tank. Leave room for fuel to expand. Overfilling the fuel tank can result in a sudden overflow of petrol and result in spilled petrol coming in contact with HOT surfaces. Spilled fuel can ignite. If fuel is spilled on the generator, wipe up any spills immediately. Dispose of rag properly. Allow area of spilled fuel to dry before operating the generator.
- Wear eye protection while refueling.
- Never use petrol as a cleaning agent.
- Store any petrol containers in a well-ventilated area, away from any source of ignition.
- Check for fuel leaks after refueling. Never operate the engine if a fuel leak is discovered.

WARNING

Never operate the generator if powered items overheat, electrical output drops, there is sparking, flames or smoke coming from the generator, or if the receptacles are damaged.

Never use the generator to power medical support equipment.

Always remove any tools or other service equipment used during maintenance from the generator before operating.

NOTICE

Never modify the generator.

Never operate the generator if it vibrates at high levels, if engine speed changes greatly or if the engine misfires often.

Always disconnect tools or appliances from the generator before starting.

ADDITIONAL SAFETY RULES FOR GENERATORS

Do not force the generator. Use the correct generator for your application. The correct generator will do the job better and safer at the rate for which it was designed.

Do not use the generator if the engine switch does not turn it on and off. Any generator that cannot be controlled with the switch is dangerous and must be repaired.

Know exactly how to use the generator correctly. Be thoroughly familiar with proper use of the equipment and all engine controls, output receptacles, and connections. Know how to stop the engine quickly (see "Stopping the Generator").

Instruct operators. The engine owner must instruct all operators in safe engine set-up and operation. Only trained adults should set up and operate the engine – Do not let children operate.

Intended use. Carefully read about and understand the intended use of this engine. Do not use for other purposes, as unforeseen hazards or equipment damage may result.

Never operate, or let anyone else operate the generator while under the influence of alcohol, drugs, or medication.

Do not operate the generator with damaged, missing, or broken parts.

Do not modify the generator in any way. Modifications can create serious safety hazards and will also void the warranty.

Never attempt to modify the generator speed setting. The generator speed is preset for safe and optimal performance of the generator. If speed needs adjusting, it must be done by factory authorised personnel.

Never attempt to connect external fuel sources in order to increase generator run time. Larger tank at pressure or higher elevation will cause to leak from carburetor during operation. Fire or explosion could result.

Always turn off generator and remove spark plug(s) or spark plug wire(s) before working on the generator to prevent accidental starting. Always discharge the capacitor before working on the generator head to prevent electrical shock. (See Maintenance & Repair section of this manual for instructions on how to do this.)

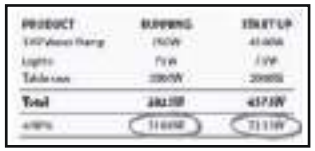
The running of a generator gives off carbon monoxide, a poisonous gas that can kill you. You CAN NOT smell it, see it, or taste it. Follow all instructions for site selection and positioning the generator, and avoid inhaling the exhaust. If you start to feel sick, dizzy, or weak while using the generator, shut off the generator and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

USAGE

⚠ WARNING ⚠

NEVER exceed the rated wattage capacity of your generator. OVERLOADING may cause SERIOUS DAMAGE to the generator and attached electrical devices and may result in fire.

Your generator MUST BE SIZED PROPERLY to provide both the running and starting (surge) wattage of the devices you will be powering. Before using your generator, determine the running and starting wattage requirements of all the electrical devices you will be powering simultaneously. Following below 4 simple steps and example on the right:



Step 1. Determine the tools and appliances you want to power at the same time
Step 2. List the start up and running power usage (Watts) for each product
Step 3. Add the total power usage and add 10% as a safety net
Step 4. Choose a generator with a rated and maximum power that equals or exceeds your totals. In this case a generator with a rated power of at least 3108W and a maximum power output greater than 7233W would be required.

STARTING POWER CONSUMPTION

Electronic appliances and brushed motors generally will not draw more than running Watts at start up. Induction motors in equipment like air conditioners, welders, water pumps and compressors can draw 2 to 5 times their running power to start. Please consult your equipment's rating label, manual or the manufacturer to confirm specific requirement. If only the running wattage is given on the nameplate for a device with an electric motor, the starting wattage can be approximated to be three to five times the running wattage. Estimates for the running wattage requirements for common devices are listed in the table below. Guidance for starting wattages is provided in the table's footnotes. To size your generator correctly you need to use Watts - here are some useful calculations:
Watts = Volts x Amps Example 240 Volts x 5 Amps = 1200 Watts

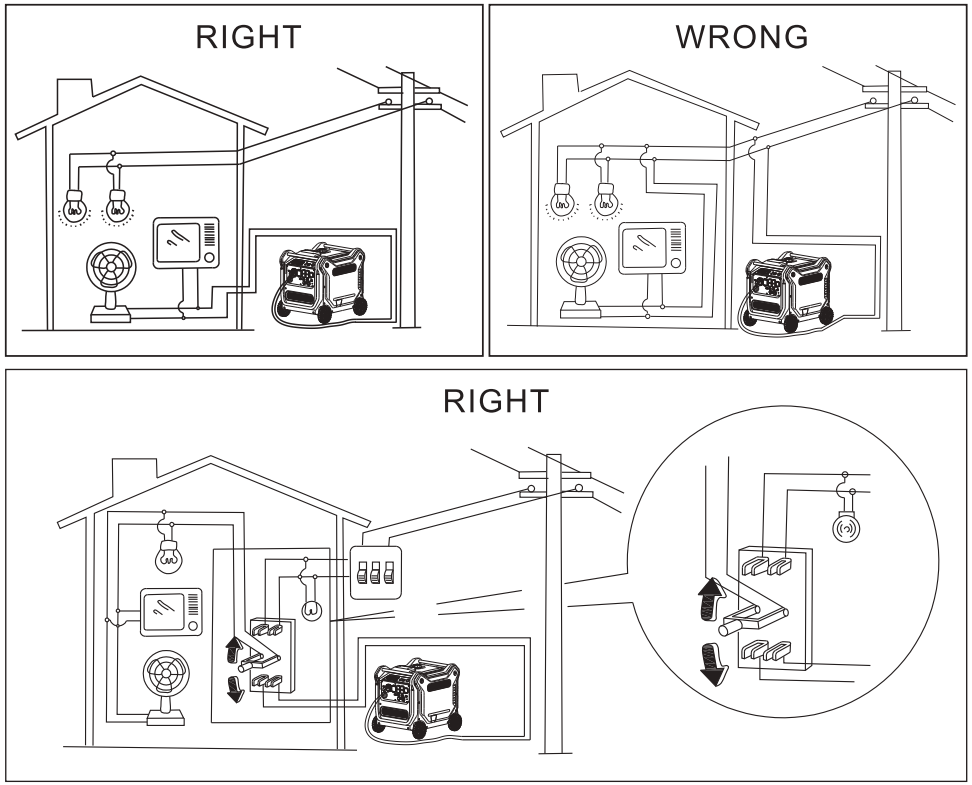
DEVICE	RUNNING WATTS	DEVICE	RUNNING WATTS	DEVICE	RUNNING WATTS
Air conditioner (12.000 BTU)	1700 (a,b)	Freezer	800 (b)	Oven	4500
Battery charger (20 Amp)	500	Hair dryer	1200	Paint sprayer, Airless (1/3 HP)	600 (a)
Belt sander (3")	1000	Hand drill (1")	1100	Paint sprayer, Airless (handheld)	150
Chain saw	1200	Hand drill (3/8")	500	Radio	200
Circular saw(6½")	2000 (a,b)	Hedge trimmer	450	Refrigerator	600 (b)
Coffee maker	1800 (a,b)	Home computer	150	Slow cooker	200
Compressor (1 HP)	1400 (a,b)	Kettle	2400	Submersible pump (1-1/2 HP)	2800 (a)
Compressor (3/4 HP)	1800 (a)	Jet pump	800 (a)	Submersible pump (1 HP)	2000 (a)
Compressor (1/2 HP)	1400 (a)	Lawn mower	1200	Submersible pump (1/2 HP)	1500 (a)
Curling iron	700	Light bulb (100 Watt)	100	Sump pump	600 (a)
Dishwasher	1200	Microwave oven	700	Television	500
Edge trimmer	500	Milk cooler	1100 (a)	Toaster	1000
Electric nail gun	1200	Oil burner on furnace	300	Vacuum cleaner	250
Electric range (1 element)	1500	Oil-red space heater (140,000 Btu)	400	Water heater	3000
Electric skillet	1250	Oil-red space heater (85,000 Btu)	225		
Furnace fan (1/3 HP)	1200 (a)	Oil-red space heater (30,000 Btu)	150		

