

Inverter Generator Operator's Manual

MODEL NUMBER : TGA-0252

SERIAL NUMBER :

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.

FOR YOUR SAFETY

**READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE
OPERATING MACHINE**

Customer Support (888) 680-2849, inquiry@bilthardusa.com

*We are always working to improve our products. Therefore, the enclosed product may differ slightly from the image on the cover.

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INTRODUCTION

Introduction

Congratulations on your purchase of Our inverter generator. designs and builds generators to strict specifications. With proper use and maintenance, this generator will bring years of satisfying service.

This Booklet

Every effort has been made to ensure the accuracy and completeness of the information in this manual. We reserve the right to change, alter and/or improve the product and this document at any time without prior notice.

Portable Power Generator

This unit is a gasoline engine driven, alternating current (AC) generator. It is designed to supply electrical power for lighting, appliances, tools and similar equipment.

Record the model and serial numbers as well as date and place of purchase for future reference. Have this information available when making technical or warranty inquiries.

Model Number
TGA-0252
Serial Number
Date of Purchase
Purchase Location
For Oil Type see 'Add Engine Oil' section. For Fuel Type see 'Add Fuel' section.

SPECIFICATIONS

Generator	Output	120V AC, 60 Hz, 33.3 A, 1 Phase 12V DC, 8.3 A 4000 Running Watts 5500 Maximum Starting Watts
	Receptacles	120V 20A Duplex (5-20R) 120V 30A (TT-30R/RV) 12V DC Automotive
Displacement		224 cc
Compression Ratio		9.1:1
Engine Type		Horizontal Single Cylinder 4-stroke, OHV
Cooling System		Forced air cooled
Fuel	Type	87+ octane, stabilizer-treated unleaded gasoline
	Capacity	3.17 Gallon(12L)
Engine Oil	Type SAE	10W-30
	Capacity	20.3 fl. oz.(600ml)
Run Time @ 25% Load with full tank		12 hr
Sound Level at 23 feet, 75% load		68 dB
Bore x Stroke		72 mm x 55 mm
Spark Plug	Type	F6RTC
	Gap	0.024"- 0.028"
Valve Clearance	Intake	0.004"- 0.006"
	Exhaust	0.004"- 0.006"
Engine Speed		3800 RPM

The emissions control system for this Engine is warranted for standards set by the U.S. Environmental Protection Agency and by the California Air Resources Board (also known as CARB). For warranty information, refer to the last pages of this manual.

MANUAL CONVENTIONS

This manual uses the following symbols to help differentiate between different kinds of information. The safety symbol is used with a key word to alert you to potential hazards in operating and owning power equipment.

Follow all safety messages to avoid or reduce the risk of serious injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **may** result in property damage.

SAFETY RULES

WARNING

Read this manual thoroughly before operating your generator. Failure to follow instructions could result in serious injury or death.

WARNING

The engine exhaust from this product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

DANGER

Generator exhaust contains carbon monoxide, a colorless, odorless, poison gas. Breathing carbon monoxide will cause nausea, dizziness, fainting or death. If you start to feel dizzy or weak, get to fresh air immediately.

Operate generator outdoors only in a well ventilated area.

DO NOT operate the generator inside any building, including garages, basements, crawlspaces and sheds, enclosure or compartment, including the generator compartment of a recreational vehicle. DO NOT allow exhaust fumes to enter a confined area through windows, doors, vents or other openings.

DANGER CARBON MONOXIDE: using a generator indoors **CAN KILL YOU IN MINUTES.**

DANGER

Rotating parts can entangle hands, feet, hair, clothing and/or accessories.
Traumatic amputation or severe laceration can result.

Keep hands and feet away from rotating parts.
Tie up long hair and remove jewelry.
Operate equipment with guards in place.
DO NOT wear loose-fitting clothing, dangling drawstrings or items that could become caught.

DANGER

Generator produces powerful voltage.

DO NOT touch bare wires or receptacles.
DO NOT use electrical cords that are worn, damaged or frayed.

DO NOT operate generator in wet weather.

DO NOT allow children or unqualified persons to operate or service the generator

Use a ground fault circuit interrupter (GFCI) in damp areas and areas containing conductive material such as metal decking.

Use approved transfer equipment to isolate generator from your electric utility and Notify your utility company before connecting your generator to your power system.

WARNING

Sparks can result in fire or electrical shock.

When servicing the generator:

Disconnect the spark plug wire and place it where it cannot contact the plug.

DO NOT check for spark with the plug removed.

Use only approved spark plug testers.

WARNING

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

Combustible material can catch fire on contact.

DO NOT touch hot surfaces.

Avoid contact with hot exhaust gases.

Allow equipment to cool before touching.

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

Maintain at least five feet of clearance from combustible materials.

WARNING

Medical and Life Support Uses.

In case of emergency, call 000 immediately.

NEVER use this product to power life support devices or life support appliances.

NEVER use this product to power medical devices or medical appliances.

Inform your electricity provider immediately if you or anyone in your household depends on electrical equipment to live.

Inform your electrical provider immediately if a loss of power would cause you or anyone in your household to experience a medical emergency.

SAFETY RULES

WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation.

A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

WARNING

Rapid retraction of the starter cord will pull hand and arm towards the engine faster than you can let go. Unintentional startup can result in entanglement, traumatic amputation or laceration. Broken bones, fractures, bruises or sprains could result.

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

DO NOT start or stop the engine with electrical devices plugged in.

CAUTION

Exceeding the generator's running capacity can damage the generator and/or electrical devices connected to it.

DO NOT overload the generator.

Start the generator and allow the engine to stabilize before connecting electrical loads.

Connect electrical equipment in the off position, and then turn them on for operation.

Turn electrical equipment off and disconnect before stopping the generator.

DO NOT tamper with the governed speed.

DO NOT modify the generator in any way.

CAUTION

Improper treatment or use of the generator can damage it, shorten its life and void your warranty.

Use the generator only for intended uses.

Operate only on level surfaces.

DO NOT expose generator to excessive moisture, dust, or dirt.

DO NOT allow any material to block the cooling slots.

If connected devices overheat, turn them off and disconnect them from the generator.

DO NOT use the generator if:

- Electrical output is lost
- Equipment sparks, smokes or emits flames
- Equipment vibrates excessively

SAFETY RULES

Fuel Safety

DANGER

GASOLINE, GASOLINE VAPORS AND LIQUID PETROLEUM GAS (LPG) ARE HIGHLY FLAMMABLE AND EXPLOSIVE.

Fire or explosion can cause severe burns or death. Unintentional startup can result in entanglement, traumatic amputation or laceration.

Gasoline and Gasoline Vapors :

- GAS IS HIGHLY FLAMMABLE AND EXPLOSIVE.
- Gas can cause a fire or explosion if ignited.
- Gas is a liquid fuel but it's vapors can ignite.
- Gas is a skin irritant and needs to be cleaned up immediately if spilled on skin or clothes.
- Gas has a distinctive odor, this will help detect potential leaks quickly.
- In any gas fire, flames should not be extinguished unless by doing so the fuel supply valve can be turned OFF. This is because if a fire is extinguished and a supply of fuel is not turned OFF, then an explosion hazard could be created.
- Gas expands or contracts with ambient temperatures. Never fill the gas tank to full capacity, as gas needs room to expand if temperatures rise.

When adding or removing Gas:

Turn the generator off and let it cool for at least two minutes before removing the fuel cap. Loosen the cap slowly to relieve pressure in the tank.

Only fill or drain fuel outdoors in a well-ventilated area.

DO NOT pump gas directly into the generator at the gas station. Use an approved container to transfer the fuel to the generator.

DO NOT overfill the fuel tank.

Always keep fuel away from sparks, open flames, pilot lights, heat and other sources of ignition.

DO NOT light or smoke cigarettes.

When starting the generator:

DO NOT attempt to start a damaged generator.

Make certain that the gas cap, air filter, spark plug, fuel lines and exhaust system are properly in place.

Allow spilled fuel to evaporate fully before attempting to start the engine.

Make certain that the generator is resting firmly on level ground.

When operating the generator:

DO NOT move or tip the generator during operation.

DO NOT tip the generator or allow fuel or oil to spill.

When transporting or servicing the generator:

Make certain that the fuel shutoff valve is in the off position and the fuel tank is empty.

Disconnect the spark plug wire.

