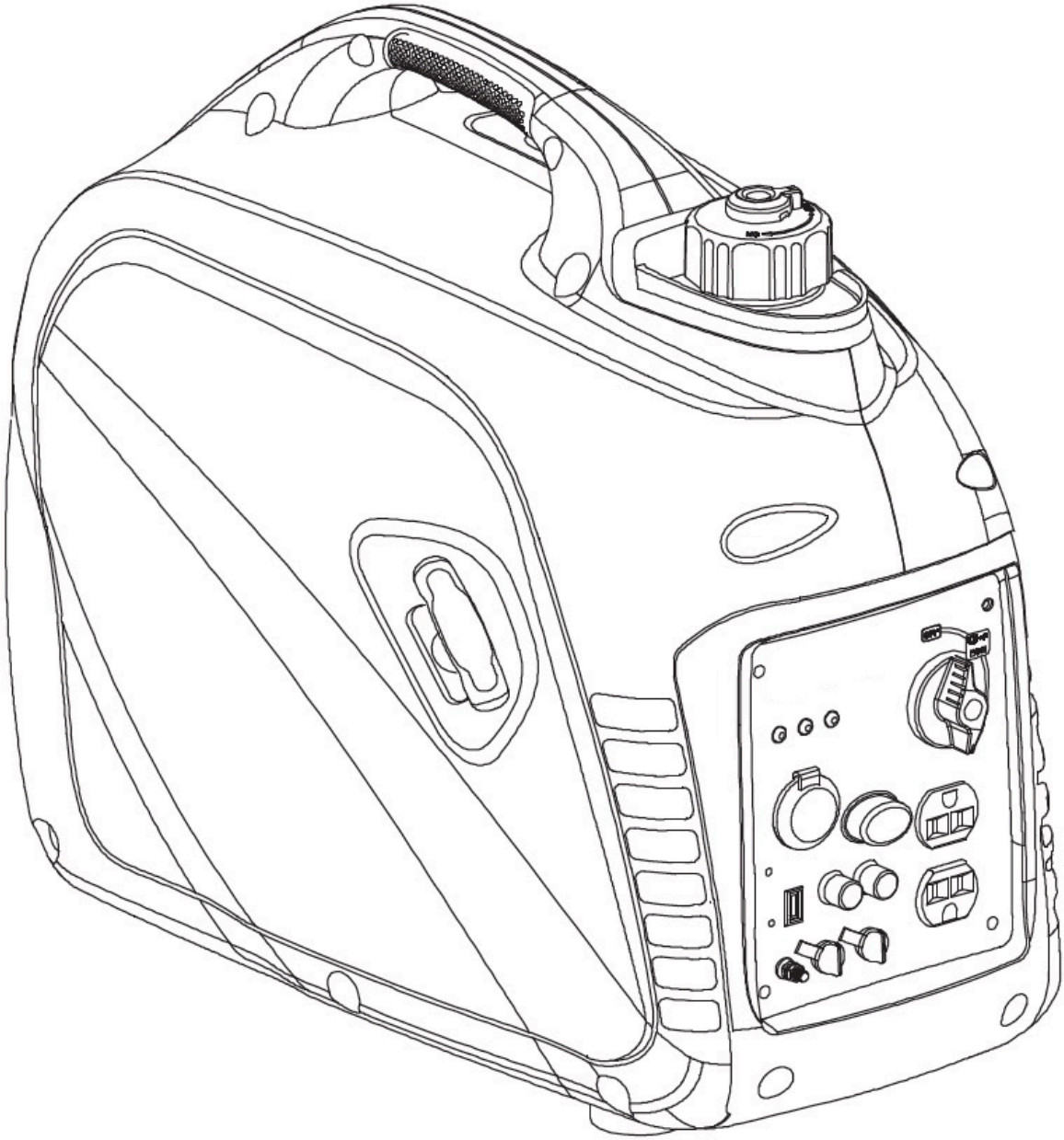
User Guide for 86002

Inverter Generator

2300 Watt, Rated 1800 Watt

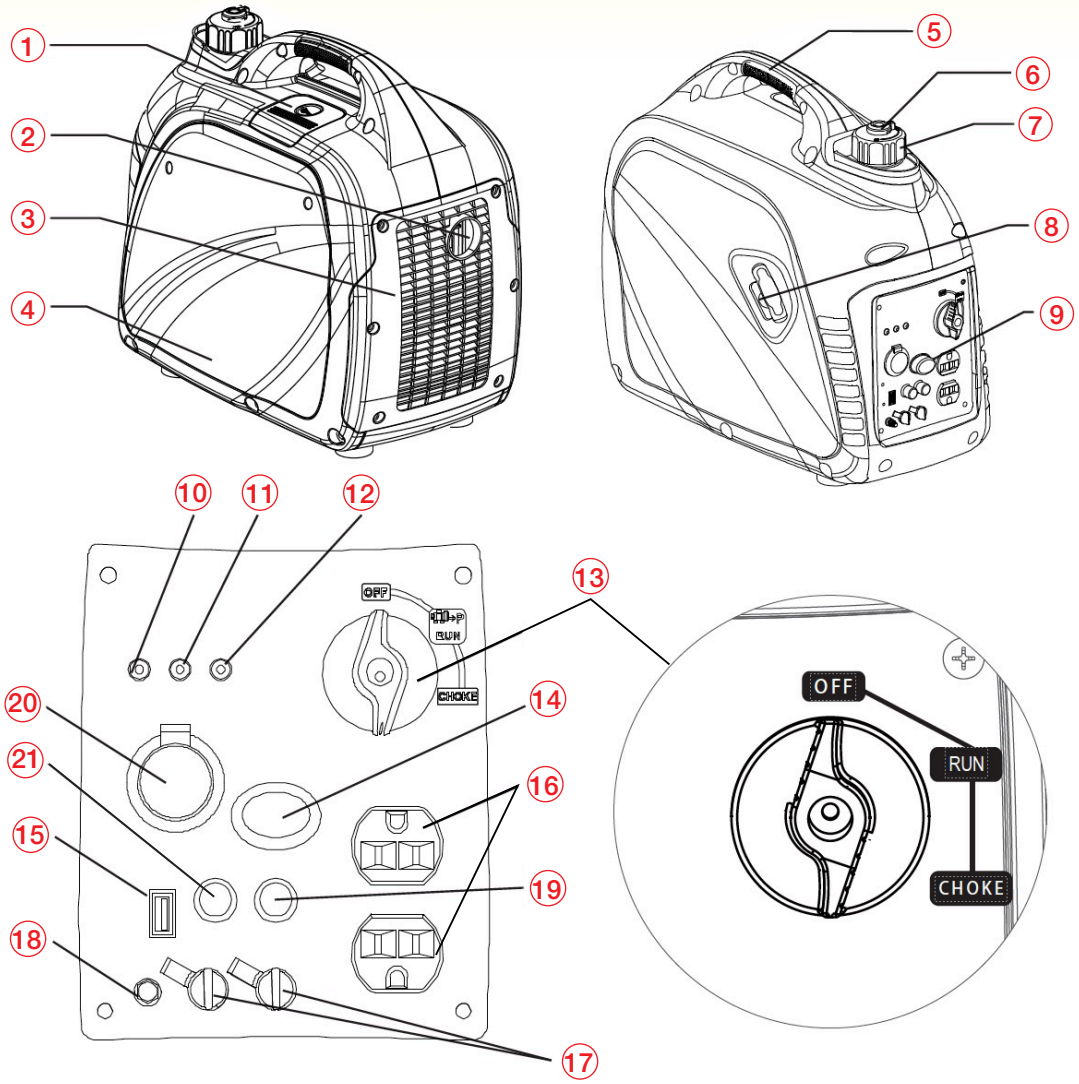


JEGS.com

1-800-345-4545

Table of Contents

Parts List



1	Spark Plug Cover	8	Recoil Starter	15	USB Outlet 5VDC 1.5A
2	Spark Arrestor	9	Control Panel	16	120V AC 15A Duplex Outlet
3	Muffler Cover	10	Oil Warning Light Indicator	17	Parallel Outlets
4	Outer Casing (Side Panel)	11	Overload Indicator Light	18	Ground Terminal
5	Handle	12	AC Pilot Light	19	Circuit Breaker AC
6	Air Vent	13	3-in-1 Start Switch	20	12V DC Port
7	Fuel Cap	14	Economy Switch	21	12V DC 8A Circuit Breaker

Introduction

Thank you for purchasing this 2300 watt portable inverter generator from JEGS. This generator is designed to give you years of reliable service when operated and maintained as instructed in this manual.

