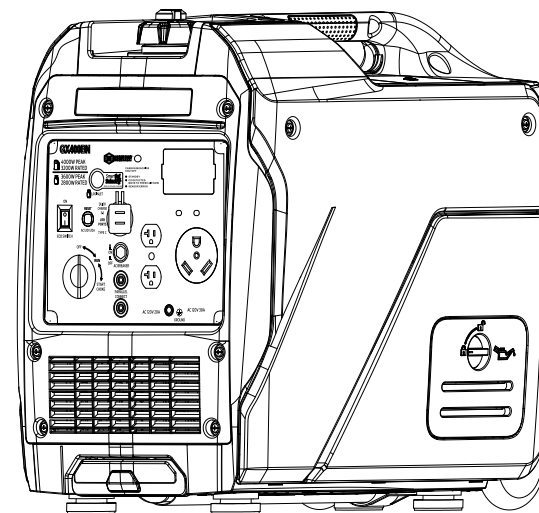




## USER MANUAL



# GX400BN

## Inverter Generator

GASOLINE 3200Running Watts | 4000 Starting Watts

PROPANE 2800Running Watts | 3600 Starting Watts



# SPECIFICATIONS

## SPECIFICATIONS

ITEM		DUAL-FUEL INVERTER GENERATOR GX400BN
UPC Code		814726028176
Fuel Type		Dual-Fuel, Gasoline or Propane
GASOLINE	Peak Power	4,000Watts
	Running Power	3,200Watts
PROPANE	Peak Power	3,600Watts
	Running Power	2,800Watts
Displacement		149cc
Power Output		4.35 HP equivalent
Engine Type		4 stroke, Air-cooled, OHV
Engine Oil Capacity		600ml, (21fl. Oz)
Low Oil Shut Off		Yes
Fuel Gauge		Yes
Starter Type		Recoil
Noise Level		62dB
Engine Family		PCSPS.1491XA
Fuel Burn @half load - Gasoline		1.1 LPH/0.3GPH
Fuel Burn @half load - Propane		0.79kg/h, 1.75lb/h
Run Time at Half Load		8 hours
Fuel Tank Capacity		8 Liters, 2.1 gallons
Voltage Rating		120 VAC
Peak Current		26.7A
AC/DC Output		(2)120V/20A, (1)120V/30A, USB 5V/18W, 12W
Hour Meter		3 in 1 LED display
Volt Meter		3 in 1 LED display
Parallel Capable		Yes
Automatic Voltage Regulation		Yes
Frame		Synthetic
Handles		Yes
Mobility Kit		Yes
Oil Included		Yes
EPA		Yes
Length		540mm(21.26")
Width		350mm(13.78")
Height		540mm(21.26")
Net Weight		26.3kgs(58lbs)
Gross Weight		29.5kgs(65lbs)

### For Your Records

Date of Purchase: \_\_\_\_\_

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_

**IMPORTANT:** Keep your purchase receipt for warranty coverage.

### NOTICE

This product is designed and rated for continuous operation at ambient temperatures up to 23°F~104°F (-5°C~40°C). If the product is exposed to temperatures outside of this range during storage, it should be brought back within this range before operation. This product must always be operated outdoors in a well-ventilated area and at least 20ft away from doors, windows, and other vents.

Maximum wattage and current are subject to and limited by such factors as fuel BTU content, ambient temperature, altitude, engine conditions, etc. Maximum power decreases about 3.5% for each 1,000 feet above sea level, and will also decrease about 1% for each 10°F (6°C) above 60°F (16°C) ambient temperature.

# SAFETY

## SAFETY

### SAFETY DEFINITIONS

The words DANGER, WARNING, CAUTION and NOTICE are used throughout this manual to highlight important information. Make sure that the meanings of this safety information are known to all who operate, perform maintenance on, or are near the generator.



This safety alert symbol appears with most safety statements. It means attention, be alert, your safety is involved! You **MUST** read, understand and follow the message that follows the safety alerts symbol.

#### ▲ DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

#### ▲ WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

#### ▲ CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

#### NOTICE

Indicates a situation which can cause damage to the generator, personal property, and/or the environment, or cause the equipment to operate improperly.

**Note:** Indicates a procedure, practice or condition that should be followed for the generator to function in the manner intended.

### SAFETY SYMBOLS

Follow all safety information contained in this manual and on the generator.

Symbol	Description
	Safety Alert Symbol
	Electrocution Hazard
	Asphyxiation Hazard
	Burn Hazard. <b>DO NOT</b> touch hot surfaces.
	Electrical Shock Hazard
	Fire Hazard
	Maintain Safe Distance
	Lifting Hazard
	Read Manufacturer's Instructions
	<b>DO NOT</b> Operate in Wet Conditions
	Ground. Consult with electrician to determine grounding requirements before operation.



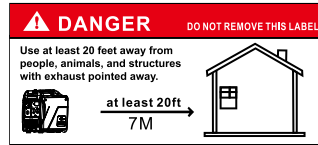
# SAFETY

## SAFETY INSTRUCTIONS

### CORRECT USAGE ✓

Example location to reduce risk of carbon monoxide poisoning

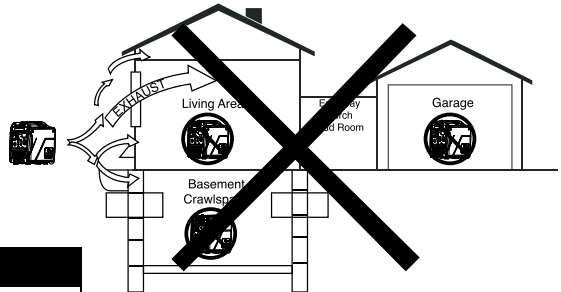
- ONLY use outside and downwind, a minimum of twenty (20ft), 7M away from homes, windows, doors and vents.
- Direct exhaust away from occupied spaces



### INCORRECT USAGE ✗

DO NOT operate in any of the following locations:

- Near any door, window or vent
- Garage
- Basement
- Crawl Space
- Living Area
- Attic
- Entry Way
- Porch
- Mudroom
- Trailers, truck beds or tents.



### NOTICE

Install battery-powered carbon monoxide detectors or plug-in carbon monoxide detectors with battery back-up in living areas.

### ⚠ DANGER

Using a generator indoors CAN KILL YOU IN MINUTES. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



NEVER use inside a home or garage, EVEN IF doors and windows are open.



Only use OUTSIDE and far away from windows, doors, and vents.

### ⚠ DANGER

Fire and electrocution hazard . DO NOT connect to a building 's electrical system unless the generator and a suitable transfer switch have been properly installed and the electrical output has been verified by a qualified electrician . The connection must isolate the generator power from utility power and must comply with all applicable laws and electrical codes .

### ⚠ DANGER

Never handle the generator, electronic devices, or any cord while standing in water while barefoot, or when hands or feet are wet. Always keep the generator dry. Never operate generator in rain or under wet conditions.

### ⚠ CAUTION

- Learn how to quickly stop the generator set in case of emergency. —See page 13
- Understand the functions of all generator set controllers, output sockets and connectors.
- Ensure that appropriate instructions are given to any operator and that children are not allowed to operate the generator set.
- Never permit a child or unqualified person to operate generator. Keep children a minimum of 10 feet away from the generator at all times.
- Wear ANSI-approved safety glasses during set up.

# SAFETY

## GENERAL SAFETY PRECAUTIONS

**This generator produces a very high voltage which could result in burns or electrocution causing serious injury or death.**

- **NEVER** use the generator to power medical support equipment.
- **DO NOT** operate the generator when you are tired or under the influence of drugs, alcohol, or medication.
- **DO NOT** use generator with electrical cords which are worn, frayed, bare, or otherwise damaged.
- Connection to an occupied building or structure **MUST** be done by a licensed electrician who is familiar with local code. The connection must isolate the generator from the utility grid. Incorrect installation may cause generator damage and present a safety hazard to the electrician. A transfer switch must be installed by a licensed electrician. The installation must comply with all applicable laws and electrical codes.
- An external grounding stud is provided for extra safety in applications requiring an earthen ground. Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- If you feel sick, dizzy, or weak while using the generator move to fresh air immediately and seek medical assistance at once.
- Only use this generator outdoors, at least 7M (20ft) away from any occupied structure. Location and wind conditions may require additional distance.
- While operating keep at least five feet of clearance on all sides of the generator, including overhead. Allow the generator to cool a minimum of 30 minutes before storage.