(a) Hard-starting motors require 3-5 times the rated running watts (b) For extremely hard to start loads such as air conditioners and air compressors, consult the equipment dealer to determine max wattage.

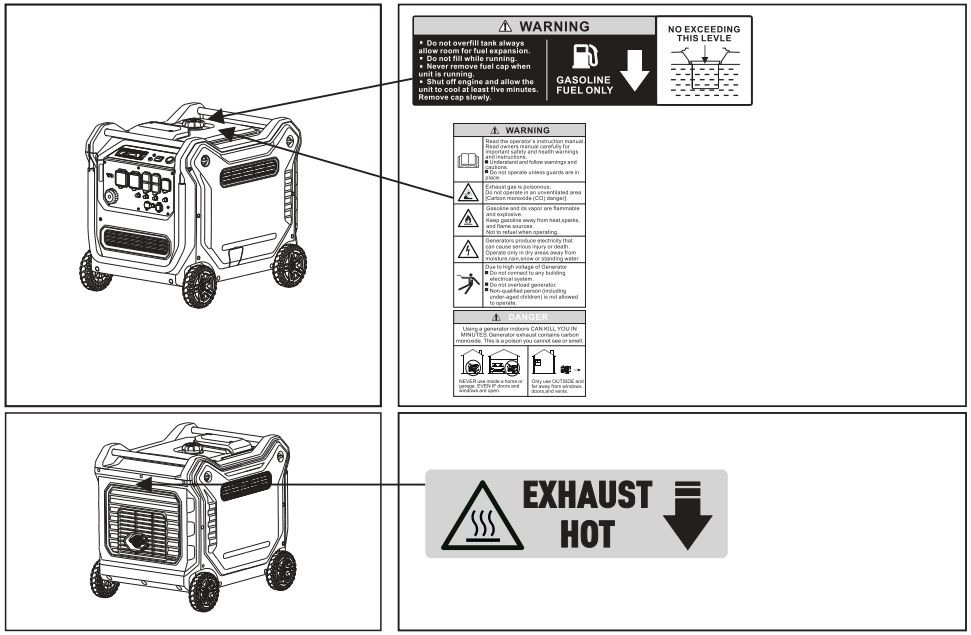
WARNING:
Do not connect to a building's electrical system unless an isolation switch has been installed by a qualified electrician.
Connections for standby power to a building's electrical system must be made by a qualified electrician and must comply with all applicable laws and electrical codes. Improper connections can allow electrical current form the generator to back feed into the utility lines .Such back feed may electrocute utility company workers or others who contact the lines during a power outage, and when utility power is restored ,the generator may explode, burn, or cause fires in the building's electrical system.
CAUTION:
Do not exceed the current limit specified for any one receptacle.
Do not connect the generator to a household circuit. This could cause the damage to the generator or to electrical appliances in the house.
Do not modify or use the generator for other purposes than it is intended for.
Also observe the following when using the generator.
Do not connect an extension to the exhaust pipe.
When an extension cable is required ,be sure to use a tough rubber sheathed flexible cable (IEC 245 or equivalent).
Limit length of extension cables; 60 m (200 feet) for cables of 1.5 mm²(0.0023 in²)and 100m (330 feet) for cables of 2.5 mm²(0.0039 in²). Long extension cables will lower usable power due to resistance in the extension cable.
Keep the generator away from other electric cables or wires such as commercial power supply lines.

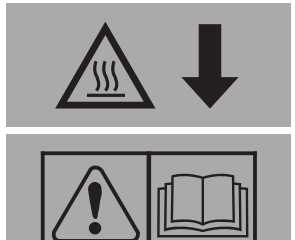
Connection to a home power supply

If the generator is to be connected to a home power supply as a standby, connection must be performed by a professional electrician or by another person with proficient electrical skill.
When the loads are connected to the generator, please carefully check whether electrical connections are safe and reliable. Any improper connection may cause damage to the generator, or cause a fire.



There is the warning label on the machine to remind you of the safety regulations.
Locate the emissions control information label on the engine or equipment (if accessible) to determine applicable standards and durability period.





Some parts of equipment will generate high temperature during operation, which will scald skin.

Read the safety instructions before using the generator.

Gases such as carbon monoxide (colourless and odourless gas) are produced during operation which may lead to suffocation. Only use the generator in well-ventilated areas.

Only fill the generator in well-ventilated areas and keep it away from open flames, sparks and cigarettes. Spilled fuel should be soaked up immediately.
Turn off the engine and let it cool down before filling the generator. Fuel is easily flammable and may even explode under certain circumstances.

Warning! Dangerous voltages are present when the generator is in operation.
Generator must always be turn off before performing maintenance works.

Wear ear protection when operating the generator.

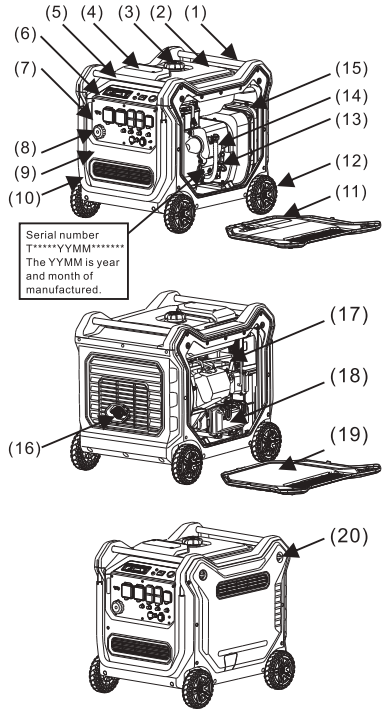
Before use, the generating set and its electrical equipment (including lines and plug connections) should be checked to ensure that they are not defective.

⚠WARNING

- A warning reminding the user that he shall conform to regulations of electrical safety applicable to the place where the generating sets are used.
- A warning on the requirements and the precautions to be respected by the user in the case of re-supply by generating sets of an installation, depending on existing protective measures in this installation and applicable regulations.