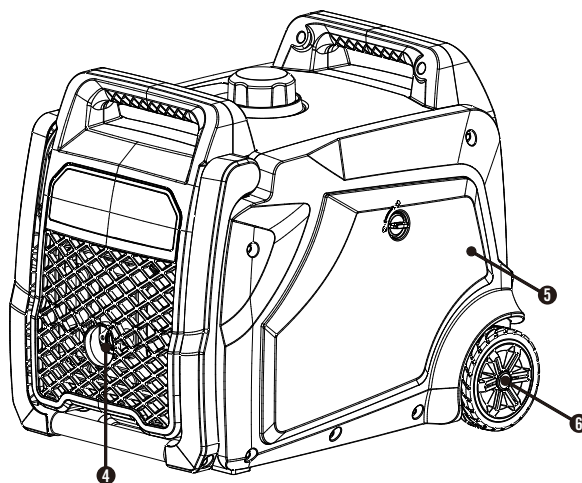
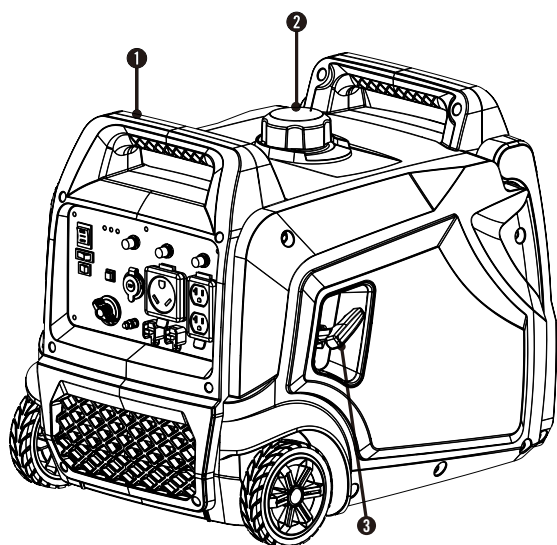
When storing the generator:

Store away from sparks, open flames, pilot lights, heat and other sources of ignition.

CONTROLS AND FEATURES

Read this owner's manual before operating your generator. Familiarize yourself with the location and function of the controls and features. Save this manual for future reference.

Inverter



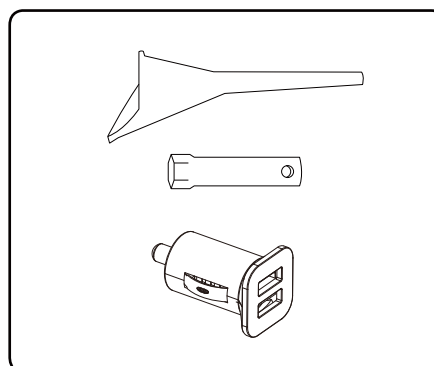
- (1) **Carrying Handle**
- (2) **Fuel Cap** – Remove to add fuel.
- (3) **Recoil Starter** – Used to start the engine.
- (4) **Muffler**

- (5) **Maintenance Cover** – Oil filler, Air filter, and Carburetor access.
- (6) **Never Flat Wheels**

Parts Included

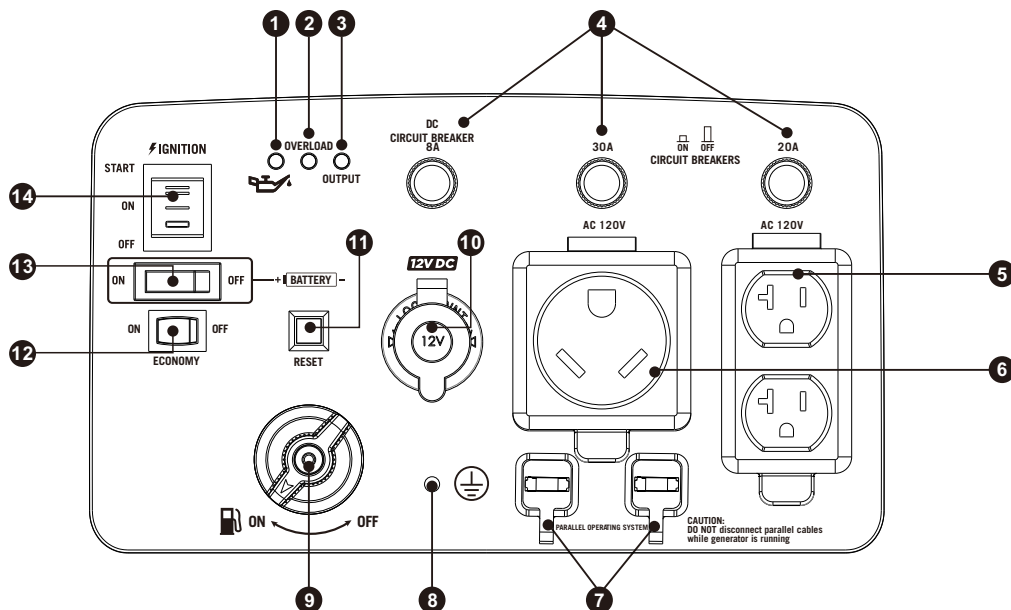
Your Gasoline Powered Generator ships with the following parts:

- Oil Funnel 1
- Spark Plug Socket 1
- Automotive style USB adapter 1



CONTROLS AND FEATURES

Power Panel



- (1) **Oil Warning Light** – Check oil level when this light turns on. Engine will not run when indicator is lit.
- (2) **Overload Indicator Light** – This light turns ON when the generator is overloaded and will cut power to the receptacles.
- (3) **Output Light** – Remains ON during normal operating conditions. Shuts OFF when generator is overloaded.
- (4) **Circuit Breaker (Push-button)** – The 20-amp AC circuit breaker will activate when the NEMA 5-20 outlets exceed 20A. The 30-amp AC circuit breaker will activate when the NEMA TT-30R outlets exceed 30A. The 8-amp DC circuit breaker will activate when the DC 12V and USB outlets exceed 8A. When the circuit breaker activates, turn off and disconnect the device from its respective outlet, and press the circuit breaker to reset.
- (5) **120 Volt AC, 20 Amp Duplex (NEMA 5-20R)** – May be used to supply electrical power for the operation of 120 Volt AC, 20 Amp, single phase 60 Hz electrical loads.
- (6) **120 Volt AC, 30 Amp Receptacle (NEMA TT-30R)** – May be used to supply electrical power for the operation of 120 Volt AC, 30 Amp, single phase 60 Hz electrical loads.
- (7) **Parallel Outlets**–used for parallel operation
- (8) **Ground Terminal** – Consult an electrician for local grounding regulations.
- (9) **Fuel Valve Knob**
- (10) **12V DC Outlet***
- (11) **Reset**–When you’ve overloaded the generator, the overload light will stay on and cut off the output in 3 to 30 seconds, depending on the load. Reduce the load by turning off and disconnecting your electrical device(s) press the reset button to reset the circuit. If no power is produced after resetting, turn off and disconnect all electrical devices and restart your generator.
- (12) **Economy Control Switch**
- (13) **Battery Switch**
- (14) **Engine Switch**

*Warning: Prolonged exposure to engine exhaust can cause serious injury or death. While charging a device do no place on the exhaust side of the generator. Extreme heat caused by exhaust can damage the device, and cause a potential fire hazard.

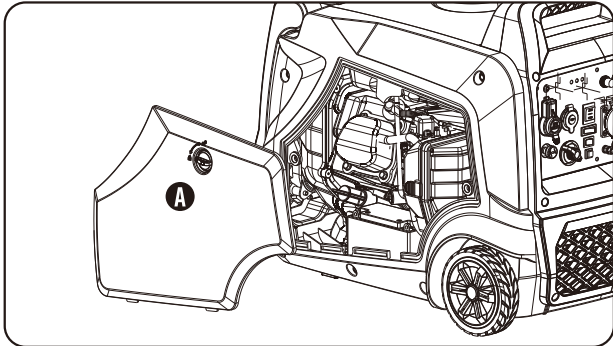
ASSEMBLY

Remove the Generator from the Shipping Carton

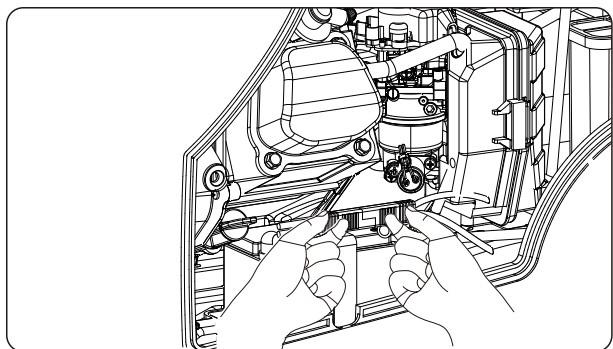
1. Set the shipping carton on a solid, flat surface.
2. Remove everything from the carton except the generator.
3. Using the handle of the unit, carefully remove the generator from the box.