### ▲ CAUTION

The muffler and engine are very hot for a time after engine shutdown. Take care to avoid any contact.

- Always remove any tools or other service equipment used during maintenance away from the generator before operating.
- Avoid skin contact with engine oil or gasoline. Wear protective clothing and equipment. Wash all exposed skin immediately with soap and water.

## FUEL SAFETY

- Store fuel in a container approved for gasoline. Store the containers in a well-ventilated area, away from any combustibles or source of ignition.
- Only store gasoline in an approved safety container.
- Never fill or drain fuel tank indoors. Never overfill fuel tank. If fuel spills, move the unit at least 30 feet away from the spill and wipe up any remaining fuel before starting the engine.
- Never remove the fuel cap when the generator is running. When adding or draining fuel, turn off the engine and allow the unit to cool for at least five minutes. Remove the fuel cap slowly to release pressure, keep fuel from escaping around the cap, and to avoid the heat from the muffler igniting fuel vapors. Tighten the fuel cap securely after refueling.
- Wipe spilled gasoline from the unit.
- Never attempt to burn off spilled gasoline.
- Never overfill the gasoline tank. Leave room for gasoline to expand. Overfilling the gasoline tank can result in a sudden overflow of gasoline and result in spilled gasoline coming in contact with HOT surfaces.
- Spilled fuel can ignite. If fuel is spilled on the generator, wipe up any spills immediately. Dispose of rag properly. Allow area of spilled fuel to dry before operating the generator.
- Wear glasses for eye protection while refueling.
- Never operate or store this unit near an open flame, heat or any other ignition source. Keep engine away from flammable objects, such as grass, leaves or grease and other hazardous materials.
- When transporting unit, disconnect the spark plug wire and make sure the fuel tank is empty with the fuel shutoff valve turned to the off position.
- **LPG SAFETY**
- Always keep the LPG tank upright for storage and use, never invert it or lay it on its side.
- Never use unapproved methods to externally warm an LPG tank.
- Never leave a generator unattended while connected to an LPG tank and never store LPG indoors.
- Use only LPG tanks in good condition with a valid inspection date stamp. Never attempt to dismantle, adjust, or repair any regulator, contact Pulsar support for assistance.

# SAFETY

## GASOLINE AND GASOLINE VAPOR (GAS)

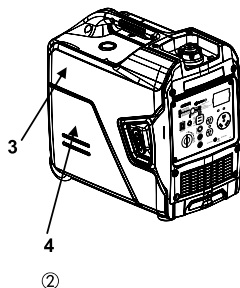
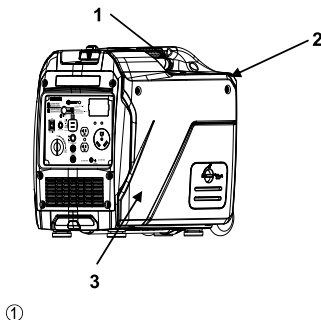
### ▲ DANGER

Fire and explosion hazard. Gasoline is highly explosive and flammable and can cause severe burns or death.

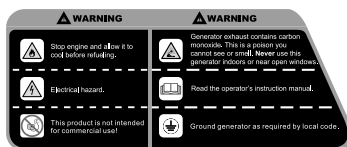
- In case of fire command everyone to leave the area then dial 911 for emergency services. If there is an ABC dry chemical extinguisher nearby, deploy it only if safe to do so. Never attempt to use a pressurized water-based fire extinguisher on a gasoline fire!
- Gasoline has a distinctive odor, this will help detect potential leaks quickly.
- Gasoline vapors can cause a fire if ignited.
- Gasoline is a skin irritant. In case of contact, remove any contaminated clothing and wash exposed skin with hot, soapy water as soon as possible.

### When starting the generator:

- Make sure that the fuel cap, air filter, spark plug, fuel lines, and exhaust system are properly in place.
- If you spill any gasoline on the tank, wipe it up at once, place the rag in a safe location and allow any residue to fully evaporate before operating.



Rated Voltage		120V	<b>GX400BN</b> INVERTER GENERATOR	
Rated Frequency		60Hz		
Rated Current		25.7A	DC Output	
Rated Power		3.2kW		
GAS	Peak Power	4.0kW	5V/18w, 12w	
	Rated Power	2.5kW		
LPG	Peak Power	3.5kW	Net Weight	
	Power Factor	1.0		
		58kg/26.3kgs		
		Weather		
		IP23M		
SERIAL NUMBER AND YEAR OF MANUFACTURE ARE ON THE CRANKCASE				
DISTRIBUTED BY PULSAR PRODUCTS, INC.			MADE IN VIETNAM	



## SAFETY LABELS

- Make sure the generator is on a flat surface before operating.

### When transporting or servicing the generator:

- Disconnect the spark plug wire to prevent accidental starting.

### When storing the generator:

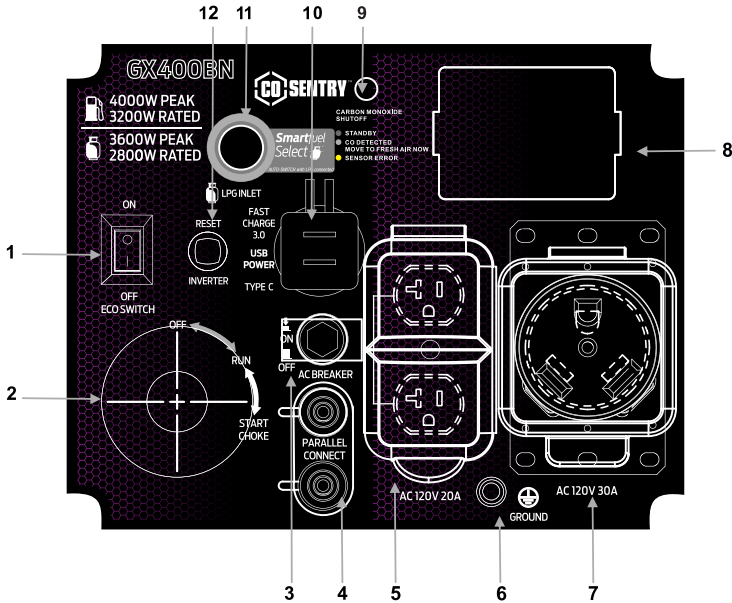
- Store away from sparks, open flames, pilot lights, heat, and other sources of ignition.
- **DO NOT** store gasoline near furnaces, water heaters, or any other appliances that produce heat or have automatic ignitions.

The warnings, cautions and instructions discussed in this instruction 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 supplied by the operator.