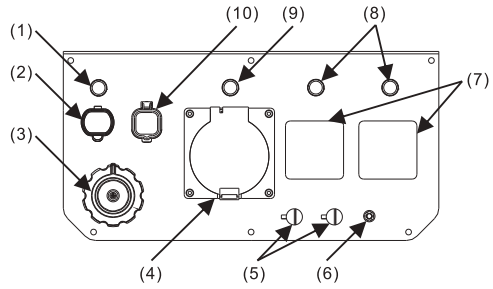
Control Function

DESCRIPTION

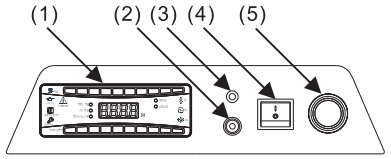


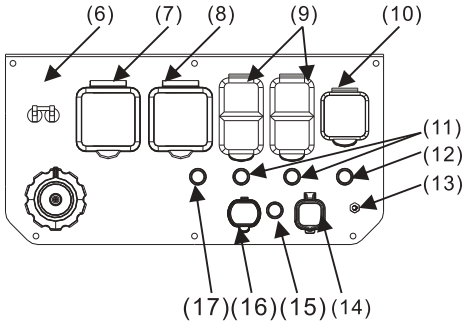
(1) Rear handle
(2) Fuel tank
(3) Fuel tank cap
(4) Decoration cover of fuel tank
(5) Front handle
(6) Upper control panel
(7) Lower control panel
(8) Fuel switch knob
(9) Panel bed
(10) Folding handlebar
(11) Right appearance cover plate
(12) Wheel
(13) Oil dipstick
(14) Oil drain pipe
(15) Muffler cover
(16) Spark plug
(17) Air filter
(18) Left appearance cover plate
(19) Spark collector of muffler
(20) Locking knob

CONTROL PANEL

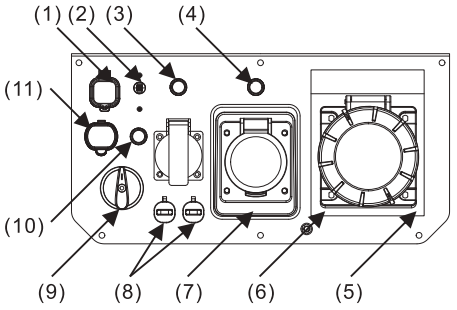


(1) 8A DC protector
(2) 12V DC socket
(3) Fuel switch knob
(4) 250V 32A AC socket
(5) Parallel receptacle
(6) Ground terminal
(7) 250V 15A AC socket
(8) 15A breaker
(9) 32A breaker
(10) PD power supply



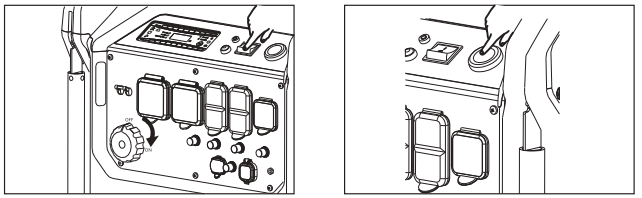


(1) Digital display meter
(2) Reset switch
(3) Function switching key
(4) Main power switch
(5) One-key start button
(6) Circuit breaker
(7) 240V 50A AC socket
(8) 120V 50A AC socket
(9) 120V 20A AC socket
(10) 120V 30A AC socket
(11) 20A breaker
(12) 30A breaker
(13) Ground terminal
(14) USB
(15) DC protector
(16) DC socket
(17) 50A breaker



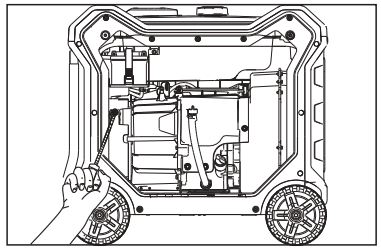
(1) PD power(30W)
(2) 43A Circuit breaker
(3) 16A breaker
(4) 32A breaker
(5) 230V 63A AC socket
(6) Ground terminal
(7) 230V 32A AC socket
(8) Parallel receptacle
(9) Fuel switch knob
(10) 16A DC breaker
(11) 12V DC socket

One-key start switch



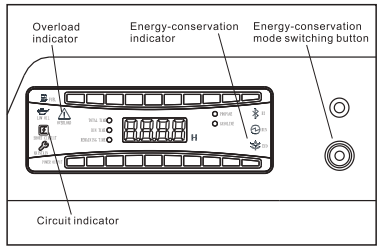
1. Turn the fuel switch knob to ON and place the main power switch in "ON" position.
2. Press the start switch for ⩾ 2s to start the generator set.

Recoil starter



When the battery voltage is low and the generator fails to start, pull the recoil starter to start the engine

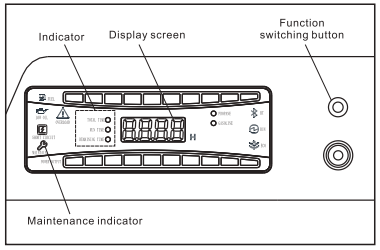
Energy conservation mode



1. When the generator is in energy-conservation mode, the generator set controls engine speed based on the load connected, thus good fuel consumption and low noise can be achieved. Whenever you press the energy-conservation switch, the generator will switch between energy-conservation mode and non-energy-conservation mode. When starting up high-power equipment, please make the generator work in non-energy-conservation mode.

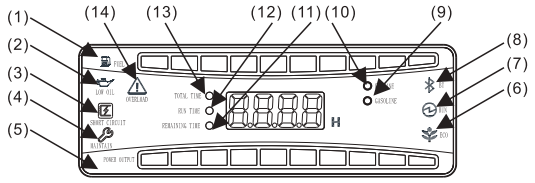
2. Energy conservation mode: The energy-conservation indicator is on constantly (green).
3. Non energy-conservation mode: The energy-conservation indicator is off.
4. Overload reset: If the generator set stops outputting due to the overload and the overload indicator light remains on (red), it can be reset Overload reset. After eliminating the cause of overload, the energy-conservation switch can be pressed down to restore the output of the generator set.
5. Short-circuit reset: When a short circuit occurs in the generator set, the generator switches off the output, and the short circuit indicator remains on constantly (red). The overload light remains on (red). After eliminating the cause of the overload, pressing down the energy-conservation switch can turn off the short-circuit indicator and restore the output of generator set.

Function switching mode



1. When the generator set reaches the maintenance time specified, the maintenance indicator will be on constantly (Please perform the maintenance according to the requirements of this Manual). After completing the maintenance as per the requirements, please long press the function switch key for 3 seconds to turn off the maintenance indicator.
2. When the generator set is powered on or running, short pressing the function switch key can allow the time displayed on the multi-function meter to switch among accumulated running time / current running time / remaining running time, and corresponding indicator will be lit up (yellow).