Product Specifications:
This generator is an engine-driven, revolving field, alternating current (AC) portable generator. It is designed to supply electrical power to operate tools, appliances, camping equipment, lighting, or serve as a backup power source during power outages.

Source	Model	555-86002
AC Output	Rated AC Voltage	120V
	Rated Frequency	60Hz
	AC Current	15A
	Rated Output	1800W
	Maximum Output	2300W
DC Output	USB Outlet	5V DC 1.5A
	Cigarette Outlet	12V DC 8A
Engine	Displacement	80cc
	Engine Type	Single Cylinder, 4-Stroke, OHV Air Cooled
	Engine Oil Type	SAE 10w30
	Engine Oil Capacity	11.8 oz / 350ml
	Fuel Tank Type	1.18 gal / 4.5L

The emissions control system for this generator is compliant with all standards set by the US EPA.

How to Contact Customer Service:
If you have questions regarding your purchase please contact customer service at: 1.800.345.4545.

Save your original sales receipt and record the following information below for service or warranty assistance.

Date of Purchase:	
Model Number:	
Serial Number:	

Safety Symbols

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


Toxic Fumes


Risk of Fire


Risk of Explosion


Risk of Electric Shock


Hot Surface


Lifting Hazard

Safety Rules

The manufacturer cannot anticipate every possible circumstance that the user may encounter hazards. Therefore, the warnings in this manual, on tags, and on affixed decals are not all-inclusive. To avoid accidents, the user must understand and follow all manual instructions and use good common sense.

WARNING! Read and understand this manual in its entirety before operating this generator. Improper use of this generator could result in serious injury or death.

Do not operate indoors or in a confined space that prevents dangerous carbon monoxide gas from dissipating.

- Using a generator indoors **CAN KILL YOU IN MINUTES!**
- Carbon monoxide gas is a poisonous, odorless gas that can cause headache, confusion, fatigue, nausea, fainting, sickness, seizures, or death. If you start to experience any of these symptoms, **IMMEDIATELY** get fresh air and seek medical attention.
- Never use indoors, in a covered area, or in a confined space, even if the doors and windows are open.
- Install a battery-operated carbon monoxide alarm near bedrooms.
- Keep exhaust this unit produces from entering a confined area through windows, doors, vents, or other openings.
- When working in areas where vapors could be inhaled, use a respirator rated for carbon monoxide protection.

The engine exhaust contains chemicals that can cause cancer and birth defects.

- Always wash hands after handling generator.

To reduce the risk of serious injury, do not attempt to lift the generator alone.

Never exceed the generator's wattage/amperage capacity. This may damage the generator and/or connected devices.

- Check operating voltage and frequency of all electrical devices prior to plugging into generator.

Never start or stop the engine with electrical devices plugged into the receptacles. Failure to do so could damage the generator and/or connected devices.

- Always start the engine and let it stabilize before connecting any electrical devices.
- Disconnect all electrical devices before stopping the engine.

Starter recoil and other moving parts can catch on clothing, jewelry, and hair.

- Do not wear loose clothing or loose gloves.
- Remove jewelry or anything else that could be caught in moving parts.
- Tie back hair, or wear protective head covering to contain long hair.

The generator must be properly grounded to prevent electrocution.

- Only operate the generator on a level surface.
- If connected to a structure, connect the ground terminal to an appropriate ground.

Safety Rules Cont.

Keep away from flammable objects and other hazardous materials.

- The fuel and its vapors used to power this unit are highly flammable and could explode resulting in serious injury or death.
- 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 on the unit before starting the engine.
- Never smoke while operating or fueling this unit.
- Never operate or store this unit near an open flame, heat, or any other ignition source.
- Generator should be far away from buildings or other equipment during operation.
- Keep engine free of grass, leaves, grease, and other flammable debris.
- When adding or draining fuel, unit should be turned off for at least 2 minutes to cool before removing fuel cap. If unit has been running, the fuel cap may be under pressure, remove slowly.
- To keep fuel from spilling, secure unit so it cannot tip while operating or transporting.
- 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.

Never modify this unit in any way or modify governed engine speed.

- Increasing the governed engine speed is dangerous and can result in personal injury and/or damaged equipment.
- Decreasing the governed engine speed adds an excessive load and can damage the equipment.
- This generator will supply the correct rated frequency and voltage only when operating at the preset governed speed.

Avoid touching hot areas of this unit.

- Only operate the generator on a level surface.
- If connected to a structure, connect the ground terminal to an appropriate ground.

This generator produces high voltage which may result in burns/electrocution causing serious injury or death.

- Never handle the generator, electrical 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.
- Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- Never plug electrical devices into generator having frayed, worn, or bare wires. Never touch bare wires or contact receptacles.
- Never permit a child or unqualified person to operate generator. Always keep children a minimum of 10 feet away from the generator.
- If using the generator for backup power, notify the utility company.
- If connecting generator to a building's electrical system for standby power, you must use a qualified electrician to install a transfer switch. Failure to isolate the generator from the power utility could result in serious injury or death to electric utility workers.

Pull cord recoils rapidly and can pull arm towards engine faster than you can let go which could result in injury.

- To avoid recoil, pull starter cord slowly until resistance is felt, then pull rapidly.

Safety Rules Cont.

Only use as intended. Used incorrectly, serious injury or death could result.

- Do not bypass any safety device. Moving parts are covered with guards. Make sure all protective covers are in place.
- Never transport or make adjustments to this unit while it is running.
- Never insert objects into cooling slots.

Never operate this unit if there are any broken or missing parts.

- Improper treatment of this generator can shorten it's life.
- Always repair this unit as specified in this manual.
- Shut generator off if electrical output is missing, unit vibrates excessively or begins to smoke, spark, or emit flames.

Control Panel Functions

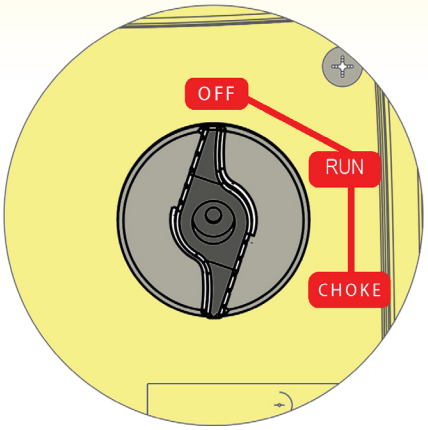
ON/OFF Start Switch and Choke

Start Switch "OFF"
When the Start Switch is in the "OFF" position the fuel valve is switched off and the engine will not run.

Start Switch "CHOKE"
When the Start Switch is in the "CHOKE" position the fuel valve is switched on and the engine can be started.

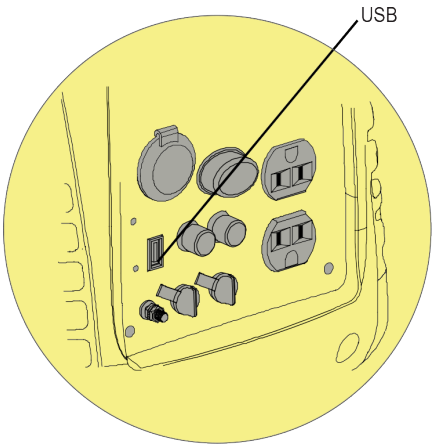
Start Switch "RUN"
When the Start Switch is in the "RUN" position the fuel valve is switched on and the engine can run.

