POWER SMART®

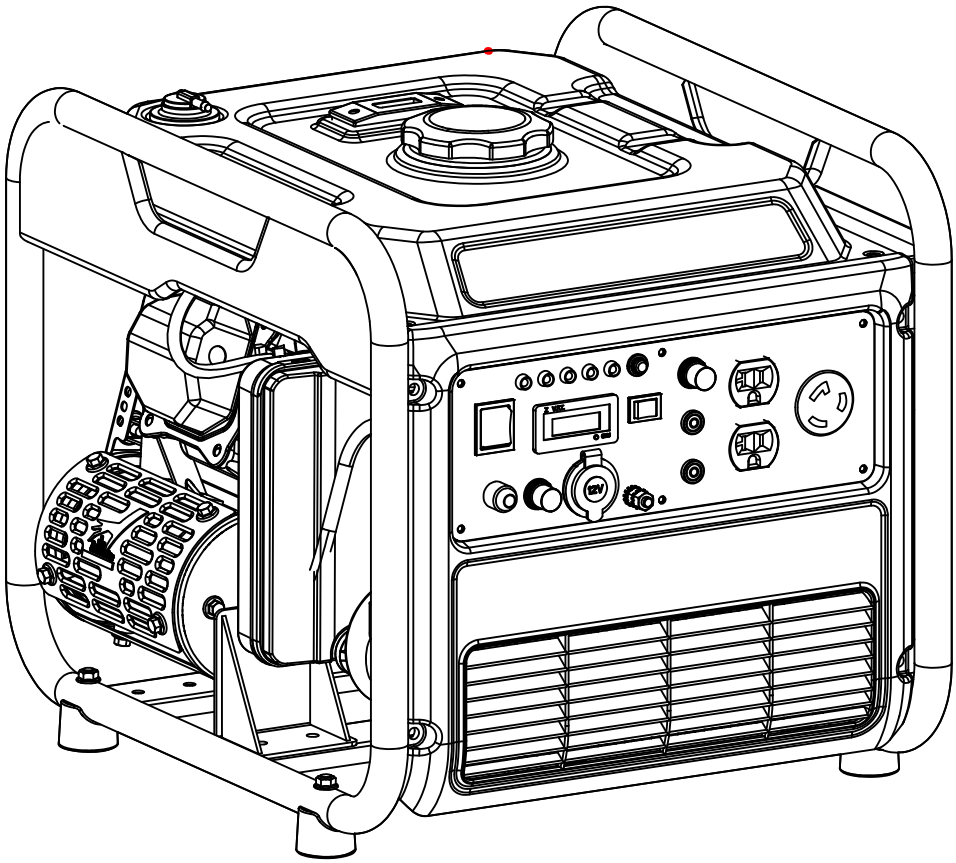
# INSTRUCTION MANUAL

## 4400W FRAME INVERTER GENERATOR

Model # MB5040DC

STOP

*PROBLEMS? QUESTIONS?*
**DO NOT RETURN TO STORE**
*CALL OUR CUSTOMER HELP LINE*
**(872)314-0005 Mon-Fri 9-5 EST**



Have product questions or need technical support? Please scan the QR code to enter our official website and contact us!

Website: www.powersmartusa.com
Toll free: 1-872-314-0005 Mon-Fri 9-5 EST
Email: support@amerisuninc.com / support@powersmartusa.com

Website

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# TECHNICAL DATA

| | |
|---|---|
| 4400W Generator： | Model#MB5040DC |
| Engine type: | 4 stroke, OHV, single cylinder with forced air-cooling system |
| Start type: | Recoil |
| Phase: | Single |
| Surge wattage: | 4.4kW(GAS),4.0kW(LPG) |
| Rated wattage: | 3.6kW(GAS),3.3kW(LPG) |
| Rated voltage: | 120V |
| DC output voltage: | 12V |
| Max AC Amperage: | 30A(GAS),27.5A(LPG) |
| Frequency: | 60Hz |
| Displacement: | 223 cc |
| Spark plug gap: | 0.76 mm |
| Fuel tank capacity: | 1.6 gallons |
| Oil capacity: | 20.3 fl.oz |
| Runtime at 50% load: | 5.1 hours |
| A-weighted sound pressure level $L_{pA}$: | 76db(A) at 23 feet |
| Package dimensions(L x W x H): | 19.3x16.9x16.5 inch |
| Weight: | 65.0 lb |

# INTRODUCTION

Thank You for Purchasing a PowerSmart® Product. This manual provides information regarding the safe operation and maintenance of this product. Every effort has been made to ensure the accuracy of the information in this manual. PowerSmart® reserves the right to change this product and specifications at any time without prior notice.



Please keep this manual available to all users during the entire life of the generator. This manual contains special messages to bring attention to potential safety concerns, generator damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

**QUESTIONS? PROBLEMS?**

Please contact our Customer Service Dept. with any questions and/or comments, either by Email: support@amerisuninc.com / support@powersmartusa.com, or Toll Free at (872)314-0005. We are available Mon-Fri 9am-5pm EST to help solve any issues that you might encounter.

**NOTICE REGARDING EMISSIONS**

Engines that are certified to comply with U.S. EPA emission regulations for SORE (Small Off Road Equipment), are certified to operate on regular unleaded gasoline, and may include the following emission control systems: (EM) Engine Modifications and (TWC) Three-Way Catalyst (if so equipped).

# SAFETY INFORMATION

Before operating this generator, read and observe all warnings, cautions, and instructions on the generator and in this Owner's Manual.

**NOTE:** The following safety information is not meant to cover all possible conditions and situations that may occur. Read the entire Owner's Manual for safety and operating instructions. Failure to follow instructions and safety information could result in serious injury or death.

This safety alert symbol is used to identify safety information about hazards that can result in personal injury.



A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

**DANGER** Indicates a hazard, which, if not avoided, will result in death or serious injury.

**WARNING** Indicates a hazard, which, if not avoided, could result in death or serious injury.

**CAUTION** Indicates a hazard, which, if not avoided, might result in minor or moderate injury.

**CAUTION** when used without the alert symbol, indicates a situation that could result in damage to the engine or generator.

# GENERAL SAFETY RULES

**DANGER: CARBON MONOXIDE**

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide (CO). This is a poison gas you cannot see or smell. If you can smell the generator exhaust, you are breathing CO. But even if you cannot smell the exhaust, you could be breathing CO.

NEVER use a generator inside homes, garages, crawlspaces, or other partly enclosed areas. Deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors does NOT supply enough fresh air. ONLY use a generator outside and far away from windows, doors, and vents. These openings can pull in generator exhaust.

Even if you use a generator correctly, CO may leak into the home. ALWAYS use a battery-powered or battery-backup CO alarm in the home. If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.



**WARNING:** The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



**WARNING:** This generator may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death if ignited. A nearby open flame can lead to explosion even if it isn't directly in contact with gasoline.

- Do not operate near open flame.
- Do not smoke near generator.
- Always operate on a firm, level surface.
- Always turn generator off before refueling. Allow generator to cool for at least 2 minutes before removing fuel cap. Loosen cap slowly to relieve pressure in tank.
- Do not overfill fuel tank. Gasoline may expand during operation. Do not fill to the top of the tank.
- Allow for expansion.
- Always check for spilled fuel before operating.
- Empty fuel tank before storing or transporting the generator.



**WARNING:** This generator produces powerful voltage, which can result in electrocution.

- ALWAYS ground the generator before using it (see the "Generating set ground" portion of the "GENERATOR PREPARATION" section).
- Generator should only be plugged into electrical devices, either directly or with an extension cord.
- NEVER connect to a building electrical system without a qualified electrician. Such connections must comply with local electrical laws and codes. Failure to comply can create a back-feed, which may result in serious injury or death to utility workers.
- Use a ground fault circuit interrupter (GFCI) in highly conductive areas such as metal decking or steel work. GFCIs are available in-line with some extension cords.
- Do not use in rainy conditions.
- Do not touch bare wires or receptacles (outlets).
- Do not allow children or non-qualified persons to operate.



**WARNING:** This generator produces heat when running. Temperatures near exhaust can exceed 150°F (65°C).

- Do not touch hot surfaces. Pay attention to warning labels on the generator identifying hot parts of the machine.

- Allow generator to cool down after use before touching engine or areas of the generator that become hot during use.



**CAUTION:** Misuse of this generator can damage it or shorten its life.

- Only use generator for its intended purposes.
- Operate only on dry, level surfaces.
- Allow generator to run for several minutes before connecting electrical devices.
- Shut off and disconnect any malfunctioning devices from generator.
- Do not exceed the wattage capacity of the generator by plugging in more electrical devices than the unit can handle.
- Do not turn on electrical devices until after they are connected to the generator. Turn off all connected electrical devices before stopping the generator.
- Turn the engine switch to "OFF" position when the engine is not running.

## IMPORTANT SAFETY INSTRUCTIONS

- Ensure that adequate ventilation is provided while the generator is in operation.
- The muffler is hot when the generator is running and just stopping. Be careful not to touch it.
- Under certain conditions, gasoline is extremely flammable and explosive.
- Be sure to add gasoline in a well-ventilated place. Turn off the engine and let it cool before filling.
- When refueling, keep away from the open fire.
- If there is oil spill while refueling, wipe the spilled gasoline immediately.
- Explosion and Fire. Do not overfill fuel tank. Fill to 1/2 inch from top of tank to allow for fuel expansion. Overfilling may cause fuel to spill onto engine causing fire or explosion, which will result in death or serious injury!
- Using should be prohibited in places with high fire risk.
- Do not connect the generator to the power system, or it may cause people to die from electric shock when they come into contact with the wire; damage the generator or damage the home appliance.
- A pre-operation check must be performed before starting the engine to avoid accidents or equipment damage.
- Generators must operate at least one meter away from the building and other equipment.
- Please put the generator on the horizontal ground. If the generator is tilted, it may cause gasoline overflow.
- Be sure to master how to quickly shut off generators and understand the operation of all control components.
- Children and pets must stay away from the operating area. While the engine is running, all personnel must be away from its rotating parts.
- If the operation is not proper, there is a potential danger to the generator. Do not operate the generator with a wet hand.
- Do not operate in the rain, snow, lest wet generator.
- Maintenance of generators to be operated by professionals.
- Generators vibrate in normal use. During and after the use of the generator, inspect both the generator as well as extension and power supply cords for damage resulting from vibration. Have damaged items repaired or replaced as necessary. Do not use plugs or cords that show signs of damage such as broken or cracked insulation.

For power outages, permanently installed stationary generators are better suited for providing backup power to the home. Even a properly connected portable generator can become overloaded. This may result in overheating or stressing of the components, possibly leading to a generator failure.