Digital display meter



(1) of Current fuel tank remaining level display
(2) Oil alarm indicator icon
(3) Generator set short-circuit icon
(4) Generator set maintenance icon
(5) Current operating power display
(6) Energy-conservation mode icon
(7) Operation indicator icon
(8) Bluetooth indicator icon
(9) Fuel state indicator icon
(10) Gas state indicator icon
(11) Remaining operating indication icon
(12) Current operating time display
(13) Accumulated running time display
(14) Generator set alarm icon

1. Fuel level indicator light:
The fuel indicator is used to display fuel level in the fuel tank. The relationship between this indicator and the fuel level in the tank is shown in the figure below:

Digital display meter Scale interval number displayed	10	9	8	7	6	5	4	3	2	1
Remaining fuel volume (L)	27~24.5	24.5~22	22~19	19~15.5	15.5~12.5	12.5~10	10~7.5	7.5~5	5~3.5	3.5~0

2. Oil indicator: After starting the generator, if the engine has no oil or if the oil level is below the normal level, the oil indicator will turn on (red) and last for 2 minutes.
3. Generator set short-circuit indicator: When a short circuit occurs in the generator set, the generator will shut off the output, and the short-circuit indicator remains on constantly (red) and overload light remains on constantly (red). Press down the energy-conservation switch, and the short-circuit indicator can be turned off, to restore the output of generator set.
4. Generator's maintenance indicator: After the generator reaches the maintenance time, the generator's maintenance indicator will be lit on (yellow). After the maintenance is

performed as per the requirements, please long press the function switch key for about 3 seconds to turn off the maintenance indicator. After the maintenance indicator is lit on, if the maintenance status is not cleared, the maintenance indicator will still be lit on every time it is powered on again.

5. Current operating power display indicator: Current operating power display indicator has total ten scale intervals, with each interval indicating 1kW. The generator set will light up corresponding power display indicator (green) based on the output power.

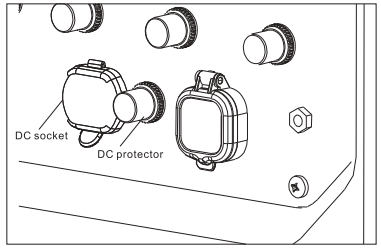
6. Energy saving indicator: When the generator is in energy -conservation mode, the indicator is lit on (green), and when the generator is non-energy-conservation-energy mode, the indicator is turned off; by pressing down the energy-conservation switch, you can switch the generator between energy-conservation mode and non-energy-conservation mode. When starting high-power equipment, please make the generator work in non-energy-conservation mode.

7. Operation indicator: This indicator will be lit on (green) when the generator set is operating, and will go out when the generator set is turned off.

8. Bluetooth indicator: When the Bluetooth pairing with the generator set is unsuccessful, the Bluetooth indicator flashes (green). When the Bluetooth connection is successful, the Bluetooth indicator remains on constantly (green).Because of different configuration states of entire equipment, some models do not have Bluetooth capability. If you want to know if this generator set supports Bluetooth function, please contact your local dealer.

9. Fuel status indicator: This generator set has multi fuel statuses, and corresponding indicator will be lit on (yellow) when different fuel is selected. If you want to know if this generator set supports multi-fuel function, please contact your local dealer.

DC protector



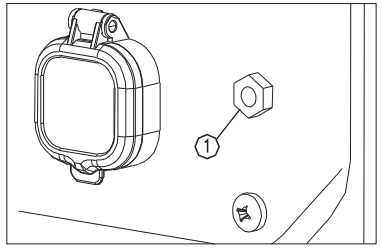
When an electronic device is connected to the generator and running, if the current exceeds the rated output current, the DC protection breaker will automatically pop out to the "OFF" position. To reset after turning off the device, press the DC protection breaker in to the 'ON' position.

"ON" Direct current is output.
"OFF" Direct current is not output.

NOTICE

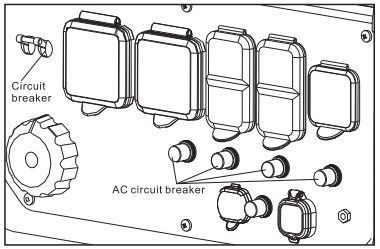
Reduce the load of the connected electric device below the specified rated output of the generator if the DC protector turns off. If the DC protector turns off again, stop using the device immediately and consult a franchised dealer.

Ground terminal



Be sure the generator is properly connected to earth ground before operating. The generator must be grounded to prevent electrical shock due to faulty appliances.

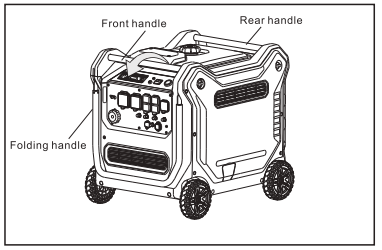
AC circuit breaker

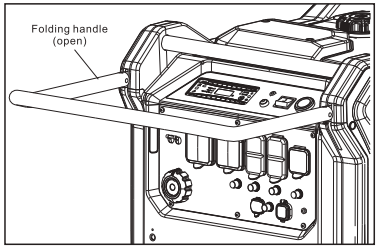


When an electronic device is connected to the generator and running, if the current exceeds the rated output current, the AC breaker will automatically pop out to the "OFF" position. To reset after turning off the device, press the AC protection breaker in to the 'ON' position.

⊫ "ON" -The output of corresponding socket is normal.
⊐ "OFF" -corresponding socket has no output.

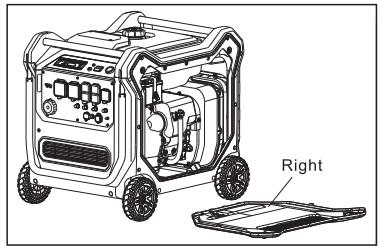
Folding handle

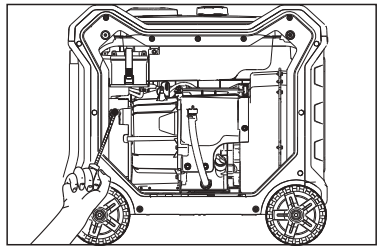


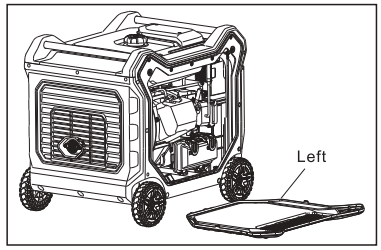


The generator is equipped with a wheel locking mechanism. To push the generator forward:
1. Lift up the folding handle to unlock the support wheels, the generator can now be pushed forward.
2. Once the generator is in the desired stationary position, lower the folding handle to lock the wheels to avoid damaging the wheel locking mechanism.

Maintenance door







Open and close appearance cover plate doors on both sides for maintenance and service of the set.
In the case of no electrical start, open the right maintenance door and start the engine by recoil starter. Make sure that the maintenance door is closed while the engine is running.
Purpose of right door: Inspection/ replacement of engine oil; manual start.
Purpose of left door: inspection of spark plugs/; inspection of air filter; fuel drain out of the carburetor.
Open the maintenance door: Unscrew the locking knob counterclockwise until it is off.
Close the maintenance door: Crew the locking knob clockwise until it is locked.□

Pre-operation

NOTICE Pre-operation checks should be made each time operation.

⚠WARNING The engine and muffler will be very hot after the engine has been run. Avoid touching the engine and muffler while they are still hot with any part of your body or clothing during inspection or repair.