Note: The Choke is not required to start a warm engine



USB Outlet

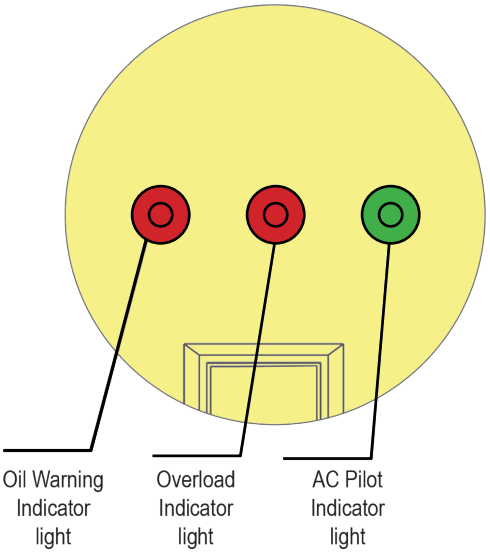
The Generator offers convenient (5V DC 1.5A) USB outlet to allow charging of USB devices like Tablets, MP3 players, GPS, Digital Cameras and other USB chargeable devices.



Oil Warning Indicator Light

When the oil falls below the minimum level, the oil warning indicator light comes on and the engine stops automatically. The engine will not start until the proper amount of oil is in the crank case.

Note: If the oil warning indicator light does not come on and the engine stalls, turn the Start Switch to "RUN" and pull the recoil starter.



Control Panel Functions Cont.

Engine Overload Indicator Light

If the engine overload indicator light comes on, the generator's wattage / amperage capacity has been exceeded by connected electrical devices or by a power surge. When this occurs, the green AC Pilot Indicator Light will go off. The engine will continue to run, (but the red Engine Overload Indicator Light will stay on and power will no longer be supplied to connected electronic devices.)

Resolving the Issue

1. Disconnect any electronic devices then shut off the engine.
2. Reduce the total wattage of the connected electronic devices until it is within the generator's rated output.
3. Inspect the Air Inlet and Control Panel for any blockage. Remove blockage if found.
4. Restart Engine.

Note: The engine overload indicator light may turn on for a few seconds when attaching a load due to a power surge. This is normal.

AC Pilot Indicator Light

The green AC Pilot Indicator Light comes on when the engine starts and generates power.

DC Circuit Breaker

When the DC Circuit Breaker is in the "ON" position, the generator is able to supply power to connected electronic devices. When the DC Circuit Breaker is in the "OFF" position, the generator will no longer supply power. The DC Circuit Breaker automatically turns "OFF" when connecting electronic devices to the generator that exceed the generator's rated output. If the DC Circuit Breaker turns off, reduce the load of connected electronic devices until the load is within the specified rated output. To re-establish power, return the DC Circuit Breaker back to the "ON" position.

If the DC circuit breaker turns off again, stop using the generator immediately and consult a qualified electrician or small engine repair shop.

Engine Economy Control

- When the Engine Economy switch is turned to the "ON" position, the economy control unit automatically determines the generator's proper engine speed based on the connected electronic load. This results in superior fuel economy and reduces noise.
- When the Economy switch is turned to the "OFF" position, the engine runs at the rated speed of 4,100 rpm.

Note: The Economy switch must be in the "OFF" position when using electronic devices that require a large starting current. Once these devices have been started the Economy swich can be turned to the "ON" position.

Control Panel Functions Cont.

Parallel Outlets

Located just above the Ground Terminal, the Parallel Outputs enables two generators to run together. Special cables are required. The rated output is 3.42kVA and the rated current is 30A/120VAC.

Never connect two generators that are different models.

- Only connect to another 86002 Generator.
- Only use a parallel operation cable kit designed to work with this generator.

Fuel Cap

Turn cap counterclockwise to remove.

Fuel Cap Air Vent

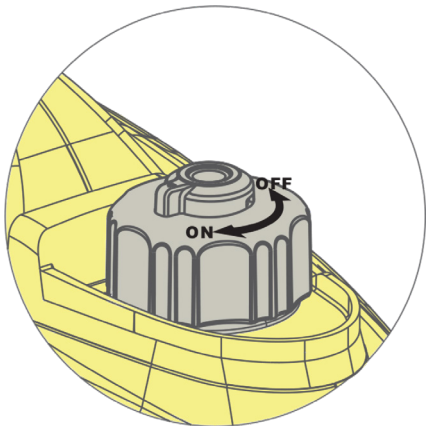
The fuel cap is equipped with an air vent to stop fuel from flowing to the carburetor. The Air Vent must be in the “ON” position to allow fuel to flow so that the engine can run. Turn the Air Vent to the “OFF” position to stop fuel flow.

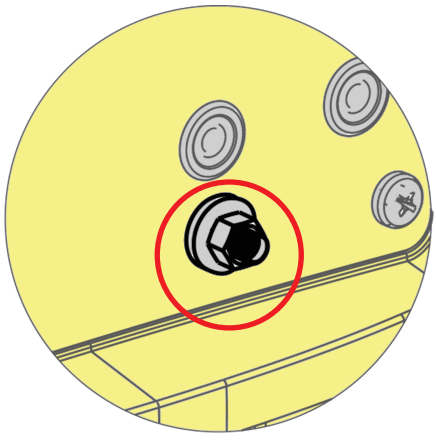
Ground Terminal

This portable inverter generator is equipped with a terminal for the connection of a ground electrode conductor where a grounding electrode system is required by NEC Article 250.34(A). The equipment grounding conductors of the generator receptacles are bonded to the generator frame. Where the generator supplies power to cord and plug connected equipment, like power tools, the frame of the generator is not required by the NEC to be connected to an earthen ground electrode. The generator neutral conductor is bonded to the generator frame in accordance with NEC Article 250.34(C)

Generator must be properly grounded to prevent electrocution.

- Only operate generator on a level surface.
- Always connect the nut and ground terminal on the frame to an appropriate ground source.



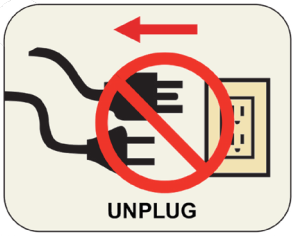


Assembly

Connecting the Generator to an Electrical System

If you are connecting the generator to a building's electrical system for standby power, you must use a qualified electrician to install a transfer switch. The power from the generator must be isolated from the circuit breaker or alternative power source. The connection must comply with all electrical codes and applicable laws.

Never directly connect the generator to a household power source.

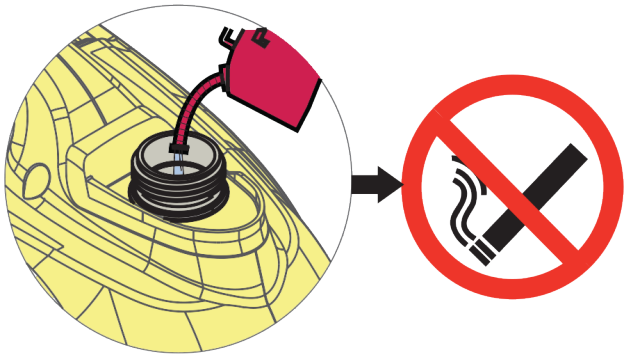


This generator produces a very high voltage which could result in burn, electrocution, serious injury, or death.