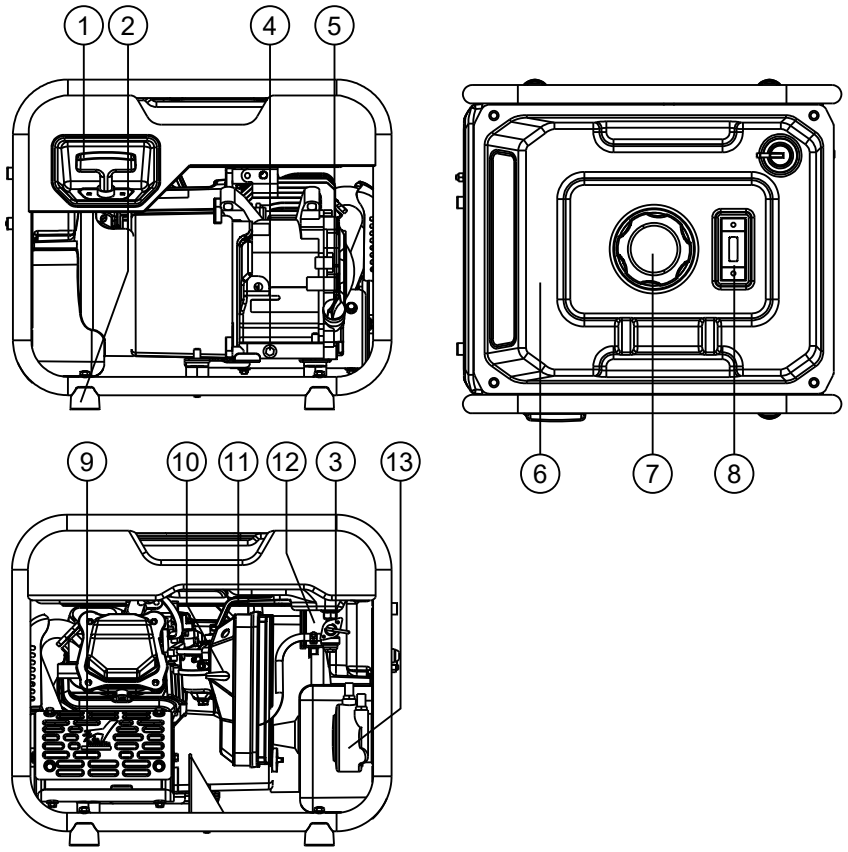
# SYMBOLS

Some of the following symbols may be used on this product. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the product better and safer.

| SYMBOL | NAME | DESIGNATION/EXPLANATION |
|---|---|---|
| V | Volts | Voltage |
| A | Amperes | Current |
| Hz | Hertz | Frequency (cycles per second) |
| W | Watts | Power |
| MIN | Minutes | Time |
|  | Safety Alert | Precautions that involve your safety. |
|  | Read the user's manual | To reduce the risk of injury, user must read and understand user's manual before using this product. |
|  | Carbon monoxide hazard | Never operate the generator in an enclosed area. Engine exhause contains carbon monoxide. Only operate the generator outside and away from windows, doors and vents. |
|  | Ground | Consult with local electrician to determine grounding requirements before operation. |
|  | Clearance | Keep all objects at least 5 feet (1.5m) from generator. Heat from the muffler and exhaust gas can ignite combustible objects. |
|  | Electric shock alert | Beware of electric shock hazard. |
|  | Fire/Explosion | Fuel and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death. Keep generator at least 5 feet (1.5m) from all objects to prevent combustion. |
|  | Wet conditions alert | Do not expose to rain or use in damp locations. |
|  | Hot Surface | To reduce the risk of injury or damage, avoid contact with any hot surface. |
|  | Open Flame Alert | Fuel and its vapors are extremely flammable and explosive. Keep fuel away from smoking, open flames, sparks, pilot lights, heat, and other ignition sources. |

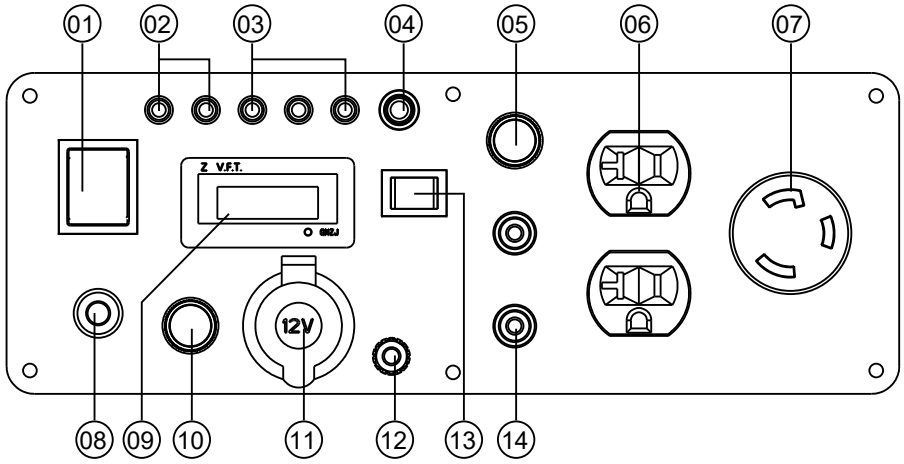
# KNOWING YOUR INVERTER GENERATOR

Use the illustrations below to become familiar with the locations and functions of the various components and controls of this generator.




| | |
|---|---|
| 1 | Recoil Starter |
| 2 | Shock Absorber Bracket |
| 3 | Fuel Valve |
| 4 | Oil Drain |
| 5 | Oil Fill |
| 6 | Fuel Tank |
| 7 | Fuel Tank Cap |
| 8 | Fuel Gauge |
| 9 | Muffler |
| 10 | Air Filter |
| 11 | Choke Lever |
| 12 | CO Sensor |
| 13 | Pressure Reducing Valve |

## Control Panel



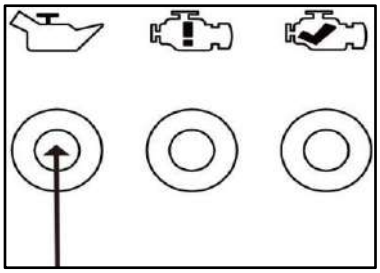

| | | |
|---|---|---|
| ① Engine Switch | ⑥ 120V 20A AC receptacle | ⑪ 12V DC port |
| ② CO Indicator | ⑦ 120V 30A AC receptacle | ⑫ Ground terminal |
| ③ LED ALARM | ⑧ Propane Inlet | ⑬ ECO Switch |
| ④ AC Reset | ⑨ VFT Meter | ⑭ Parallel Operation Outlets |
| ⑤ AC Breaker | ⑩ DC Breaker | |

## Connection Plugs(AC socket)

The Volt outlet is overload protected by the inverter.Each socket delivers 120V AC, single-phase power, supporting electrical loads up to 3.6kW on gas and 3.3kW on LPG.

## Oil Warning Light (Yellow)

The low oil level alarm system is designed to prevent engine damage due to insufficient oil in the crankcase. The low oil level alarm system automatically shuts down the engine before the engine oil in the crankshaft box is lowered to safety (the generator engine switch remains “ON”).



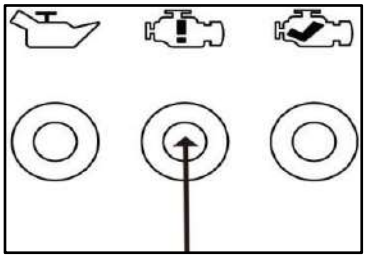
**NOTE:** After the low oil level alarm system shuts down the engine, if you start the engine again, the low oil alarm indicator (yellow) lights up and the engine cannot run. If this happens, please fill in the oil and then restart the generator.

## Overload Indicator (Red)

During engine starting, it is normal for the Overload Indicator(Red) to illuminate for a few seconds.

If Overload Indicator(Red) stays illuminated and the Running Indicator(Green) turns off, the engine will continue to run without output power. In this condition, remove all applied loads and determine if attached devices exceed recommended output power. Check for faulty or shorted connections. To restore electrical output, press the AC reset button to reset.

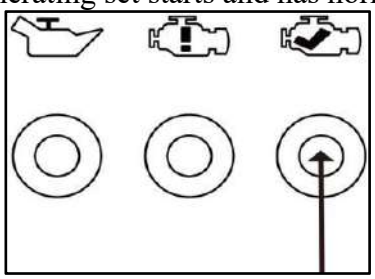
Start engine. If condition was corrected, the Overload Indicator (Red) will not illuminate and electrical output will be restored. Loads can be applied once the Running Indicator (Green) illuminates.



After above operating, if the Overload Indicator (Red) returns, contact our customer service.

## Running Indicator (Green)

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



## CO Alarm Light(Red)

When the concentration of CO exceeds the standard, the CO alarm light will turn on Red and the generator stops soon.

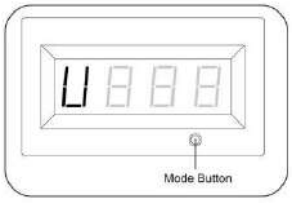
## CO Failure Light(Yellow)

When the CO sensor is broken, the CO failure light will be on Yellow.

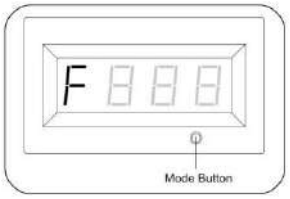
## V.F.T meter

The V.F.T meter can be used for displaying voltage, frequency(hertz),run time and total run time as applicable. (Display mode depends on the configuration). The LCD displays each mode by pressing the button below the display.

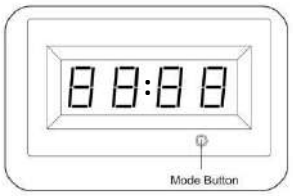
1. Voltage(V)
Output voltage of the generator.



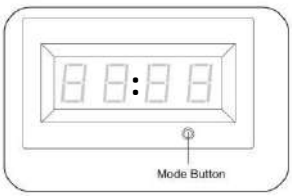

2. Frequency(F)
Output frequency in hertz.




3. Run time
Run time of the generator for the current session.




4. Total run time
Total run time of the generator since first operation(display mode depends on the configuration). The display value shows as a integer.




## AC Reset Button

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

## AC Breaker Button

The AC breaker button is used to protect the 120V 20A AC output receptacle. When these outlet receptacle are overloaded, the breaker will pop out. In this condition, reduce the loads and then press the AC breaker button.

## DC Breaker Button

The DC breaker button is used to protect the 12V 8A DC output receptacle. When this outlet receptacle are overloaded, the breaker will pop out. In this condition, reduce the loads and then press the DC breaker button.

## 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.

The generator is equipped with an equipment ground connecting the generator frame and the ground terminals on the AC output receptacles. This allows the generator to be used as a portable without grounding the frame of the generator.

The generator (stator winding) is isolated from the frame and from the AC receptacle ground pin. Electrical devices that require a grounded receptacle pin connection will not function if the receptacle ground pin is not functional.

## ECO Switch

When the energy-saving switch is in the energy-saving position, the generator is in the energy-saving state. When disconnecting or using low power, the engine automatically returns to a low speed state, thus reducing engine fuel consumption

## Full Speed

“full speed” means that the energy-saving state(ECO switch) is in OFF position and the engine is always at high speed, which is suitable for the situation where the load of electrical appliances varies greatly.
When the energy-saving switch is in full-speed position, the engine will remain in a high speed state.

- In order to reduce the change of voltage, the energy saving switch should be in the position of "full speed" when the electrical equipment needs a large instantaneous power, or when the generator is connected with the load of the high power apparatus at the same time.
- When using 12 V DC output, put the energy-saving switch in full-speed position.



**WARNING:** In the non-overload state, the output can not be restored by pressing the reset key. Each time the engine is started, the number of effective operation times of the protection cut-off switch is 5 times, or the engine needs to be restarted.

## Fuel Tank Cap

Remove the fuel tank cap by rotating it anticlockwise to add fuel.

## Parallel Operation

Make sure that the generating set is in a good running state before connecting it to other generating sets.
The total power of electric devices should not exceed rated power of generating set.
When electric motor starts, the overload indicator will light up and normally it will stop within4 seconds. If it cannot stop, please call 1-872-314-0005 Mon-Fri 9-5 EST or email: support@powersmartusa.com & support@amerisuninc.com for customer service.

During parallel operation, energy-saving switches of generating sets should be in the same position. To parallel operation, perform the following steps:
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. Start the engine in proper order and make sure that the running indicator (green) is normal.
3. Connect the plug of electric devices to the AC receptacle of parallel kit.
4. Run the electric devices.

