

**ORIGINAL INSTRUCTIONS**  
***RVMP-FlexPower 450ies***  
***Silent Inverter Generator***  
**RVMP-220471**  
**OPERATOR'S MANUAL**



Read this manual carefully before operation.  
This manual includes important guidance for safety operation.



This Manual contains important safety information and instructions for operating this generating set. **PLEASE READ THIS MANUAL CAREFULLY.** Failure to do so could result in property damage and/or personal INJURY/DEATH.

Provide this manual to any operator of this generating set. This manual should be considered as a permanent part of your generating set and should remain with it when you sell it.

All pictures & figures are only one example of series generating set. It shall be only for reference and perhaps there will be difference between pictures & figures and physical products.

All information in this publication is based on the latest product information available at the time of printing. We reserve the right to change, alter and/or improve the product and this document at any time without notice and without incurring any obligation.

No part of this publication shall be reproduced without written permission.

Write down the generating set's serial number and purchase information. Keep this manual and the receipt for future reference.

Model:

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Serial number:

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Date of purchase:

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# I. Operator safety

## 1. Safety rules



Pay attention to this safety alert symbol. Obey all safety messages that followed by this symbol to avoid possible property damage. INJURY or DEATH.

Each safety message is preceded by a safety alert symbol and one of three words, DANGER, WARNING, or CAUTION.

### **DANGER**

Indicates a hazardous situation which, if not strictly complied with, will result in substantial property damage, serious injury or DEATH.

### **WARNING**

Indicates a hazardous situation which, if not strictly complied with, may result in property damage, serious injury or DEATH.

### **CAUTION**

Indicates a hazardous situation which, if not strictly complied with, could result in property damage or injury.



### **WARNING**

**READ THIS MANUAL COMPLETELY BEFORE OPERATING.**

DO NOT operate this generating set until you have read ALL safety, Operation, and maintenance instructions listed in this manual.

**Failure to follow the instructions may result in property damage, INJURY or DEATH.**

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be possessed by the operator.

### **WARNING**

This generating set is intended for residential consumer use only.

Air cooled generating sets cannot be run full time.

No personal-modified any part of the generating set or any unsuitable usage is allowed.



**⚠ DANGER**

### **TOXIC FUMES**

The exhaust of the engine contains carbon monoxide, an odorless, colorless, poison gas. Using engine indoors **CAN KILL YOU!**

**NEVER** use inside any building or any kind of enclosure, **EVEN IF** doors and windows are open.

Place the engine in a well-ventilated area and carefully consider wind and air currents when positioning the engine.

**⚠ WARNING**

Lithium battery is maintenance free, if you have any question, please contact a local authorized dealer.



**⚠ WARNING**

### **FIRE**

Operation of this engine may create sparks that can start fires around flammable material.

This engine may not be equipped with a spark arresting muffler. If the engine will be used around flammable materials, or on land covered with materials such as agricultural crops, forest, brush, grass, or other similar items, then an approved spark arrester must be installed.

In some area, a spark arrester is required by law.

Please contact local fire agencies for laws or regulations relating to fire prevention requirements.



**⚠ WARNING**

### **KICKBACK**

Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go.

Unintentional startup can result in accident.



**WARNING**

### **HOT SURFACE**

Running engines produce heat. Severe burns can occur on contact.

DO NOT touch engine while operating or just after stopping. Avoid contact with hot exhaust gases.

Maintain at least three feet of clearance on all sides to ensure adequate cooling.

Combustible material can catch fire on contact.

Maintain at least five feet of clearance from combustible materials.



**DANGER**

### **FIRE OR EXPLOSION**

Gasoline is highly flammable and extremely explosive.

Fire or explosion can cause severe burns or death.

Keep flammable items away while handling gasoline.

Fill fuel tank outdoors and in a well-ventilated area with the engine stopped.

Always wipe off spilled fuel and wait until the fuel has dried before starting the engine.

DO NOT operate the engine with known leaks in the fuel system.

Use proper fuel storage and handling procedures.

DO NOT store fuel or other flammable materials nearby.

Empty the fuel tank before storing or transporting this generating set!

Keep fire extinguisher handy and be prepared if a fire starts.

**⚠️ WARNING**

Before each use, check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation.

Repair or replace all damaged or defective parts immediately.

Locate all operating controls and safety labels.

Make sure all the safety instructions are in right and working condition. Operate only on level surfaces.

DO NOT expose generating set to excessive moisture, dust, or dirt.

Keep all safety guards in place and in proper working order at all times.

DO NOT allow any material to block the cooling slots.

DO NOT allow children or untrained persons to operate the generating set.

DO NOT run the generating set unattended. Turn off the generating set before leaving the area.



**⚠️ DANGER**

**MOVING PARTS**

Moving parts can cause severe injury. Keep hands and feet away.

DO NOT operate generating setl. with covers, shrouds, or guards removed.

DO NOT wear loose-fitting clothing, dangling drawstrings or items that could be caught. Tie up long hair and remove jewelry.

The moving parts may catch operator's hand, feet, hair or clothes that will cause traumatic amputation or broken bones, fracture.

NEVER place fingers, hands, or body near the generating setl. when it is running.



**⚠ DANGER**

### **ELECTRIC SHOCK**

This generating set produces powerful voltage and the electricity **CAN KILL YOU**.

This generating set must be properly connected to an appropriate ground to help prevent electric shock.

Failure to properly ground generating set can result in electrocution, especially if the generating set is equipped with a wheel kit.

Consult an electrician for local grounding requirements.

Installation should be performed by a certified electrician.

Improper Installation can result in electric shock and death.

To reduce the risk of electric shock. **DO NOT** use electrical cords that are worn, frayed, bare or otherwise damaged.

**DO NOT** touch bare wires or receptacles.

**DO NOT** operate generating set in wet weather. Keep the

generating set dry.

**DO NOT** handle generating set or electrical cords while standing in water, while barefoot, or while hands or feet are wet.

Keep children or pets away from the generating set.

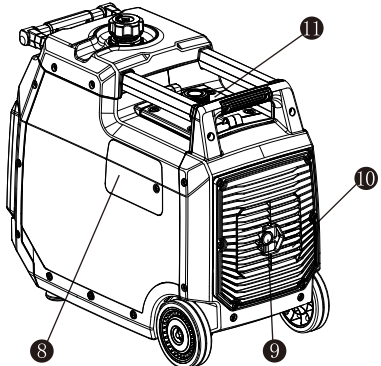
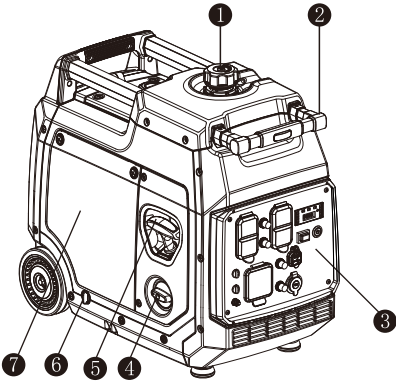
**DO NOT** hook up any generating set to a building electrical system without the proper use and installation of a transfer switch installed by a qualified electrician.