# COMPONENTS

## COMPONENTS

### CONTROL PANEL COMPONENTS

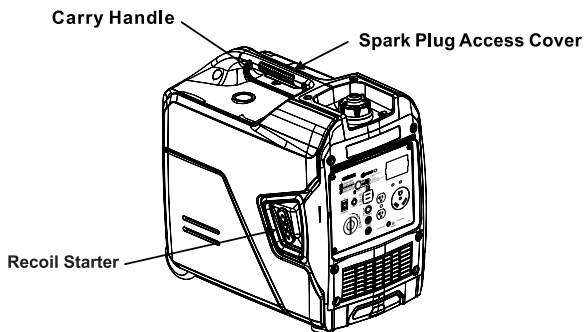
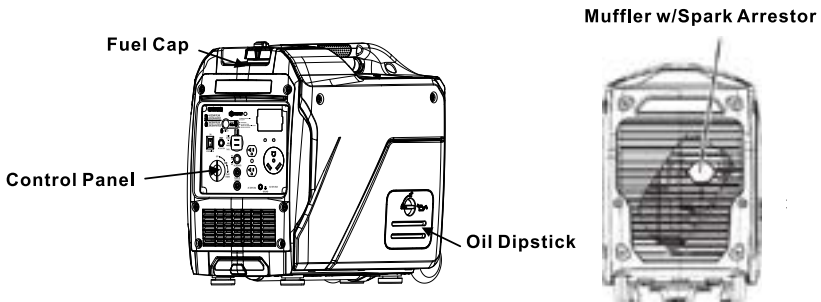


- 1.ECO Switch** – Minimizes RPM, sound, and fuel burn when under light electrical load.
- 2.Combination Switch** – A combination valve and switch to control START,RUN,and OFF.
- 3.AC Circuit Breaker** – Push to reset.
- 4.Parallel Connections** – To combine electrical output of two identical generators.
- 5.NEMA 5-20** – A regular household outlet delivering 120 volts AC, rated for 20 amps.
- 6.Ground Terminal** – A connection point for external grounding.
- 7.TT-30 Receptacle** – High Current 120 volts,

- rated for 30 amps; accepts a 14-30P locking adapter.
- 8.Low Oil LED**
- Overload LED**
- Output Ready LED**
- 9.CO Sentry Sensor**
- 10.USB-A and USB-C Power**
- 11.Propane Inlet**
- 12.Overload Reset** – Protects the inverter from overload. Reduce load as necessary and press to reset.

# COMPONENTS

## GENERATOR COMPONENTS



# ASSEMBLY

## CAUTION

1. Carefully open the carton.
2. Take out and save the instruction manual and the accessories including oil funnel, spark plug socket wrench, screwdriverparallel cord and conversion plug.
3. Remove the packing materials.
4. Unfold the top of the plastic bag enclosing the generator.
5. Carefully cut the vertical corners of the carton to access the generator.
6. Recycle or dispose of the packaging materials properly.

## CARTON CONTENTS

- Generator
- User manual
- Regulator
- Screwdriver
- Spark plug socket wrench
- Oil Funnel
- Engine Oil 21Fl oz(600ml)

## ASSEMBLY

### INITIAL OIL FILL

## NOTICE

**THIS GENERATOR HAS BEEN SHIPPED WITHOUT OIL. DO NOT** attempt to crank or start engine before it has been properly serviced with recommended oil. Failure to add engine oil before starting may result in serious engine damage.

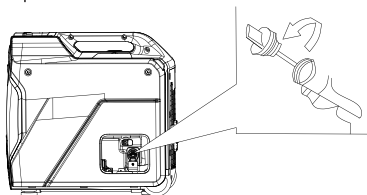
## NOTICE

Use of 2-stroke/cycle oil or other unapproved oil types can cause severe engine damage that is not covered under warranty.

The recommended oil type for typical use is 10W-30 engine oil. If running the generator in extreme temperatures, refer to the following chart.

Recommended Engine Oil Type								
		10W-30						
← 5W-30					10W-40 →			
← 5W-30 Synthetic →								
°F	-20	0	20	40	60	80	100	120
°C	-28.9	-17.8	-6.7	4.4	15.6	26.7	37.8	48.9
Ambient temperature								

1. On a level surface, remove the cover and oil dipstick.



- 2. Using the supplied funnel, add oil into the engine.**

As residual oil from the factory may remain in the engine, add the oil **slowly** near the end of the bottle to prevent overfilling the engine. See Engine Oil Level Check in the Maintenance section.

3. Replace the oil dipstick and hand-tighten.
4. Replace the cover.

# ASSEMBLY

## FUEL

### ⚠ WARNING

Fire and explosion hazard. Never use a gasoline container, gasoline tank, or any other fuel item that is broken, cut, torn or damaged.

### ⚠ DANGER

Fire and explosion hazard. **DO NOT** overfill fuel tank. Fill only to the red fill ring located in the in-tank fuel screen filter. Overfilling may cause fuel to spill onto engine causing a fire or explosion hazard.

### ⚠ DANGER

Fire and explosion hazard. Never refuel the generator while the engine is running. Always turn the engine off and allow the generator to cool for at least five minutes before refueling.

## FUEL REQUIREMENTS

- CLEAN, FRESH, unleaded gasoline.
- Non-ethanol fuel is recommended, but 10% ethanol(gasohol) is also acceptable.
- **DO NOT** use E85 or E15.
- **DO NOT** use a gas oil mix.
- **DO NOT** modify the engine to run on alternate fuels.
- **DO NOT** fuel indoors.
- **DO NOT** create a spark or flame while fueling.

## USING FUEL STABILIZER

Adding a fuel stabilizer (not included) extends the usable life of fuel and helps prevent deposits from forming that can clog the fuel system. Follow the manufacturer's instructions for use.

Always mix the correct amount of fuel stabilizer to gasoline in an approved gasoline container before fueling the generator. Run the generator for five minutes to allow the stabilizer to treat the entire fuel system.

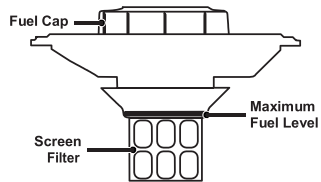
## FILLING THE FUEL TANK

1. Turn the generator OFF and allow it to cool for a minimum of five minutes before fueling.
2. Place the generator on level ground in a well ventilated area.
3. Clean the area around fuel cap and remove the cap slowly.

### NOTICE

Only fill the tank from an approved gasoline container. Make sure the gasoline container is internally clean and in good condition to prevent fuel system contamination.

4. Slowly add the recommended fuel. **DO NOT** overfill. Fill only to the red maximum fill ring on the fuel screen filter visible in the filler neck.



5. Install the fuel cap securely.

### NOTICE

Fuel can damage paint and plastic. Use caution when filling the fuel tank. Damage caused by spilled fuel is not covered under warranty.

### NOTICE

Inspect the gasoline filler screen before each use. If it is dirty, remove it, clean it with hot water and detergent, rinse thoroughly and let it dry before reinstalling it.

# OPERATION

## OPERATION

### GENERATOR LOCATION

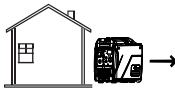
Read and understand all safety information before starting the generator.

#### ⚠ DANGER

Using a generator indoors **CAN KILL YOU IN MINUTES**. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.



**NEVER** use inside a home or garage, **EVEN IF** doors and windows are open.



Only use **OUTSIDE** and far away from windows, doors, and vents.

**NEVER** operate the generator inside or near any building, including garages, basements, crawlspaces, sheds, enclosure, or compartment, including the generator compartment of a recreational vehicle.

#### ⚠ DANGER

Electrocution hazard. Never use the generator in a location that is wet or damp. Never expose the generator to rain, snow, water spray, or standing water while in use. Protect the generator from all hazardous weather conditions. Moisture or ice can cause a short circuit or other malfunction in the electrical circuit. Using a generator or electrical appliance in wet conditions, such as rain or snow, or near a pool or sprinkler system, or when your hands are wet, could result in electrocution.

The generator should be on a flat, level surface at all times (Even while not in operation). The generator must have at least 5 ft. (1.5 m) of clearance from all combustible material.

**DO NOT** operate the generator in the back of a SUV, camper, trailer, truck bed (regular, flat, or other types), under stairs, next to walls or buildings, or in any other location that will not allow for adequate cooling of the generator and/or the muffler. **DO NOT** contain generators during operation.

#### ⚠ WARNING

Fire hazard. Only operate the generator on a solid, level surface. Operating the generator on a surface with loose material such as sand or grass clippings can cause debris to be ingested by the generator that could block cooling vents or the air intake system. Allow the generator to cool for at least 30 minutes before transport or storage.

#### ⚠ DANGER

Asphyxiation hazard. Place the generator in a well-ventilated area. **DO NOT** place the generator near vents or intakes where exhaust fumes could be drawn into occupied or confined spaces. Carefully consider wind and air currents when positioning generator.