**NOTE:** We advise two parallel generators are same model, or it may cause a low voltage output, which could damage appliances powered by the generators.

# GENERATOR PREPARATION

The following section describes steps necessary to prepare the generator for use. If after reading this section, you are unsure about how to perform any of the steps please call (872) 314-0005 Mon-Fri 9-5 EST for customer service. Failure to perform these steps properly can damage the generator or shorten its lifespan.

## Unpacking

Unpack the generator and all its parts. Do not discard the carton or any packaging until the generator is completely assembled.

## 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:** 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.

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.

## 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.

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.

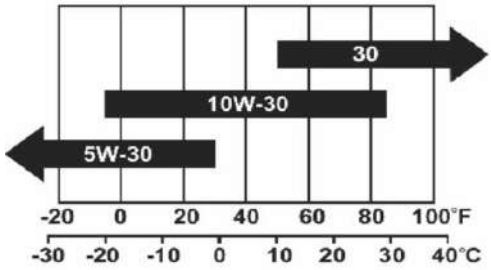
## Engine oil check



**WARNING:** This engine is not filed with oil before send out to the factory. User must add the proper amount of oil before operating the generator for the first time. 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.

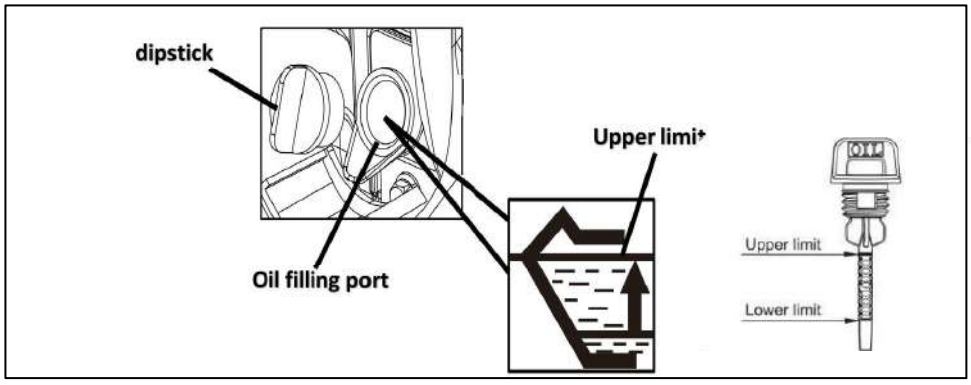
**Engine Oil Recommendations**
Only use 4-stroke engine oil of SJ,SL or equivalent level which are in accordance with or higher than API standard.
Check the API label on oil bottle or other container, and make sure the "SJ,SL" or equivalent level letter is in the label.
SAE 10W-30 is recommended for 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**

**Add the engine oil**
1. Unscrew and remove the dipstick.
2. Add recommended oil to the upper limit(H).
3. Install and fully tighten the dipstick.

**NOTE:** The oil capacity (rated) of the engine crankcase is 20.3 fl. oz.
Properly dispose of any used oil at an approved waste management facility.




**CAUTION:** Operate generator only on a level surfaces. Running the engine when the oil level is low can seriously damage the engine.
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 inconvenient of an unexpected shutdown, fill to the upper limit and check the oil level regularly.

## Generator Fuel Check

**WARNING:** This generator may emit highly flammable and explosive gasoline vapors, which can cause severe burns or even death if ignited. A nearby open flame can lead to explosion even if not directly in contact with gasoline.

- With the engine stopped, check the fuel level. Refill the fuel tank if necessary.
- Use clean, fresh, regular unleaded gasoline with a minimum octane rating of 87.
- Do not mix oil with gasoline.
- Gasoline shall not overflow the tank (the oil level is lower than the red oil level indicator). After refueling, tighten the tank cover and wipe up any spilled fuel. Prevent dirt and water from entering the tank.

- Do not use gasoline containing more than 10% ethanol or gasoline containing methanol, otherwise the engine will be seriously damaged.

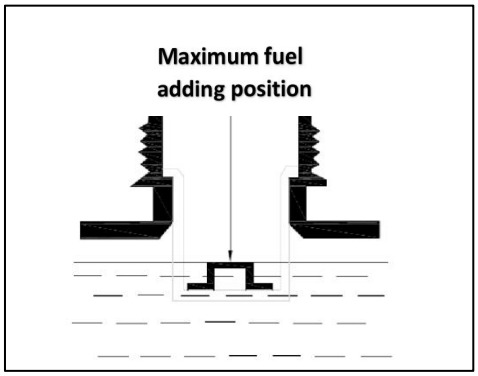
**To add gasoline**, **follow these steps:**

1. Make sure the generator stopped and cooled entirely,also make sure it is on a level surface.
2. Unscrew fuel cap anticlockwise slowly and set aside.

**NOTE:** The fuel cap may be tight and hard to unscrew.

3. Slowly add unleaded gasoline to the fuel tank. Be sure not to fill above the upper limit mark(the red insert). Always allow room for fuel expansion. The capacity of the fuel tank is 1.6 gallon.
4. Install the fuel cap.

**NOTE:** Do not fill the fuel tank to the very top. Gasoline will expand and spill over during use even with the fuel cap in place. Reinstall fuel cap and wipe clean any spilled gasoline with a dry cloth.




**IMPORTANT:**

- Do not fill tank indoors.
- Do not fill tank when the engine is running or hot.
- Never use an oil/gasoline mixture.
- Never use old gasoline.
- Avoid getting dirt or water into the fuel tank.
- Gasoline can age in the tank and make starting difficult. Never store generator for extended periods of time with fuel in the tank or the carburetor.
- Turn the fuel cock off and drain the fuel from the carburetor.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.h
- 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 instruction 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.
- Allow the generating set to cool for at least two minutes before removing fuel cap when adding fuel.
- Loose the fuel cap slowly to relieve any pressure in the tank.
- Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury!

## Generator Set Grounding



**DANGER:** Failure to properly ground the generator can result in electric shock.

The generator 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 underground devices.
A ground terminal has been provided on the generating set. For remote grounding, connect of a length of heavy gauge($4mm^2$ 12 AWG minimum) 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.

**Neutral Floating***
— Neutral circuit IS NOT electrically connected to the engine crankcase/ground of the inverter generator.
— The generator (stator winding) is isolated from the engine crankcase and from the AC receptacle ground pin.
— Electrical devices that require a grounded receptacle pin connection will not function if the receptacle ground pin is not functional.

**Neutral Bonded to Frame***
— Neutral circuit IS electrically connected to the frame/ground of the generator.
— The generator system ground connects lower frame cross-member below the alternator. The system ground is connected to the AC neutral wire.

***** See your model's control panel for specified type of grounding.

## Electrical Devices

Disconnect all electrical devices from the generator and switch off the AC circuit breaker before start the engine.
The generator may be hard to start with electrical devices.
The connected electrical equipment must not exceed the maximum limit of the generator. Please refer to the specification table for details.

**NOTE:** After completing the above preparation, the generator is ready to be started.

**Add Fuel: Propane/LPG**

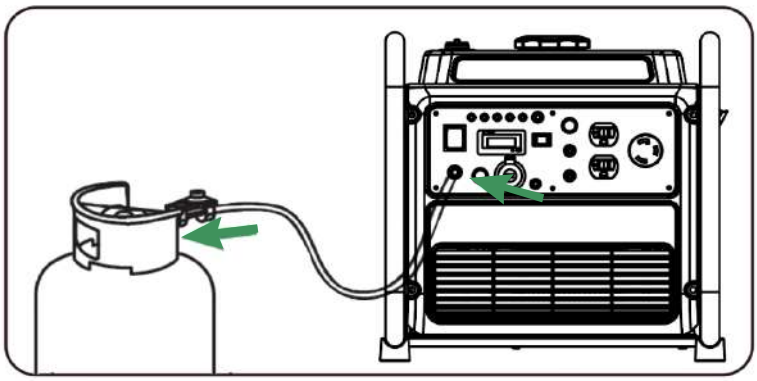
**DANGER**

Propane/LPG is highly flammable and explosive.
Fire or explosion can cause severe burns or death.

- The provided propane/LPG hose with right-hand, works with standard 20, 30 and 40-pound capacity cylinders with Type 1, right hand Acme threads. Verify the re-qualification date on the tank has not expired. Do not use rusted or damaged cylinders.
- Only use provided propane/LPG hose for safe propane operation.

1. Make certain both gasoline and propane/LPG valves are closed.
2. Remove the rubber protective plugs (if it is available) and attach the propane/LPG hose with regulator to the propane/LPG inlet located on the side control panel of the generator. Tighten with a 19mm or adjustable wrench. DO NOT over-tighten.
3. Remove safety plug from the propane/LPG cylinder valve (if it is available) and attach the other end of the propane/LPG hose with regulator to cylinder valve. Tighten the nut by hand clockwise to a positive stop.

**IMPORTANT: DO NOT** use thread seal tape or any type of sealant to seal the propane LPG hose connections.



4. Open valve on propane LPG cylinder and check all connections for leaks by wetting the fittings with a solution of soap and water. Bubbles which appear or bubbles which grow indicate that a leak exists. If a leak exists at a fitting, then turn off the valve on the cylinder and tighten the fitting. Turn the valve back on and recheck the fitting with the soap and water solution. If the leak continues or if the leak is not at a fitting, then do not use the generator and contact customer service.

**⚠ NOTICE**

- Use only an approved/LPG cylinder equipped with an OPD (Overfilling prevention device) valve.
- **DO NOT** check for leaks with a lighted match or flame.
- The propane cylinder valve should be fully closed when the generator is not in use or is running on gasoline.
- The regulator/hose assembly and cylinder valve must be inspected before each use for leaks or signs of damage.
- All new cylinders must be purged of air and moisture prior to filling. Used cylinders that have not been plugged or kept closed must also be purged. The purging process should be done by your propane gas supplier.
- Propane/LPG is heavier than air and can accumulate in confined spaces and low-lying areas places in the event of a leak.

- Propane/LPG has a distinctive odor added to help detect potential leaks quickly.
- In case of a petroleum gas fire, do not attempt to extinguish the flame if the fuel supply valve is in the ON position. Introducing an extinguisher to a generator with an open fuel supply valve could create an explosion hazard.
- When exchanging propane/LPG cylinders, be sure the cylinder valve is of the same type.
- Always keep the propane/LPG cylinder in an upright position.
- Propane/LPG will burn skin if it comes in contact with it. Keep Propane/LPG away from skin at all times.
- Always position the cylinder so the connection between the valve and the regulator won't causebends or kinks in the hose.
- **DO NOT** light or smoke cigarettes while connecting the propane/LPG cylinder.Check the fuel system periodically for leaks or signs of damage.
- In the event of an LPG fire, do not extinguish the flames unless the fuel supply valve can be turned off. If the fire is extinguished and the fuel supply of fuel is not turned off, an explosion hazard greater than the fire hazard could be created.



**DANGER**

Do not start generator if you smell propane. Always fully close the propane tank valve and disconnect the propane/LPG hose from the generator when not in use.

**FUEL SENSE (Automatic Fuel Selection Technology)**

Your generator is equipped with FUEL SENSE technology which automatically switches fuel intake gasoline and propane/LPG to extend runtime. Propane is a prioritized fuel which means the generator will use propane as soon as the Propane Cylinder Valve is opened. The generator will use gasoline if there is not enough propane remaining in the cylinder OR if the Propane Cylinder Valve is closed.