Fuel

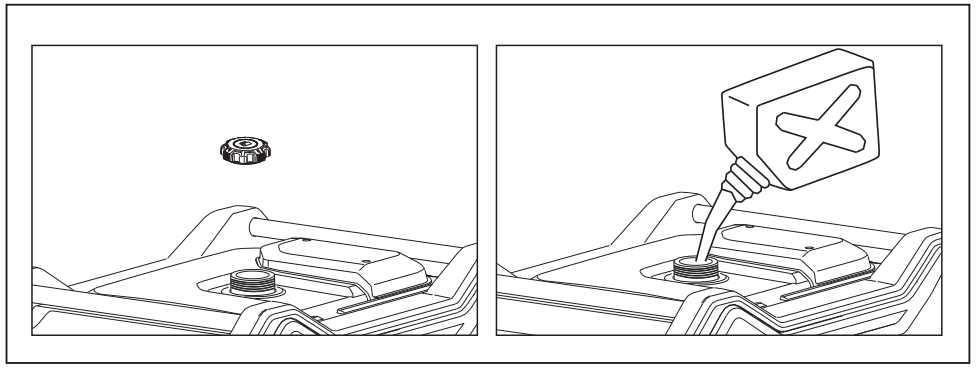
⚠WARNING

- Fuel is highly flammable and poisonous. Check "SAFETY INFORMATION"(See page 2-5) carefully before filling.
- Do not overfill the fuel tank, otherwise it may overflow when the fuel warms up and expands. After fill the fuel, make sure the fuel tank cap is tightened securely.
- Immediately wipe off spilled fuel with a clean.
- Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts.

Make sure that there is enough fuel in the tank. If the fuel is not enough, open the fuel tank cover and add fuel to the red indicated position.

Recommended fuel: Unleaded RON 91
Fuel tank capacity: Total: 27.0L

① Add fuel



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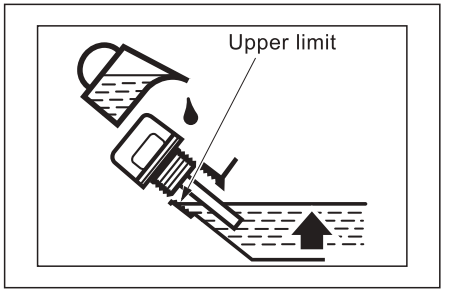
Engine Oil

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

Do not tilt the generator when adding engine. This could result in overfilling and damage to the engine.

Oil level



Recommended engine oil:
SAE 10W -30
Recommended engine oil grade:
API Service SE type or higher
Engine oil quantity:
1.8 L

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

Operation

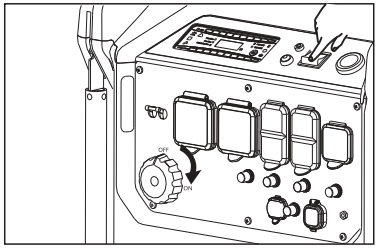
NOTICE

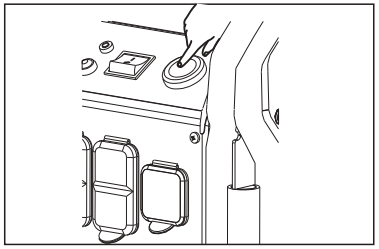
Never operate the engine in a closed area or it may cause unconsciousness and death within a short time. Operate the engine in a well ventilated area. The generator has been shipped without engine oil. Do not start the engine till fill with the sufficient engine oil.

TIP:

The generator can be used with the rated output load at standard atmospheric conditions.
"Standard atmospheric conditions "; Ambient temperature 25℃.
Barometric pressure 100kPa; Relative humidity 30%
The output of the generator varies due to change temperature, altitude (lower air pressure at higher altitude) and humidity.
The output of the generator is reduced when the temperature, the humidity and the altitude are higher than standard atmospheric conditions.
Additionally, the load must be reduced when using in confined areas, as generator cooling is affected.

Starting the Engine





1. Do not connect any electric equipment before starting the generator.
2. Turn fuel switch knob to "on" and place the main power switch in the "on" position.

One-key start: Press the start switch on control panel, hold for ⩾2 seconds and then release the start switch, the starter motor will work for 5 seconds. After the engine is successfully started up, the starter motor will automatically stop; and if the engine fails to start, wait for at least 10 seconds before restarting.

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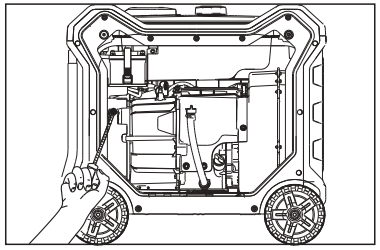
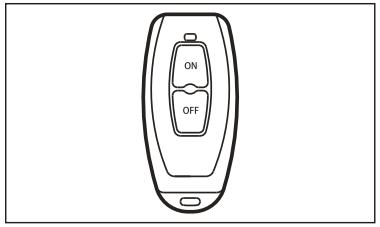
Tip: When pressing down the one-click start button, hold for 2 seconds. When the generator is not running, do not leave the fuel switch and main power switch in the "ON" position, always turn both the fuel switch and main power switch to the "OFF" position.





Recoil start: Unscrew the two locking knobs on right appearance cover plate counterclockwise until they are completely off, and then remove right appearance cover plate door; first, gently pull manual starter until the cable is securely wrapped, and then pull hard to start the engine. After the generator runs steadily, close right appearance cover plate.

Remote Start: Aim the remote control at the generator (effective distance in open space ⩽30m), to press down start key of the remote control "ON" for about 2 seconds to start the generator. Pairing of remote control: Press the start key on the control panel consecutively twice. After the second press of the button, hold for approximately 10 seconds and then press any button on the remote control once and the pairing between the remote control and the generator will be complete.

Tip: The generator has been paired with the remote control accompanied before leaving the factory.

ALTERNATING CURRENT (AC) CONNECTION

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

NOTICE

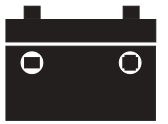
- Be sure all electric devices including the lines and plug connections are in good condition before connection to the generator.
- Be sure the total load is within generator rated output.
- Be sure the receptacle load current is within receptacle rated current.

Tip: Always ensure you ground (earth) the generator when using.
1. Select the matching plug to connect electronic equipment based on the voltage requirements needed. Both 240V 15A and 240V 32A outlets can be used simultaneously.
2. Insert the plug into the matching AC socket.
3. Turn on the electronic equipment.

Tip: Many electric load devices require starting power above their rated power to start.

Tip: The generator should not be run completely unloaded for extended periods otherwise the engine may be damaged. It is recommended that the generator should always be operated with at least one-third of its rated 240-Volt AC power output. 240-Volt AC devices have two different electric power demands that must be taken into consideration, namely the running power and the starting/peak power. Both are measured in Watts (typically abbreviated as "W").

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

AC				DC 
Power factor	1	0.8-0.95	0.4-0.75 (Efficiency 0.85)	
GR12500iS-3	~10000W	~8000W	~3800W	Rated voltage 12V Rated current 8A

TIP:

- "~"means below.
- Application wattage indicates when each device is used by itself.
- The simultaneous usage of AC and DC power is possible but total wattage should not exceed the rated output.

EX:

Generator rated output		10000W
Frequency	Power factor	
AC	1.0	~10000W
	0.8	~8000W
DC	--	96W(12V/8A)

The overload indicator light comes on when total wattage exceeds the application range.

NOTICE

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

Maintenance

Safety is an obligation of the owner. Periodic inspection, adjustment and lubrication will keep your generator in the safest and most efficient condition possible. The most important points of generator inspection and lubrication are explained on the following pages.

⚠WARNING Improper maintenance can lead to danger, if you are not familiar with the maintenance operation, please refer to the designated dealer for your service.