Connecting the Battery

1. Turn the knob from lock to open. Then remove the maintenance cover. (A)



2. First take off the SAE sheath, then connect two SAE wires.



NOTE

If the battery cables are not visible once the battery maintenance cover has been removed, please note that cables may be nearby the battery, not in plain view.

Add Engine Oil

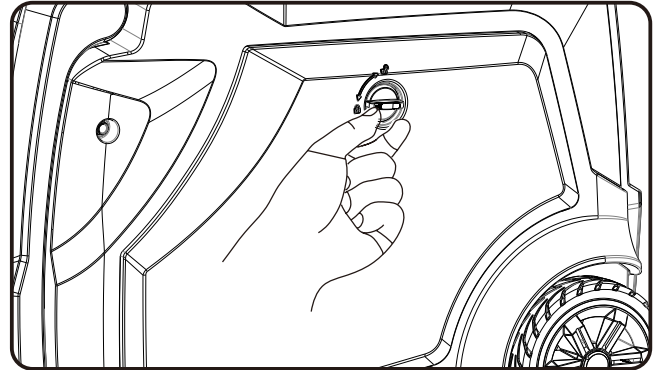
CAUTION

DO NOT attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil. Damage to the generator as a result of failure to follow these instructions will void your warranty.

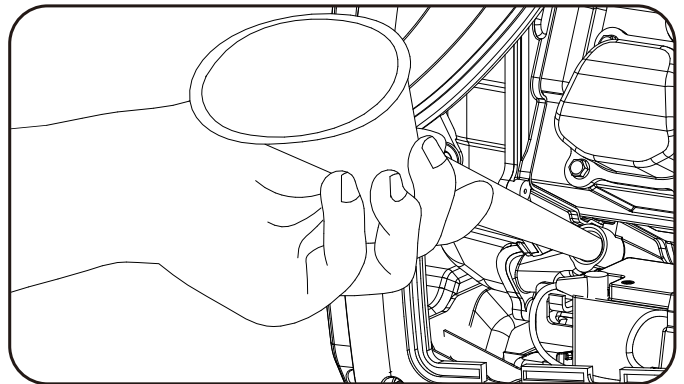
NOTE

The recommended oil type is 10W-30 automotive oil.

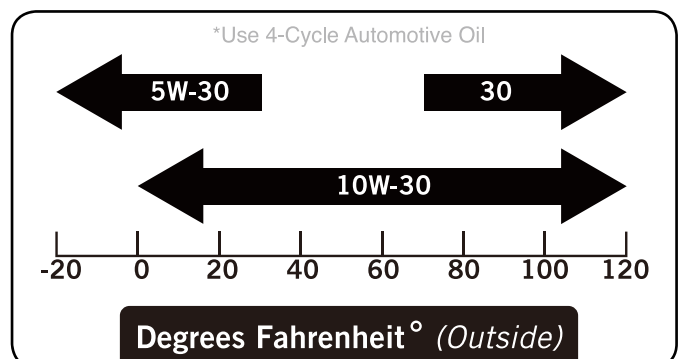
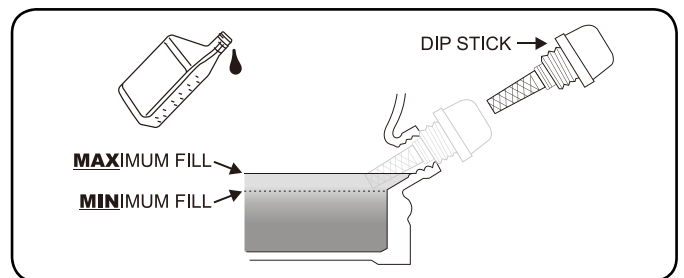
1. Place the generator on a flat, level surface.
2. Turn the knob from lock to open. Then remove the maintenance cover.



3. Remove oil fill cap/dipstick to add oil.



4. Add 0.6L of oil and replace oil fill cap/dipstick.



ASSEMBLY

5. Check engine oil level daily and add as needed.

CAUTION

The engine is equipped with a low oil shut-off and will stop when the oil level in the crankcase falls below the threshold level.

NOTE

We consider the first 5 hours of run time to be the break-in period for the unit. During the break in period stay at or below 50% of the running watt rating and vary the load occasionally to allow stator windings to heat and cool. Adjusting the load will also cause engine speed to vary and help seat piston rings. After the 5 hour break-in period, change the oil.

NOTE

Synthetic oil may be used after the 5 hour initial break-in period. Using synthetic oil does not increase the recommended oil change interval.

NOTE

Weather will affect engine oil and engine performance. Change the type of engine oil used based on weather conditions to suit the engine needs.

Add Fuel

1. Use clean, fresh, regular unleaded fuel with a minimum octane rating of 87 and an ethanol content of less than 10% by volume.
2. DO NOT mix oil with fuel.
3. Clean the area around the fuel cap.
4. Remove the fuel cap.
5. Slowly add the fuel in the tank. DO NOT fill fully. Add fuel until reach the red line.
6. Screw on the fuel cap and wipe away any spilled fuel.

CAUTION

Use regular unleaded gasoline with a minimum octane rating of 87.

Do not mix oil and gasoline.

Add fuel until reach the red line.

DO NOT pump gas directly into the generator at the gas station. Use an approved container to transfer the fuel to the generator.

DO NOT fill fuel tank indoors.

DO NOT fill fuel tank when the engine is running or hot.

DO NOT overfill the fuel tank.

DO NOT light cigarettes or smoke when filling the fuel tank.

WARNING

Pouring fuel too fast through the fuel screen may result in blow back of fuel at the operator while filling.

NOTE

Our engines work well with 10% or less ethanol blend fuels. When using blended fuels there are some issues worth noting:

- Ethanol-gasoline blends can absorb more water than gasoline alone.
- These blends can eventually separate, leaving water or a watery goo in the tank, fuel valve and carburetor.
- With gravity-fed fuel supplies, this compromised fuel can be drawn into the carburetor and cause damage to the engine and/or potential hazards.
- There are only a few suppliers of fuel stabilizer that are formulated to work with ethanol blend fuels.
- Any damages or hazards caused by using improper fuel, improperly stored fuel, and/or improperly formulated stabilizers, are not covered by manufacture's warranty.

It is advisable to always shut off the fuel supply, run the engine to fuel starvation and drain the tank when the equipment is not in use for more than 30 days.

ASSEMBLY

Grounding

Your generator must be properly connected to an appropriate ground to help prevent electric shock.

WARNING

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

A ground terminal connected to the frame of the generator has been provided on the power panel. For remote grounding, connect a length of heavy gauge (12 AWG minimum) copper wire between the generator ground terminal and a copper rod driven into the ground. We strongly recommend that you consult with a qualified electrician to ensure compliance with local electrical codes.

Operation at High Altitude

WARNING

Follow instructions in a well-ventilated area away from ignition sources. If the engine is hot from use, shut the engine off and wait for it to cool before proceeding. Do not smoke.

NOTICE

Warranty void if necessary adjustments are not made for high altitude use.

At high altitudes, the engine's carburetor, governor (if so equipped), and any other parts that control the fuel-air ratio will need to be adjusted by a qualified mechanic to allow efficient high-altitude use and to prevent damage to the engine and any other devices used with this product. The fuel system on this engine may be influenced by operation at higher altitudes. Proper operation can be ensured by installing an altitude kit at (not included) altitudes higher than 3000 ft. above sea level. At elevations above 8000 ft, the engine may experience decreased performance, even with the proper main jet. Operating this engine without the proper altitude kit installed may increase the engine's emissions and decrease fuel economy and performance. The kit should be installed by a qualified mechanic.

1. Turn off the engine.
2. Close the fuel valve.
3. Place a bowl under the fuel cup to catch any spilled fuel.

CAUTION

Carburetor bowl may have gas in it which will leak upon removing the bolt.