**If you wish to use gasoline,** the Engine Switch should be in the ON position and the Propane Cylinder Valve should be CLOSED. Opening the Propane Cylinder Valve will immediately replace gasoline intake with propane intake.

**If you wish to use propane,** the Engine Switch should be in the ON position and the Propane Cylinder Valve should be OPEN. Closing the Propane Cylinder Valve OR having an insufficient remaining level of propane in the cylinder will immediately replace propane intake with gasoline intake.

**Operation at High Altitude**

At altitudes over 5,000 feet(1524 meters), a minimum 85 octane gasoline is acceptable. Engine power and generator output will be reduced approximately 3.5% for every 1000 feet (305 m) of elevation above sea level. High altitude may cause hard starting, increased fuel consumption and spark plug fouling. Consult the authorized local dealer for high altitude kit information if you always operate your engine at altitudes above 5,000 feet.

**⚠ NOTICE**

Operation using an alternative main jet at elevations lower than the recommended minimum altitude can damage the engine. For operation at lower elevations,the standard main jet supplied must be used. Operating the engine with the wrong main jet may increase exhaust emissions, fuel consumption and reduce performance.

## Generator Set Grounding

### Grounding

**⚠ WARNING**



Shock hazard. Failure to properly ground the generator can result in electric shock.

The national electrical requires your generator must be connected properly to an appropriate ground to help prevent electric shock. The generator has a system ground that connects the generator frame components to the ground terminals on the AC output receptacles. There may be Federal or State regulations, local codes, or ordinances that apply to the intended use of the generator. Consult a qualified electrician, electrical inspector, or the local agency having jurisdiction. This generator is not intended to be used at a construction site or similar activity as defined by NFPA 70-2020 (NEC) section 590.6.

A ground terminal has been provided on the generating set. For remote grounding, connect of a length of heavy gauge(4mm$^2$) 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.

**Neutral Floating***

— Neutral circuit IS NOT electrically connected to the engine crankcase/ground of the inverter generator.
— The generator (stator winding) is isolated from the engine crankcase and from the AC receptacle ground pin.
— Electrical devices that require a grounded receptacle pin connection will not function if the receptacle ground pin is not functional.

**Neutral Bonded to Frame***

— Neutral circuit IS electrically connected to the frame/ground of the generator.
— The generator system ground connects lower frame cross-member below the alternator. The system ground is connected to the AC neutral wire.

***** See your model's control panel for specified type of grounding.

### Connecting to a Building's Electrical System

Connections to your home's electrical system must use a listed transfer switch installed by a licensed electrician. The connection must isolate the generator power from the utility power and comply with all applicable laws and electrical codes.

## Electrical Devices

Disconnect all electrical devices from the generator and switch off the AC circuit breaker before start the engine.
The generator may be hard to start with electrical devices.
The connected electrical equipment must not exceed the maximum limit of the generator. Please refer to the specification table for details.

**NOTE:** After completing the above preparation, the generator is ready to be started.

# OPERATION

## Generator Location

**WARNING**

Never use generator in wet or damp locations. Never expose generator to rain, snow, water spray or standing water while in use. Protect generator from all hazardous weather conditions. Moisture, or ice can cause a short circuit or other malfunction in the electri c circuit. Water contact with a power source if not avoided, will result in death or seriousinjury.

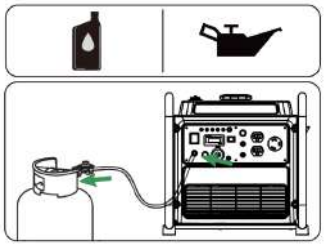
- Keep area clear of inlammables or other hazardous materials.
- Select a site that is dry, well ventilated and protected from the weather.
- Keep exhaust pipe clear of foreign obiects.
- Keep generator away from open flame.
- Keep generator on a stable and level surface.
- Do not block generator air vents with paper or other material.

### Surge Protection

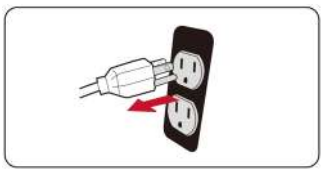
Electronic devices, including computers and many programmable appliances use components that are designed to operate within a narrow voltage range and may be affected by momentary voltage fluctuations. While there is no way to prevent voltage fluctuations, you can take steps to protect senstive electronic equipment.
Install UL1449, CSA-listed,plug-in surge suppressors on the outlets feeding your sensitive equipment. Surge suppressors come in single- or multi-outlet styles. They're designed to protect against virtually al short-duration voltage fluctuations.

### Before Starting the Generator

- Make certain the generator is on a flat, level surface and well-ventilated location. Check for loose or missing parts and for any damage which may have occurred during shipment.
- Check oil level and fuel.



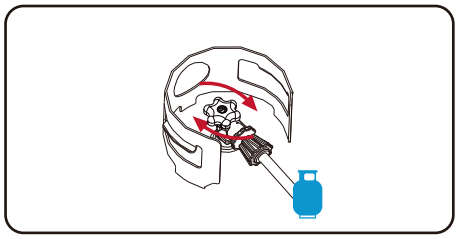
- Disconnect all electrical loads from the generator. Never start or stop the generator with electric devices plugged in or tumed on.



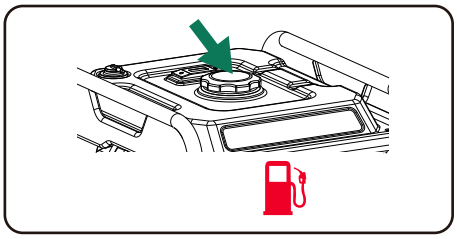
### Starting the Engine (Generator)

### Select the Fuel Source (Gasoline)

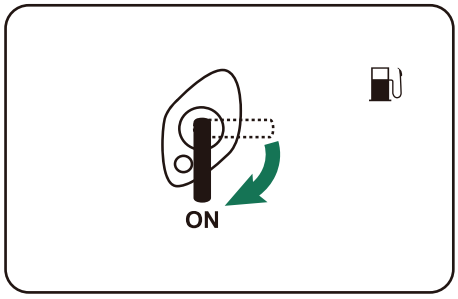
1. Make certain the propane cylinder valve is fully closed.



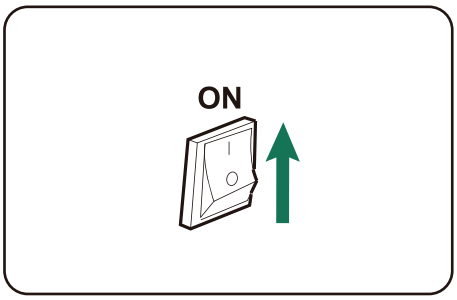
2. Add gasoline to the fuel tank.



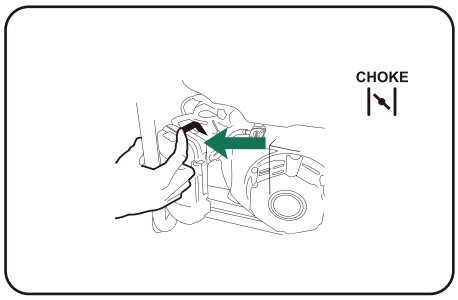
3. Open the fuel valve to “ON” position.



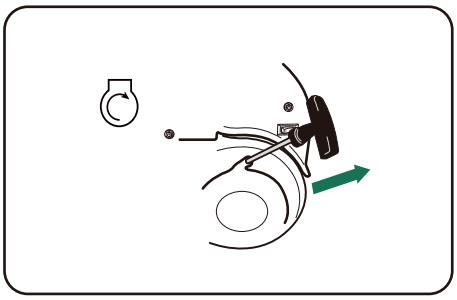

4. Turn engine switch to “ON” position.



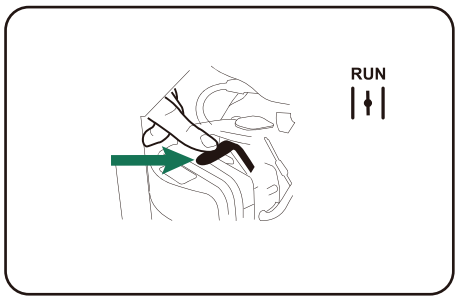

5. Slide engine choke lever to Full “CHOKE” position (left).




6. Firmly grasp recoil handle and pull slowly until increased resistance is felt. Pull rapidly up and away.

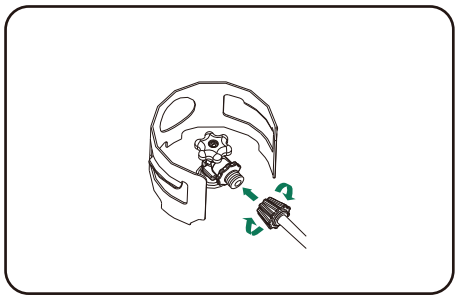


7. When engine starts, move choke lever to 1/2 CHOKE position until engine runs smoothly, then fully into “ RUN” position. If engine falters, move choke back to 1/2 CHOKE position until engine runs smoothly, then to “ RUN”position.

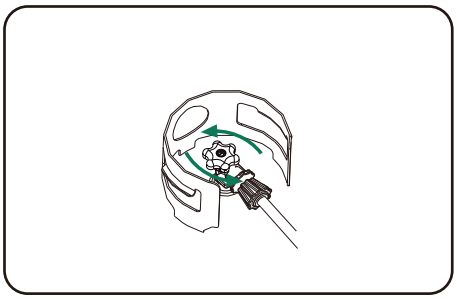


**Select the Fuel Source (Propane/LPG)**

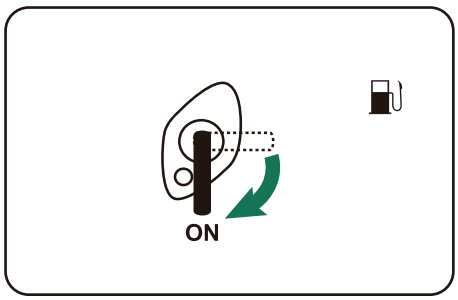
1. Connect the LPG hose to the propane fuel source. Connect the small end of the LPG hose to the LPG inlet on generator and then snug with a wrench to prevent leakage.



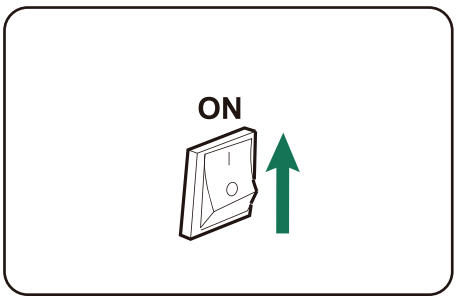
2. Fully open the Propane/LPG cylinder valve.



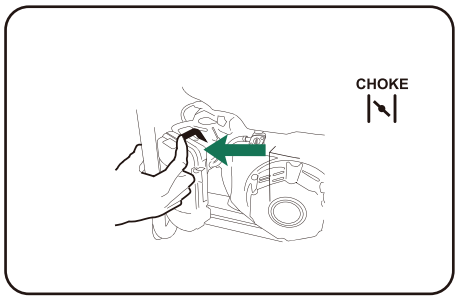
3. Open the fuel valve to “ON” position.