Carelessly maintained machines can pose dangers! Regular maintenance and occasional repairs are necessary to ensure the safe and correct functioning over longer time periods. If problems should occur with the generator or while the machine is being maintained, always attach a "DO NOT START" sign to the control panel in order to alert others of this.

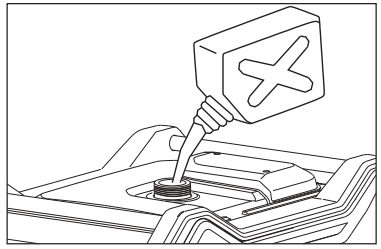
Maintenance chart

Use only franchised dealer specified genuine parts for replacement. Ask an authorized franchised dealer for further attention.

Routine maintenance cycle (1)		Each check	First months or 20 Hr.	3 months or 50 Hr.	6 months or 100 Hr.	12 months or 300 Hr.
Item	**Routine**					
Oil	Inspect	○				
	Replace		○		○	
Air filter	Inspect	○				
	Clean			○ (2)		
	Replace					○ (*)
FUSE	Inspect	Every 2 years (3)				
Spark plug	Clean				○	
	Replace					○
Spark arrester	Clean				○	
Valve clearance	Inspect-Adjustment					○ (3)
Combustion chamber	Clean	Every 1000 hours (3)				
Fuel tank	Clean	Every 2 years or 1000 hours (3)				
Fuel filter	Replace	Every 2 years or 1000 hours (3)				
Fuel hose	Clean	Every 2 years (Replacement if necessary) (3)				

Tip: (*) Replace the paper filter element.
(1) When it is used for commercial purposes, record the running time to ensure timely maintenance.
(2) Clean more frequently when using it in damp or dusty places.
(3) Unless you have the appropriate tools and mechanical proficiency, these items should be maintained by the service dealer. Stop using the generator and contact the dealer for disposal.
Failure to follow this maintenance schedule can result in an unwarranted failure.

Add Fuel



When the engine stops, check the level of fuel, if low, add recommended fuel (min: RON 91 Unleaded)

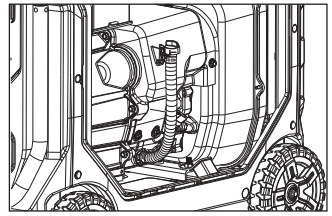
⚠WARNING Fuel is flammable and explosive. When refueling, you can get burns or serious injuries

Stop the engine and stay away from fireworks, spark plugs and Flame and so on. Fuel only outdoors. Wipe up the spilled fuel quickly.

NOTICE Fuel can damage paint and plastics. When refueling, take care not to spill gasoline.

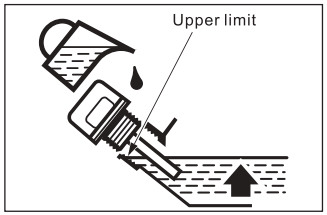
Add Fuel in a well-ventilated area before starting the engine. If the engine is running, let it cool down automatically. It is strictly prohibited to fill more than the fuel filter scale on the tank bracket (red). It is strictly prohibited to add gasoline in the closed environment, because the gasoline will contact spark and flame after volatilization. Keep Fuel away from electrical indicator lights, household appliances, barbecue, power tools, etc. Spilling fuel not only causes fires, but also causes environmental damage. Wipe off the spilled fuel quickly.

Engine Oil Inspection



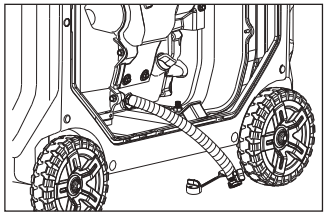
Perform oil inspection when the engine is stopped and placed horizontally.
1. Unscrew two locking knobs on right appearance cover plate counterclockwise until they are completely off, and then remove right appearance cover plate door.
2. Remove the oil dipstick.

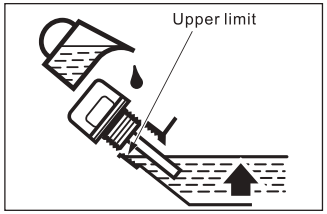
Engine Oil Inspection



3. Check the oil. If oil level is below the maximum mark, fill specified oil to the maximum mark.
4. Remount the oil dipstick.
5. Mount well the right cover plate and tighten the two locking knobs on the cover plate clockwise.

Engine Oil Replacement



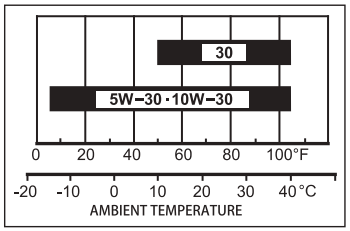


NOTICE The oil shall be drained off quickly and thoroughly under hot state of the engine. Do not drain oil immediately after shutting down the generator. Oil temperature is very high, so pay attention to avoid scalding during operation.

1. Place the generator on a horizontal plane.
2. Unscrew two locking knobs on right appearance cover plate counterclockwise until they are completely off, and then remove right appearance cover plate door. Remove the oil drain pipe.
3. Place a suitable container under the bottom of the engine for containing oil.
4. Remove the oil dipstick, remove end cover of the oil drain pipe, to allow the oil to drain off completely.5. Check the oil dipstick and oil drain pipe, and replace them immediately if damaged.6. Remount the oil drain pipe and drain end cap.7. Under the circumstance that the generator is stopped and placed in a horizontal position, fill new engine oil until oil level reaches the upper limit of the dipstick, and then tighten the dipstick.8. Mount well the right cover plate and tighten the two locking knobs on the cover plate clockwise.

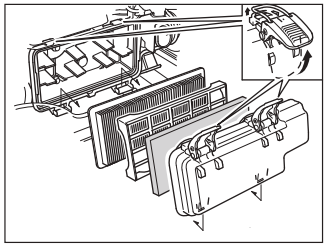
Tip: Before each use, the generator shall be placed on a horizontal plane, and check the oil level when the engine is shut down.
1. Remove the oil dipstick and wipe off the oil.
2. Insert the dipstick into oil filling hole but do not tighten it, to check the oil level.
3. If the oil level is too low, fill recommended oil to the upper limit indicated on the dipstick.

Oil Specification Table



Oil is an important factor which affects performance and service life. Use four-stroke oil.
SAE 10W30 is recommended for regular use. However, when the average temperature in your area is within the recommended range, you can use other viscosity types of oil shown in the chart.

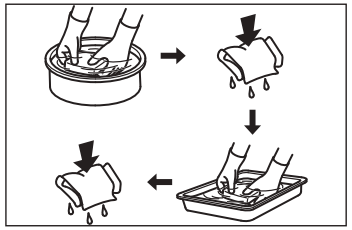
Air Filter



1. Unscrew two locking knobs on left appearance cover plate counterclockwise until they are completely off, and then remove left appearance cover plate door;
2. Release cover clamp of air filter, and remove the air filter cover, foam filter element, filter holder and paper filter element together.
3. Paper filter element:
a. Remove the paper filter element from the filter element holder.
b. If the paper filter element is dirty, replace it with a new one. Do not clean the paper filter.
c. Mount the paper filter element into the filter element holder.
4. Foam filter element:
a. Remove the foam filter element from the air filter cover.
b. Check the foam air filter to ensure that it is clean and intact. If the foam filter element is dirty, clean the foam filter element with solvent and dry it. Drop clean engine oil into the foam filter element and knead it evenly. Squeeze off excess oil, so that the oil can be evenly distributed in the filter element. If the foam filter element is damaged, replace it with a new one.
5. Use a damp rag to clean the dirt inside the air filter cover. Note to prevent dust from entering air duct leading to fuel system.
6. Mount the foam filter element, filter element holder and paper filter element together into the air filter cover, to mount the air filter cover and lock the cover.
7. Mount well the left cover plate and tighten the two locking knobs on the cover plate clockwise.