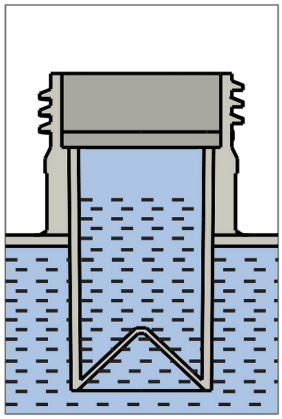
- Never handle the generator, electronic devices, or any cord while standing in water, while barefoot, or when hands or feet are wet.
- Always keep the generator dry. Never operate generator in rain or under wet conditions.
- Use a ground fault circuit interrupter (GFCI) in a damp or highly conductive area, such as metal decking or steel work.
- Never plug electronic devices into generator having frayed, worn, or bare wires. Never touch bare wires or make contact with receptacles.
- Never permit a child or unqualified person to operate the generator. Keep children a minimum of 10 feet away from the generator at all times.
- If using the generator for back up power, notify the utility company.
- Install a transfer switch. Failure to isolate the generator from the power utility could result in serious injury or death to electric utility workers.

Adding Fuel

- Set generator outdoors in a well-ventilated area, away from structures and people.
- Slowly remove fuel cap.
- Insert a funnel into the fuel tank and carefully pour gasoline into the tank until fuel level reaches 1 ½ inches below the top of the neck. Be careful not to overfill the tank, to allow space for fuel expansion.



Do not smoke when adding fuel.

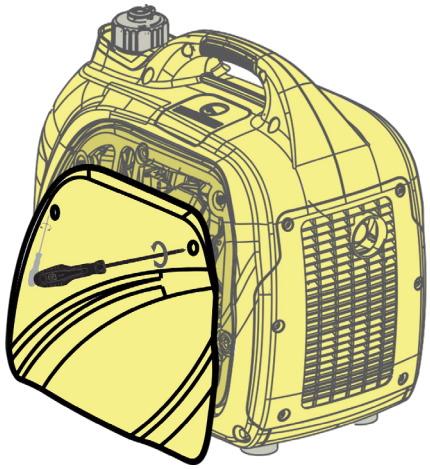


Do not overfill the fuel tank.
Provide space for fuel expansion.

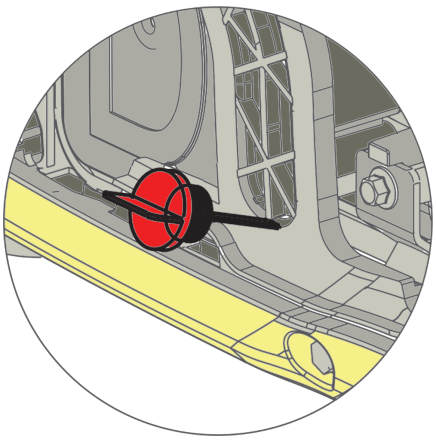
Assembly Cont.

Adding and Checking Engine Oil

- Place generator on a level surface.
- Remove screws and then remove the outer casing cover.



- Remove the crankcase dipstick.



- Insert a funnel into the crankcase dipstick hole and carefully add the specified amount of 4-Cycle engine oil (SAE 10W-30) to empty reservoir until or oil reaches the outer edge of the oil fill hole (crankcase dipstick hole).
- Be sure to replace dipstick and securely tighten before attempting to start the engine.
- To check oil, set generator on a level surface, wipe dipstick clean, then reinsert dipstick without re-threading.

Specifications

- **Recommended Oil:** SAE 10W-30
- **Oil Capacity:** 11.8 oz. (0.35 L)

⚠ **This generator has been shipped without engine oil. You must add oil before operating this unit. Always check the oil level before each use.**

Operation

Grounding the Generator

To avoid electrocution, this generator must be properly grounded prior to use. For instructions see Control Panel Functions on page 9.

Standard Atmospheric Conditions

- **Ambient Temperature:** 77° F (25° C)
- **Barometric Pressure:** 100 kPa
- **Relative Humidity:** 30%

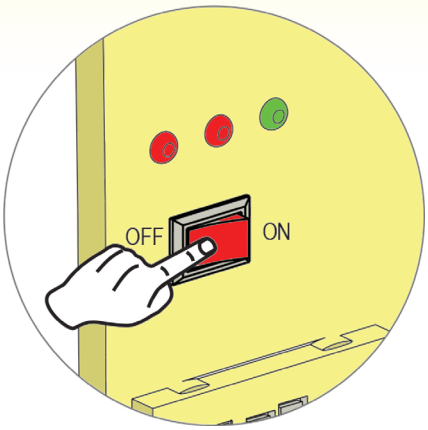
The generator output will vary due to changes in temperature, altitude, and humidity. If the humidity, temperature, or altitude are higher than standard atmospheric conditions, the generator's output will be reduced. The load attached to the generator must therefore be reduced.

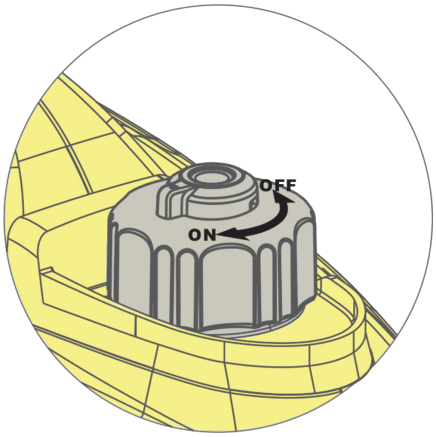
How to Start the Engine

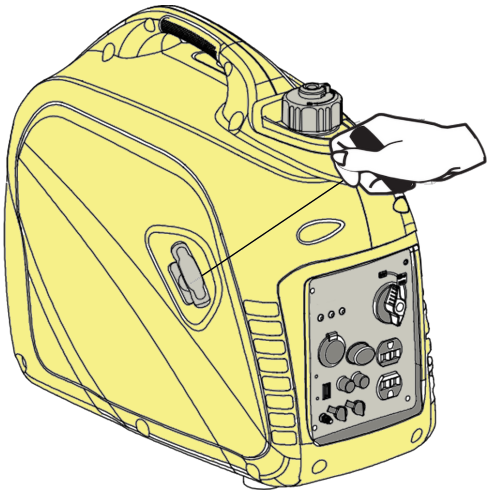
- Place generator on a level surface. All electrical loads MUST be disconnected from generator.
- Turn the Economy switch to "OFF"
- Turn the fuel cap Air Vent to the "ON" position.
- Turn the 3-in-1 Start Switch to "CHOKE"
- Pull recoil handle (starter cord) slowly until resistance is felt, then pull rapidly.
- Let engine run for several seconds and then gradually, as engine warms up, turn the 3-in-1 Start Switch to the "RUN" position.

Pull cord recoils quickly and could result in injury

- To avoid recoil, pull the starter cord slowly until resistance is felt, then pull rapidly.



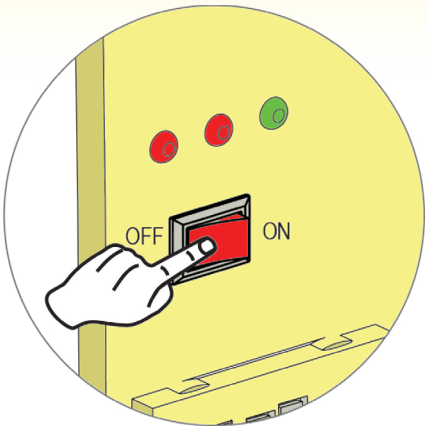




Operation Cont.

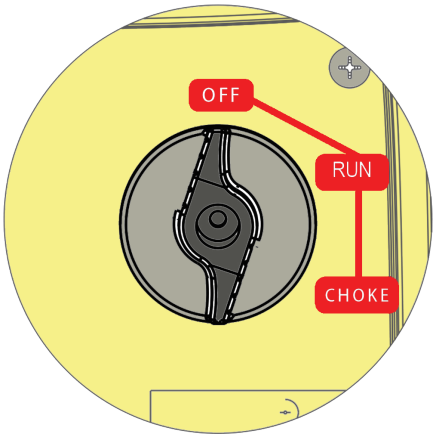
Note: Steps to start the generator with the Economy switch in the “ON” position

- Disconnect all electrical loads from generator.
- Start the engine.
- If ambient temperature is below 32ºF (0ºC) allow about 3 minutes for the engine to warm up.
- The Economy is in “ON” position, the unit returns to normal operation after the above warm up time.
- Economy switch must be turned to the “OFF” position when using electronic devices that require a large starting current.