4. Unthread the bolt holding the fuel cup.
5. Remove the bolt, Bolt Seal, fuel cup, Fuel Cup Seal and Main Jet from the body of the carburetor assembly. A carburetor screwdriver (not included) is needed to remove and install the Main Jet.

NOTE

The mixing tube is held in place by the Main Jet and might fall out when it is removed. If it falls out, replace it in the same orientation before replacing the Main Jet.

6. Replace the Main Jet with the replacement Main Jet needed for your altitude range (1a).

NOTE

The Fuel Cup Seal and Bolt Seal may be damaged during removal and should be replaced with the new ones from the kit.

7. Replace the Fuel Cup Seal (3a), fuel cup, Bolt Seal (2a), and bolt. Tighten in place.

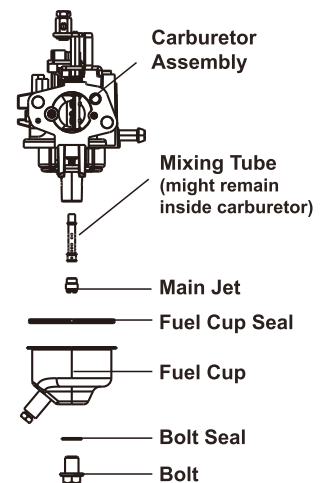
NOTICE

Do not cross thread bolt when tightening. Finger tighten first and then use a wrench to make sure the bolt is properly threaded.

8. Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

High Altitude Kit Parts List - A

Part	Description	Qty
1a	Main Jet 3000-8000 ft.	1
2a	Bolt Seal	1
3a	Fuel Cup Seal	1



OPERATION

DANGER

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, crawl spaces, or other partially 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 batterybackup 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

Do not operate generator near open flame or flammable materials. 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 smoke near the generator.

WARNING

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

WARNING

Do not use in rainy or wet conditions. Do not touch bare wires or receptacles (outlets). Do not allow children or non-qualified persons to operate.

WARNING

Generator should only be connected to electrical devices, either directly or with an extension cord. **NEVER** connect to a building electrical system without a qualified electrician and connected to a transfer switch as a separately derived system. 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.

To maximize safety, **ALWAYS** ground the generator before using it. See section "Grounding".

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.

CAUTION

Disconnect all electrical loads from the generator before attempting to start.

Follow the instructions on the next page to start your generator.

OPERATION

Starting the Inverter

CAUTION

If the ignition switch is held down in the "Start" position longer than 5 seconds it could damage the starter.

NOTE

The supplied 12V 7AH battery does re-charge while the engine is running, but it is also recommended that the battery be fully charged at least once per month.

NOTE

When the battery switch is in the "ON" position, the switch will light up if the battery is sending out a charge. If the switch does not light up while in the "ON" position, check that the battery connection is still good.

NOTE

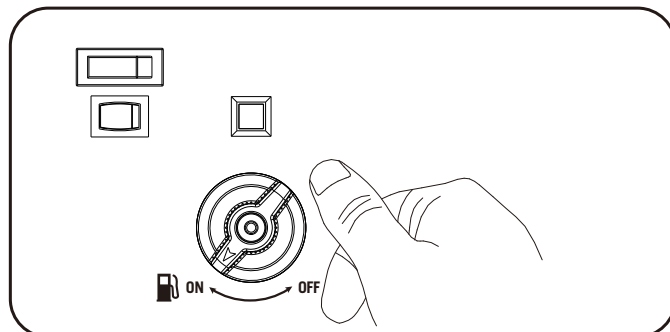
If the engine starts but does not continue to run make certain that the generator is on a flat, level surface. The engine is equipped with a low oil sensor that will prevent the engine from running when the oil level falls below a critical threshold.

Before Starting the Generator

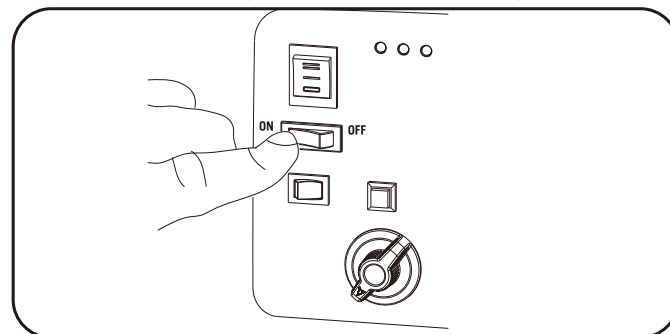
1. Verify that generator is outside on a dry, level surface with at least two feet of clearance on all sides.
2. To maximize safety, check that the generator is properly grounded.
3. Check there is sufficient level of oil in the crankcase. Add oil if necessary.
4. Make sure there is sufficient level of gasoline in the fuel tank. Add fuel if necessary.
5. Make sure all electrical devices are unplugged from the generator during ignition. Otherwise it will be difficult for the engine to start.

Electric Start

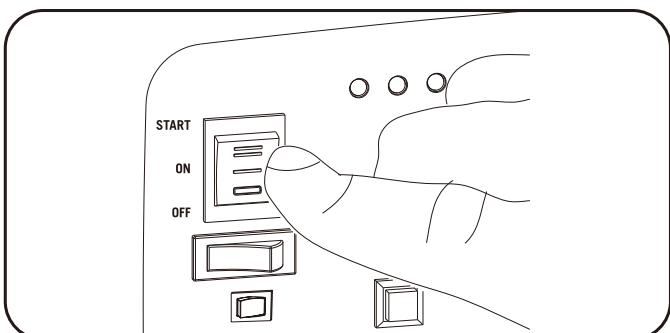
1. Make certain the generator is on a flat, level surface.
2. Disconnect all electrical loads from the generator.
Never start or stop the generator with electrical devices plugged in or turned on.
3. Turn the fuel valve to the "ON" position.



4. Turn the battery switch to the "ON" position.



5. Turn the engine switch to the "ON" position.



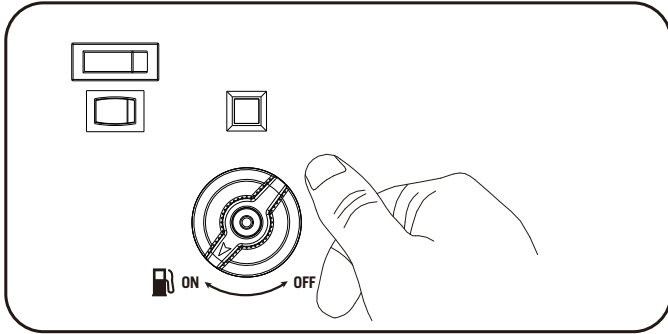
OPERATION

6. Press and hold the ignition switch to the “START” position. Release as the engine begins to roll over. If the engine fails to start within five seconds, release the switch and wait at least ten seconds before attempting to start the engine again.

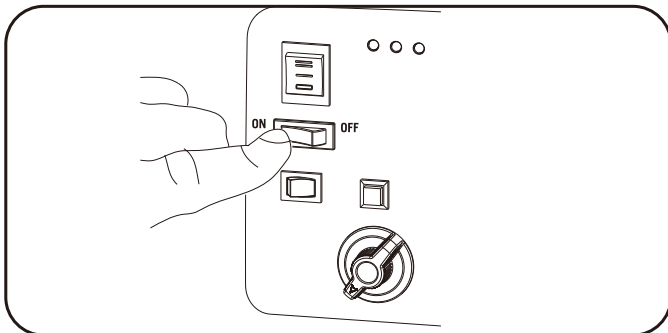
Manual Choke Start

If the battery is dead or not able to produce enough current to power the push button choke, the choke itself can be operated manually to help start the engine. To manually choke and start the inverter, follow these steps:

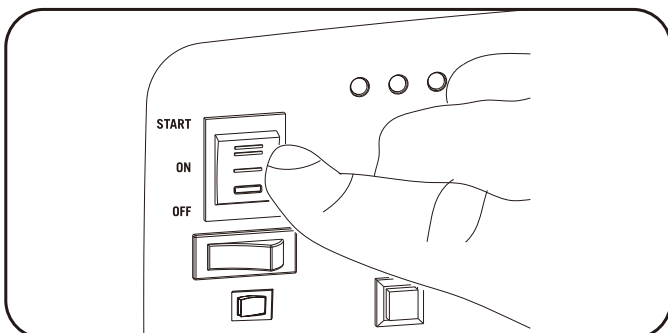
1. Make certain the generator is on a flat, level surface.
2. Disconnect all electrical loads from the generator. Never start or stop the generator with electrical devices plugged in or turned on.
3. Turn the fuel valve to the “ON” position.