## GROUNDING

#### ⚠ WARNING

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

#### NOTICE

Only use grounded 3-prong extension cords, tools, and appliances, or double-insulated tools and appliances.

Before using the ground terminal, Consult a qualified electrician before connecting anything to the Ground Terminal.

## HIGH ALTITUDE OPERATION

Engine power is reduced at higher elevation.

The higher you operate the generator above the sea level, the less power it will produce. Output will be reduced approximately 3.5% for every 1000 feet of increased elevation from sea level.

High elevation adjustment is required for operation at elevation over 5,000 ft. (1524m). Operation without this adjustment will cause decreased performance, increased fuel consumption, and increased emissions. Operation of the engine at elevation below 2,000ft. (762m) with the high elevation kit is not recommended.

#### NOTICE

Do not operate the generator at elevation below 2,000ft. (762m) with the high elevation kit installed. Engine damage may occur.



# OPERATION

## BREAK-IN PERIOD

DO NOT exceed 50% of the rated running watts (~1600 watts) during the first five hours of operation.

Vary the load occasionally to allow copper windings to heat and cool and to help seat the piston rings.

## FREQUENCY OF USE

If the generator will be used infrequently (>30 days stored), refer to the Storage section of this manual for information regarding fuel preservation.

## BEFORE STARTING THE GENERATOR

Verify that:

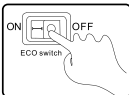
- The generator is placed in a safe location, downwind and away from any structures.
- The generator is on a dry, flat and level surface.
- The engine oil is filled to the dipstick top mark.
- Gasoline is in the fuel tank.
- All electrical loads are disconnected.
- The ECO switch is at the OFF position.

## ⚠ DANGER

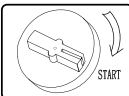
Fire and explosion hazard. **DO NOT** move or tip the generator during operation.

## STARTING THE GENERATOR WITH GASOLINE

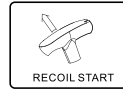
1. Turn the ECO switch to "OFF" position.



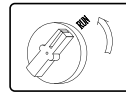
2. Turn the Combination Switch to the START position



3. For manual start, pull the recoil handle until resistance is felt, let it retract, then pull it out swiftly. Repeat, if necessary, until the engine has started.

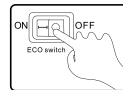


4. After the engine starts, gradually turn the Combination Switch to the RUN position.

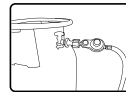


## STARTING THE GENERATOR WITH PROPANE

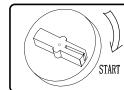
1. Use ONLY the supplied, OEM regulator and hose assembly to connect the LPG cylinder to the generator. Then turn the ECO switch to "OFF" position.



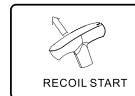
2. Open the LPG valve on the propane cylinder.



3. Turn the Combination Switch to the START position.

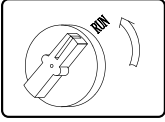


4. Pull the recoil a few times, slowly to prime the engine.



# OPERATION

5. Turn the Combination Switch to the RUN position.



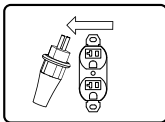
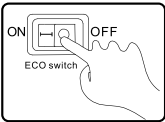
When the ambient temperature is lower than 5 °C (41 °F), allow 3 minutes for the engine to warm up before applying any electrical load(s).

After startup, gasoline and LPG can be switched at will under running load. Propane forward pressure closes the gasoline supply. When the propane supply valve is closed, gasoline will automatically flow once more.

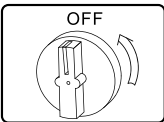
**Note:** Turn the ECO switch to "OFF" position when propane to gasoline or gasoline to propane.

## STOPPING THE GENERATOR WITH GASOLINE

1. Turn OFF and unplug all connected electrical loads. Never start or stop the generator with electrical devices plugged in or turned on.



2. Let the generator run with no load for several minutes to stabilize internal temperature.
3. Turn the combination switch to the "OFF" position.

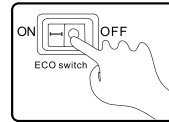


**Note:** If there is an emergency and the generator must be stopped quickly, disregard normal shutdown steps and turn the combination switch to the "OFF" position.

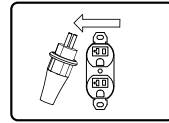
## STOP THE GENERATOR WITH LPG

Switch off all electrical equipment before shutting down the generator.

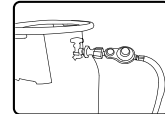
1. Turn the ECO switch to "OFF" position.



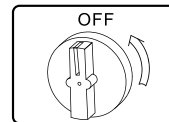
2. Disconnect all electrical loads from the generator.



3. Close the Propane supply valve.



4. Turn the combination switch to the "OFF" position.



# OPERATION

## ECO MODE

### NOTICE

Always start the generator with ECO mode OFF. Allow the engine speed to stabilize and the OUTPUT READY LED to illuminate before switching ECO mode ON.



ECO MODE minimizes fuel consumption and noise by adjusting the engine RPM to the minimum required for the current load.

Turn ECO mode ON when powering small appliances with continuous loads such as a computer or electric light.

Turn ECO mode OFF when powering large surge loads such as an air conditioner or electric pump. To turn on ECO mode verify that the STANDBY LED (green) is illuminated then switch ON the load(s). If no load is present the generator RPM will drop to idle speed. The generator will detect loads as they are applied and increase engine RPM accordingly. To run the generator at maximum power and RPM, keep the ECO mode switch at the OFF position.

## AC CIRCUIT BREAKERS

The circuit breakers will automatically switch OFF if there is a short circuit, a significant overload of the generator at a receptacle.

If the AC circuit breaker switches OFF automatically, check that the appliance is working correctly and it does not exceed the rated load capacity of the circuit before resetting the circuit breaker.

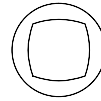


## OVERLOAD RESET

The generator will automatically switch OFF all AC output to protect the generator if overloaded or if there is a short circuit in a connected appliance. However, the engine will continue to run. Marginal overloading that temporarily illuminates the OVERLOAD LIGHT may shorten the service life of the generator.

OVERLOAD on the control panel will illuminate red and the green OUTPUT READY will be OFF.

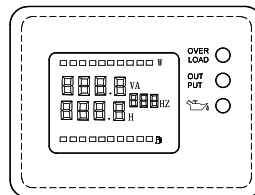
### RESET



To restore AC output:

1. Turn OFF and unplug all connected electrical loads.
2. Push the RESET button on the control panel until the OVERLOAD LIGHT goes OFF and the OUTPUT READY LIGHT is illuminated.
3. Reset the circuit breakers if OFF.
4. Verify that the intended running and peak loads **DO NOT** exceed the generator's capacity.
5. Reconnect electrical loads sequentially, from smallest to largest, allowing the generator to stabilize after each load is connected.

## DIGITAL LCD DISPLAY



6. The digital LCD display can show voltage, current, frequency, running time, cumulative running time, output power, oil alert and overload warning.

# OPERATION

## GENERATOR CAPACITY

### NOTICE

**DO NOT** overload the generator's capacity. Exceeding the generator's wattage/ampere capacity can damage the generator and/or electrical devices connected to it.

Make sure the generator can supply enough continuous (running) and surge (starting) watts for the items you will power at the same time.

The total power requirements (Volts x Amps = Watts) of all appliances connected must be considered. Appliance and power tool manufacturers usually list rating information near the model or serial number.

To determine power requirements:

1. Select the items you will power at the same time.
2. Add the continuous (running) watts of these items. This is the total amount of power the generator must produce to keep the items running. See the wattage reference chart on the next page.
3. Estimate how many surge (starting) watts you will need. Surge wattage is the short burst of power needed to start electric motor-driven tools or appliances such as a circular saw or refrigerator. Because not all motors start at the same time, total surge watts can be estimated by adding only the item(s) with the highest additional surge watts to the total rated watts from step 2.

