BENCHMARK®

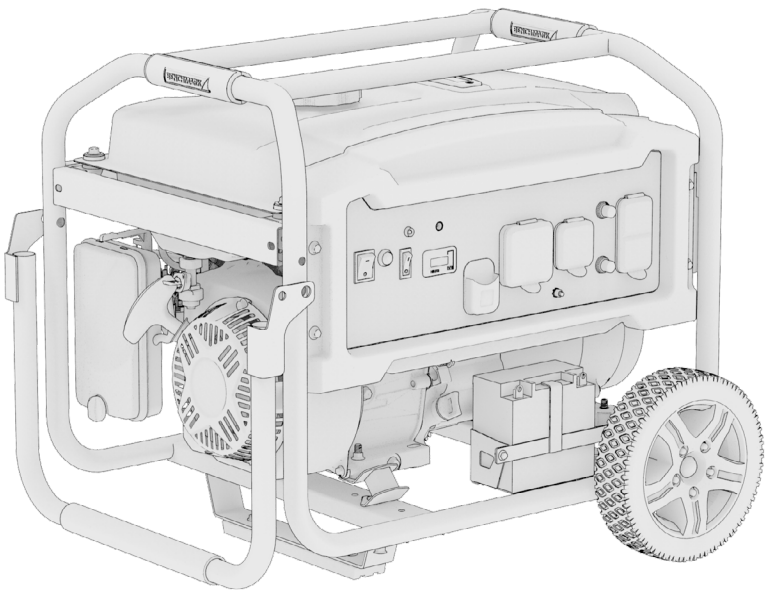
BG SERIES

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

BG_UG_EN_2020-09-23

Thanks for choosing the BG Series!

You're excited to power up, so we'll keep this brief. Let's get started!



THIS PRODUCT MEETS ALL CERTIFICATION REQUIREMENTS FROM:

WE'VE GOT YOU COVERED!

Do not return product to store.

Email us at **support@midlandpowerinc.com** or contact us by phone at **1-877-528-3772** if you have any questions.

SAVE THESE INSTRUCTIONS

This user guide contains important instructions for your product, that should be followed during installation and maintenance of the generator.

This user guide covers the safety, operation and maintenance procedures for the BG4650E, BG6250E, and BG11500E.

All information in this publication is based on the latest product information available at the time of print.

WARRANTY INFORMATION

email: **support@midlandpowerinc.com**
online: **benchmark.midlandpowerinc.com**
phone: **1-877-528-3772**

Warranty support, operation assistance and product support is provided by Midland Power Inc., a licensed manufacturer of Benchmark Generators. Please contact us directly for any warranty service questions.

See 'Limited Warranty' for more information.

Product registration is required for product support and warranty coverage. You can register online at benchmark.midlandpowerinc.com. Once your registration is complete, your receipt will be on file and any future warranty claims will be easily created.

TABLE OF CONTENTS

1. SAFETY

⚠ DANGER! ⚠

Using a generator indoors can kill you in minutes.

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

1.1 OPERATOR SAFETY

⚠ WARNING!

- Always perform an oil, fuel and air filter check before starting the engine.
- Properly clean and maintain the equipment.
- Operate the generator according to instructions for safe and dependable service.
- Before operating the generator, read the user guide carefully. Otherwise, it may result in personal injuries or equipment damage.
- Never run the generator in an enclosed area to avoid harm from exhaust emissions of a poisonous carbon monoxide gas.
- Be careful not to touch the exhaust system during operation due to risk of burns.
- Pay attention to the warning labels. The engine exhaust system will become heated during operation and remain hot immediately after the engine is stopped.
- Gasoline is a highly flammable and explosive liquid. Refuel in a well ventilated area with the engine stopped.
- Use of gasoline with an ethanol content greater than 10% can damage the engine and fuel system and will void the manufacturer's warranty.
- When refueling the generator, keep it away from cigarettes, open flames, smoke and/or sparks.
- Place the generator at least 3 feet away from buildings or other equipment during operation.
- Run the generator on a level surface. Tilting the generator may result in fuel spills.
- Know how to stop the generator quickly and understand operation of all the controls. Never permit anyone to operate the generator without proper instructions.
- Keep children, pets and machinery with rotating parts away during operation.
- Do not operate the generator in rain or snow.

- Do not allow any moisture to come in contact with the generator.
- Do not touch the spark plug while the engine is operating or shortly after the engine has been shut down.

1.2 AC SAFETY

⚠ WARNING!

Before connecting the generator to an electrical device or power cord:

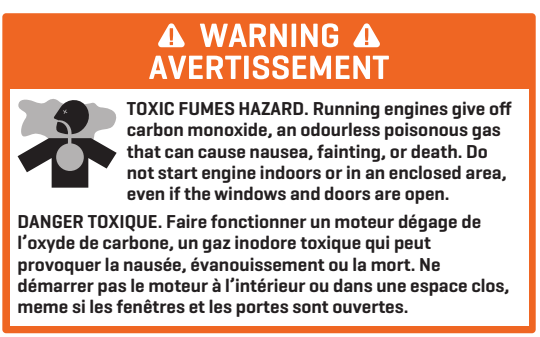
- Make sure that everything is in proper working order. Faulty devices or power cords can lead to an electrical shock.
- Turn off the generator immediately if the device begins to operate abnormally. Then disconnect the device and investigate the problem.
- Make sure that the electrical rating of the device does not exceed that of the generator. If the power level of the device is between the maximum output power and the running power of the generator, the generator should not be used for more than 30 minutes.
- Connections for standby power to a building's electrical system must be done by a qualified electrician and must comply with all applicable laws and electrical codes. Improper connections may cause serious injuries to electrical workers during a power outage, and when the utility power is restored, the generator may explode or cause fires. The generator shall be connected through transfer equipment that switches all conductors other than the equipment grounding conductor. The frame of the generator must be connected to an approved grounding electrode.
- For power outages, permanently installed stationary generators are better suited for providing backup power to the home. Even a properly connected portable generator can become overloaded. This may result in overheating or stressing the generator components, possibly leading to a generator failure.
- Electrical devices that require a grounded receptacle pin connection will not function if the receptacle ground pin is not functional.