When using generating set for backup power, notify utility company. Use approved transfer generating set to isolate generating set from electric utility.

Failure to isolate generating set from power utility can result in death or injury to electric utility workers due to backfeed of electrical energy.

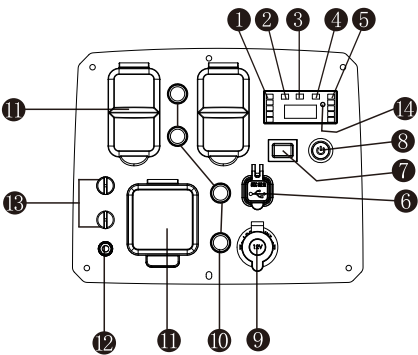
## II. Features and controls

(applicable model)



- ① Fuel tank cap
- ② Telescoping Handle
- ③ Control Panel
- ④ Combination switch (STOP&OFF&RUN&CHOKE)
- ⑤ Recoil starter
- ⑥ Oil drain plug
- ⑦ Air filter maintenance cover
- ⑧ Battery maintenance cover
- ⑨ Muffler
- ⑩ Muffler blind window
- ⑪ Spark plug maintenance cover

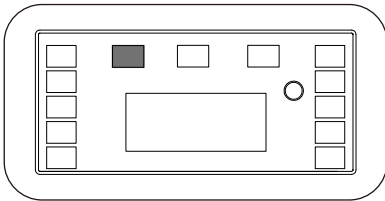
### Control Panel



- ① Power indicator
- ② Overload indicator
- ③ Running indicator
- ④ Oil alarm lamp
- ⑤ Fuel display
- ⑥ USB port
- ⑦ Energy-saving switch
- ⑧ Push-button start
- ⑨ 12V DC
- ⑩ Breaker
- ⑪ Receptacle
- ⑫ Ground terminal
- ⑬ Parallel kit terminal
- ⑭ Reset button

### Overload indicator (red)

When the overload indicator is on, it indicates that the generating set is overload and then the AC protector works. It will stop the output of generating set to protect the electric equipment and the generating set itself. At this time, the running indicator (green) is off and the overload indicator (red) is on, but the engine is still in running state.

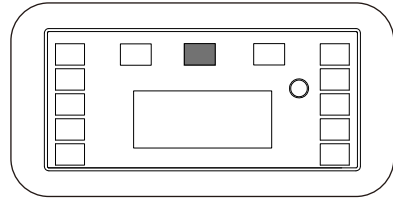


When the generating set has no output and the overload indicator is on, please take the following steps:

1. Lower the total power of the connected electric devices to the rated output range of generating set.
2. Check the air intake for impurities and check the control parts for abnormal situation. Handle immediately if necessary.
3. Press the reset button.

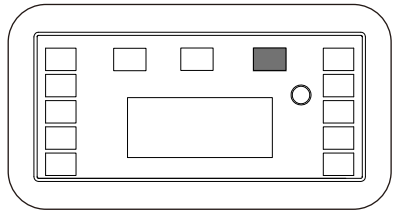
### Running indicator (green)

The running indicator lights up when generating set starts and has normal output.



### Oil alarm lamp (yellow)

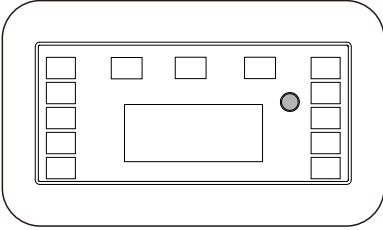
When the oil level drops below the lower limit, the oil protection system will stop the engine automatically and oil alarming lamp will blink by pulling the recoil starter. The engine will not run until the oil has been filled to the proper level.



**Note:** If engine flames out or fails to start, turn the combination switch to “RUN” position and then pull the recoil starter. If the oil alarming lamp lights up, it shows lack of oil. Please add appropriate oil and restart the engine.

## Reset button

The reset button is used to restore output if an overload occurs. To restore output, reduce the loads and press the reset button.

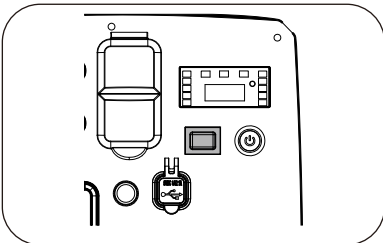


## Energy-saving switch

When the energy-saving switch is in “ON” position, the energy saving equipment controls the engine rotate speed according to the connected loads. There will be good fuel consumption and low noise.

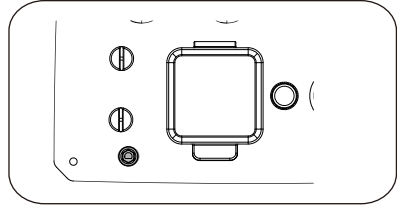
When the energy-saving switch is in “OFF” position, the engine will always run in rated rotate speed no matter it is connected to the loads or not.

**Note:** Please set the energy-saving switch to “OFF” position when connect to air compressor, sinking pump etc., because these equipments need large starting current.



## Grounding terminal

The grounding terminal is designed to prevent electric shock by connecting it to the grounding wire. The generating set must be properly grounded before operation.



## Combination switch (STOP&OFF&RUN&CHOKE)

**Note:** One-button start and remote control start, no function of manually close for the choke.

**Stop:** The stop position of the generator.

**Note:** After the generating set is unloaded, please run for 3 minutes at no load to stabilize the temperature, then stop the generating set.

**Off :** Fuel off without stop. This position can run out of the remaining fuel and improve the reliability of the generating set.

**Note:** If you do not plan to use the generator in the near future, please use this function, or drain the fuel inside the carburetor through the carburetor drain bolt.

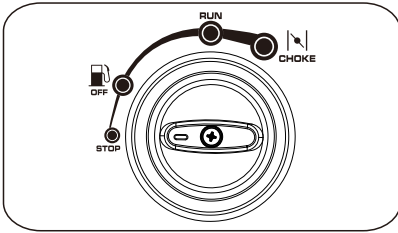
**Run:** The generating set operates normally.

**Choke:** Close the choke.

**Note:** Turn to choke position to start when engine is cold, and

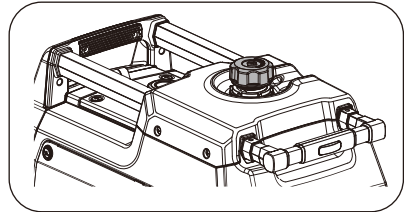


turn to Run position to start when engine is hot.