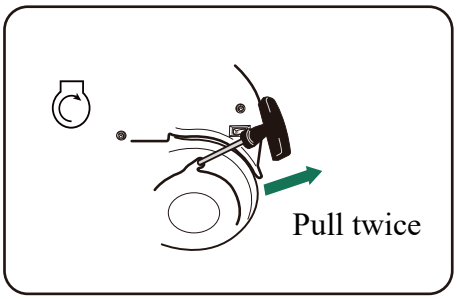

4. Turn engine switch to “ON” position.



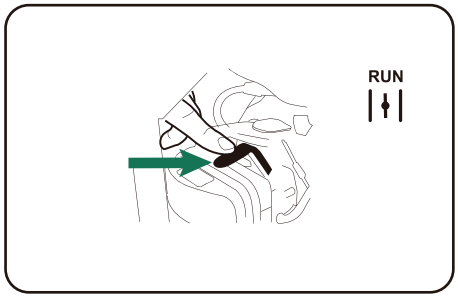

5. Slide engine choke lever to Full “CHOKE” position (left).



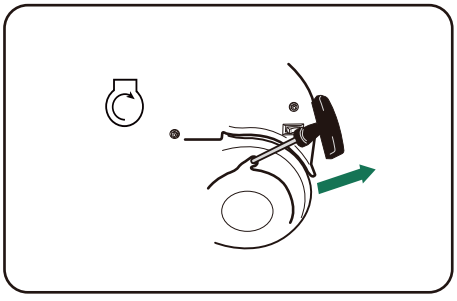

6. Pull recoil starter twice.




7. fully move choke lever to “Run” position.




8. Firmly grasp recoil handle and pull slowly until increased resistance is felt. Pull rapidly up and away.



**WARNING**



Starter cord kickback (rapid retraction) will pull hand and arm toward engine faster than you can let go which could cause broken bones, fractures, bruises, or sprains resulting in serious injury.

When starting engine, pull cord slowly until resistance is felt and then pull rapidly to avoid kickback.

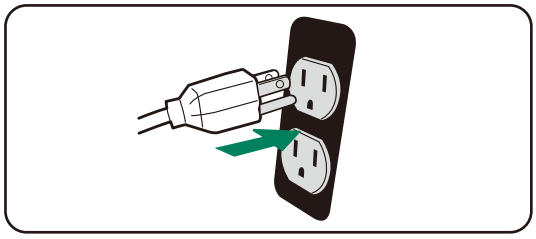
**NOTE:** If engine starts after 3 pulls but fails to run. Or if unit shuts down during operation, make sure unit is on a level surface and check for proper oil level in crankcase. This unit may be equipped with a low oil protection device. If so, oil must be at proper level for engine to start.

### Connecting Electrical Loads

This unit has been pretested and adjusted to handle its full capacity. Before starting the generator, disconnect all loads. Apply load only after generator is running. Voltage is regulated via the engine speed adjusted at the factory for correct output. Re-adjusting will void warranty

**NOTE:** When applying a load, do not exceed the maximum wattage rating of the generator when using one or more receptacles. Also, do not exceed the amperage rating of any one receptacle. Do not apply heavy electrical load during break-in period (the first five hours of operations).

1. Let engine stabilize and warm up for a few minutes after starting.
2. Ensure circuit breaker on control panel is in on position.
3. Plug in and turn on the desired 120 Volt AC, single phase, 60Hz electrical loads. It is better to attach the item with largest load first.

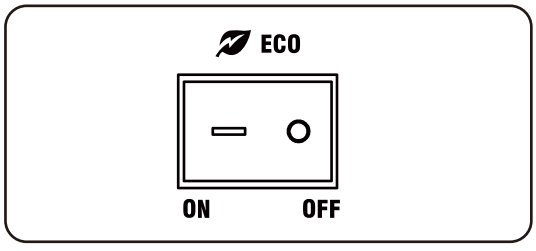


### ECO Swtich

This unit has been pretested and adjusted to handle its full capacity. Before starting the generator, disconnect all loads. Apply load only after generator is running. Voltage is regulated via the engine speed adjusted at the factory for correct output. Re-adjusting will void warranty

**⚠ NOTICE**

Always start the generator with ECO Switch on OFF position. Allow the engine speed to stabilize and the OUTPUT READY INDICATOR LED to illuminate green before switching ECO Switch to “ON” position.




**⚠ NOTICE**

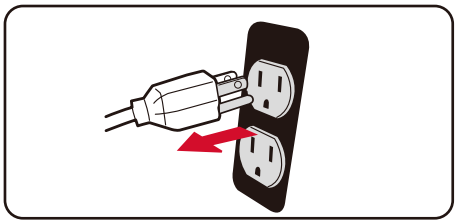
For periods of high electrical load or momentary fluctuations, the ECO Switch should be turned OFF.

**NOTE:** ECO minimizes fuel consumption and noise by adjusting the engine speed (RPM) to the minimum required for the current load. Turn ECO Switch to ON position when powering small appliances with continuous loads such as a computer or electric light.

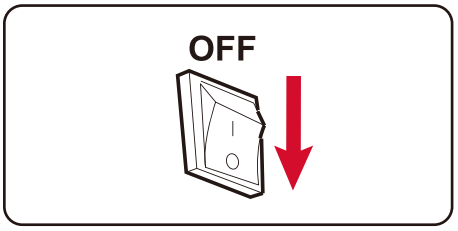
Turn ECO Switch to OFF position when powering large surge loads such as an air conditioner or electric pump. Be certain that the OUTPUT READY INDICATOR LED is illuminated green before turning the switch to ON position. If no load is present, the generator speed (RPM) will drop to idle speed. The generator will detect loads as they are applied and increase engine speed (RPM). To run the generator at maximum power and speed (RPM), push the ECO Switch to the OFF position.

**Stopping the Engine**

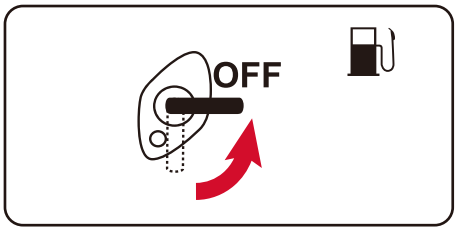
1. Turn off and remove entire electrical loads.Never start or stop the generator with electrical devices plugged in or turned on. Let the generator run at no-load for two minutes to stabilize internal temperatures of the engine and generator.



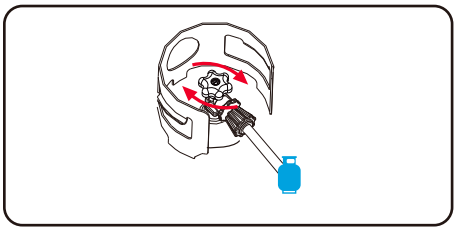
2. Move engine switch to “OFF” position.




3. Close fuel valve.




4. Turn the cylinder valve to the “OFF” position.



**WARNING**

Fuel and its vapors are extremely flammable and explosive which could cause burns, fire or explosion resulting in death or serious injury.

**NOTE:** If the engine will not be used for a period of two weeks or longer, please see the Storage section for proper engine and fuel storage.

**Low Oil Shutdown**

**CAUTION:** Operate generator only on a level surfaces. Running the engine when the oil level is low can seriously damage the engine.

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 inconvenient of an unexpected shutdown, fill to the upper limit and check the oil level regularly.

**Do Not Overload Generator**

Overloading a generator in excess of its rated wattage capacity can result in damage to the generator and to connected electrical devices. To prolong the life of your generator and attached devices, follow these steps to add electrical load:

1. Start the generator with no electrical load attached.
2. Allow the engine to run for several minutes to stabilize.
3. Plug in and turn on the first item. It is best to attach the item with the largest load first.
4. Allow the engine to stabilize.
5. Plug in and turn on the next item.
6. Allow the engine to stabilize.
7. Repeat steps 5-6 for each additional item.

**Changing Fuels**

**DANGER**

Gasoline, gasoline vapor and propane/LPG are highly lammable and explosive. Fire or explosion can cause severe burns or death.

**DANGER**

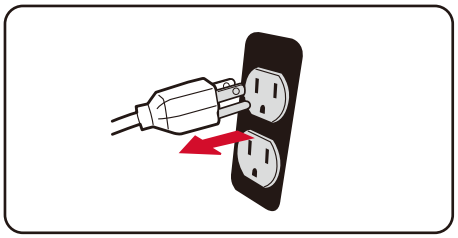
DO NOT add gasoline to the gasoline tank or connect the Propane/LPG hose to the generator while the generator is running.

**FUEL SENSE (Automatic Fuel Selection Technology)**

Your generator is equipped with FUEL SENSE technology which automatically switches fuel intake between gasoline and propane/LPG to extend runtime. Propane is a prioritized fuel which means the generator will use propane as soon as the Propane Cylinder Valve is opened. The generator will use gasoline if there is not enough propane remaining in the cylinder OR if the Propane Cylinder Valve is closed.

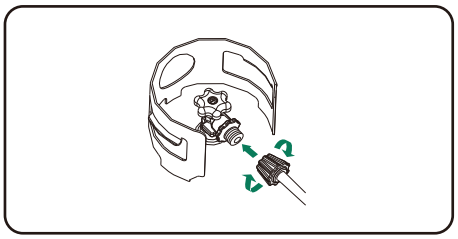
**If you wish to use gasoline,** the engine switch should be in the ON position and the Propane Cylinder Valve should be "CLOSED". Opening the Propane Cylinder Valve will immediately replace gasoline intake with propane intake.
**If you wish to use propane,** the engine switch should be in the ON position and the Propane Cylinder Valve should be OPEN. Closing the Propane Cylinder Valve OR having an insufficient remaining level of propane in the cylinder will immediately replace propane intake with gasoline intake.

1.Disconnect all electrical loads from the generator.

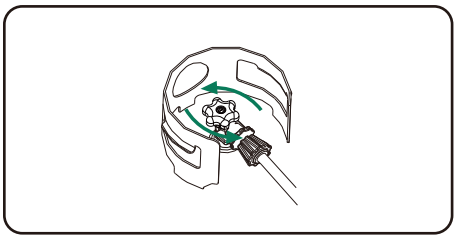


**2a. Gasoline to Propane/LPG**

2a1. Connect the LPG hose to the propane fuel source. Connect the small end of the LPG hose to the LPG inlet on generator and then snug with a wrench to prevent leakage.

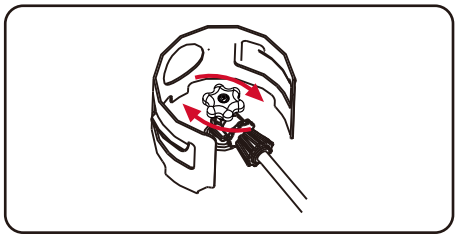


2a2. Fully open the Propane/cylinder valve.



**2b. Propane/LPG to Gasoline**

Make certain the cylinder knob is fully closed.



**Parallel Operation (2 x MB5040DC Models)**

**DANGER**

Fire and electrocution hazard. Never connect or disconnect the parallel cord leads when a generator is running. Do not parallel more than two generators. Use only POWERSMART generators for paralleling.

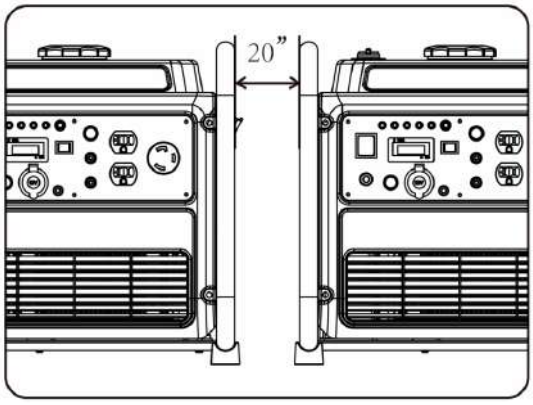
**⚠ NOTICE**

Paralleling this generator to a generator that is not compatibie can cause a low voltage output that can damage tools and appliances powered by the generator. Do not connect or disconnect paralel cables while the generator is running to avoid damage.Parallel operation gives you the ability to link this generator to a compatible POWERSMART generator for Combined running and starting power output. Use only the POWERSMART approved Cables for parallel operation. For single generator operation, the parallel operation cable must be removed.