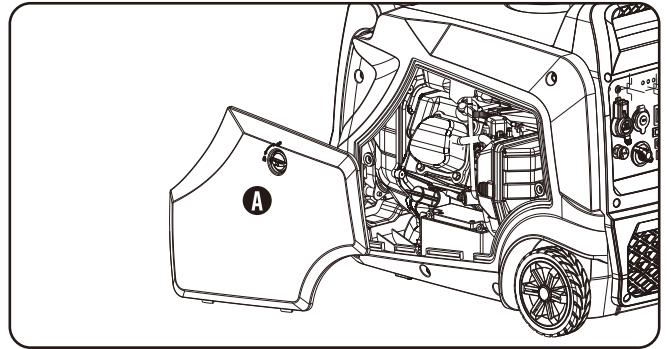
4. Turn the battery switch to the “ON” position. (To recharge the battery after the generator runs.)



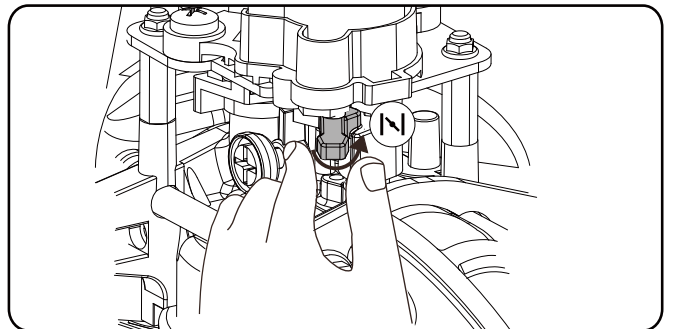
5. Turn the engine switch to the “ON” position.



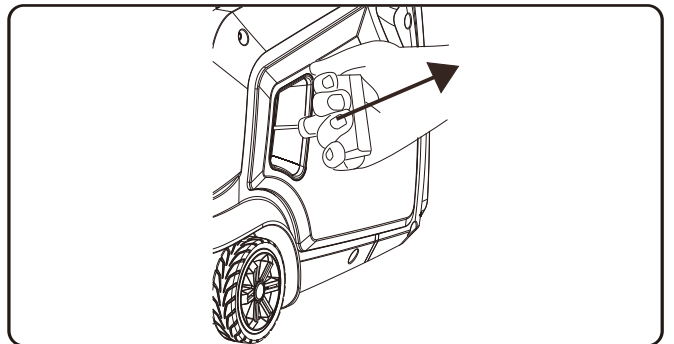
6. Turn the knob from lock to open. Then remove the maintenance cover.(A)



7. Turn the choke lever to the “CHOKE” (right) position.



8. Pull the starter cord slowly until resistance is felt and then pull rapidly.



9. After the generator is started, the choke lever will automatically run to the working position, without manually flicking the choke lever.

NOTE

If the engine starts but does not stay running make certain that the generator is on a flat, level surface. The engine is equipped with a low oil sensor that will prevent the engine from running when the oil level falls below a critical threshold.

Connecting Electrical Devices

When the rated wattage requirement of each electrical device has been determined, add these numbers to find the total rated wattage needed. If this number exceeds the rated wattage of the generator, DO NOT connect all these devices. Select a combination of electrical devices with a total rated wattage lower than or equal to the rated wattage of the generator.

Connecting Electrical Loads

1. Let the engine stabilize and warm up for a few minutes after starting
2. Plug in and turn on the desired 120 Volt AC single phase, 60Hz electrical loads.
 - DO NOT connect 3-phase loads to the generator.
 - DO NOT overload the generator.

NOTE

Connecting a generator to your electric utility company's power lines or to another power source may be against the law. In addition this action, if done incorrectly, could damage your generator and appliances and could cause serious injury or even death to you or a utility worker who may be working on nearby power lines. If you plan to run a portable electric generator during an outage, please notify your electric utility company immediately and remember to plug your appliances directly into the generator. Do not plug the generator into any electric outlet in your home. Doing so could create a connection to the utility company power lines. You are responsible for ensuring that your generator's electricity does not feed back into the electric utility power lines.

If the generator will be connected to a building electrical system, consult your local utility company or a qualified electrician. Connections must isolate generator power from utility power and must comply with all applicable laws and codes.

Do Not Overload Generator

Capacity

Follow these simple steps to calculate the running and starting watts necessary for your purposes.

1. Select the electrical devices you plan on running at the same time.
2. Total the running watts of these items. This is the amount of power you need to keep your items running.
3. Identify the highest starting wattage of all devices identified in step 1. Add this number to the number calculated in step 2. Surge wattage is the extra burst of power needed to start some electric driven equipment. Following the steps listed under "Power Management" to make sure start ONLY one device each time.

Power Management

Use the following formula to convert voltage and amperage to watts:

$$\text{Volts} \times \text{Amps} = \text{Watts}$$

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.
Check the power indicator light (green).
5. Plug in and turn on the next item.
6. Allow the engine to stabilize.
Check the power indicator light (green).
7. Repeat steps 5-6 for each additional item.

NOTE

Never exceed the specified capacity when adding loads to the generator.

OPERATION

Economy Control Switch

The Economy Control switch can be activated in order to minimize fuel consumption and noise while operating with an output less than 75% of the rated watts of the generator. Allowing the engine speed to idle during periods of non-use. The engine speed returns to normal when an electrical load is connected. When the economy switch is off, the engine runs at normal speed continuously.

WARNING

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

DC 12V Outlet (For charging ONLY)

The 12V DC outlet can be used with the supplied charge cable and USB charger and other commercially available 12V DC automotive style plugs. The DC output is unregulated. Please make sure your device input voltage range among 12-24V DC. Meanwhile, the 12V DC outlet is designed for charging use ONLY. DO NOT operate your device while charging via this outlet. When using the DC outlet turn the Economy mode switch to the "OFF" position.

WARNING

"DO NOT operate a device while charging via the 12V DC outlet"

Prolonged exposure to engine exhaust can cause serious injury or death.

WARNING

While charging a device do not place on the exhaust side of the generator. Extreme heat caused by exhaust can damage the device, and cause a potential fire hazard.

Battery Charging

The DC receptacle should ONLY be used for charging 12V automotive type batteries. The DC charging output is not regulated. When using the DC output, turn the Economy Control Switch to the "OFF" position

CAUTION

Do not start the vehicle while the battery charging cable is connected and the generator is running. The vehicle or the generator may be damaged.

NOTE

Be sure all electric devices including the lines and plug connections are in good condition before connection to the generator.

Stopping the Engine

1. Turn off and unplug all electrical loads. Never start or stop the generator with electrical devices plugged in or turned on.
2. Let the generator run at no-load for several minutes to stabilize internal temperatures of the engine and generator.
3. Turn the engine switch to the "OFF" position.
4. Allow the generator to cool down completely to room temperature.

CAUTION

Unplugging running devices can cause damage to the generator. Never stop the engine with electrical devices connected and running.

MAINTENANCE

The owner/operator is responsible for all periodic maintenance.

WARNING

Never operate a damaged or defective generator.

WARNING

Tampering with the factory set governor will void your warranty.

WARNING

Improper maintenance will void your warranty.

NOTE

Maintenance, replacement, or repair of emission control devices and systems may be performed by any non-road engine repair establishment or individual.

Complete all scheduled maintenance in a timely manner. Correct any issue before operating the generator.

Overload Operation

The overload indicator light will turn on when the rated load is exceeded. When the maximum load is reached, the LED will blink and cut power to the receptacles. To recover the power, Reduce the load by turning off and disconnecting your electrical device(s) press the reset button to reset the circuit. If no power is produced after resetting, turn off and disconnect all electrical devices and restart your generator.

Engine Maintenance

To prevent accidental starting, remove and ground spark plug wire before performing any service.