## Fuel tank cap

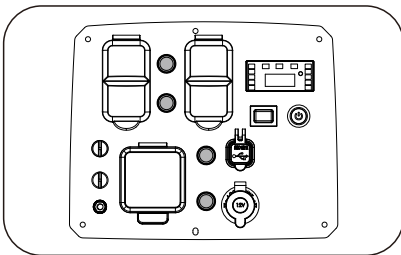
Remove the fuel tank cap by rotating it anticlockwise.



## Circuit breaker

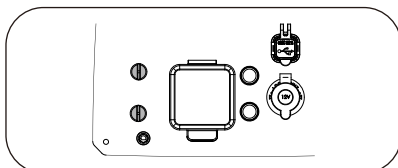
When the generator is overloaded or overheated for a long time, the thermal protector works. Under protected, please reduce the load or run it for a few minutes without load. Press the thermal protector button ,then output recovers.

**Note:** The thermal protector is influenced by factors, such as operation current and ambient temperature, so the protection time varies.



## Parallel kit terminal

It is used for parallel operation with another inverter (parallel kit sold separately).



## Telescoping handle

When moving the generator, please hold the telescoping handle and press the button on it, and pull it outward.

**Note:** Before moving, please turn off the generator and fuel switch. Please move the generator on a relatively flat ground. Do not perform the movement on a surface where the pit exceeds 40mm.

### III. Operating

#### 1. Operating checklist

##### 1 Operating Location

Only use OUTSIDE and place the generating set in a well-ventilated area.

Only operate the generating set on a flat, level surface and in a clean, dry operating environment.

Allow two feet clearance on all side of the generating set while operating it outdoors.

Operate in specified area, if any problem on applicable occasion, please consult the authorized local dealers. In some areas, generating set must be registered with the local utility. Generating set used to construction sites may be subject to additional rules and regulations.



**⚠ DANGER**

##### **TOXIC FUMES**

The exhaust of the generating set contains carbon monoxide, Using engine indoors **CAN KILL YOU!**

**NEVER** use inside any building or any kind of enclosure, **EVEN IF** doors and windows are open.

Place the generating set in a well-ventilated and clean area. Note the wind direction

and air current when place the generating set.

##### **High altitude**

This generating set may require a high altitude carburetor kit to ensure correct operation at high altitudes. Consult the authorized local dealer for high altitude kit information if you always operate your engine at altitudes above 5, 000 feet (1,500 meters).

**⚠ CAUTION**

Even with carburetor modification, generating set horsepower will decrease about 3.5% for each 1,000 feet (300 meters) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

**⚠ CAUTION**

Operation the engine at altitude below 5, 000 feet (1,500 meters) with modified carburetor may cause the generating set to overheat and result in serious engine damage. Please restore factory specifications of the carburetor at the dealer when using the engine in a low altitude area.

##### 2 Operating Condition

Check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation.

Repair or replace all damaged or defective parts immediately.

**⚠ WARNING**

Failing to correct problem(s) before operation could result in property damage, serious injury or DEATH.

Clean the dirt or foreign objects on the surface around exhaust and air intake of generator.

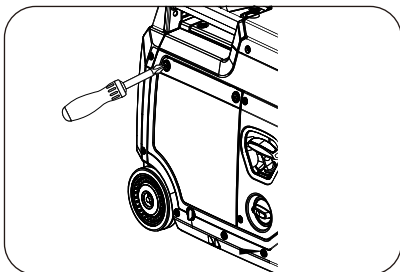
DO NOT move or tip the generating set during operation.

Use generating set only for intended uses. If you have questions about intended use, ask your local dealer.

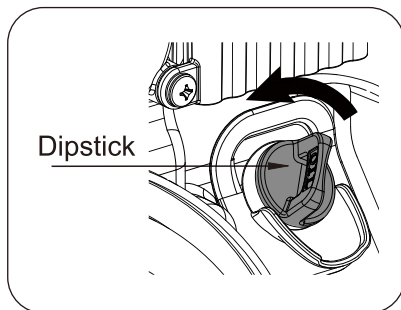
**3 Engine oil check**

Place the engine on a level surface with engine stopped. Check the engine oil level.

Remove the oil maintenance cover.



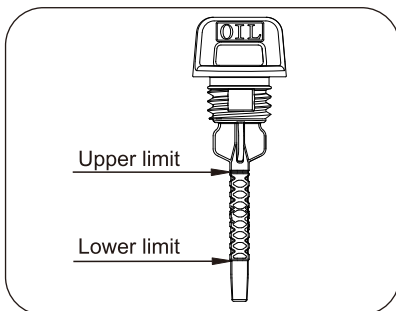
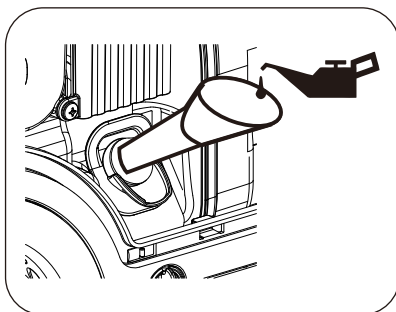
Remove the dipstick and wipe it clean.



Reinstall dipstick into hole; rest on oil fill neck, DO NOT thread cap into hole.

Remove the dipstick again and check oil level. Level should be between the upper and lower limit.

Fill to the upper limit of the dipstick with the recommended oil if the oil level is too low.



Reinstall and fully tighten the dipstick.

Refer to **add oil** instruction in **MAINTENANCE** section for more information.

**Oil capacity(rated):**

**See Parameters**

### **WARNING**

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil recommended in the **MAINTENANCE** section of this manual.

### **CAUTION**

Operate generating set only on leveled surfaces. The engine is equipped with a low oil sensor (applicable types) that will automatic stop the engine when the oil level falls below the safe limit. To avoid the inconvenience of an unexpected shutdown. Fill to the upper limit and check the oil level regularly.

### **WARNING**

This engine is not filled with oil before send out from the factory. Any attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

## **4** **Generating set fuel check**

With the engine stopped, check the fuel level. Refill the fuel tank if necessary.

Use clean, fresh, regular unleaded gasoline.

DO NOT mix oil with gasoline.

Always wipe up any spilled fuel.

### **CAUTION**

Pressure can build up in the fuel tank. Allow the generating set to cool for at least two minutes before removing fuel cap.

Loosen the fuel cap slowly to relieve any pressure in the tank.

Be sure not to fill above the upper limit mark. Always allow room for fuel expansion.

**Fuel capacity (rated):**

**See parameters.**



**⚠ DANGER**

### **FIRE OR EXPLOSION**

Gasoline is highly flammable and extremely explosive.

Keep flammable items away while handling gasoline.

Fill fuel tank outdoors and in a well-ventilated area with the generating set stopped.

Always wipe off spilled fuel and wait until the fuel has dried before starting the generating set.

DO NOT operate the generating set with known leaks in the fuel system. Regularly check if there is any leak on fuel system.