### Example:

Tool or Appliance	Running Watts*	Starting Watts*
TV or Monitor	300	0
RV Refrigerator	180	600
Radio	200	0
Incandescent Lights (4 Quantity x 75 Watts)	300	0
Coffee Maker	600	0
	1580 Total Running Watts*	600 Highest Starting Watts*
	Total Running Watts	1580
	Highest Starting Watts	+ 600
	Total Starting Watts Needed	2180

\*Wattages listed are approximate. Verify actual wattage.

## POWER MANAGEMENT

To prolong the life of the generator and attached devices, use care when adding electrical loads to the generator. There should be nothing connected to the generator outlets before starting the engine. The correct and safe way to manage generator power is to sequentially add loads as follows:

1. With nothing connected to the generator, start the engine as described in this manual.
2. Plug in and turn on the first load, preferably the largest load you have.
3. Allow the generator output to stabilize (engine runs smoothly and attached device operates properly).
4. Plug in and turn on the next load.
5. Again, allow the generator to stabilize.
6. Repeat steps 4 and 5 for each additional load.

### Wattage Reference

Tool or Appliance	Estimated Running Watts*	Estimated Starting Watts*
Incandescent Lights (4 Quantity x 75 Watts)	300	0
TV or Monitor	300	0
Sump Pump (1/3 hp)	800	1300
Refrigerator or Freezer	700	2200
Well Pump (1/3 hp)	1000	2000
Radio	200	0
Drill (3/8", 4 amps)	440	600
Circular Saw (Heavy Duty, 7-1/4")	1400	2300
Miter Saw (10")	1800	1800
Table Saw (10")	2000	2000

\*Wattages listed are approximate. Verify actual wattage.

# OPERATION

## EXTENSION CORDS

### ⚠ DANGER

Asphyxiation hazard. Extension cords running directly into the home increase the risk of carbon monoxide poisoning through any openings. If an extension cord running directly into your home is used to power indoor items, there is a risk of carbon monoxide poisoning to people inside the home. Always use battery-powered carbon monoxide detector(s) that meet current UL 2034 safety standards when running the generator. Regularly check the detector(s) battery.

### ⚠ DANGER

Asphyxiation hazard. When operating the generator with extension cords, make sure the generator is located in an open, outdoor area, at least 20ft.(7m.) from occupied spaces with exhaust pointed away.

### ⚠ DANGER

Fire and electrocution hazard. Never use worn or damaged extension cords. Damaged or overloaded extension cords could overheat, arc, and burn resulting in death or serious injury.





Before connecting an AC appliance or power cord to the generator:

- Use grounded 3-prong, or 4-prong for 240V extension cords, tools, and appliances, or double-insulated tools and appliances.
- Make sure the tool or appliance is in good working condition. Faulty appliances or power cords can create a potential for an electric shock.

- Make sure the electrical rating of the tool or appliance does not exceed the rated power of the generator or the receptacle being used.

## EXTENSION CORD SIZING

Only use grounded 3-prong , or 4-prong for 240V extension cords marked for outdoor use that are rated for the electrical load.

<div><div> 120v, 20A (5-20)</div><div> 120v, 30A (5-30)</div><div> 240v, 30A (14-30)</div><div> 240v, 50A, (14-50)</div></div>			
Total Amperage	Minimum Gauge, Outdoor Rated		
	Up to 50 FT (15 M)		Up to 100 FT (30 M)
Up to 10A	12		8
Up to 15A	10		8
Up to 20A	10		6
Up to 30A	8		6
Up to 35A	6		6

# OPERATION

## PARALLEL OPERATION

### ⚠ WARNING

Fire and electrocution hazard. Never connect or disconnect the parallel cord when a generator is running.

### ⚠ CAUTION

To avoid serious personal injury or damage to electrical devices, including the generators, do not try to power an electrical system in a building without using an approved transfer switch.

### ⚠ NOTICE

Connecting to a generator that is not compatible can cause a low voltage output that can damage tools and appliances powered by the generator.

Parallel operation gives you the ability to link to a compatible Pulsar Inverter Generator (the same model). Only two Pulsar Inverter Generators can be paralleled (3 or more generators paralleled are not allowed).

You may purchase a Pulsar Products parallel kit from any authorized generator dealer.

### NOTICE

**DO NOT** use ECO MODE during parallel operation if powering large surge loads such as an air conditioner or electric pump. Engine rpm may not adjust quickly enough to provide the voltage requirements of large surge loads, causing damage to the devices or the generators.

1. On both generators, make sure the engine/fuel switch and the ECO MODE switch are in the OFF position.
2. You'll need two cables to parallel 2 generators- one positive and one negative. Start by connecting the red end of the positive cable to the positive outlet of the first generator. Then, connect the black end

of the negative cable to the negative outlet of the same generator. Repeat this process for the second generator by connecting the other red end of the positive cable to its positive outlet and the other black end of the negative cable to its negative outlet.

**Note:** Only after stopping the generator, then disconnect the parallel cables.

3. Start one of the generators and wait until the OUTPUT READY LIGHT illuminates.
4. Start the second generator and wait until the OUTPUT READY LIGHT illuminates before connecting a load.
5. Connect additional loads as described in Power Management section.
6. Unplug all loads before stopping the generators.

## TRANSPORTING

- Allow the generator to cool a minimum of 30 minutes before transporting.
- Replace all protective covers on the generator control panel.
- Only use the generator's fixed handle to lift the unit or attach any load restraints such as ropes or tie-down straps. **DO NOT** attempt to lift or secure the generator by holding onto any of its other components.
- Keep the unit level during transport to minimize the possibility of fuel leakage or, if possible, drain the fuel or run the engine until the fuel tank is empty before transport.

### ⚠ CAUTION



Fire hazard. **DO NOT** fully up-end the generator. Fuel or oil can leak and damage to the generator may occur.

# MAINTENANCE

## MAINTENANCE

### MAINTENANCE SCHEDULE

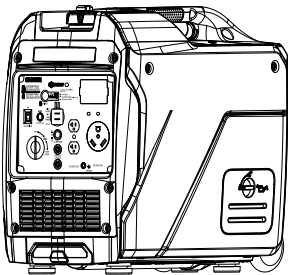
Regular maintenance will improve performance and extend the service life of the generator. Follow the hourly or calendar intervals, whichever occurs first. More frequent as noted below service is required when operating in adverse conditions.

<b>Before Each Use</b>
Check engine oil
<b>After First 25 Hours or First Month</b>
Change engine oil
<b>After 50 Hours or Every 6 Months</b>
Change engine oil <sup>1</sup> Clean air filter <sup>2</sup>
<b>After 100 Hours or Every 6 Months</b>
Inspect/clean spark arrestor Inspect/clean spark plug Inspect/adjust valve clearance <sup>3</sup>
<b>After 300 Hours or Every Year</b>
Replace spark plug Replace air filter

1. Change oil every month when operating under heavy load or in high temperatures.
2. Clean more often under dirty or dusty conditions. Replace air filter if it cannot be adequately cleaned.
3. Recommend service to be performed by authorized service dealer.

### ENGINE SERVICE COVER

Remove the engine service cover to access the air filter and carburetor. Remove the cover screws then carefully pull the cover out with both hands.



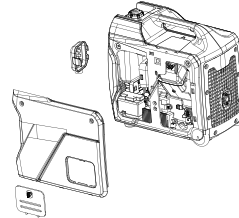
### AIR FILTER MAINTENANCE

#### ⚠ WARNING

Fire hazard. Never use gasoline or other flammable solvents to clean the air filter. Use only household detergent to clean the air filter.

The air filter must be cleaned after every 50 hours of use or six months (frequency should be increased if the generator is operated in a dusty environment).

1. Place the generator on a level surface and allow the engine to cool for several minutes.
2. Remove the engine service cover.
3. Remove the screw securing the air cleaner cover and remove the cover.



**Note:** The air filter element is oil soaked. Use an appropriate cleaning container.

#### NOTICE

Avoid skin contact with engine oil. Wear protective clothing and equipment. Wash all exposed skin immediately with detergent and water.