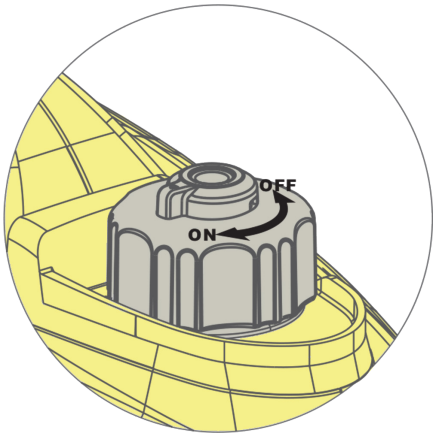
How to Stop the Engine

- Turn the Economy switch to the “OFF” position.
- Disconnect any electronic device. All loads MUST be disconnected from the generator. Never start or stop the engine with electrical devices plugged in to the receptacles.
- Turn the 3-in-1 Start Switch to the “OFF” position.
- Turn the fuel cap Air Vent to the “OFF” position.



⚠ Never start or stop engine with electrical devices plugged in to the receptacles. Failure to do so could damage the generator and / or connected electrical devices.

- Always start the engine and let it stabilize before connecting any electronic devices.
- Disconnect all electronic devices before stopping the engine.



Operation Cont.

How to Attach Electronic Devices

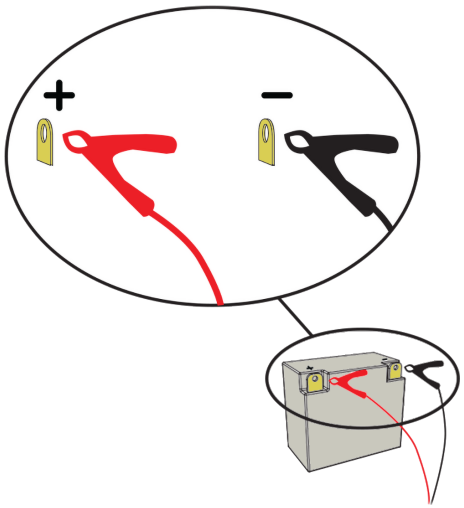
1. Before Starting generator
   - Make sure the generator is grounded (see page 9 for instructions).
   - Make sure the attached load is within the generator rated output and the receptacle's rated current.
   - Make sure all electrical cords and receptacles are in good condition.
   - Make sure all of your electronic devices are turned "OFF" before plugging them into the generator.
2. Start the engine.
3. If the attached load is small, turn the Economy switch to the "ON" position. For a larger load, or if attaching multiple electronic devices turn the Economy switch to the "OFF" position.
4. Make sure the green AC pilot indicator light is on.
5. When the engine has stabilized, plug in and turn on first load. It is strongly recommended to plug in devices with the largest output first and the smallest output last to help prevent overloading the generator.
6. Allow generator output to stabilize (engine and attached devices run evenly) before plugging in the next load.
7. Once stabilized the Economy switch can be turned back on.

Charging a 12 Volt Battery

This generator can be used to charge 12 volt automotive or storage batteries by taking the following steps.

1. Inspect fluid level of the battery cells. Add ONLY distilled water to any cell where fluid level is low. Never add tap water.
2. Clean battery terminals with a brush if corroded.
3. Securely connect the red cable clamp to the positive (+) battery terminal.
4. Securely connect the black cable clamp to the negative (-) battery terminal.
5. Turn the Economy switch to the "OFF" position to start battery charging.
6. The battery is considered fully charged when the gravity of its fluid is between 1.26 and 1.28 when measured by a hydrometer.

Note: It is strongly recommended to check the gravity level of the electrode at least once per hour with a hydrometer to prevent overcharging and to test the battery's condition. Be careful to follow the hydrometer manufacturer's instructions.



Battery electrolyte is poisonous and dangerous

- Do not disconnect the battery clamps while charging. Batteries produce explosive gases. Disconnecting the battery clamps while charging could cause a spark and ignite.
- Do not charge a battery in an enclosed area.

Continued on next page.

Operation Cont.

- Never smoke while charging the battery, or operating, or fueling this generator.
- Battery electrolyte contains sulfuric acid. Avoid contact with skin, eyes, and clothing. Always wear eye protection when charging battery.
- If battery acid contacts skin, flush with water immediately. If it contacts eye, flush with water for 15 minutes and get immediate medical attention. Fort internal ingestion, drink large quantities of milk or water, followed by milk of magnesia, beaten egg, or vegetable oil. Contact a medical physician immediately.

AC Parallel Operation

It is possible to connect two 86002 generators to each other, using a parallel cable kit, to increase available power output.

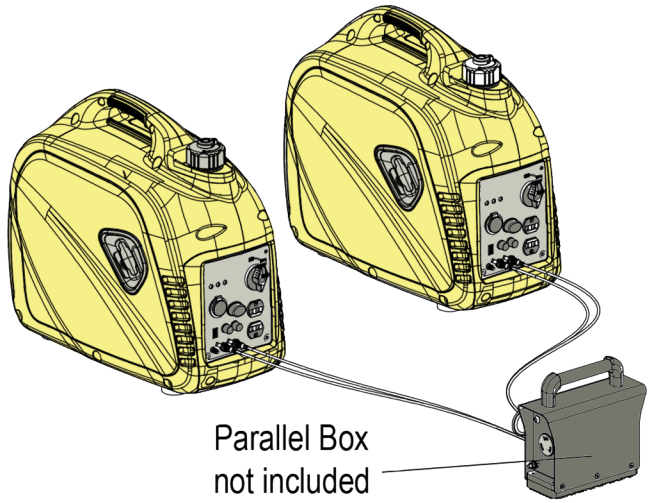
- Connect Parallel Operation Cables to two 86002 generators according to the instructions provided with the cable kit.
- Make sure the Economy switch is in the same position on both generators.
- All electronic devices should be turned “OFF” and disconnected from generators prior to starting generator engines.
- Start generator engines. Make sure the green output indicator light comes on for each generator.
- When engines have stabilized, plug in electronic device to AC receptacle and turn on first load.
- Allow generator output to stabilize (engine and attached devices run evenly) before plugging in the next load.

Specifications

- **Max Power in Parallel:** 4.6kVA
- **Rated Power in Parallel:** 3.42kVA

Limit operation to 3 seconds for loads that require maximum output. For continuous operation, do not exceed the rated output.

Note: Connect the largest output first, followed by smallest to prevent overloading the generator. Most electronic devices require power beyond its rated wattage to start. This additional power is referred to as surge watts and usually lasts between 2-3 seconds. When an electronic device is started, the red overload indicator may come on. This is normal. If the light stays on disconnect all electronic devices and stop the engine. Refer to “Engine Overload Indicator Light” on page 8.



Operation Cont.

Only connect electronic devices to the generator that are in good working order and do not exceed the rated power supply of the parallel generators or the desired receptacle.

- A faulty appliance or power cord can create an electric shock. Do not use electronic devices that have a damaged cord or plug.
- If an appliance begins to operate abnormally, becomes sluggish, or stalls, turn off and disconnect appliance immediately. The appliance may have a fault or its rated load capacity exceeds the power supply of the generator.
- To avoid damage to generator or electronic device, do not connect a load to the generator if its electrical rating exceeds that of the receptacle.

Never connect generators that are different models.

- Only connect to another 86002 Generator.
- Only use a JEGS approved parallel operation cable kit to connect generators.
- Never exceed maximum power , this setup may be used for no more than 30 minutes.
- The parallel cable must be removed if operating only one generator.
- Never disconnect or remove the parallel operation cable while the generator is still running.

Don't Overload the Generator

Make sure that your generator can supply enough rated watts and surge watts for all electrical loads connected to the generator. Surge watts refer to the power a generator must supply to start an electrical device. This power surge for starting a device usually lasts between 2-3 seconds but this additional output must be considered when selecting the electrical devices you plan to attach to the generator.