**NOTE:** Only connect two generators of the same model for parallel operation.

## Set up and Operation

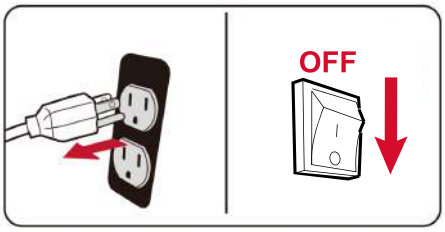
1. Align the two inverters on a firm, flat and level surface at least 20 inch apart.



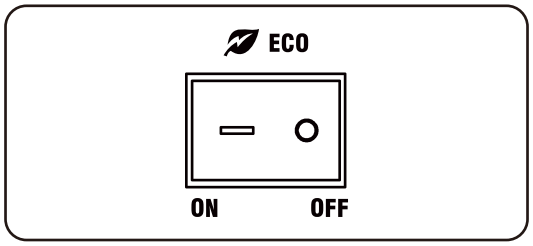

**WARNING**

If not spaced apart, the exhaust heat from one generator discolors or melts the plastic shell on the other generator.

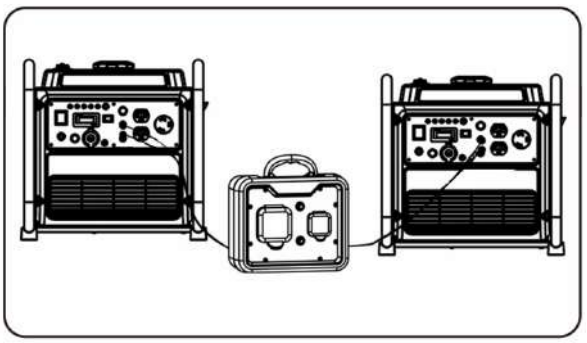
2. Turn off both generators and all electrical loads disconnected before paralleling operation.




3. Make sure the ECO switch is in “OFF” position on both generators.

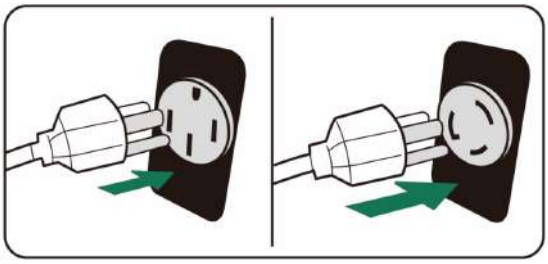



4. The parallel operation outlets allow you to connect two POWERSMART of the same power increase the total available electrical power. The POWERSMART Parallel Operation Kit can be purchased. Follow the instructions included with your parallel operation kit for proper installation and operation.



5. Start one of the generators and wait until the engine speed stabilizes.
6. Start the second generator and wait until the engine speed stabilizes before connecting a load.
7. Plug in the 120 Volt AC, single phase, 60Hz electrical loads into parallel kit receptacles and turn on the first load. Allow generator output to stablize before plugging in the next load.

**NOTE:** It is strongly recommended to plug in devices with the largest output first and the smallest output last to help prevent overloading the inverters. Do not exceed maximum wattage rating of inverters, parallel kit and receptacles.



# MAINTENANCE

The purpose of maintenance and periodic maintenance is to keep the generator in the best operating condition.

**WARNING:** Improper maintenance or failure correct a problem before operation can cause a malfunction and result in property damage, serious injury or DEATH. lease use our original spare parts or the same quality parts when replacing damaged parts.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.

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

| Items \ Frequency | | Each time | First 1 month or first 20hrs of operation | Thereafter, every 3 months or every 50hrs of operation | Every year or every 100 hrs of operation |
|---|---|---|---|---|---|
| Engine oil | Check-Refill | √ | | | |
| | Replace | | √ | √ | |
| Reduction gear oil(if equipped) | Oil level check | √ | | | |
| | Replace | | √ | √ | |
| Air filter element | Check | √ | | | |
| | Clean | | √ | | |
| | Replace | | | √ | |
| Deposit Cup ( if equipped) | Clean | | | | √ |
| Spark Plug | Check-adjust | | | | √ |
| | Replace | Every year or 250 hrs of operation | | | |
| Spark arrester | Clean | | | √ | |
| Idling ( if equipped)* | Check-adjust | | | | √ |
| Valve clearan -ce * | Check-adjust | | | | √ |
| Fuel tank & fuel filter * | Clean | | | | √ |
| Fuel line | Check | Every 2 years( change if necessary) | | | |
| Cylinder head, piston | Clean up carb -on * | <225cc, Every 125hrs<br>≧225cc, Every 250hrs | | | |

* These items should be maintained and repaired by our authorized dealer, unless the owner has appropriate tools and is proficient with mechanical maintenance.

**Maintenance Schedule**

- If the gasoline engine frequently works under high temperature or heavy load, change the oil every 25 hours.
- If the engine frequently work under dusty or other severe circumstances, clean the air filter element

every 10 hours; If necessary, change the air filter element every 25 hours.

- If maintenance period and the exact time(hour), the one which comes first should govern.
- If you have missed the scheduled time to maintain your engine, do it as soon as possible.

## Generator Maintenance

**WARNING:** Never clean the generator when it is running! Never use water to clean the generating set. Water can enter the generating set through the cooling slots and damage the generating set winding.

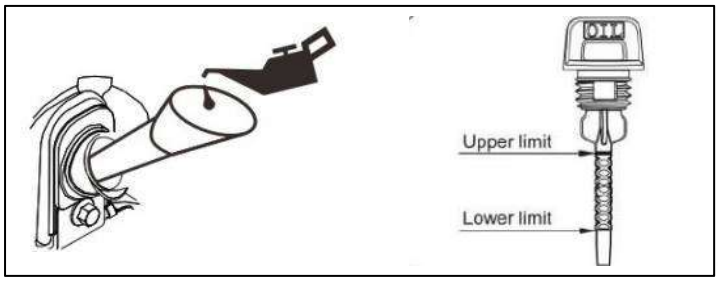
**WARNING:** Do not modify the generator in any way. Do not tamper with governed speed. Generator supplies correct rated frequency and voltage when running at factory set. Tampering with the factory set governor will void your warranty.

- Make certain that the generator is kept clean and stored properly.
- Use a dry 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.

### Changing the oil

**WARNING:** Change the oil when the engine is warm form operation. The oil can reach up to 140°Cunder that condition. Careful operation should be taken to prevent burns**.**

1. Place the machine on a level surface.
2. Place the waste oil box on the ground.
3. loosen the oil drain to let the used oil flow into the waste oil box.
4. Add recommended oil to the upper limit(H) of the dipstick.
5. Reinstall the dipstick tightly.
6. Properly dispose of any used oil at an approved waste management facility.

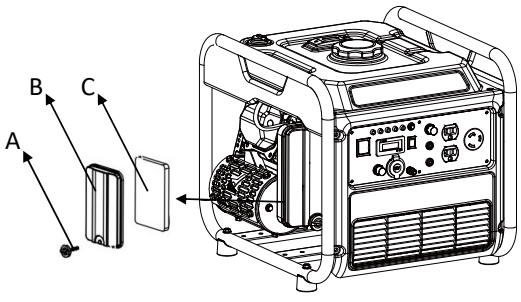



For conforming to the environment requirement, the used oil will be put into a sealed container and then be transported to the service station for recycle. Do not throw it into the trash or pour it on the ground.

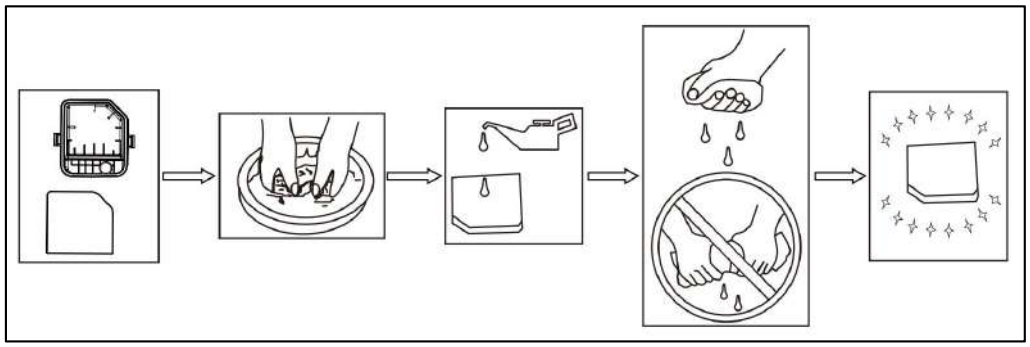
## Air Filter Maintenance

**WARNING:** Do not run the engine without the air filter, or serious danger can result. A dirty Air Cleaner will restrict air flow into the carburetor. Please clean and maintain the air cleaner regularly to prevent carburetor from breaking down,If generators are often used in high dust areas, they need to be maintained more frequently.

1. Unscrew the bolt A of the air filter maintenance cover B.
2. Remove the foam filter element C .
3. Wash in liquid detergent and warm water.
4. Squeeze thoroughly dry in a clean cloth(DO NOT TWIST).
5. Saturate in clean engine oil.



6. Squeeze in a clean absorbent cloth to remove all excess oil.
7. Assemble the filter element onto the filter unit.
8. Reinstall the bolt of the air filter cover.

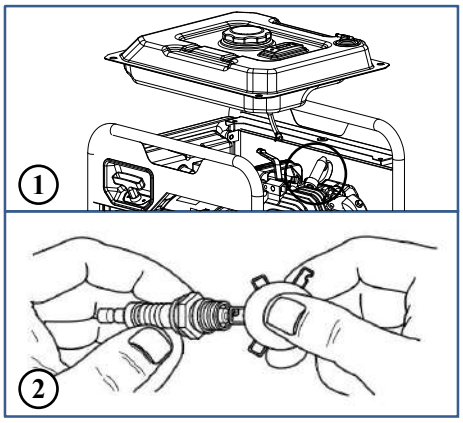


## Spark Plug Maintenance

**Spark plug gap : 0.76mm. Spark plug tighten torque: 12.5N.m**

The spark plug is important for proper engine operation. A good spark plug should be intact, free of deposits, and properly gapped. Refer to Recommended Maintenance Schedule. To inspect the spark plug:

**IMPORTANT: Disassemble the fuel tank firstly before replacing the spark plug.**




1. Take off the spark plug cap.
2. Using the spark plug spanner to loose and take off the spark plug.
3. Check the spark plug, if the spark plug insulator cracked or chipped, change a new one. Clean any dirt from the spark plug cap and spark plug base with wire brush if reuse it.
4. Measure the spark plug gap with a standard gauge. The normal value should be 0.76mm, adjust if necessary.
5. Carefully thread the spark plug into the engine by hand and install it finger tight,then use spark plug wrench to tighten the plug with an additional 3/8 to 1/2 turn .
6. Attach the spark cap to the plug and connect the spark plug wire to the plug.

**CAUTION:** Only use recommended spark plug or equivalent. Do not use spark plugs that have improper heat range.

## Valve Clearance

**IMPORTANT NOTE**: If uncomfortable about doing this procedure, or the proper tools are not available, take generator to the nearest service center to have valve clearance adjusted.
Check valve clearance after the first fifty-hours of operation. Adjust as necessary.
Intake-0.15±0.02mm (cold)·
Exhaust-0.20±0.02mm (cold)

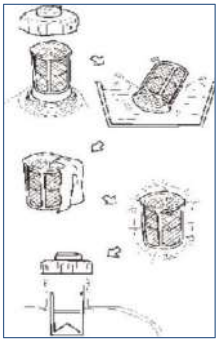
## Spark Collector Maintenance

**WARNING :** The spark collector must be maintained for every 100 hours of engine operation.

1. When the muffler is cooled, loosen the screws from the muffler outlet and take off the spark collector.
2. Use a brush to clean the carbon deposits on the spark collector. If the spark collector is damaged, and replace it.
3. Re-install the spark collector.