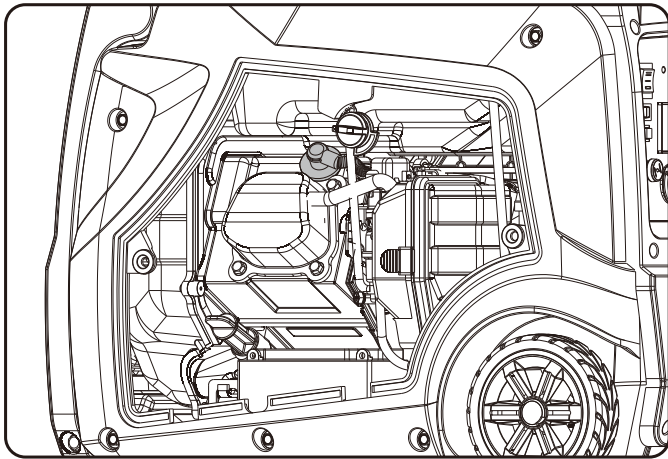
Oil

Change oil when the engine is warm. Refer to the oil specification to select the proper grade of oil for your operating environment.

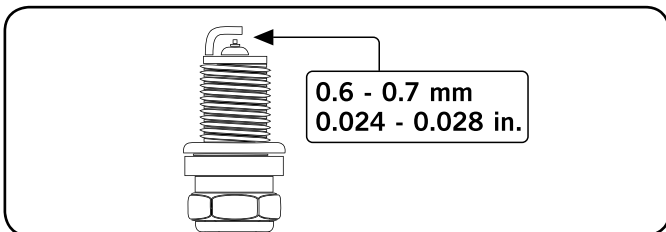
1. Turn the knob from lock to open. Then remove the maintenance cover.
2. Remove the oil filler cap.
3. Tilt the generator on its side and allow the oil to drain completely.
4. Add 0.6L of oil and replace oil fill cap/dipstick.
5. Reinstall the maintenance cover.
6. Dispose of used oil at an approved waste management facility.

MAINTENANCE

Spark Plugs

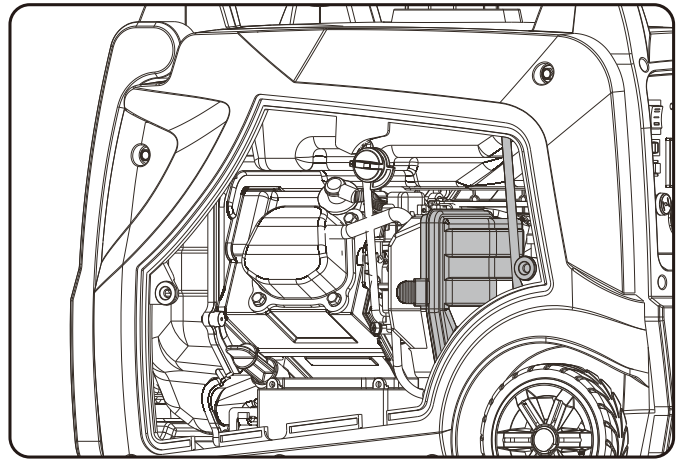


1. Remove the maintenance cover.
2. Remove the spark plug cable from the spark plug.
3. Use the spark plug tool to remove the plug. Remove the spark plug access cap and insert the spark plug tool through this hole.
4. Remove the spark plug.
5. Inspect the electrode on the plug. It must be clean and not worn to produce the spark required for ignition.
6. Make certain the spark plug gap is 0.6 - 0.7 mm (0.024 - 0.028 in.).



7. Carefully thread the plug into the engine.
8. Use the spark plug tool to firmly install the plug.
9. Attach the spark plug cap to the plug.
10. Reinstall the spark plug access cap, and maintenance cover.

Air Filter



1. Remove the maintenance cover.
2. Remove the foam element.
3. Wash in liquid detergent and water. Squeeze thoroughly dry in a clean cloth.
4. Saturate in clean engine oil.
5. Squeeze in a clean, absorbent cloth to remove all excess oil.
6. Place the filter in the assembly.
7. Reattach the air filter cover.
8. Reinstall the maintenance cover.

Cleaning

! CAUTION

DO NOT spray engine with water.

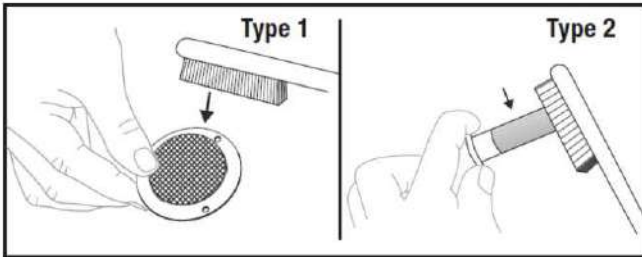
Water can contaminate the fuel system.

Use a damp cloth to clean exterior surfaces of the engine. Use a soft bristle brush to remove dirt and oil. Use an air compressor (25 PSI) to clear dirt and debris from the engine.

MAINTENANCE

Clean the Spark Arrestor

1. Allow the engine to cool completely before servicing the spark arrestor.
2. Remove the two or three screws (varies by model) holding the cover plate which retains the spark arrestor to the muffler.
3. Remove the spark arrestor screen.
4. Carefully remove the carbon deposits from the spark arrestor screen with a wire brush.



**see your model's parts list for specified type of spark arrestor.*

5. Replace the spark arrestor if it is damaged.
6. Position the spark arrestor on the muffler and attach with the screws removed in step 2.

! CAUTION

Failure to clean the spark arrestor will result in degraded engine performance.

Adjustments

The air-fuel mixture is not adjustable. Tampering with the governor can damage your generator and your electrical devices and will void your warranty.

Maintenance Schedule

Follow the service intervals indicated in the following maintenance schedule.

Service your generator more frequently when operating in adverse conditions.

Every 8 hours or daily	
	Check oil level
	Clean around air intake and muffler
First 5 Hours	
	Change oil
Every 50 hours or every season	
	Clean air filter
	Change oil if operating under heavy load or in hot environments
Every 100 hours or every season	
	Change oil
	Clean/Adjust spark plug
	Check/Adjust valve clearance *
	Clean fuel tank and filter *
Every 3 years	
	Replace fuel line

*To be performed by knowledgeable, experienced owners or Power Equipment certified dealers.

Generator Maintenance

Make certain that the generator is kept clean and stored properly. Only operate the unit on a flat, level surface in a clean, dry operating environment. DO NOT expose the unit to extreme conditions, excessive dust, dirt, moisture or corrosive vapors.

Use a damp cloth to clean exterior surfaces of the generator. Use a soft bristle brush to remove dirt and oil.

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

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

! CAUTION

DO NOT use a garden hose to clean the generator.

Water can enter the generator through the cooling slots and damage the generator windings.

MAINTENANCE

Battery Maintenance/Storage

The battery will receive charge when the engine is running. Remember to run the generator once a month for 20-30 minutes to charge the battery. A charged battery will allow you to start the generator using the electric start button during your next time of need. If the battery is out of charge, you may start the generator using the recoil starter. If the generator is not used for a long period, it is recommended to disconnect the negative (black) battery cable from the battery to protect it from losing charge. After disconnecting the cable, cover the free end with an insulator such as electrical tape.

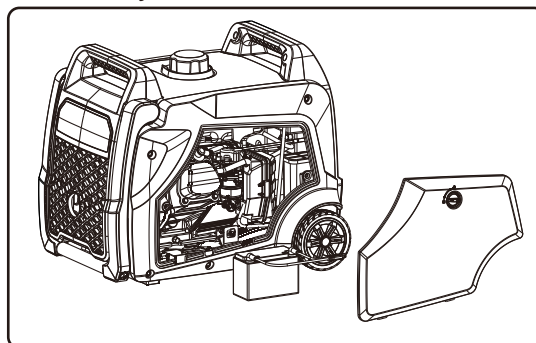
Batteries can be damaged or suffer a shortened lifespan if they are charged in very cold temperatures (below freezing). If you expect to store the generator in temperatures below 25°F (-5°C), we recommend removing the battery from the generator and storing it indoors. If using the generator in temperatures below 25°F (-5°C), we recommend running the generator for at least 15 minutes with the battery removed, or the negative (black) battery cable disconnected and covered with an insulator such as electrical tape, and then connecting the battery. This will allow the inside of the generator to warm up, and will greatly reduce the chance of damage to the battery.

WARNING

It is best to store the battery indoors at room temperature. Do not store your battery outside in the winter, where temperatures may go below 25°F (-5°C), or in any location where temperatures may exceed 104°F (40°C), such as in direct sunlight or inside a vehicle or metal building during the summer.