Operating voltage and frequency requirement of all electrical equipment should be verified prior to plugging them into this generator. Damage may result if the equipment is not designed to operate within a +/- 10% voltage variation, and +/- 3 Hz frequency deviation from the generator name plate ratings.

Never exceed generator's wattage/ amperage capacity. This could damage the generator and connected electrical devices.

- Verify the operating voltage and frequency requirements of all electrical devices prior to plugging in to the generator.

Operation Cont.

Wattage Reference Guide

(Wattages listed are approximate. Check electrical devices for actual wattage.)

Essentials	Rated Watts	Surge Watts
75 W Light Bulbs	75 ea.	75 ea.
18 Cu. Ft. Refrigerator	800	2200
Furnace Fan (1/2 hp)	800	2350
Sump Pump (1/2 hp)	1000	2000
Water Pump (1/2 hp)	1000	3000
Heating/Cooling		
Dehumidifier	650	800
Table Fan	200	300
Window AC (10k BTU)	1200	3600
Central Air (4 ton)	1500	6000
Electric Blanket	400	400
Space Heater	1800	1800
Kitchen		
Blender	300	900
Toaster (2 slices)	1000	1000
Coffee Maker	1500	1500
Electric Range (1 element)	1500	1500
Dishwasher	1500	2000
Electric Oven	3500	3500
Electric Water Heater	4000	4000
Laundry Room		
Iron	1200	1200
Washing Machine	1150	2400
Gas Clothes Dryer	700	1500
Electric Clothes Dryer	5400	6750
Bathroom		
Hair Dryer	1250	1250
Curling Iron	1000	1000

Family Room	Rated Watts	Surge Watts
X-Box or PlayStation	40	40
AM/FM Radio	10	10
DVD	100	100
TV or Monitor (40 in.)	200	200
Home Office		
Fax Machine	65	65
Computer	800	800
Printer	250	950
Copy Machine	700	800
Power Tools		
1000W Work Light	1000	1000
Airless Sprayer (1/3 hp)	600	800
Reciprocating Saw	750	950
Circular Saw (7 1/2 in.)	1400	2300
Miter Saw (10 in.)	800	1200
Table/Radial Arm Saw	1000	2000
Electric Drill (5.4 Amps)	600	900
Hammer Drill	700	1000
Air Compressor	1600	4500
Other		
Home Security	500	500
Garage Door Opener	750	750

Maintenance

Regular maintenance will extend the life of this generator and improve its performance. The warranty does not cover items that result from operator abuse, misuse, or negligence. To receive full value from the warranty, operator must maintain the generator as instructed in this manual, including proper storage.

⚠ **Before inspecting or servicing this machine, make sure the engine is off and no parts are moving. Disconnect the spark plug wire and move it away from the spark plug.**

Maintenance Schedule

Pre-Operation Steps

Before starting the engine, perform the following pre-operation steps:

- Check the level of the engine oil and the fuel tank level. Check for any leakage.
- Check fuel hose for cracks or damage. Replace if necessary.
- Make sure the air filter is clean.
- Remove any debris that has collected on the generator and around the muffler and controls. Use a vacuum cleaner to pick up loose debris. If dirt is caked on, use a soft bristle brush.
- Inspect work area for hazards.

After Each Use

Perform the following procedure after each use:

- Shut off engine.
- Store unit in a clean and dry area.

After First 5 Hours	Change engine oil
After 8 Hours or Daily	Clean debris from generator and air filter area
	Check engine oil level
Annually (25 hr. Usage)	Check and clean air filter
	Change engine oil after the first 25 hours, again at 50 hours, and then every 100 hours after.
	Inspect condition of muffler and spark arrestor
Annually (100 hr Usage)	Service spark plug (Replace with NGK BP7ES, Champion N9YC, or equivalent)
	Inspect fuel valve and fuel lines for leaks or damage
	Inspect condition of muffler and spark arrestor
	Check and clean the air filter assembly. Replace air filter
	Clean cooling system cylinder head fins and flywheel fan

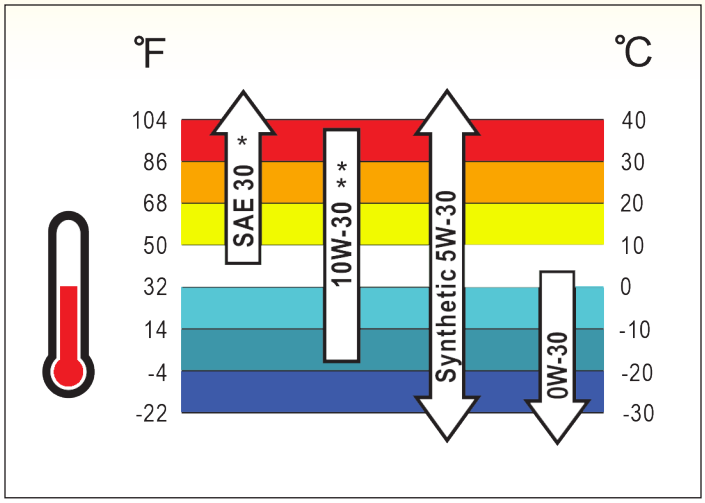
Carburetor Adjustment

The carburetor is low emission and is equipped with a non-adjustable idle mixture valve. If adjustment is needed contact an authorized dealer.

Oil Recommendations

- Do not use special additives.
- Outdoor temperatures determine the proper oil viscosity for the engine. Use the chart to select the best viscosity for the outdoor temperature range expected.

Maintenance Cont.

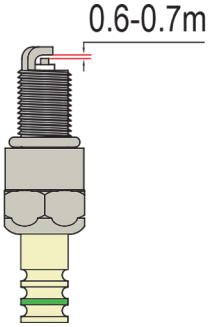


Note:

- Below 40º F (4º C) the use of SAE 30 will result in hard starting.
- Above 80º F (27º C) the use of 10W-30 may cause increased oil consumption. Check oil level more frequently

Checking the Spark Plug

- Remove the Engine Service Panel to gain access to the spark plug.
- Remove the plug wire from the spark plug.
- Before removing the spark plug, clean the area around its base to prevent debris from entering the engine.
- Insert a 19mm, 6-point, deep-well spark plug socket wrench through the opening on the outside of the cover. Turn the wrench counter -clockwise to loosen and remove spark plug.
- Check for discoloration and clean carbon deposits from the electrode with a wire brush.
- Check the electrode gap and carefully adjust to 0.024-0.028 in. (0.6 - 0.7mm) if necessary.
- Reinstall spark plug and tighten to 15 ft-lbs (20.0Nm) of torque.
- If spark plug is worn, replace only with an equivalent type. Spark plug should be replaced annually regardless of apparent condition.
- Reconnect spark plug wire, firmly, until it clicks into place.