Remove the foam air filter from the air cleaner housing and wash it by submerging the element in a solution of household detergent and warm water. Slowly squeeze the foam to thoroughly clean.

#### NOTICE

**DO NOT** twist or tear the foam air filter element during cleaning or drying. Only apply slow but firm squeezing action.

4. Rinse the air filter element by submerging it in fresh water and applying a slow squeezing action. Allow the filter to dry thoroughly.

#### NOTICE

**DO NOT** pollute. Follow the guidelines of the EPA or other governmental agencies for proper disposal of hazardous materials. Consult local authorities or reclamation facility.

# MAINTENANCE

5. Dip the foam air filter in clean engine oil then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the filter.
6. Install the foam air filter in the housing and reinstall the air cleaner cover.
7. Install the engine service panel.

## ENGINE OIL LEVEL CHECK

### ⚠ CAUTION

Avoid skin contact with engine oil. Wear protective clothing and equipment. Wash all exposed skin immediately with soap and water.

### NOTICE

Always use the specified engine oil. Failure to use the specified engine oil can cause accelerated wear and/or shorten the life of the engine.

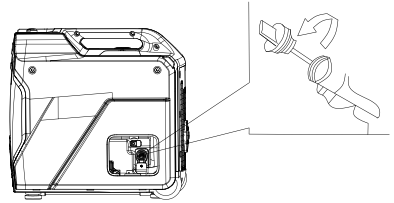
Change the oil more frequently when using the generator in dusty conditions or in extremely hot weather.

Ambient air temperature will affect engine oil performance. Change the type of engine oil used based on weather conditions.

Recommended Engine Oil Type								
*F	-20	0	20	40	60	80	100	120
*C	-28.9	-17.8	-6.7	4.4	15.6	26.7	37.8	48.9
Ambient temperature								

Check the engine oil level before each use or every 8 hours of operation.

1. Place the generator on a level surface and allow the engine to cool for several minutes.
2. Remove the oil access cover.
3. With a damp rag, clean around the oil dipstick.
4. Remove the oil dipstick and wipe the dipstick clean.



5. Insert the dipstick into the filler neck without screwing it in. Remove the dipstick and verify that the oil level is within safe operating range.



6. If low, add recommended engine oil incrementally and recheck until the level is between the L and H marks on the dipstick. **DO NOT** overfill. If over the full mark on dipstick, drain the oil to reduce oil level to the full mark on dipstick.
7. Replace the oil dipstick and hand-tighten.
8. Install the access cover.

## ENGINE OIL CHANGE

### ⚠ WARNING

Accidental start-up. Remove the spark plug boot from the spark plug when working on the generator.

When using the generator under extreme, dirty, dusty conditions or in extremely hot weather, change the oil more frequently. Change the oil while the engine is still warm from operation.

1. Place the generator on a level surface and allow the engine to cool for several minutes.
- Note:** Placing the generator on a raised surface slightly above the oil pan will facilitate draining.
2. Remove the oil access cover and spark plug cover. Disconnect the spark plug boot from the spark plug and place the wire where it cannot contact the spark plug.
  3. With a damp rag, clean around the oil dipstick. Remove the dipstick and wipe clean.



# MAINTENANCE

4. Place an oil pan (or suitable container) under the oil fill/drain hole.
5. Tilt the generator to drain the oil.
6. Slowly pour oil into the oil fill opening until oil the level is between the L and H marks on the dipstick. Stop frequently to check the oil level. **DO NOT** overfill.



**Maximum oil capacity: 0.63 US qt (0.6 L)**

7. Replace the dipstick and hand-tighten.
8. Connect the spark plug wire and install the oil access cover.

## NOTICE

**DO NOT** pollute. Follow the guidelines of the EPA or other governmental agencies for proper disposal of hazardous materials. Consult local authorities or reclamation facility.

## SPARK PLUG MAINTENANCE

Inspect and clean the spark plug after every 100 hours of use or six months. Replace the spark plug after 300 hours of use or every year.

1. Place the generator on a level surface and allow the engine to cool.
2. Remove the spark plug cover.
3. Remove the spark plug boot by firmly pulling the spark boot directly away from the engine.
4. Clean the area around the spark plug.
5. Remove the spark plug with the included spark plug socket wrench.

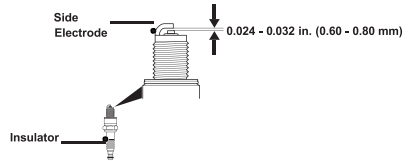
## NOTICE

Never apply any side load or move the spark plug laterally when removing the spark plug.

6. Inspect the spark plug. Replace if electrodes are pitted, burned, or the insulator is cracked. Only use a recommended replacement plug.

7. Measure the spark plug electrode gap with a wire-type feeler gauge. If necessary, correct the gap by carefully bending the side electrode.

**Spark plug gap: 0.60 - 0.80 mm**

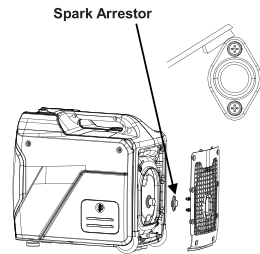


8. Carefully install the spark plug finger tight, then tighten as additional 3/8 to 1/2 turn with the spark plug wrench.
9. Install the spark plug boot and engine service cover.

## SPARK ARRESTOR SERVICE

Allow the muffler to cool completely before servicing the spark arrestor. Check and clean the spark arrestor after every 100 hours of use or six months. Failure to clean the spark arrestor will result in degraded engine performance.

1. Place the generator on a level surface.
2. Remove the cover screws and the muffler cover. Use a screw driver to remove the spark arrestor.



3. Carefully remove the carbon deposits from the spark arrestor screen with a wire brush. The spark arrestor must be free of breaks and tears. Replace the spark arrestor if damaged.
4. Reinstall the spark arrestor and muffler cover.

# MAINTENANCE

## STORAGE

Proper storage preparation is required for trouble-free operation and generator's longevity.

### NOTICE

Gasoline stored for as short as 30 days can deteriorate, causing gum, varnish, and corrosive buildup in fuel lines, fuel passages and the engine. This corrosive buildup restricts the flow of fuel, which can prevent the engine from starting after a prolonged storage period. The use of fuel stabilizer significantly increases the storage life of gasoline. Full-time use of fuel stabilizer is recommended. Follow the manufacturer's instructions for use.

STORAGE TIME	RECOMMENDED PROCEDURE
Less than 1 month	No service required.
2 to 6 months	Fill with fresh gasoline and add gasoline stabilizer. Drain the carburetor float bowl.
6 months or longer	Drain the fuel tank and carburetor float bowl.

## SHORT TERM STORAGE

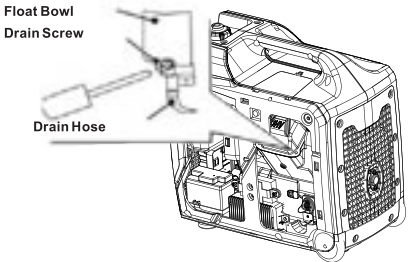
- Allow the generator to cool a minimum of 30 minutes before storage.
- Replace all protective covers on the generator control panel.
- Wipe the generator with a moist cloth. Clean any debris from the air inlets on the front of the unit and muffler cooling vents.
- Store the generator in a well-ventilated, dry location away from sparks, open flames, pilot lights, heat, and other sources of ignition such as areas with a spark-producing electric motor or where power tools are operated.
- **DO NOT** store the generator or gasoline near furnaces, water heaters, or any other appliances that produce heat or have automatic ignitions.
- With the engine and exhaust system cool and all surfaces dry, cover the generator to keep out dust. **DO NOT** use a plastic sheet as a dust cover. Non-porous materials trap moisture and promote rust and corrosion.

## LONG TERM STORAGE

Even properly stabilized fuel can leave residue and cause corrosion if left long term. If storing the generator for two to six months, drain the float bowl to prevent gum and varnish buildup in the carburetor.