Use proper fuel storage and handling procedures. DO NOT store fuel or other flammable materials nearby.

Keep fire extinguisher handy and be prepared if a fire starts.

**⚠ DANGER**

Do not fill the fuel tank above the upper limit. Over fill will result in engine die or damage the carbon canister (if equipped) and void your warranty.

**⚠ CAUTION**

To minimize gum deposits in your fuel system and to insure easy starting, do not use gasoline left over from the previous season.

NEVER use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

It is important to prevent gum deposits from forming in essential fuel system parts, Such as the carburetor, fuel filter, fuel hose or tank during storage. Also, experience indicates that alcohol-blended fuels (called gasohol, ethanol or methanol) can attract moisture, which leads to separation and formation of acids during storage.

Acidic fuel can damage the fuel system of the generating set while in storage. Be sure to review the instructions given in "Storage" section.

Gasoline/Alcohol blends: up to 10% alcohol, 90% unleaded gasoline by volume is approved as a fuel. Other gasoline/alcohol blends are not approved.

Effects of old, stale or contaminated fuel are not warrantable.

## **⚠ CAUTION**

Allow the generating set to cool for at least two minutes before removing fuel cap when adding fuel.

Loosen the fuel cap slowly to relieve any pressure in the tank.

## **5 Generating set grounding**

The generating set must be properly connected to an appropriate ground. It helps prevent electrical shock if a ground fault condition exists in the generating set or in connected electrical devices, especially when the unit is equipped with a wheel kit.

Proper grounding also helps dissipate static electricity, which often builds up in ungrounded devices.



## **⚠ DANGER**

### **Electrical Shock**

Failure to properly ground the generating set can result in electric shock.

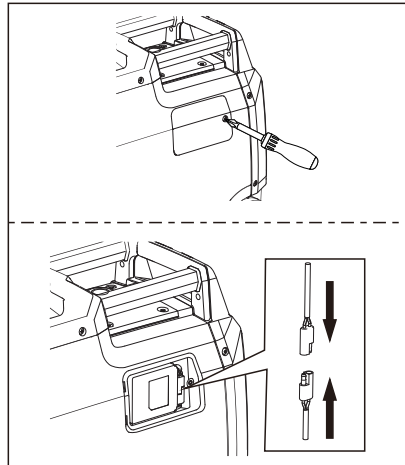
A ground terminal has been provided on the generating set.

For remote grounding, connect a length of heavy gauge (4mm<sup>2</sup>) copper wire between the generating set ground terminal and a copper rod driven into the ground.

Local electrical codes may also require proper grounding of the unit. We strongly recommend that you consult with a qualified electrician for grounding requirements in your area.

## **6 Battery connection** (If applicable)

Remove the battery maintenance cover, connect the battery terminal to the motor terminal, and reinstall the maintenance cover.



## 2. Starting the generating set

Pull the starter handle 6-8 times to prefill fuel system before initial operation or removal from long term storage. Failure to do so could result in bad starting experience.

1

Perform operating checklist and remove all loads.

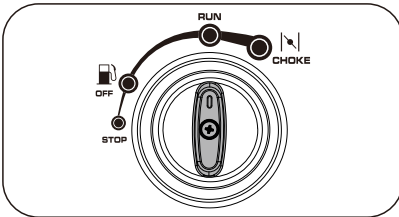
2 (Suitable for hand start)

### Cold start

Turn the combination switch to “CHOKE” position to shut off the choke.

### Warm start

Turn the combination switch to “RUN” position, if not started, please turn the combination switch to “CHOKE” position before restarting.



## 3 Manual start

### ⚠ WARNING

Check starter cord conditions before operating. Have it replaced immediately by local authorized dealer if cord is frayed.

1. When starting engine, grasp the recoil starter handle and pull slowly until resistance is felt. Then pull rapidly to avoid kickback. When pulling the recoil starter, firmly grasp the generator to avoid tumble of generator or personal injury caused by tumble.

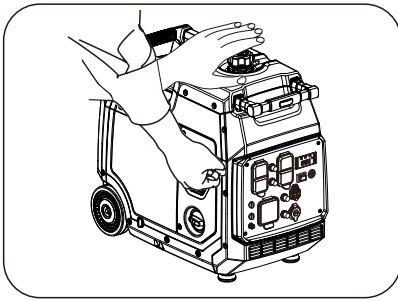


### ⚠ WARNING

#### KICKBACK

Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go.

Unintentional startup can result in entanglement, traumatic amputation or laceration. Broken bones, fractures, bruises or sprains could result.

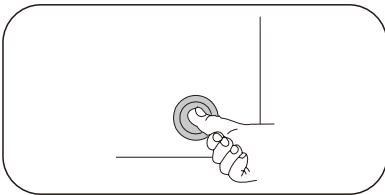


2. Turn the combination switch to “RUN” position.

#### 4 **electric starting** (Model used)

**Cold / hot engine start (electric start):** Turn the combination switch to “Run” position.

Press the engine switch and release it after the engine starts.



If it fails to start, release the switch. The unit will restart by itself. If it fails to start after repeated 5 times, please allow the generator to cool for 1 minute and start again.

#### **⚠ CAUTION**

Never continue to start the generator without removing the fault.

It's forbidden to start the generator after changing to another battery without authorization.

#### **⚠ CAUTION**

If after three attempts to start, the generator still fails to start or stops after starting, please search and solve the fault.

#### **⚠ WARNING**

The engine shall not exceed 15 seconds for each continuous start. If it fails to start, please allow the generator to cool for 1 minute before next attempt to start. Failure to do so will damage the starter motor.

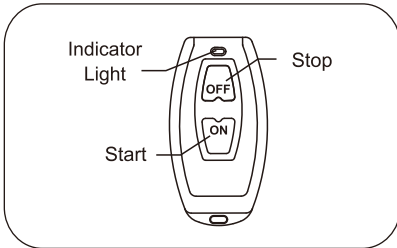


## **⚠ WARNING**

When the generator is idle for a long time or improper use or other factors, the lithium battery is undercharging so that the generator cannot be electrically started, follow the manual start steps to control the choke and start the generator manually. The generator will automatically charge the lithium battery during operation.

### **Wireless remote control**

(If applicable)



Press and hold the “ON” key for 1 second and release it to start the generator.

If it fails to start, the generator will restart by itself. If it fails to start after repeated 5 times, please allow the generator to cool for 1 minute and start again.

**NOTE:** Sometimes the generator can take a few attempts to start in cold weather. If machine does not start in the first 10 seconds, wait for 30 seconds before attempting again.

If the motor turns a little then stops when you press the Start key, it may indicate a low battery. Charge the battery before operation or start by recoil start.