Tip: Dust can enter the engine and quickly wear it out, if the engine runs without a filter element or if the filter element is damaged.

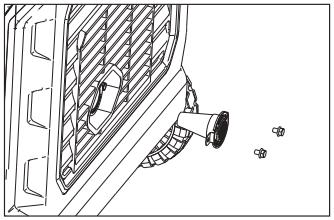
Foam Filter Cleaning

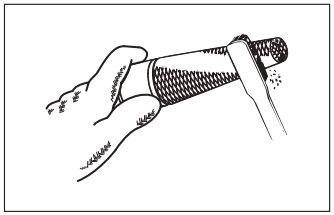


The foam filter element of the dirty air filter will restrict the air flow to the fuel system and reduce the engine performance. If the generator is used in a dusty area, the maintenance frequency of the air filter's foam filter element is higher than that in the maintenance requirements.

1. Wash the filter element in warm soapy water and let it dry naturally, or clean and dry it in a non-flammable solvent.
2. Dip the filter element into clean oil and squeeze out excess oil. If there is too much oil left in the filter element, start the engine and the engine will smoke.
3. Use a wet cloth to remove dirt from the inside of the air filter's cover. Take care to prevent dust from entering the air ducts which leads to the fuel system.

Spark Arrester





The spark collector must be maintained every 100h to keep the engine running normally. After running the engine, the engine and muffler will become very hot. Do not allow your skin and clothes to directly touch the engine and muffler. When the motor and muffler are cooled, check and clean them up.

1. Loosen two M5 x 8 pan head bolts and remove mounting cover, muffler mesh cover and spark collector
2. Clean the muffler's mesh cover and the cumulative carbon on the spark collector with a steel wire brush.

NOTICE

Clean them with steel wire brush gently to avoid damage or scratch to muffler's mesh and spark collector. The spark collector must not be broken or cracked. If it is damaged, please replace it in time.

3. Reload the spark collector in reverse order to remove the spark collector.

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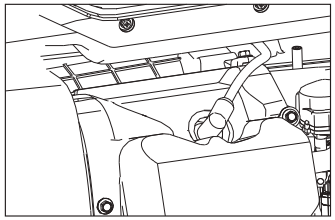
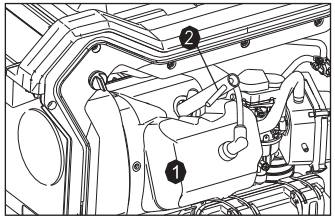
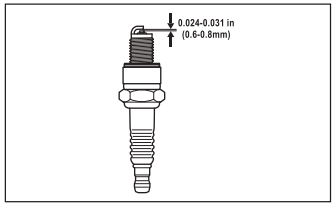
Spark Plug







In order to maintain the spark plug, you need to prepare a set of sparkplug sleeve ① and loading rod ② . In order to make sure that the engine is running properly, spark plug must be clean and carbon-free.

NOTICE

Incorrect spark plug can cause damage to engine.

If the engine is hot, let it cool naturally before maintenance of spark plug.

1. Unscrew two locking knobs on left appearance cover plate counterclockwise until they are completely off, and then remove left appearance cover plate door.
2. Remove the spark plug cap, remove impurities and dust around the spark plug, and place the sleeve in the appropriate position of the spark plug.
3. Use the spark plug sleeve and the loading rod (insert the loading rod into the sleeve), rotate counterclockwise and remove the spark plug.
4. Check the spark plugs. Replace the spark plug, if the electrode is worn or stained, or if the insulator is cracked or broken. Standard spark plug: F7RTC/F7TC,clearance of spark plug: 0.6-0.8mm.
5. After ensuring that the spark plug is in good condition, fix the sparkplug gently to the head of the cylinder by hand to prevent thread damage caused by force.
6. After the spark plug is fixed, tighten it with the spark plug sleeve.

If the used spark plug is to be reinstalled, tighten 1/8-1/4 circle manually after fixing the spark plug and before tightening it to the specified position. If the newly installed spark plug is to be reinstalled, tighten 1/2 circle manually after fixing the spark plug and before tightening it to the specified position.

Torque: 13.3 LBS. Ft (18 N.M, 1.8kg.m)

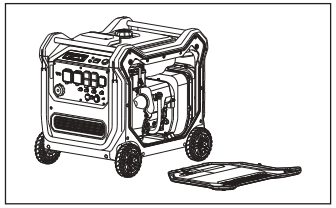
Tip: If the spark plug is installed without torque wrench, a better estimation method is to tighten 1/4-1/2 circle manually, but the sparkplug should be tightened to thes pecified torque.

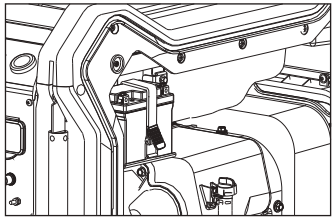
NOTICE

Loose spark plugs may overheat and damage the engine. Excessivetightening of spark plugs can damage the thread on the head of cylinder.

7. Install the spark plug cap.
8. Close left appearance cover plate and turn the locking knob clockwise until it is tightened.

Battery





Remove battery

When the engine is running, the generator's charging system will automatically charge the battery. However, if the generator is only used occasionally, it must be charged monthly to maintain the service life of the battery.

1. Unscrew two locking knobs on right appearance cover plate counterclockwise until they are completely off, and then remove right appearance cover plate door.
2. Remove the battery connection cable from the main cable.
3. Remove the battery band from the hook at the bottom of generator.
4. Remove the battery from the mounting box.

Install the battery

1. Place the battery inside the battery compartment.
2. Connect battery connection wire to the plug of main cable.
3. After binding the battery and cable by strap, hang the hook of strap on battery box.
4. Mount well the right cover plate and tighten the two locking knobs on the cover plate clockwise.

Always disconnect the positive cable from the battery prior to storage. If the battery remains connected whilst the generator is in not in use for extended periods, sulphation can occur and is NOT covered under warranty.

Battery Charging

Tip:

- The generator DC rated voltage is 12V.
- Start the engine first, and then connect the generator to the battery for charging.
- Before starting to charge the battery, make sure that the DC protector is turned on.

1. Start the engine.
2. Connect the red battery charger lead to the positive (+) batteryterminal.
3. Connect the black battery charger lead to the negative (-) battery terminal.
4. Turn the ESC "OFF" to start battery charging.

NOTICE

- Be sure the ESC is turned off while charging the battery.
- Be sure to connect the red battery charger lead to the positive (+) battery terminal, and connect the black lead to the negative (-) battery terminal. Do not reverse these positions.
- Connect the battery charger leads to the battery terminals securely so that they are not disconnected due to engine vibration or other disturbances.
- Charge the battery in the correct procedure by following instructions in the owner's manual for the battery.
- The DC protector turns off automatically if current above the rated flows during battery haring. To restart charging the battery, turn he DC protector on by pressing its button to "ON". If the DC protector turns off again, top charging the battery immediately and consult a franchised dealer.