## DRAINING THE FLOAT BOWL

1. Turn the fuel tank valve to the OFF position.
2. Locate the drain screw on the bottom of the carburetor float bowl.



3. Place an appropriate gasoline container under the drain screw to catch the drained fuel.
4. Loosen the float bowl drain screw and allow the fuel to drain. Tighten the float bowl drain screw.

## DRAINING THE FUEL TANK

If storing the generator for longer than six months, drain the fuel tank to prevent fuel separation, deterioration, and deposits in the fuel system.

1. Unscrew the fuel tank cap. Remove the fuel screen filter.
2. Using a commercially available gasoline hand pump (not included), siphon the gasoline from the fuel tank into an approved gasoline container. **DO NOT** use an electric pump.
3. Reinstall the fuel screen filter and the fuel tank cap.
4. Start the generator and allow it to run until the generator engine stops.
5. Remove the spark plug.
6. Put a teaspoon of engine oil into the cylinder and pull the recoil handle until resistance is felt. At this position the piston is coming up on its compression stroke and both valves are closed. Storing the engine in this position will help prevent internal corrosion. Return the recoil handle gently.
7. Reinstall the spark plug. Leave the spark plug boot disconnected to prevent accidental starting.
8. Install the engine service cover.

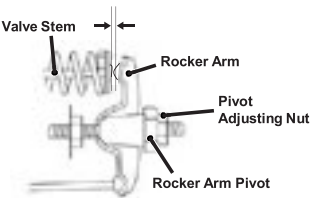
# MAINTENANCE

## VALVE CLEARANCE

### NOTICE

Checking and adjusting valve clearance must be done when the engine is cold.

1. Remove the rocker arm cover and carefully remove the gasket. If the gasket is torn or damaged, it must be replaced.
2. Remove the spark plug so the engine can be rotated more easily.
3. Rotate the engine to top dead center (TDC) by pulling the recoil handle slowly. Looking through the spark plug hole, the piston should be at the top (both valves are closed).
4. Both the rocker arms should be loose at TDC on the compression stroke. If they are not, rotate the engine 360°.
5. Insert a feeler gauge between the rocker arm and the valve stem to measure valve clearance.



	Intake Valve	Exhaust Valve
Valve Clearance	0.04-0.06mm	0.06-0.08mm

6. If an adjustment is necessary, hold the rocker arm pivot and loosen the pivot adjusting nut.
7. Turn the rocker arm pivot to obtain the specified clearance. Hold the rocker arm pivot and re-tighten the pivot adjusting nut to the specified torque.

**Torque: 106 inch-pound (12 N•m)**

8. Perform this procedure for the other valve.
9. Install the gasket, rocker arm cover, and spark plug.

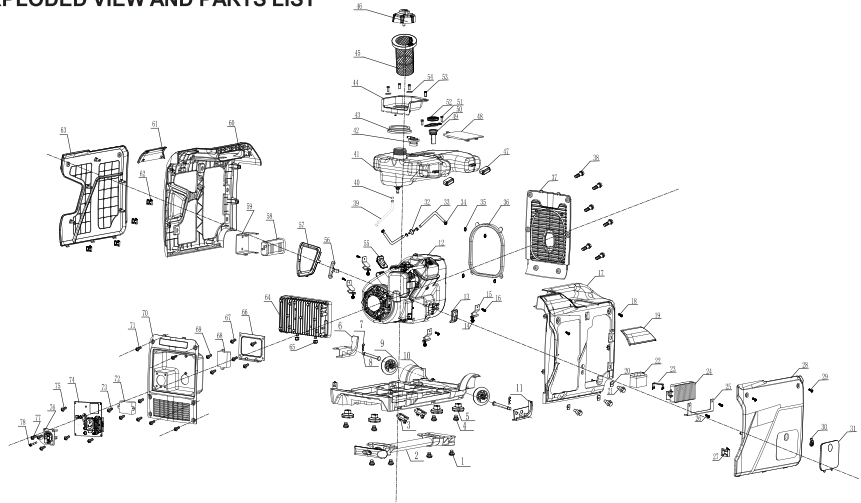
# TROUBLESHOOTING

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Engine will not start	Out of fuel.	Refuel.
	Bad fuel, generator stored without treating or draining gasoline, or refueled with bad gasoline.	Drain the fuel tank. Refuel with fresh gasoline.
	Dirty air filter.	Clean the air filter.
	Low engine oil level stopped generator.	If low oil LIGHT illuminated, turn engine switch to the OFF position. Add engine oil.
	Spark plug wet with fuel (flooded engine).	Wait five minutes. Turn engine switch to the OFF position. Pull recoil handle rapidly several times. If the generator does not start, remove spark plug and dry.
	Spark plug faulty, fouled, or improperly gapped.	Gap or replace the spark plug. Reinstall.
	Fuel filter restricted, fuel system malfunction, fuel pump failure, ignition malfunction, valves stuck, etc.	Contact customer service for help.
Engine starts, then shuts down	Choke partially open or closed due to weak or disconnected battery.	Manually set the choke. See Maintenance section.
	Out of fuel.	Refuel.
	Incorrect engine oil level.	Check engine oil level.
	Dirty air filter.	Clean the air filter.
	Contaminated fuel.	Drain the fuel tank. Refuel with fresh gasoline.
Engine lacks power	Defective low oil level switch.	Contact customer service for help.
	Air filter restricted.	Clean or replace air filter.
	Bad fuel, generator stored without treating or draining gasoline, or refueled with bad gasoline.	Drain the fuel tank. Refuel with fresh gasoline.
Engine runs rough or bogs when load applied	Fuel filter restricted, fuel system malfunction, fuel pump failure, ignition malfunction, valves stuck, etc.	Contact customer service for help.
	Dirty air filter.	Clean the air filter.
	Generator overloaded.	Unplug some devices.
	Faulty power tool or appliance.	Replace or repair tool or appliance. Stop and restart the engine.
No power at AC receptacles	Fuel filter restricted, fuel system malfunction, fuel pump failure, ignition malfunction, valves stuck, etc.	Contact customer service for help.
	OUTPUT READY LIGHT is OFF and OVERLOAD LIGHT is ON.	Check AC load. Stop and restart engine. Check the air inlet. Stop and restart the engine.
	AC circuit breaker/s tripped.	Check AC loads and reset circuit breaker/s.
	Faulty power tool or appliance.	Replace or repair tool or appliance. Stop and restart the engine.
	Faulty generator.	Contact customer service for help.