## **⚠ WARNING**

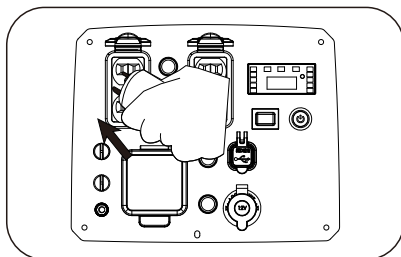
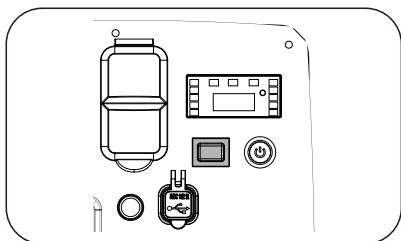
### **Remote transmitter and generator learning**

The generator and the remote controller have been successfully matched at the factory, and users do not need to perform matching when use.

If you need to re-match the remote transmitter, press and hold the start button for 5S and release, then press the “ON” button of remote control transmitter for 1S, if the generator starts, the remote transmitter is successfully matched.

When electrical device requires a large starting current, please put the energy-saving switch in the “OFF” position; When the starting current required by electrical device is small, put the energy-saving switch in the “ON” position.

After completing the operations above, the generator can be connected to electrical devices.



### **⚠ WARNING**

It is prohibited to start or close the generating set when the output terminal of generating set is connected to an electric device and the electric device is in “ON” state.

### 3. Connect to electrical devices

1. Inspect power cord for damage before using. There is a hazard of electrical shock from crushing, cutting or heat damage.
2. Make sure that the generating set has been properly grounded. If the electric devices require grounding, the generating set must ground.
3. Make sure that the electric devices are in “OFF” position.
4. Allow the engine to stabilize and warm up for a few minutes after starting.
5. Connect and start the electric devices.
6. Turn off all electric devices and disconnect them from the generating set.
7. If the generating set supplies for several loads or electric devices, start the smallest one first and the largest one last.

### **⚠ DANGER**

If connected devices overheat, turn them off and disconnect them from generating set.



**⚠ DANGER**

**ELECTRICAL SHOCK**

To reduce the risk of electrical shock, **DO NOT** use electrical cords that are worn, frayed, bare or otherwise damaged.

**DO NOT** touch bare wires or receptacles.

**DO NOT** handle generating set or electrical cords while standing in water, while barefoot, or while hands or feet are wet.

**Loading capacity**

**⚠ WARNING**

**DO NOT overload the generating set.**

Exceeding the generating set's capacity can damage the generating set and/or electric devices connected to it.

You must make sure your generating set can supply enough rated (running) and (starting) watts for the electrical devices at the same time. Follow these simple steps to calculate the running and starting watts necessary for your purposes.

a. Count the electrical devices you will power at the same time.

b. The amount of power you need to run with the devices is the total rated (running) watts of these items.

c. Starting power is the power needed shortly when electric devices start. Since not all devices start at the same time, starting power can be estimated by the maximum power of all devices plus the total power counted in step b.

**⚠ WARNING**

It is necessary to equip with circuit protector or switch to isolate the generating set from the electric utility when the generating set is mainly used for backup. Failure to isolate the generating set from the power utility may result in injury or death to electric utility workers and damage to the generating set due to back feed of electrical energy.

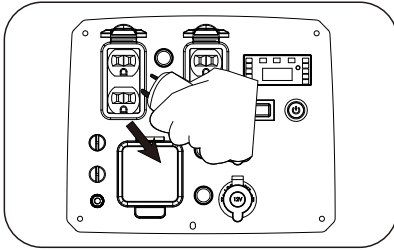
**Wattage Reference Chart**

Electric equipment		Rate power(W)	Starting power(W)
Appliances	Tablet TV 27"	80	100
	Energy saving lamp	5-50	5-50
	Electric cooker	1000	1000
	Computer	250	250
	Electric fan	50	100
	Washing machine	250	500
	Refrigerator	50	300
	Air-conditioner	1600	3200
Electric tooling	Electric hammer	1000	1500
	Impact Hammer	3000	6000
	Water pump	2200	5000
	Electric welding machine	5000	7500
	Air compressor	5000	10000

## 4. Stopping the generating set

1

Remove the connectors of all electric equipment from the generating set panel.



### **⚠ WARNING**

NEVER stop the engine with electrical devices connected and running.

2

Turn the combination switch to the “stop” position, the generator stops operation.

### **Wireless remote shutdown** (if applicable)

Press and hold the “OFF” button for at least 0.3 seconds to stop the generator. After the generator stops, turn the combination switch to the “stop” position.

**Note:** When the control distance is shortened or the indicator light is on but the remote control function is not available,

Wireless remote replace the battery. Contact your local dealer for more information.

### **One-button start-stop** (if applicable)

Press the start-stop button to turn off the generator. After the generator shutdown, turn the combination switch to “stop” position.

### **⚠ WARNING**

If the generator will not be used for a long time, please turn the combination switch to the "off" position. After the fuel in the carburetor oil cup to runs out and the generator automatically shuts down, turn the knob to the "stop" position. If the combination switch knob is not turned to the “stop” position, there is a risk of fuel leakage. And the battery will be undercharged after a long time placed, resulting in failure to start the generator.

## 5. Parallel operation

(If applicable)

During parallel operation, energy-saving switches of generating sets should be in the same position.

**1**

Connect one generating set to other generating set(s) in parallel. Use the parallel kit to make the parallel connection (the parallel kit needs to be purchased separately).

**2**

Insert the plug of the parallel kit into the parallel socket on the panel, and start the generators in turn. Make sure that the output indicator of each generator is in normal state (green).

### **WARNING**

When connecting, please connect the plug to the panel socket of the same color.

**3**

Connect the plug of electric devices to the AC sockets of the parallel kit.

**4**

Run the electric devices.

### **CAUTION**

The total power of electric devices cannot exceed the rated power of generating set. The manufacturers of electric devices or tools always list the rated power of similar models or serial number.

When slightly overload, the load indicator flashes continuously, which may shorten the life of the generator. When severe overload, the load indicator light keeps on, which may cause damage to the generator.

## IV. Maintenance

It is the operator's responsibility to complete all scheduled maintenance in a timely manner. Correct any issue before operating the generating set. Always follow the inspection and maintenance recommendations and schedules in this manual.

### **WARNING**

Improper maintenance or failure to correct a problem before operation can cause a malfunction and result in property damage, serious injury or DEATH.

Improper maintenance will void your warranty.



### **DANGER**

Accidental starts can cause Severe injury or death. Remove the spark plug cap and ground generating set before performing any service.

### **CAUTION**

The filter element may contains PAHs, PAHs are harmful for your health. Please wear gloves for protection during air filter maintenance.

# 1. Maintenance schedule

Stop the generating set before serving, disconnect all electric devices and battery (If equipped), and cool down the generating set completely.

Serve the generating set in a clean, dry and flat area, so that no accident would happen during the serving. Please make the wheel in brake state to stop accidental movement of generating set.