Standard Spark Plug

- Torch F7TC/F7RTC

Spark Plug Gap

- 0.024-0.028 in. (0.6-0.7 mm)

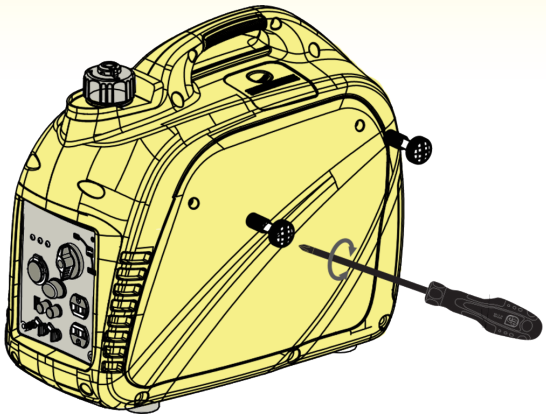
Spark Plug Torque

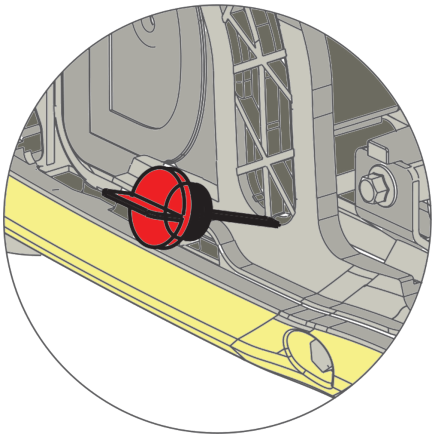
- 15 ft-lbs (20.0 Nm)

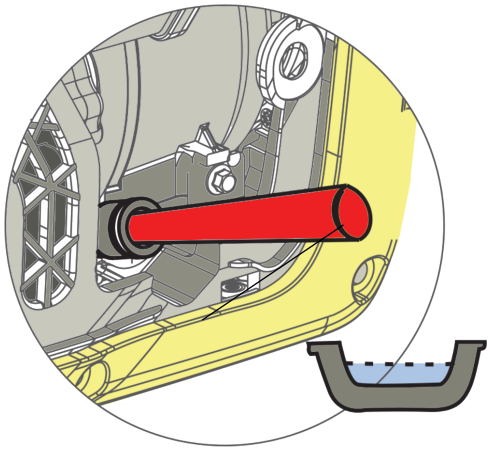
Changing Oil

- Place generator on a level surface.
- Run the generator for several minutes until the engine is warm. Turn off generator.
- Remove screws, then remove the outer casing side cover.
- Remove the crankcase dipstick.
- Place an oil pan underneath the engine. Tilt generator to collect used oil. Allow oil to drain completely.
- Return generator to a level surface.
- Carefully add 4-Cycle engine oil (SAE 10W-30) to empty reservoir until the oil reaches the outer edge of the oil fill hole (Crankcase dipstick hole)
- Use a clean rag to wipe up any spilled oil.
- Replace crankcase dipstick.
- Reinstall the outer casing side cover and tighten the screws.

Maintenance Cont.





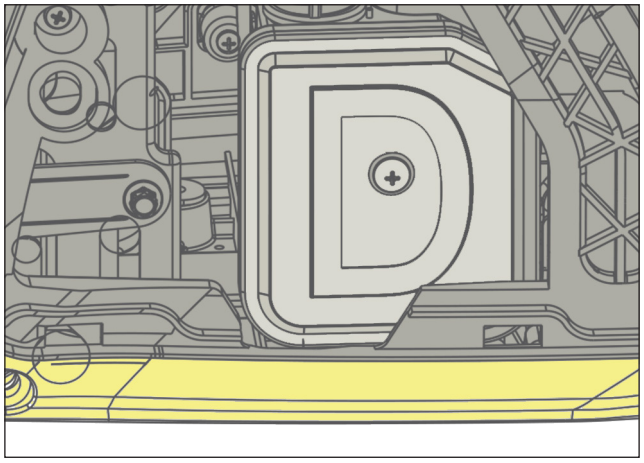


⚠ Do not tilt generator when adding oil. This could result in overfilling which could damage the engine. Make sure no foreign matter enters the crankcase.

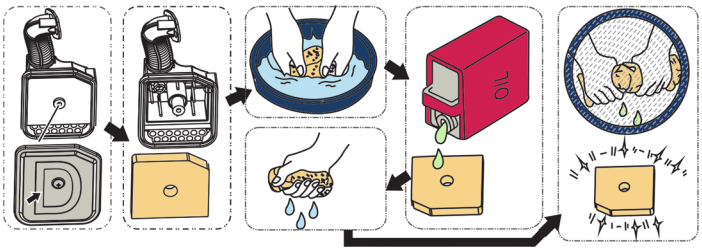
Air Filter

A dirty air filter will reduce the lifespan of th engine, make it difficult to start and reduce performance. Replace with a new filter annually.

- To clean, remove the screws then remove outer casing.
- Remove the screws then remove air filter cover.
- Remove the foam element.
- Wash the foam element in solvent and let dry.
- Pour a small amount of oil on the foam element then squeeze out, but do not wring out excess oil. Foam element should be damp, but not dripping.
- Reinsert the foam element into the air filter case.
- Reinstall air filter cover and outer casing.



⚠ Do not run the generator without the filter or excessive wear may result.



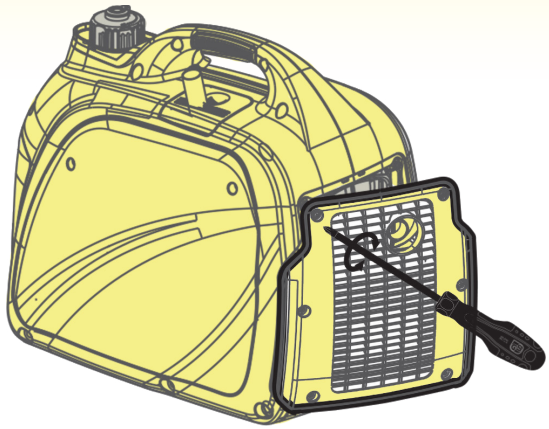
Maintenance Cont.

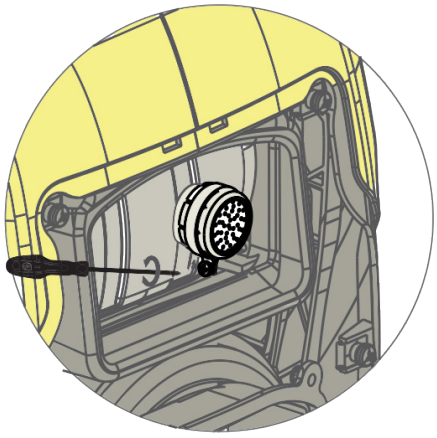
Checking Muffler and Spark Arrester

- Inspect the muffler for cracks, corrosion, or other damage.
- Remove screws, then remove the muffler cover as shown.
- Loosen bolt, then remove muffler cap, muffler screen, and spark arrester.
- Check the muffler screen and spark arrester for carbon deposits. Remove carbon deposits with a wire brush.
- Check the muffler screen and spark arrester for damage. If damaged replace with parts specifically designed for this unit.
- Install spark arrester. Align the spark arrester projection with hole in the muffler pipe.
- Install the muffler screen and muffler cap.
- Install the outer casing and tighten the screws.

Avoid contacting hot areas with this unit.

- Use caution around the muffler, cylinder, and other engine parts as they can be extremely hot.
- Allow hot components to cool before touching.

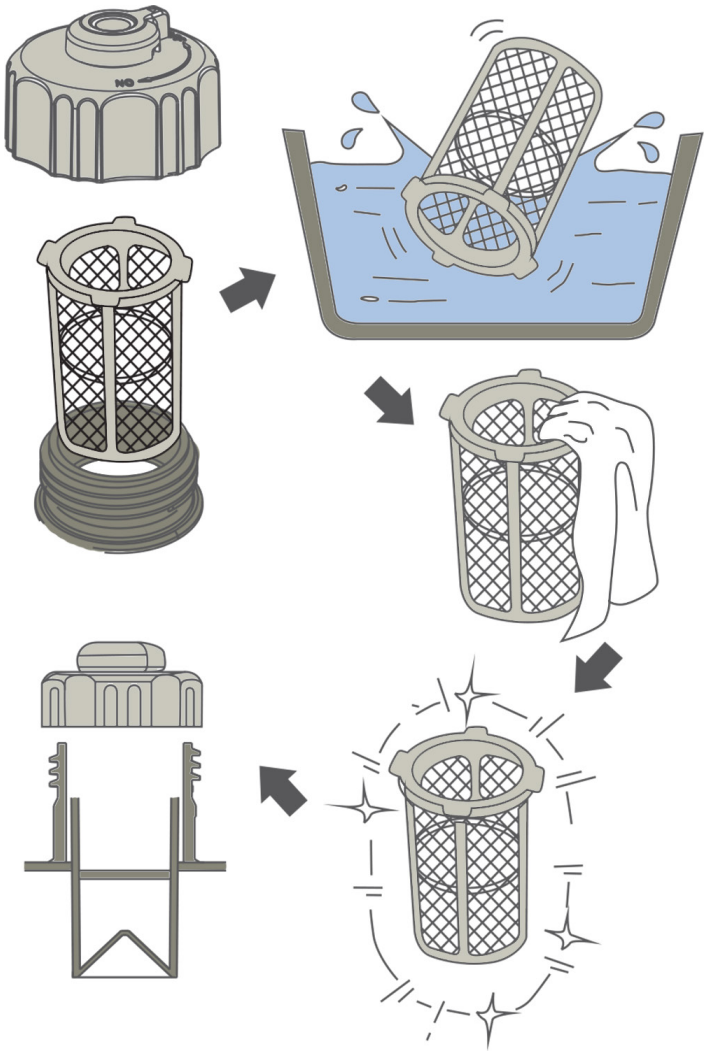




Maintenance Cont.