To reinstall/replace the battery:

1. Turn the knob from lock to open. Then remove the maintenance cover. Loosen the nylon belt and pull out the battery



2. Disconnect negative (-) battery terminal first (black cable).
3. Disconnect positive (+) battery terminal second (red cable).
4. Replace with an identical new battery
5. Connect the positive (+) battery terminal (red cable) first. Slide rubber boot over the positive terminal.
6. Connect the negative (-) battery terminal (black cable) second. Slide rubber boot over the negative terminal.
7. Return the battery into position and use the nylon belt to fasten the battery.
8. Reinstall and secure the battery access cover.

NOTE: Always recycle used batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes.

NOTE

Always recycle used batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes.

TRANSPORTATION AND STORAGE

Transporting the Generator

To prevent fuel spillage when transporting, be sure to perform the following:

1. Tighten the fuel cap.
2. Flip the engine switch to the OFF position.
3. Drain the fuel tank if possible.
4. Keep the generator upright. Never place the generator on its side or upside down - doing so could damage the internal components of the generator and make it difficult to start.

WARNING

Avoid direct sunlight inside a vehicle. If the generator is left in an enclosed vehicle for many hours, the high temperature could cause the fuel to vaporize and result in a possible explosion.

Storing the Generator

Shut off the generator and allow the unit to cool to room temperature before storing it. NEVER place any type of storage cover on the generator while it is still hot. Do not obstruct any ventilation openings.

Follow the procedures below for properly storing your generator. We highly recommend running your generator once a month for 20 to 30 minutes. Plug in a small load in to ensure there is proper power output.

For Short Periods (30 to 60 Days):

- Drain the carburetor.
- Disconnect the negative lead from the battery.
- **Add fuel stabilizer:** Follow the suggested portions and instructions of your preferred stabilizer. Run the engine for 15 to 20 minutes, allowing the fuel stabilizer to mix with the gasoline and circulate through the carburetor, and then top off with fuel. Filling the fuel tank full reduces the amount of air in the tank and helps fight deterioration of fuel. a small load in to ensure there is proper power output.

For Extended Periods (Over 60 Days):

- Disconnect the negative lead from the battery.
- Drain the fuel tank and carburetor. Never store generator with fuel in the tank for more than two months.
- Change the engine oil .

WARNING

Store the generator upright in a cool and dry location, away from sources of heat, open flames, sparks or pilot lights.

Product Disposal

Do not dispose of a used generator or parts with your household waste. This product contains electrical or electronic components that should be recycled. Please take this product to your local recycling facility for responsible disposal to minimize its environmental impact. Do not dispose of used oil or fuel in the trash or down a drain. Please contact your local recycling center or auto garage to arrange proper oil/fuel disposal.

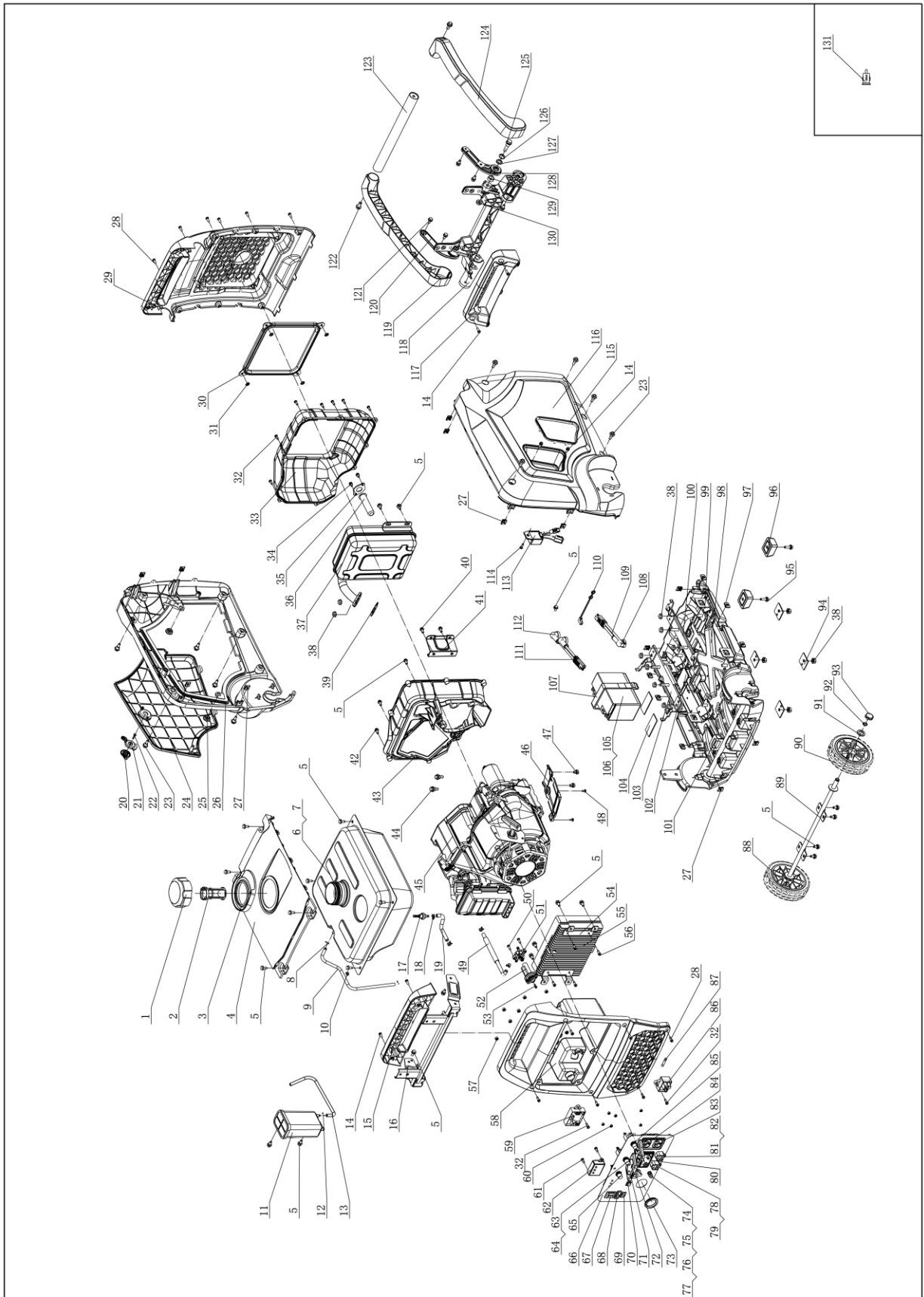
RECYCLE

Please recycle the packaging and electronic components where facilities exist. Please contact your local auto garage or recycling facility to properly dispose of oil/fuel.

TROUBLESHOOTING

Problem	Cause	Solution	
Engine will not start.	No fuel.	Add fuel.	
	Faulty spark plug.	Clean and adjust spark plug or replace.	
	Low oil level.		Fill crankcase to the proper level.
			Place generator on a flat, level surface.
	Spark plug wire loose.	Attach wire to spark plug.	
	Fuel valve is closed.	Open fuel valve.	
	Old fuel or water in fuel.	Drain fuel and replace with fresh fuel.	
Flooded with fuel.	Let unit stand for 10 mins.		
Engine starts but runs roughly.	Dirty air filter.	Clean or replace air filter.	
	Dirty fuel valve.	Clean the fuel valve.	
	Clogged spark arrestor.	Clean spark arrestor.	
Engine shuts down during operation.	Out of fuel.	Fill fuel tank.	
	Low oil level.	Fill crankcase to the proper level. Place generator on a flat, level surface.	
Generator cannot supply enough power or overheating.	Generator is overloaded.	Review load and adjust.	
	Dirty air filter.	Clean or replace air filter.	
Engine is running but no AC output.	Poor cord connection.	Check all connections.	
	Circuit breaker is open.	Reset circuit breaker. Check all circuit breakers.	
	Loose wiring.	Inspect and tighten wiring connections.	
	AC Overload: Button illuminated red	Reduce AC load and press Overload Reset Button until illuminated green.	
	Other.	Contact the help line.	
Engine hunts or falters.	Engine governor defective.	Contact the help line.	
	Dirty fuel valve.	Clean the fuel valve.	
	Carburetor is dirty and running lean.	Contact the help line.	
Repeated circuit breaker tripping.	Overload.	Review load and adjust.	
	Faulty power cords or device.	Check for damaged, bare or frayed wires. Replace defective device.	
	Circuit breaker still too hot.	Let unit sit for 5 mins.	
Generator will not start electrically	Generator battery is dead	Recharge generator battery	
	Battery switch is in the "OFF" position	Turn battery switch to "ON" position	