Follow the service intervals indicated in the chart below. Service your generating set more frequently when operating in adverse conditions.

Contact your local authorized service dealer for your generating set or engine maintenance needs.

		Each time before use	The first month or 10 hours <small>note2</small>	Every three months or 50 hours <small>note2</small>	Every six months or 100 hours <small>note2</small>	Every year or 300 hours <small>note2</small>
Engine oil	Inspection	√				
	Replacement		√		√	
Air filter	Inspection	√				
	Cleaning			√ <small>note3</small>		
Spark plug	Inspection and adjustment				√	
	Replacement					√
Spark Extinguisher <small>note1</small>	Cleaning				√	
Idle speed	Inspection and adjustment					√ <small>note4</small>
Valve clearance	Inspection and adjustment					√ <small>note4</small>
Carbon canister <small>note1</small>	Inspection	Every two years <small>note4</small>				
Low permeability oil tube <small>note1</small>	Inspection	Every two years <small>note4</small>				
Oil tube	Inspection	Every two years <small>note4</small>				

**NOTE :**

Note1: Applicable types (If available).

Note2: Before each season and after then (whichever comes first).

Note3: Service more frequently under severe, dusty, dirty conditions.

Note4: To be performed by knowledgeable, experienced owners or the authorized dealer.

## 2. Generating set maintenance

Use a damp cloth to clean exterior surfaces of the generating set. Use a soft brush to clean the dirt and oil.

Use an air compressor (25 PSI) to clear dirt and debris from the generating set.

Inspect all air vents and cooling slots to ensure that they are clean and unobstructed.

### **⚠ WARNING**

DO NOT use water to clean the generating set. Water can enter the generating set through the cooling slots and damage the generating set windings.

### **⚠ WARNING**

It is forbidden to tamper with the generator in any of the above ways.

Do not tamper with the inverter speed. The generator is set to the correct rated frequency and voltage before factory. Tampering with the factory settings of the inverter without authorization will void your product warranty.

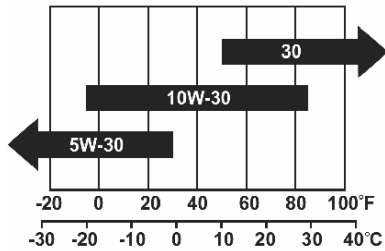
## 3. Engine maintenance

### Engine oil

Only use four-stroke engine oil of SJ, SL or equivalent level which are in accordance with or higher than API standard.

Check the API label on oil bottle or other container, and make sure the “SJ, SL” or equivalent level letter is in the label.

SAE 10W-30 is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.



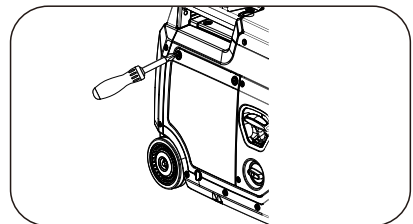
**Ambient temperature**

### Oil capacity (rated):

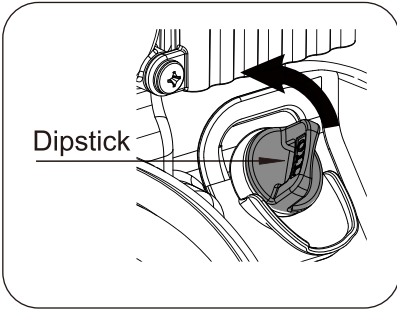
See parameters

### Add oil

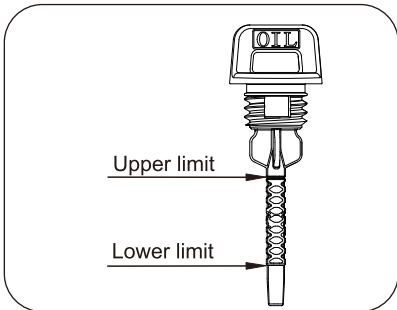
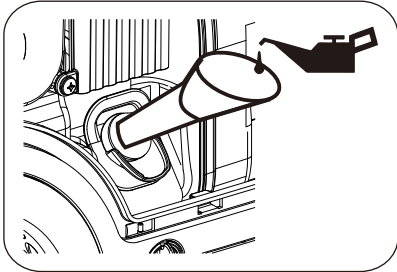
- Place the engine on a level Surface.
- Remove the air filter maintenance cover and dipstick, wipe it clean.







c. Add recommended oil to the upper limit.



d. Fully tighten the dipstick and reinstall the air filter maintenance cover.

## **⚠ CAUTION**

### **Oil level check**

Insert the dipstick into filler port and stay at the filler neck. Do not screw the dipstick into the port, then remove the dipstick and check the oil level.

e. Properly dispose of any used oil at an approved waste management facility.

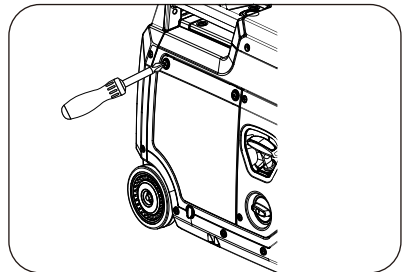
### **Change oil**

## **⚠ CAUTION**

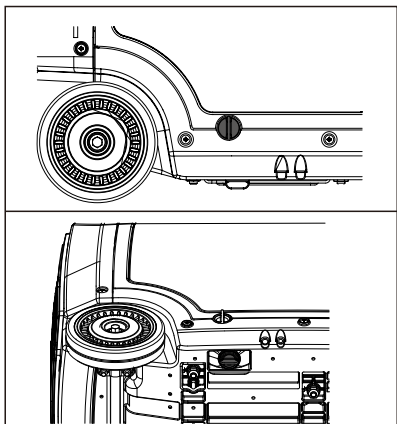
Change oil when the engine is warm from operation.

a. Place the machine on a level surface which is 300mm higher than the ground.

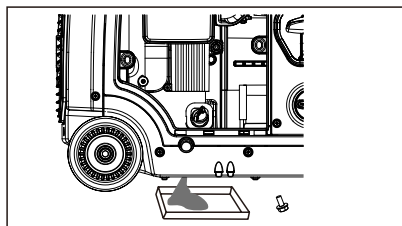
b. Remove the air filter maintenance cover.



c. Remove the oil drain plug.

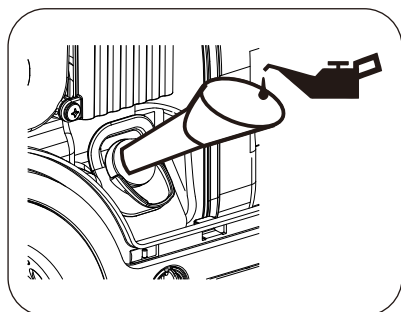


d. Place the oil container box under the oil drain hole of the generator and remove the drain bolt to drain out all the used oil.



e. Fully tighten the drain bolt before reinstalling the drain plug.

f. Add recommended oil to the upper limit.



g. Fully tighten the dipstick and install the air filter maintenance cover back in place.

h. Properly dispose of any used oil at an approved waste management facility.