Fuel Tank Filter

- To clean, remove fuel cap and filter.
- Clean filter with gasoline.
- Wipe the filter with a clean rag.
- Install filter.
- Install fuel cap



Transport & Storage

Fuel Filter

- To clean, remove screws, remove outer casing, and drain fuel.
- Lift and hold onto the clamp, then remove hose from tank.
- Remove fuel filter.
- Clean filter with gasoline.
- Wipe the filter with a clean rag and return filter to tank.
- Install hose and clamp.
- Open fuel valve. Inspect for leakage.
- Install outer casing and tighten screws.

Storage and Transportation of the Generator

When transporting the generator, set the 3-in-1 start switch to Off. Keep the generator level to prevent fuel spillage.

- Remove any debris that has collected on the generator and around the muffler and control panel. Use a brush or vacuum to remove dirt.
- Inspect air cooling slots. Remove any debris.
- For short-term storage, start the generator once every 7 days.
- For semi-long term storage, add fuel stabilizer to prevent stale fuel from causing acid and gum deposits in the fuel system and carburetor.
- For long-term storage, drain the fuel.
- Store indoors to prevent freezing and use a protective cover to protect from dust.
- The generator must be shipped, run, and stored in the upright position.

Transport & Storage Cont.

Engine Long-Term Storage

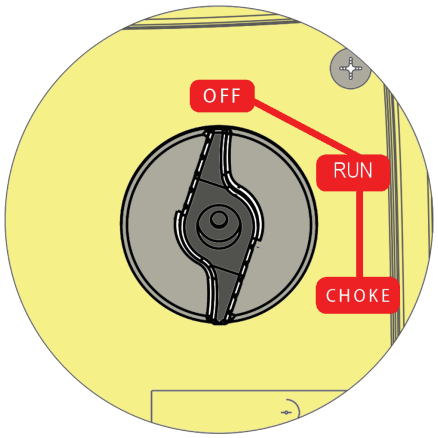
- Remove the spark plug and pour about 1 tsp. of 10W-30 engine oil into the spark plug hole. Reinstall the spark plug. With the 3-in-1 switch in the “OFF” position pull the recoil starter cord several times to coat the cylinder walls with oil.
- Slowly pull the recoil starter until you feel the engine build compression (when you feel resistance). Leave the engine in this state as this will prevent any corrosion on the cylinder walls if stored for a long period of time.

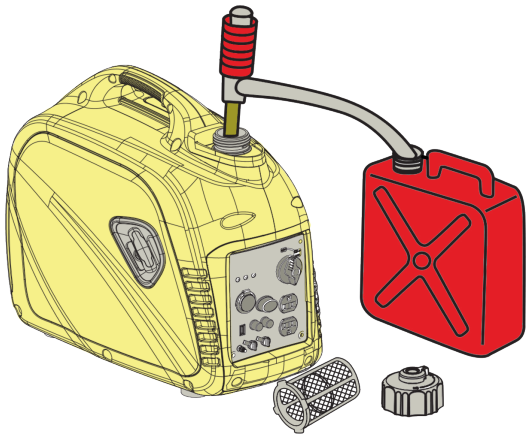
How to Drain Fuel

- Turn the 3-in-1 switch to the “OFF” position.
- Remove the fuel cap and tank filter.
- Use a siphon to transfer gasoline from the generator into a gasoline approved container.
- Wipe up any spilled fuel with a clean rag.
- Start generator engine and let it run until it stops and all remaining fuel is consumed. Do not connect electronic devices to generator during this process.
- Remove outer casing screws, then remove outer casing.
- Drain fuel from carburetor by loosening the drain screw on the carburetor float chamber.
- Turn the 3 in 1 switch to “OFF”
- Tighten the drain screw.
- Install the outer casing and tighten screws.
- When the engine has completely cooled down, turn the Fuel Cap Air Vent to the “OFF” position.

⚠ Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before transporting or storing the generator.

⚠ Take care not to drop or strike the generator when transporting. Do not place heavy objects on the generator.





Troubleshooting

Problem	Cause	Solution
Generator is running, but does not supply power.	1. DC circuit breaker is “Off” 2. Green AC pilot indicator light is off 3. Poor connection 4. Defective cord set 5. Connected device is faulty 6. Fault in generator	1. Turn DC circuit breaker “On” 2. Stop engine and restart 3. Check and repair 4. Check and repair 5. Connect a device that is working properly 6. Contact tech sales
Engine runs well without load, but bogs down when loads are connected	1. Short circuit in connected device 2. Generator is overloaded 3. Clogged fuel filter 4. Engine speed is too slow 5. Short circuit in generator	1. Disconnect device 2. See “Don’t overload generator” on pg. 16 3. Clean or replace fuel filter 4. Contact tech sales 5. See above solution (#4)
Engine will not start, shuts down during operation, or starts and runs rough.	1. 3-in-1 switch set to “Off” 2. Dirty air filter 3. Clogged fuel filter 4. Out of fuel or stale fuel 5. Spark plug wire disconnected from spark plug 6. Bad spark plug 7. Water in fuel 8. Over-choking 9. Low oil level 10. Engine has flooded 11. Faulty ignition	1. Turn switch to “Choke” then pull recoil starter. 2. Clean or replace air filter 3. Clean or replace fuel filter 4. Replace fuel 5. Reconnect spark plug wire 6. Clean or replace spark plug 7. Drain fuel tank and replace fuel 8. Turn off choke 9. Check oil level 10. Wait 5 minutes and re-start 11. Contact tech sales
Engine lacks power	1. Generator is overloaded 2. Clogged fuel filter 3. Dirty air filter 4. Engine needs servicing	1. See “Don’t overload generator” on pg. 16 2. Clean or replace fuel filter 3. Replace air filter 4. Contact tech sales
Engine “hunts” or hesitates	1. Choke was removed too soon 2. Clogged Fuel Filter 3. Carburetor is running too rich or too lean	1. Adjust choke 2. Clean or replace fuel filter 3. Contact tech sales

Specifications

Generator	Type		Inverter
	Rated Frequency		60Hz
	Rated Voltage		120V
	Maximum Output Power		2.3kW
	Rated Output Power		1.8kW
	Power Factor		1.0
	AC Output Quality		ISO8528 G1
	THD%		<3
	DC Output		12V/8A
	Overload Protect	DC	Yes
		AC	Yes
Engine	Engine Type		Single Cylinder, 4-Stroke, Forced Air Cooling, OHV
	Displacement (cc)		80
	Fuel Type		Unleaded Gasoline
	Fuel Tank Capacity		1.18 Gal. / 4.5 L
	Continuous Run Time (At Rated Power)		3.8 Hours
	Engine Oil Capacity		11.8 oz/350 ml
	Spark Plug Model No.		Torch E7TC/E7RTC, NGK BPR7HS/BP7ES & Champion N9YC
	Starter Type		Recoil
Generator Set	Length/Width/Height (mm)		499 L x 285 W x 455 H
	Net Weight		47.1 lbs./21 kg

Wiring Diagram

120V with Parallel Receptacle