## Fuel Tank Filter Maintenance

**WARNING:**Never use the gasoline while smoking or in the vicinity of an open flame.

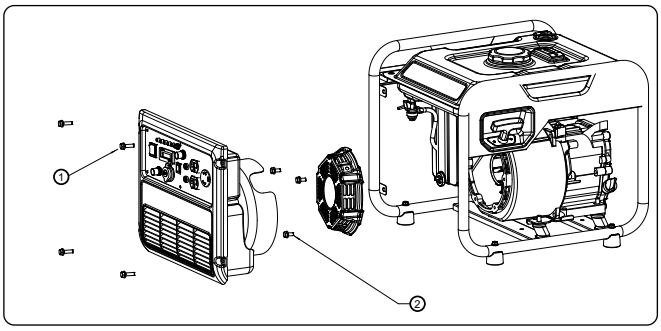


1. Remove the fuel tank cap and filter.
2. Clean the filter with gasoline.
3. Wipe the filter and install it.
4. Install the fuel tank cap.

**NOTE:** Be sure the fuel tank cap is tightened securely.

## Replace the recoil starter

1. Remove the control panel by unscrewing bolt ①.
2. Loosen bolt ② on the recoil starter.
3. Loosen the two bolt beside the generator and replace new recoil starter.
4. Install the panel back.




## Transport And Storage

**WARNING:** Gasoline is highly flammable and extremely explosive.
Empty the fuel tank before storing or transporting this generating set.

To prevent fuel spillage when transporting or during temporary storage, the generating set should be secured upright in its normal operating position with the engine switch OFF. The combination switch should be in the “stop” position.

**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.
- The generator must not be transported a long time on rough road. If you have to drive on a road like this,drain off the gasoline and oil beforehand.

**When storage for a long period**

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.

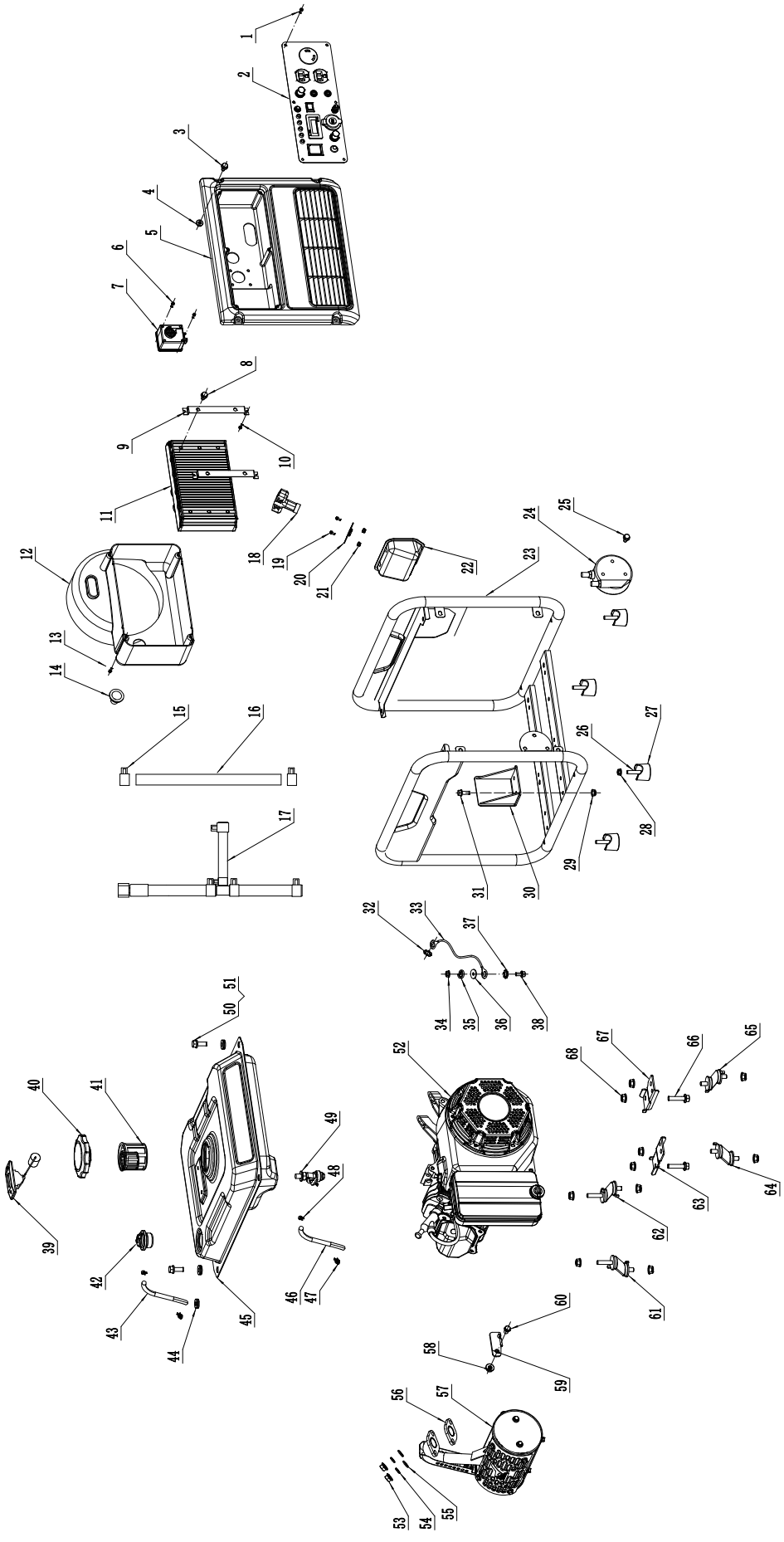
- Allow the generating set to cool completely before storage.
- Clean the generating set according to instruction in maintenance section. DO NOT store fuel from one season to another unless properly treated.
- Drain all fuel completely from the fuel tank, fuel hose and carburetor to prevent gum from forming.
- Turn engine switch to OFF position.
- Change the oil.
- Remove the spark plug and pour about 15ml of oil into the cylinder.Crank the engine slowly to distribute the oil and lubricate the cylinder.
- Cover unit with a suitable protective, moisture resistant cover.
- Replace fuel container if rust is present. Rust in fuel will cause fuel system problems.
- Always store generator and fuel away from heat and ignition sources.
- Store the unit in a clean, dry area out of direct sunlight.

# TROUBLESHOOTING

| PROBLEM | CAUSE | CORRECTION |
|---|---|---|
| Engine is running, but AC output is not available. | 1. Circuit breaker OPEN.<br>2. Poor connection or defective cord set.<br>3. Connected device is bad.<br>4. Fault in generator. | 1. Reset circuit breaker.<br>2. Check and repair.<br>3. Connect another device that is in good condition.<br>4. Contact IASD. |
| Engine runs well at no-load, but bogs when load is applied. | 1. Short circuit in a connected load.<br>2. Generator is overloaded.<br>3. Engine speed is too slow.<br>4. Shorted generator circuit. | 1. Disconnect shorted electrical load.<br>2. See Know Generator Limits.<br>3. Contact IASD.<br>4. Contact IASD. |
| Engine will not start; or starts and runs rough. | 1. Fuel shut-off is OFF.<br>2. Dirty air filter.<br>3. Out of fuel.<br>4. Stale fuel.<br>5. Spark plug wire not connected to spark plug.<br>6. Bad spark plug.<br>7. Water in fuel.<br>8. Over choking.<br>9. Low oil level.<br>10. Excessive rich fuel mixture.<br>11. Intake valve stuck open or closed.<br>12. Engine lost compression. | 1. Turn fuel shut-off ON.<br>2. Clean or replace air filter.<br>3. Fill fuel tank.<br>4. Drain fuel tank and fill with fresh fuel.<br>5. Connect wire to spark plug.<br>6. Replace spark plug.<br>7. Drain fuel tank; fill with fresh fuel.<br>8. Set choke to no choke position.<br>9. Fill crankcase to correct level.<br>10. Contact IASD.<br>11. Contact IASD.<br>12. Contact IASD. |
| Engine shuts down during operation. | 1. Out of fuel.<br>2. Low oil level.<br>3. Fault in engine. | 1. Fill fuel tank.<br>2. Fill crankcase to correct level.<br>3. Contact IASD. |
| Engine lacks power. | 1. Load is too high.<br>2. Dirty air filter.<br>3. Engine needs to be serviced. | 1. Reduce load (see Know Generator Limits ).<br>2. Clean or replace air filter.<br>3. Contact IASD. |
| Engine surges or stumbles. | 1. Choke is opened too soon.<br>2. Carburetor is running too rich or too lean. | 1. Set choke to 1/2 CHOKE until engine runs smoothly.<br>2. Contact IASD. |