### **⚠ WARNING**

The engine is not filled with oil at the factory. Any operation before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

### **Air filter**

a. Remove the Air filter maintenance cover.

b. Loosen the filter fix clamp and remove the cover of the air filter.

c. Remove the foam filter element.

d. Wash in liquid detergent and warm water.

e. Squeeze thoroughly dry in a clean cloth.

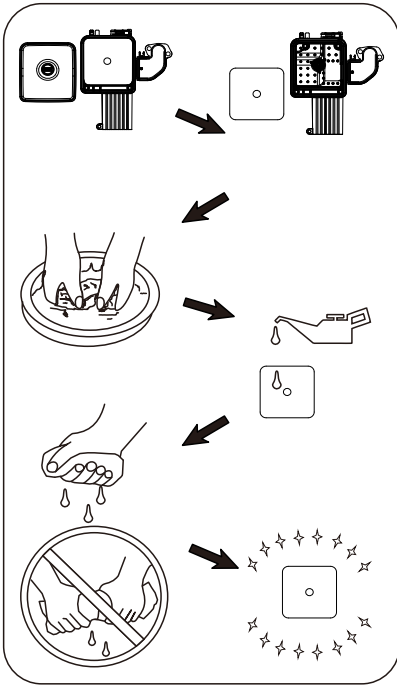
f. Saturate in clean engine oil.

g. Squeeze in a clean absorbent cloth to remove excess oil.

h. Assemble the filter element onto the filter unit

i. Assemble the filter fix clamp.

j. Reinstall the Air filter maintenance cover.



**⚠ WARNING**

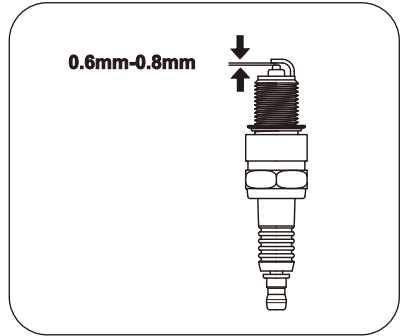
DO NOT run the engine without the air filter, or serious danger can result.

**Spark plug**

- a. Remove the maintenance cover of spark plug.
- b. Remove the spark plug cap.
- c. Using socket wrench to loose and remove the spark plug.
- d. Inspect the spark plug and spark plug washer, if it was broken or worn, replace with a new one. Clean the spark plug with wire brush if reuse it.
- e. Check spark plug gap. Carefully bend side electrode to adjust the gap if necessary.

**Spark plug gap:**

0.6mm-0.8mm



- f. Carefully thread the plug into the engine **by hand**.
- g. After the spark plug is seated, use spark plug wrench to tighten the plug.

**Spark Plug Tighten Torque:**

15-20 N.m

- h. Attach the spark cap to the plug and connect the spark plug wire to the plug.

**⚠ WARNING**

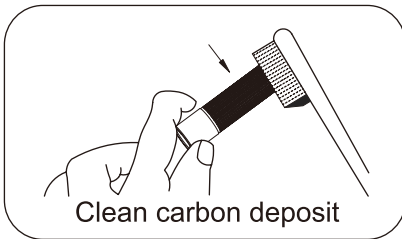
Only use recommended spark plug or equivalent. DO NOT use spark plugs that have improper heat range.

- i. Install spark plug maintenance cover.

## Spark Arrester

(Applicable types)

- a. Allow the generating set to cool completely before servicing the spark arrester.
- b. Remove the muffler blind window first.
- c. Remove the spark arrester screen.
- d. Carefully remove the carbon deposits from the spark arrester screen with a wire brush.
- e. Replace the spark arrester if it is damaged.
- f. Reinstall the spark arrester in the muffler and reinstall the muffler blind window.





## V. Trouble-shooting

Failure	Trouble	Solution
Generating set fails to start	Combination switch is in "OFF" or "STOP" position.	When engine is cold, turn switch to "CHOKE", and follow starting procedure to start the generating set. When engine is hot, turn switch to "RUN", and follow starting procedure to start the generating set,
	Lack of fuel.	Fill fuel tank per instructions in this manual.
	Lack of engine oil.	Check oil level. This engine is equipped with a low oil sensor. The engine cannot be started unless the oil level is above the prescribed lower limit.
	No ignition.	Remove the spark plug cap. Clean any dirt around the plug base, and then remove the spark plug. Install the spark plug in the plug cap. Turn the combination switch to "RUN" position. Grounding the electrode to any engine ground, pull the recoil starter to see if sparks jump across the gap. If there is no spark, replace the plug.  Reinstall the plug and start engine according to instructions in this manual. Consult Customer Service if necessary.
	Spark plug is splashed by fuel	Remove the spark plug and wipe the fuel.
	The generating set flames out after running for a certain time.	Turn the ventilation knob on the fuel tank cap to "ON" position;  Check the fuel and oil level. Add them if necessary.
	Battery undercharge (electric start)	Charge the battery by starting the generator manually (at least 30 minutes). After closing the choke manually, start the generator according to the manual startup steps.
Generating set has no output	Breaker trip	Reset circuit breakers.
	Inadequate cord sets or extension cords.	Check cord sets or extension cords capabilities in section controls; cable size in this manual.  Consult Customer Service if necessary.

## VI. Storage and transportation

### Storage

The generating set should be started at least once every 2 weeks and allowed to run for at least 20 minutes. Follow the instructions below for longer term storage if the generating set will be out of service for 2 months or more.



**⚠ DANGER**

**Fire or explosion**

Gasoline is highly flammable and extremely explosive.

Empty the fuel tank and shut off fuel valve before storing or transporting this generating set.

1. Allow the generating set to cool completely before storage.
2. Clean the generating set according to instructions in Maintenance section.
3. Drain all fuel completely from the fuel tank, fuel hose and carburetor to prevent gum from forming.
4. Turn the combination switch in "STOP" position to cut off the fuel.
5. Remove the oil drain plug to drain out the oil (See steps c, d, e at page 23).
6. Remove the spark plug and pour about 15 ml of fresh oil into the cylinder. Pull the recoil starter slightly to distribute the oil and lubricate the cylinder. And then

attach the spark plug.

7. Store the unit in a clean, dry area out of direct sunlight.

8. please disconnect the battery.

### Transportation

When generator transportation or short term storage, the generator should be in the normal operating position and fixed vertically to prevent fuel leakage. The combination switch should be in the "stop" position and knob of the fuel cap should be turned to the "OFF" position.