⚠WARNING

- Never smoke or make and break connections at the battery while charging. Sparks may ignite the battery gas.
- Battery electrolyte is poisonous and dangerous, causing severe burns, etc. contains sulfuric (sulphuric) acid. Avoid contact with skin, eyes or clothing.

Antidote:

External- Flush with water.
INTERNAL- Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil.
Call physician immediately.

EYES: Flush with water for 15 minutes and get prompt medical attention.
Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc.,away. Ventilate when charging or using in closed space. Always cover eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN

TM523-11000 INVERTER GENERATOR
OPERATOR'S MANUAL

Transporting

If the generator has been running, allow it to cool naturally for at least 15 minutes before loading it into the vehicle. The thermal power and exhaust system can cause harm to people and ignite some combustible materials. To prevent fuel leakage, the generator shall be placed horizontally and the engine switch shall be off during transportation.

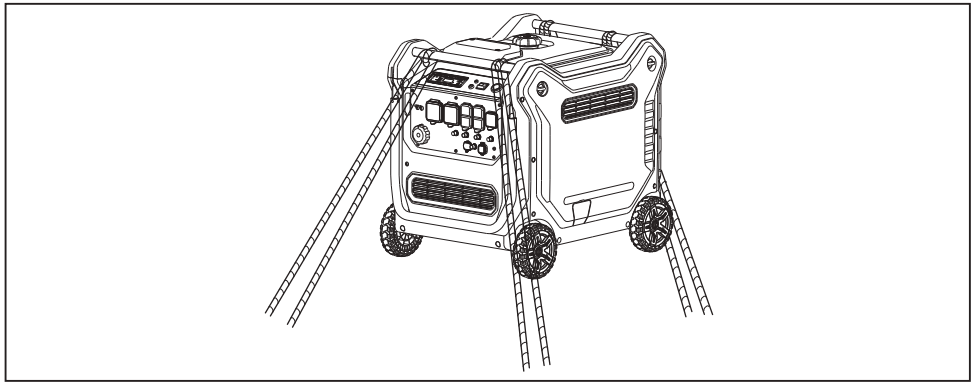
⚠WARNING

When transporting the generator:

- Do not overfill the tank.
- Do not operate the generator while it is on a vehicle. Take the generator off the vehicle and use it in a well ventilated place.
- Avoid a place exposed to direct sunlight when putting the generator on a vehicle .If the generator is left in an enclosed vehicle for many hours, high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.
- Do not drive on a rough road for an extended period with the generator on board. If you must transport the generator on a rough road, drain the fuel from the generator beforehand.

NOTICE

To transport the generator, please make sure it is secured as per the below diagram.
Take care not to drop or strike the generator when transporting. Do not place heavy objects on the generator. When the rope or strap is used for fixing generator for transportation, only the frame's lifting part must be used as the connection point. Do not attach rope or strap to the main body of the generator or to any position on the folding handle.



Storage

Long term storage of your generator will require some preventive procedures to guard against deterioration. In order to make your generator trouble-free and in good condition, proper storage preparation is essential. The following steps will help to prevent rust and corrosion that damage the generator's function and appearance, and make it easier to start the engine when you use the generator again.

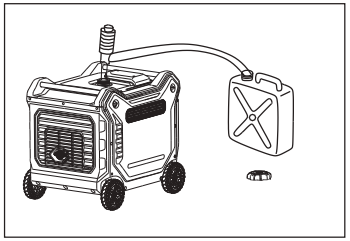
Fuel

NOTICE

Depending on the area of operation equipment, the fuel may deteriorate and oxidize rapidly. The fuel may deteriorate and oxidize within 30 days and may cause damage to the fuel system.

Fuel may deteriorate and oxidize during storage. Old fuel can make it difficult to start and leave deposits than can clog up the fuel system. If fuel in the generator deteriorates during storage, maintenance and replacement of fuel system's components may be required. The length of time of fuel which remains in the fuel tank and will not cause functional problems varies with factors such as the mixture of fuel, storage temperature, and whether the tank is partially or fully filled. The partially filled air in the tank can cause the fuel to deteriorate. Higher storage temperature can accelerate fuel deterioration. Fuel deterioration problems can occur within months or even less if the fuel added to the tank is not fresh.
The manufacturers warranty does not cover damage to the fuel system or performance problems caused by careless storage. You can extend fuel storage life by adding fuel stabilizers, or you can avoid fuel deterioration problems by removing fuel from the tank.

Drain the Fuel



1. Turn the fuel switch to "ON" position.
2. Open the tank cover and remove the filter and extract the fuel in the tank into an appropriate fuel storage container and replace the fuel tank filter and cap.
3. Wipe off any spilled fuel with a clean cloth to prevent any damage to the plastic casing.
4. Start the engine and run the generator until the fuel runs out and the generator stops.

Tip:

- Do not connect with any electrical devices.
- Duration of the running engine depends on the amount of the fuel left in the tank.

5. Unscrew two locking knobs on left cover plate counterclockwise until they are completely off, and then remove left cover plate door.
6. Loosen the drain bolt on the carburetor and drain the fuel in the carburetor into an appropriate fuel storage container.
7. Turn the fuel switch to "Off" position.
8. Tighten the drain bolt on the carburetor.
9. Replace the left cover plate and tighten the two locking knobs on the cover plate.

Follow the following steps to protect the tank, piston ring and other vulnerable parts.
1. Open left appearance cover plate, to remove the spark plug, and pour into about 3ml of SAE10W30 engine oil.
2. Turn fuel oil switch knob to "OFF" position.
3. Open right appearance cover plate, and slowly pull manual starter until it is tightened (to prevent rusting of cylinder body and valves).
4. Mount well the spark plug and close left and right appearance cover plates.
5. Wipe up set surface and place it in a ventilated and dry horizontal place, and then cover it with a sleeve.

Common Fault Analysis

Failure to Start of Engine

No.	Potential Reasons	Countermeasures
1	The fuel switch is placed on the "Off" position.	Turn the fuel switch to the "On" position.
2	Not enough fuel in the tank.	Add fuel.
3	The engine is untreated or fails to exhaust gasoline during storage, or inferior gasoline is added before use.	Drain the fuel from the tank, and refill with new gasoline.
4	Too low oil level causes the oil alarm system to run.	Add engine oil.
5	he spark plug got wet by gasoline.	Turn the fuel switch to the "Off" position, pull recoil starter for five times or more times, which can dry the spark plug. If it still doesn't run, remove the spark plug and dry it.
6	Ignition system fault, wiring harness fault, valve clearance, etc.	Contact dealers for handling.

Decrease of output power

No.	Potential Reasons	Countermeasures
1	Air filter element failure	Clean or replace filter element.
2	The engine is untreated or fails to exhaust gasoline during storage, or inferior gasoline is added before use.	Drain the fuel from the tank, and refill with new gasoline.
3	Ignition system fault, wiring harness fault, valve clearance, etc.	Contact dealers for handling.

No output of control panel

No.	Potential Reasons	Countermeasures
1	AC indicator light is off, and overload indicator light is on.	Check AC load. Stop and restart the engine.
		Check the inlet of cooling duct. Stop and restart the engine.
2	AC indicator light is off, and overload indicator light is on.	Check AC load and reset over-current protector.
3	GFCI system action.	Test GFCI and reset button. Replace or repair load tools or equipment.
4	Load tool or equipment failure.	Replace or repair load tools or equipment, Stop and restart the engine.
5	Other faults of engine	Contact dealers for handling.