PARTS DIAGRAM



PARTS LIST

#	Part Number	Description	Qty
1	83.070100.01	Cap, Fuel Tank	1
2	83.070300.01	Fuel Filter, Fuel Tank	1
3	83.200502.01	Spillway, Fuel Tank	1
4	69.201000.00.34	Cover, Top, Blue	1
5	1.5789.0612	Flange Bolt, M6 x 12	27
6	69.071000.00.1	Fuel Tank, Black	1
7	69.070003.01	Tank Insulation Sticker	1
8	2.06.006	Clamp Ø7 x Ø1	2
9	69.070014.00	Pipe, Reversal Valve, 430mm	1
10	2.05.001	Clamp, Ø8 x 6,5	1
11	122.070700.00	Carbon Canister, 320CC	1
12	2.06.004	Clamp Ø8 x Ø1	1
13	85.070014.01	Pipe, Air Cleaner, 260+30mm	1
14	1.818.0512.1	Screw, M5 x 12, Black	6
15	69.201001.01	Handle, Front, Black	1
16	69.201600.03	Supporter, Front,	1
17	21.070600.03	Fitting, Fuel Filter	1
18	2.06.016	Clamp, Ø8,7 x b8	4
19	122.070011.17	Fuel Pipe, Fuel Tank To Fuel Valve	1
20	32.200203.00	Rotary Knob	1
21	32.200204.00	Knob Clamp	1
22	1.845.3513	Screw, ST3.5 x 13	1
23	2.06.075.1	Bolt, M6 x 20, Black	10
24	69.200400.00.34	Cover, Right Side, Rotundity Jacket, Blue	1
25	81.200102.00	Rotundity Jacket	2
26	69.200500.00.34	Supporter, Right, Blue	1
27	2.02.010	Cage Nut, M5	12
28	1.818.0516.1	Screw, M5 x 16, Black	12
29	69.200900.00	Supporter, Rear Cover, Black	1
30	69.200803.00	Rear Cover muffler sealing ring	1
31	2.03.070	Plum Blossom Check Ring M6	4
32	1.845.4216	Screw, ST4.2 x 16	10
33	69.081200.00	Muffler Protector Assembly, Rear	1
34	1.9074.13.0514	Screw/Washer Assembly M5 x 10	2
35	26.101503.60	Plate, Spark Arrester	1
36	46.101300.08	Spark Arrester Assembly	1
37	69.101000.00	Muffler Assembly	1
38	1.6177.1.08	Lock Nut M8, Flange	14
39	26.100001.00	Gasket, Exhaust	1
40	1.5789.0615	Flange Bolt M6 x 15	2
41	63.101005.00	Supporter, Muffler Assembly	1
42	2.08.102	Screw M6x13	1
43	63.081100.00	Muffler Protector Assembly, Front	1
44	2.08.168	Step Bolt M6 x 12	2
45	YFD4500E	Engine, 224 cc	1
46	63.080600.01	Protector Assembly, Lower	1
47	1.5789.0610	Flange Bolt M6 x 10	2
48	1.845.3595	Screw, ST3.5 x 9.5	2
49	69.070011.00	Fuel Pipe, Fuel Valve To Carburetor	1
50	1.845.4819	Screw, ST4.8 x 19	2
51	83.070400.01.0	Fuel Valve	1
52	32.070406.00	Knob, Fuel Valve	1
53	1.9074.4.0414.1	Screw/Washer Assembly M4 x 14	1
54	69.221002.00	Holder, Control Unit	2
55	69.221000.00	Control Unit, 3.8KW, 120V/60Hz, Wireless	1
56	1.5789.0512	Flange Bolt M5 x 12	4
57	1.6177.1.05	Lock Nut M5, Flange	6
58	69.200101.00	Front Cover, Black	1
59	5.1830.014	Remote Control	1
60	1.6177.1.04.1	Lock Nut M4, Flange, Black	6
61	1.818.0514.1	Screw M5x14, Black	2
62	83.210016.00	Speed Limiter	1
63	5.1870.014	Circuit Breaker Cover, Push Button	3
64	5.1210.930	30Amp Circuit Breaker, Push Button, CSA	1
65	5.1200.308	8Amp Circuit Breaker, Push Button	1
66	69.019.9.2	Control Panel, Black	1

#	Part Number	Description	Qty
67	5.1000.015.3	Ignition Switch, Red	1
68	5.1000.014.3	Battery Switch, Red	1
69	5.1010.003.1	Switch, Economy, Black	1
70	5.1040.004	Remote Program Button	1
71	5.1870.027	Receptacle Cover, Receptacle TT-30R	1
72	5.1110.005	Receptacle, DC 12V	1
73	32.072001.00	Rubbe Ring	1
74	1.5783.0514.1	Bolt, M5 x 14, Black	1
75	1.6170.05.1	Nut M5, Black	2
76	1.862.05	Lock Washer, Ø5	1
77	1.97.1.05.1	Washer, Ø5, Black	1
78	5.1870.032.3	Cover, Connect Port, Red	1
79	83.210001.01.3	Connect Port, L, 125V/25A, Red	1
80	5.1120.036	Receptacle TT-30R	1
81	5.1870.032	Cover, Connect Port, Black	1
82	83.210001.01.1	Connect Port, 125V/25A, Black	1
83	5.1120.010	Receptacle 5-20R Duplex	1
84	5.1870.031	Receptacle Cover, Receptacle 5-20R Duplex	1
85	5.1210.920	20Amp Circuit Breaker, Push Button, CSA	1
86	5.1820.009	Charger	1
87	5.1280.003	Fuse(10A)	1
88	83.201701.02.29	5.5 in. Wheel, Right	1
89	69.201500.00	Axle	1
90	83.201701.01.29	5.5 in. Wheel, Left	1
91	1.848.12	Washer, Ø12	2
92	1.894.1.12	Retaining Ring, Ø12	2
93	83.201702.01.29	Plug, Wheel	2
94	83.200609.02	Steel Plate 2	4
95	1.5789.0620	Flange Bolt, M6 x 20	2
96	83.201400.01	Rubber Pad	2
97	2.02.037	Trnut (M6x7)	6
98	69.200601.00	Base Setting Component	1
99	63.201200.00	Motor Mount	4
100	69.201600.01	Supporter, Left	1
101	32.220001.00	Rubber blanker	1
102	83.200607.01	Plug, Oil Drain Hole	1
103	69.201600.02	Supporter, Right	1
104	69.200905.01	Shockproof Sponge For Battery	2
105	9.1000.07001	Battery, 138 x 70 x 100, 7AH	1
106	69.200905.00	Battery Insulation Sticker	1
107	69.200904.00	Pinch, Nylon	1
108	152.200013.02.3	Jacket, Wire, Red	2
109	5.1900.161	Wire, To SAE Motor	1
110	152.200013.03	Sleeve, Connector	1
111	5.1900.127	Wire, To SAE Battery	1
112	152.200013.02	Jacket, Wire, Black	1
113	5.1800.009	Rectifier	1
114	1.845.4295	Screw, ST4.2 x 9.5	1
115	69.200203.00	Protector, Front Cover	1
116	69.200300.00.34.34	Supporter, Left Cover, Blue And Blue	1
117	69.201001.02	Handle, Rear, Black	1
118	69.201600.04	Supporter, Rear	1
119	69.200701.04	Handle, Right, Black	1
120	69.200704.02.2	Bracket, Right, Black	1
121	1.5789.0612.1	Flange Bolt, M6 x 12, Black	4
122	1.5789.0816.1	Flange Bolt, M8 x 16, Black	2
123	69.200705.01	Handle	1
124	69.200701.03	Handle, Left, Black	1
125	2.08.002	Step Bolt M8 x 28	2
126	2.03.002	Washer, Ø13 x Ø20 x 2.5	2
127	2.03.001	Bushing, Ø13.3 x Ø19.3 x 2	2
128	69.200704.01.2	Bracket, Left, Black	1
129	2.13.001	Bushing, Ø13.3 x Ø19.3 x 8	2
130	1.6187.1.08	Lock Nut M8, Flange	2
131	9.1700.008.0	Plug, USB 5V/2.4A	1