**⚠ WARNING**

**When transporting:**

Do not overfill the tank. Do not operate the generating set while it is on vehicle. Take the generating set off the vehicle and use it in a well-ventilated place. Avoid a place exposed to direct sunlight when putting the generating set on a vehicle. If the generating set 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 generating set on board. If you must transport the generating set on a rough road, drain the fuel from the generating set beforehand.

## VII. Specification

### 1. Specification parameter table

Feature		Model	RVMP-220471
Engine parameter	Engine model	NH225E-2	
	Style	OHV	
	Displacement (cm <sup>3</sup> )	224	
	Ignition system	CDI	
	Start style	Hand recoil or electric starting	
	Oil capacity(L)	0.6	
Series parameter	Frequency(Hz)	60	
	Voltage(V)	120	
	Rated power(kW)	3.6	
	Maximum power(kW)	3.8	
	Power factor	1	
	Insulation rate	F	
	Fuel capacity(L)	7.2(Reversal Valve)	
	Operating temperature(°C)	-10~40	
	Max. site altitude of installation(m)	1500	
	Measured sound pressure level(dB(A))	≤ 71	
	Measurement uncertainty(dB(A))	≤ 1.5	
	Guaranteed sound power level(dB(A))	≤ 92	
Net weight(kg)	34.5		

**Note: The generating set with different specification and configurations may have different parameters and may change at any time without notice.**







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## FEDERAL and CALIFORNIA EXHAUST AND EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency (EPA), the California Air Resources Board, and RV Mobile Power, LLC. (RVMP) are pleased to explain the exhaust and evaporative emissions ("emissions") control system's warranty on your 2023 small off-road engine or equipment (SORE). In California, new equipment that use small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. RVMP must warrant the emissions control system on your SORE for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine or equipment leading to the failure of the emissions control system.

Your emissions control system may include parts such as the carburetor or fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines (for liquid fuel and fuel vapors), fuel caps, valves, canisters, filters, clamps and other associated components. Also included may be hoses, belts, connectors, and other emission-related assemblies.

Where a warrantable condition exists, RVMP will repair your SORE at no cost to you including diagnosis, parts and labor.

### MANUFACTURER'S WARRANTY COVERAGE:

This exhaust and evaporative emissions control system on your SORE is warranted for two years. If any emissions-related part on your SORE is defective, the part will be repaired or replaced by RVMP.

### OWNER'S WARRANTY RESPONSIBILITIES:

As the SORE owner, you are responsible for performance of the required maintenance listed in your owner's manual. RVMP recommends that you retain all receipts covering maintenance on your SORE, but RVMP cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the SORE owner, you should however be aware that RVMP may deny your warranty coverage if your SORE or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your SORE to a RVMP distribution center or service center as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact RV Mobile Power, LLC. at 1-855-427-7978 or email to support@rvmp.co or <http://www.rvmp.co>.

### DEFECTS WARRANTY REQUIREMENTS:

**(a) Applicability.** This section applies to emissions control systems on small off-road engines or equipment that use small off-road engines subject to the emission standards in this Article. The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser.

**(b) General Emissions Warranty Coverage.** The engine or equipment must be warranted to the ultimate purchaser and any subsequent owner that the emissions control system when installed was:

- (1) Designed, built, and equipped so as to conform with all applicable regulations; and
- (2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

**(c) The warranty on emissions-related parts will be interpreted as follows:**

(1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions furnished with each new engine or equipment must be warranted for the warranty period defined in subsection

(b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by RVMP according to subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for a time not less than the remaining warranty period.

(2) Any warranted part that is scheduled only for regular inspection in the written instructions furnished with each new engine or equipment must be warranted for the warranty period defined in subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" shall advise owners of the warranty coverage for emissions related parts. Replacement within the warranty period is covered by the warranty and will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for a time not less than the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions furnished with each new engine or equipment must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by the manufacturer according to subsection (4) below. Any such part repaired or replaced under warranty must be warranted for a time not less than the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the warranty provisions of this article must be performed at no charge to the owner at a warranty station.

(5) Notwithstanding the provisions of subsection (4) above, warranty services or repairs must be provided at distribution centers that are franchised to service the subject engines or equipment.

(6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Throughout the emissions control system's warranty period set out in subsection (b)(2), RVMP must maintain a supply of warranted parts sufficient to meet the expected demand for such parts and must obtain additional parts if that supply is exhausted.

(8) Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or evaporative emission system must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of RVMP.

(9) The use of add-on or modified parts may be grounds for disallowing a warranty claim made in accordance with this Article. RVMP will not be liable under this Article to warrant failures of warranted parts caused by the use of an add-on or modified part.

(10) RVMP shall provide any documents that describe RVMP's warranty procedures or policies within five working days of request by the Executive Officer.

**(d) A list of all emissions warranty parts must be included with each new engine or equipment subject to this Article. The emissions warranty parts list shall include all parts whose failure would increase exhaust or evaporative emissions, and contains the following parts (if applicable):**

(1) Fuel Metering System

- Carburetor and internal parts (and/or pressure regulator or fuel injection system).
- Air/fuel ratio feedback and control system.
- Cold start enrichment system.

(2) Air Induction System

- Controlled hot air intake system.
- Intake manifold.
- Air filter.

(3) Ignition System

- Spark Plugs.
- Magneto or electronic ignition system.
- Spark advance/retard system.

(4) Exhaust Gas Recirculation (EGR) System

- EGR valve body, and carburetor spacer if applicable.
- EGR rate feedback and control system.

(5) Air Injection System

- Air pump or pulse valve.
- Valves affecting distribution of flow.
- Distribution manifold.

(6) Catalyst or Thermal Reactor System

- Catalytic converter.
- Thermal reactor.
- Exhaust manifold.

(7) Particulate Controls

- Traps, filters, precipitators, and any other device used to capture particulate emissions.

(8) Miscellaneous Items Used in Above Systems

- Vacuum, temperature, and time sensitive valves and switches.
- Electronic controls.
- Hoses, belts, connectors, and assemblies.

(9) Evaporative Controls

- Fuel Tank
- Fuel Cap
- Fuel Lines (for liquid fuel and fuel vapors)
- Fuel Line Fittings
- Clamps\*\*
- Pressure Relief Valves\*\*
- Control Valves\*\*
- Control Solenoids\*\*
- Electronic Controls\*\*

- Vacuum Control Diaphragms\*\*
- Control Cables\*\*
- Control Linkages\*\*
- Purge Valves
- Gaskets
- Liquid/Vapor Separator
- Carbon Canister
- Canister Mounting Brackets
- Carburetor Purge Port Connector

\*\*Note: As they relate to the evaporative emission control system.

**Note: Any other warranty statements apply to engines or equipment units shall not limit the emissions warranty period (two years) or its applicability to subsequent owners after the ultimate purchaser.**

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Phone: (855) HAPPYRV

Email: [support@rvmp.co](mailto:support@rvmp.co)

Manuals: <https://rvmp.co/manuals>

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