# EXPLODED VIEW & PARTS LIST

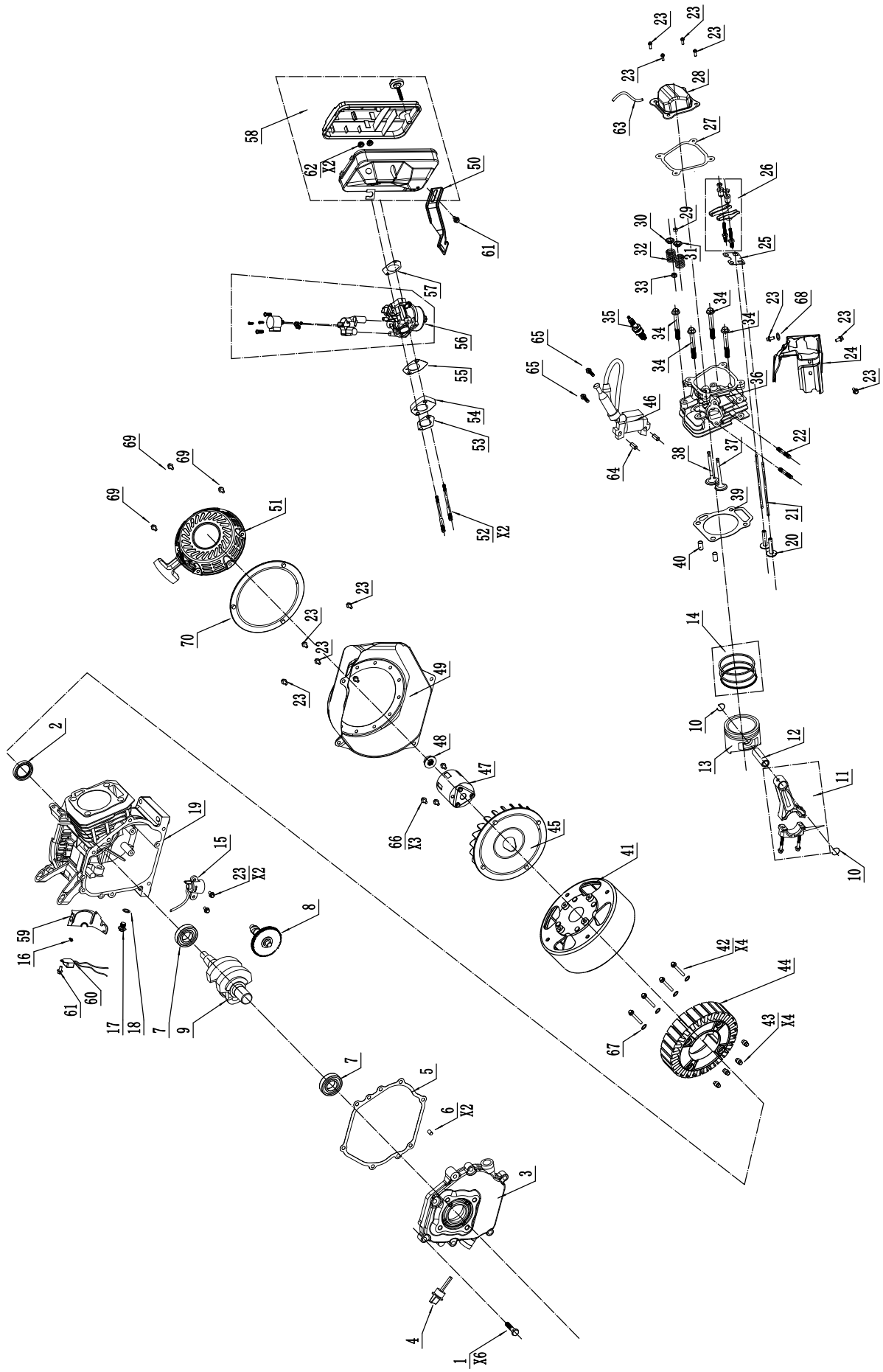
## Generator Exploded View&Part List



| NO. | CODE | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | 517050401204 | screw ST4.2X12 | 6 |
| 2 | 029028400001 | Control panel | 1 |
| 3 | 511050602005 | Bolts- M6X14 | 4 |
| 4 | 512040600001 | Nut M6 | 4 |
| 5 | 026300001700 | PANEL BACK COVER | 1 |
| 6 | 517050401204 | screw ST4.2X12 | 2 |
| 7 | 029993100401 | CO Senser | 1 |
| 8 | 511200601205 | Bolts- M6X12 | 4 |
| 9 | 026300001800 | Invertor bracket | 2 |
| 10 | 517050401204 | screw ST4.2X12 | 4 |
| 11 | 029031100915 | Invertor | 1 |
| 12 | 026300001900 | Invertor Cover | 1 |
| 13 | 517050401204 | screw ST4.8X18 | 4 |
| 14 | 02902990140504 | Taper hole plug | 1 |
| 15 | 029019900423 | clamp B14 | 2 |
| 16 | 026270000200 | LPG pipe | 1 |
| 17 | 026270100000 | LPG pipe assembly | 1 |
| 18 | 026300002201 | Hand | 1 |
| 19 | 511200501205 | Bolts- M5X12 | 2 |
| 20 | 026310002000 | PULL ROPE GUIDE PLATE | 1 |
| 21 | 512030500000 | Nut M5 | 2 |
| 22 | 026300000821 | Hand Cover | 1 |
| 23 | 026300400001 | Cradle | 1 |
| 24 | 012131700001 | LPG pressure reducing valve | 1 |
| 25 | 511050601001 | Bolts- M6X10 | 3 |
| 26 | 511050603501 | Bolts- M6X35 | 4 |
| 27 | 029910101000 | cylinder vib mounts | 4 |
| 28 | 512040600001 | Nut M6 | 4 |
| 29 | 512040600001 | Nut M6 | 1 |
| 30 | 026300002600 | Supporting block | 1 |
| 31 | 511050601201 | Bolts- M6X12 | 1 |
| 32 | 513030800000 | locking washer 8 | 2 |
| 33 | 029930000401 | Grounding wire | 1 |
| 34 | 512040600001 | Nut M6 | 1 |

| NO. | CODE | DESCRIPTION | QTY. |
|---|---|---|---|
| 35 | 513020600000 | Spring washer 6 | 1 |
| 36 | 513010600001 | Flash washer C6 | 1 |
| 37 | 513030600000 | locking washer 6 | 1 |
| 38 | 511050601201 | Bolts- M6X12 | 1 |
| 39 | 029019903807 | Fuel gauge | 1 |
| 40 | 02901990111004 | Fuel Tank Cap | 1 |
| 41 | 029019900614 | Filter cup, fuel tank | 1 |
| 42 | 029019990019 | Valve | 1 |
| 43 | 029019902103 | Fuel hose Φ4.5 | 0.5 |
| 44 | 019990008000 | cushion block | 1 |
| 45 | 029010560121 | Fuel tank | 1 |
| 46 | 029019900100 | Fuel hose Φ4.5 | 0.5 |
| 47 | 029019900408 | clamp, Φ7 | 3 |
| 48 | 029019900401 | clamp, Φ8 | 1 |
| 49 | 029019900709 | Fuel switch | 1 |
| 50 | 511050602001 | Bolts- M6X20 | 4 |
| 51 | 513040600000 | Big Flash washer C6 | 4 |
| 52 | 012420000007 | 223cc engine | 1 |
| 53 | 512040800001 | Nut M8 | 2 |
| 54 | 513020800000 | Spring washer 8 | 2 |
| 55 | 513010800001 | Flash washer C8 | 2 |
| 56 | 029049910200 | Gasket, muffler | 1 |
| 57 | 026170000202 | Muffler | 1 |
| 58 | 512040800001 | Nut M8 | 1 |
| 59 | 026170000302 | Muffler baffle | 1 |
| 60 | 511050801601 | Bolts- M8X16 | 1 |
| 61 | 029910400101 | Vib mounts | 1 |
| 62 | 029910400102 | Vib mounts | 1 |
| 63 | 026210000400 | Base plate | 1 |
| 64 | 029910400201 | Vib mounts | 1 |
| 65 | 029910400202 | Vib mounts | 1 |
| 66 | 511050803501 | Bolts- M8X35 | 2 |
| 67 | 026210000500 | Base plate | 1 |
| 68 | 512040800001 | Nut M8 | 10 |

**Engine Explode View&Part List**



| NO. | CODE | DESCRIPTION | QTY. |
|---|---|---|---|
| 1 | 511050803301 | Bolt M8X33.5 | 6 |
| 2 | 522010100401 | Oil sealing B2541 | 1 |
| 3 | 01202000081205 | Crankcase cover | 1 |
| 4 | 012020200031 | Oil dipstick | 1 |
| 5 | 012020000900 | crankcase gaskets | 1 |
| 6 | 514010801400 | pin 8X14 | 2 |
| 7 | 521010010502 | bearing 6205 | 2 |
| 8 | 012130100001 | cam shaft | 1 |
| 9 | 012130200005 | crankshaft | 1 |
| 10 | 518041800000 | Piston pin circlip | 2 |
| 11 | 012130300000 | Connect rod assy | 1 |
| 12 | 012020002600 | Piston pin | 1 |
| 13 | 01203000040204 | Piston | 1 |
| 14 | 012030400001 | Piston ring set | 1 |
| 15 | 015020000200 | low oil sensor | 1 |
| 16 | 511050602201 | Bolt M6X22 | 1 |
| 17 | 019990000300 | Oil drain bolt M10*15 | 1 |
| 18 | 019990000400 | Oil drain bolt gaskets | 1 |
| 19 | 01213000010405 | cylinder head cover | 1 |
| 20 | 012030000300 | valve tappet | 2 |
| 21 | 012020002200 | valve lifter | 2 |
| 22 | 516040803401 | studs M8X34 | 2 |
| 23 | 511050601201 | Bolt M6X12 | 12 |
| 24 | 012130000202 | Lead wind cover | 1 |
| 25 | 012130400000 | Push guide assy | 1 |
| 26 | 012130600000 | Valve rocket assy | 2 |
| 27 | 012020001100 | cylinder head cover gasket | 1 |
| 28 | 012020001000 | cylinder head cover | 1 |
| 29 | 012020001300 | Cap | 1 |
| 30 | 012020001500 | Intake spring seat | 1 |
| 31 | 012020001400 | Exhaust spring seat | 1 |
| 32 | 012020001600 | valve spring | 2 |
| 33 | 012020002400 | Oil seal, pipe | 1 |
| 34 | 511050806006 | Bolt M8X60 | 4 |
| 35 | 012020003300 | spark plug | 1 |
| 36 | 01213000210207 | | 1 |
| 37 | 012030000600 | outlet valve | 1 |

| NO. | CODE | DESCRIPTION | QTY. |
|---|---|---|---|
| 38 | 012030000700 | inlet valve | 1 |
| 39 | 012130000500 | cylinder head gaskets | 1 |
| 40 | 514011001600 | pin10X16 | 2 |
| 41 | 3VDZ590701 | motor stator assembly | 1 |
| 42 | 511130606001 | Bolt M6X65 | 4 |
| 43 | 012030004700 | pin8 | 4 |
| 44 | 3VZZ510101 | Flywheel | 1 |
| 45 | 026040001803 | Flywheel fan | 1 |
| 46 | 012030005701 | Ignition coil | 1 |
| 47 | 012160000803 | Starting flange | 1 |
| 48 | 012020002900 | Nut M14×1.5 | 1 |
| 49 | 012030006101 | Starting flange | 1 |
| 50 | 012020007400 | Breathing tube | 1 |
| 51 | 012032000001 | Recoil starter | 1 |
| 52 | 516040609401 | studs M6X94 | 2 |
| 53 | 012020003800 | Inlet gasket | 1 |
| 54 | 012020003902 | carburator Cushion block | 1 |
| 55 | 012020004000 | carburator gasket | 1 |
| 56 | 012130700019 | carburator | 1 |
| 57 | 012020004100 | Air cleaner gasket | 1 |
| 58 | 01203070000206 | Air cleaner | 1 |
| 59 | 012030003601 | Shroad comp. | 1 |
| 60 | 019990001704 | Sheet wizard valve | 1 |
| 61 | 511050601001 | Bolt M6X10 | 1 |
| 62 | 512040600001 | Nut M6 | 3 |
| 63 | 019990000502 | Breathing tube | 1 |
| 64 | 012030005300 | | 2 |
| 65 | 511050604501 | Bolt M6X45 | 2 |
| 66 | 511070601601 | Bolt M6X16 | 3 |
| 67 | 513010600001 | washer Φ6.6*12 | 4 |
| 68 | 513040600000 | washer Φ 6.4X18 | 1 |
| 69 | 511130601601 | Bolt M6X16 | 3 |
| 70 | 012030002200 | Recoil starter washer | 1 |

# TWO (2) YEARS LIMITED WARRANTY

PowerSmart® is committed to building tools that are dependable for years. Our warranties are consistent with our commitment and dedication to quality.

TWO (2) YEARS LIMITED WARRANTY OF POWERSMART PRODUCTS FOR HOME USE.

PowerSmart (“Seller") warrants to the original purchaser only, that all PowerSmart consumer power tools will be free from defects in material or workmanship for a period of two (2) years from date of purchase. Ninety (90) days for all PowerSmart Products, if the tool is used for professional or commercial use.

SELLER’S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Two (2) Years Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must return the entire power tool product; transportation prepaid, to PowerSmart Include a legible copy of the original receipt, which lists the date of purchase (month and year) and the name of the company purchased from.

THIS LIMITED WARRANTY DOES NOT APPLY TO ANY ACCESSORY ITEMS INCLUDED WITH THE TOOL SUCH AS CIRCULAR SAW BLADES OTHER RELATED ITEMS OR TO ANY REPLACEMENT PARTS LISTED UNDER MAINTENANCE.

ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION TO TWO (2) YEARS FROM DATE OF PURCHASE. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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