# EXPLODED VIEW

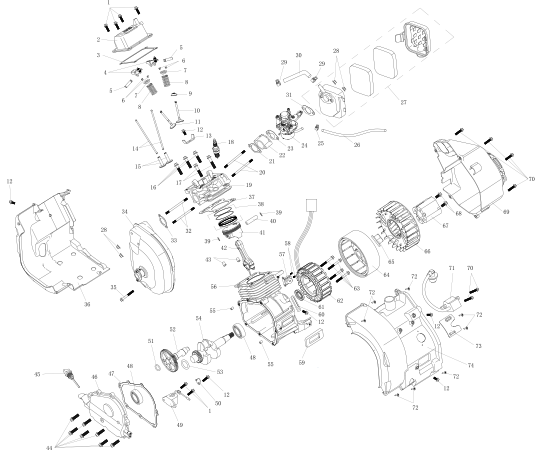
## EXPLODED VIEW AND PARTS LIST



Item	Parts Code	English Description	PC/Set	Remarks	Item	Parts Code	English Description	PC/Set	Remarks
1	2.63.01.00191	BOLT M6*16	4		40	2.55.07.005200-1	Clampφ10.5	1	
2	2.62.02.127010	Pull Rod Assembly	1		41	2.55.05.128017	Fuel Tank	1	
3	2.57.04.058200	Foot Pad	2		42		Check valve	1	
4	2.63.01.00914	BOLT M6*25	4		43	2.62.03.010608	Decorative plate near fuel tank cap	1	
5	2.61.04.005000	Rubber Foot	4		44	2.62.03.010602	Oil guide groove	1	
6	2.62.03.010606	Right sealing plate	1	Optional	45	2.55.05.120801	Fuel Filter	1	
7	2.63.01.02385	LOCKING PIN	2		46	2.55.05.120901	Fuel Tank Cap	1	
8	2.61.03.012106	Wheel shaft	2		47	2.62.01.018628	Rubber Sleeve of Fuel Tank	4	
9	2.61.03.012105	WHEELS	2		48	2.55.05.120900	Maintenance Cover	1	
10	2.62.03.010603	Base Plate	1		49		Oil sensor	1	
11	2.62.03.010605	Left sealing plate	1	Optional	50		Oil sensor Cover Plate	1	
12	5.01.071.000021	Engine	1		51	2.63.01.01764	BOLT M6*8	2	
13	2.62.03.010612	Oil filling rubber sleeve	1		52		Glass window	1	
14	2.63.01.00291	Nut M6	4		53	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	4	
15	2.61.05.009000	Rubber Feet	4		54	2.62.01.018626	O-ring	4	
16	2.63.01.01764	BOLT M6*8	4		55	2.62.03.010613	Rubber plug	1	
17		Left shell	1		56	2.62.01.018625	Starter handle	1	
18	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	3		57		Ornament Ring	1	
19		Left Decorative Plate	1		58		Carbon Tank	1	Optional
20	2.62.02.127012	Long Nut	6		59		Carbon Tank board	1	Optional
21	2.63.01.04338	BOLT M6*20	6		60		Right shell	1	
22	4.01.1779	Lithium battery	1	Not included in the recoil start only model	61		Right Decorative Plate	1	
23	2.09.07.002900	Battery strap	1	Not included in the recoil start only model	62	2.62.02.127011	Spring clampφ8.5	6	
24	2.56.01.360099	Module(relay)	1	Not included in the recoil start only model	63	2.04.14.047019-1	Right cover plate	1	
25		ModuleBoard(Relay Board)	1	Not included in the recoil start only model	64	2.56.03.070034	Inverter	1	
26	2.63.01.01756	BOLT M6*12	2		65	2.62.03.010610	Inverter fixed rubber sleeve	2	
27	2.62.02.127011	Spring clamp	6		66	2.62.02.127009	Inverter mounting plate	1	
28	2.04.14.047021-1	Left cover plate	1		67	2.63.01.01764	BOLT M6*8	6	
29	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	2		68	2.56.04.012000	CO Module	1	Optional
30		Knob	1		69	2.63.01.03494	Self-tapping Screw 3.9x16	2	
31	2.04.14.047026-1	Oil cover plate	1		70	2.04.14.047024	Panel Cover	1	
32	2.55.08.003500	Fuel filter	1		71	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	6	
33	2.55.06.036039	Oil Outlet Tube	1		72	2.56.01.291500	Remote control module	1	Not included in the recoil start only model
34	2.55.07.006600	Spring clampφ8.5	3		73	2.63.01.03494	Self-tapping Screw 3.9x16	2	
35	2.63.01.04145	Anti-off Clip	6		74	2.56.01.360208	Panel Assy	1	
36	2.62.03.010607	Muffler Outlet Rubber Sleeve	1		75	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	4	
37	2.62.03.010604	Muffler Outlet Cover Plate	1		76	2.55.08.004000	Three in one switch	1	
38	2.63.01.04146	Cross Recessed Pan Head Screw M5*14	4		77	2.63.01.03494	Self-tapping Screw 3.9x16	3	
39	2.55.06.036040	Oil Inlet Tube	2		78	2.63.01.04323	Cross Recessed Pan Head Screw M4*16	1	

# EXPLODED VIEW

## EXPLODED VIEW AND PARTS LIST



ENGINE-ITEM NUMBER

Item	Parts Code	English Description	PC/Set	Item	Parts Code	English Description	PC/Set
1	2.67.01.000181	BOLT M6*16	6	38	2.51.11.007300	Piston Ring Set	1
2	2.50.01.009056	Cylinder Head Cover	1	39	2.51.10.001500	Clip Piston Pin	2
3	2.60.09.004201	Cylinder Head Cover Gasket	1	40	2.51.09.002800	Piston Pin	1
4	2.50.05.002400	Valve Rocker Arm	2	41	2.51.08.007001	Piston	1
5	2.50.05.002300	Rocker Arm Shaft	2	42	2.51.12.007800	Connecting Rod Assy	1
6	2.50.09.006700	Valve Lock Clamp	4	43	2.63.01.00406	Locating Pin	2
7	2.50.09.006800	Valve Spring Retainer	2	44	2.63.01.00204	BOLT M6*25	7
8	2.50.09.007300	Valve Spring	2	45	2.51.06.004800	Dipstick	1
9	2.50.10.000100	Seal Guide	1	46	2.51.05.011013	Crankcase Cover	1
10	2.50.03.004000	Intake valve	1	47	2.60.01.006000	Crankcase Gasket	1
11	2.50.04.003800	Exhaust Valve	1	48	2.63.02.025000	Bearing /6205/TM	1
12	2.67.01.000180	BOLT M6*12	6	49	2.51.04.005000	Oil Level Sensor	1
13	2.50.05.002500	PUSH ROD GUIDE PLATE	1	50	2.62.02.127000	Wire Clip	1
14	2.50.07.002600	Valve Push Rod	2	51	2.50.09.001700	Valve Spring	1
15	2.50.08.000200	Valve Tappet	2	52	2.51.16.009808	Camshaft Assy	1
16	2.63.01.04011	BOLT M8*35	3	53	2.63.01.01720	Manganese steel spacer	1
17	2.63.01.04009	BOLT M8*40	2	54	2.51.15.071099	Crankshaft	1
18	2.53.06.002100	Spark Plug	1	55	2.63.01.00329	Locating Pin	2
19	2.50.02.009000	Cylinder Head	1	56	2.51.01.030021	Crankcase	1
20	2.63.01.00052	Stud M6*90	2	57	2.53.03.007500	Trigger	1
21	2.60.02.003500	AIR INLET SEALING GASKET	1	58	2.63.01.04114	CROSS RECESS HEAD SCREW M4*12	2
22	2.55.02.004000	CARBURETOR LINK BLOCK	1	59	2.60.10.005052		1
23	2.60.04.003001	CARBURETOR SPACER	1	60	2.62.01.003001	LOCATING CABLE CLAMP	1
24	2.55.01.049077	CARBURETOR	1	61	2.51.17.001900	Oil Seal25*41.25*6	1
25	2.56.03.051300	Stepping Motor	1	62	2.56.03.070022	Stator	1
26	2.55.07.003800	Clamp	1	63	2.63.01.02017	BOLT M6*45	4
27	2.55.06.036040	Oil Inlet Tube	1	64	2.56.03.070032	Rotor	1
28	2.50.11.031075	AIR FILTER	1	65	2.63.01.00299	Nut M14*1.5	1
29	2.63.01.00291	Nut M6	2	66	2.52.04.003913	Cooling Fan	1
30	2.55.07.003600	Clamp	2	67	2.52.03.005031	Starting Cup	1
31	2.50.13.000100	Exhaust Pipe	1	68	2.63.01.01565-1	BOLT M8*16	2
32	2.60.05.002200	AIR FILTER SEALING GASKET	1	69	2.52.01.210029	Starter	1
33	2.63.01.04108	Stud M6*90	2	70	2.63.01.02070	BOLT M6*20	6
34	2.60.06.001600	MUFFLER SPACER	1	71	2.53.02.009608	Coil Assy Ignition	1
35	2.50.12.044138	Muffler	1	72	2.63.01.00302	Screw M4*12	6
36	2.63.01.03001	BOLT M6*70	1	73	2.62.02.127002	RUBBER CLAMP	1
37	2.52.06.005722	WINDSHIELD-up	1	74	2.52.06.005721	WINDSHIELD-down	1
38	2.60.08.008001	CYLINDER SEALING GASKET	1	75	2.56.10.014815	Ground wire	1