1.3 MAINTENANCE SAFETY

⚠ WARNING!

- After any maintenance is performed, wash immediately using soap and clean water because repeated exposure to lubricant may cause skin irritation.
- Do not clean the filter element with flammable liquids like gasoline because an explosion may occur.
- Turn off the engine before performing any maintenance. Otherwise it can cause severe personal injury or death.
- Allow the generator set to cool down before performing any maintenance.
- Always wear safety glasses when cleaning the generator set with air.
- Do not clean the generator set with a pressure washer because it can cause damage to the generator set.
- When working with batteries, ventilate the area, use safety glasses, do not smoke. Always disconnect the negative first and reconnect it last.
- Use rubber gloves when coming into contact with engine oil.
- Always stop the generator set before removing the oil filler cap.
- Only qualified maintenance personnel with knowledge of fuels, electricity, and machinery hazards should perform maintenance procedures.
- See 'Maintenance Schedule' for the recommended maintenance schedule.

1.4 OTHER SAFETY TIPS



⚠ WARNING!

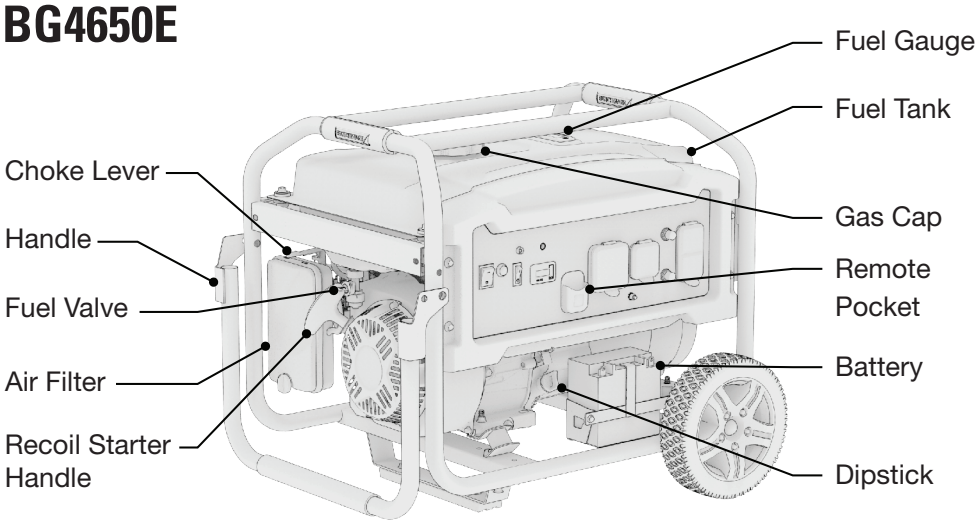
- To avoid breathing in poisonous carbon monoxide from the exhaust gases, adequate ventilation should be provided if the generator set is running in a partially enclosed space.

- If the generator set is stored outdoors, check all the electrical components on the control panel before each use. Moisture can damage the generator and can lead to an electric shock.
- Generators vibrate in normal use. During and after the use of the generator, inspect the generator as well as extension cords and power supply cords connected to it for damage resulting from vibration. Have damaged items repaired or replaced as necessary. Do not use plugs or cords that show signs of damage such as broken or cracked insulation or damaged blades.
- 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 could have carbon monoxide poisoning.

2. LEARN ABOUT YOUR GENERATOR

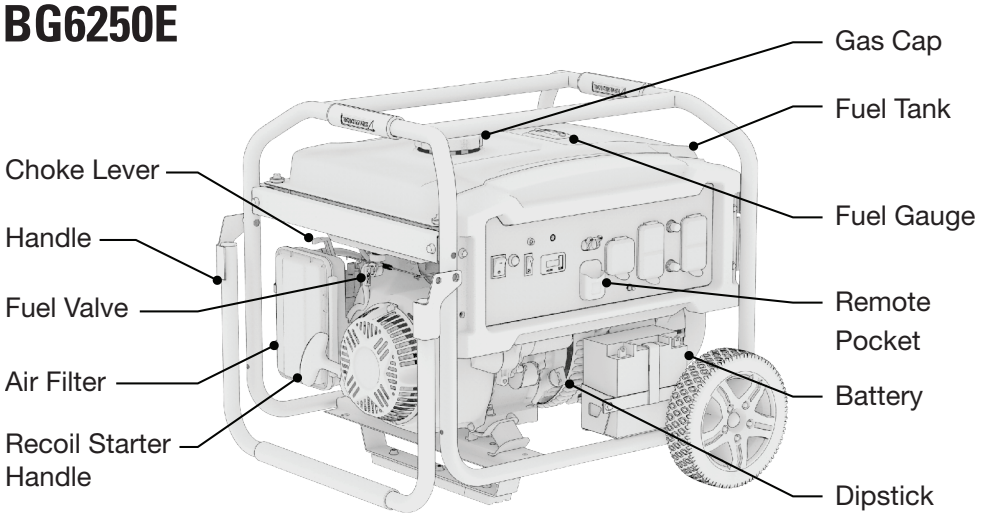
This section will show you how to identify key parts of your generator. Going over the terminology below will make sure we're on the same page.

BG4650E

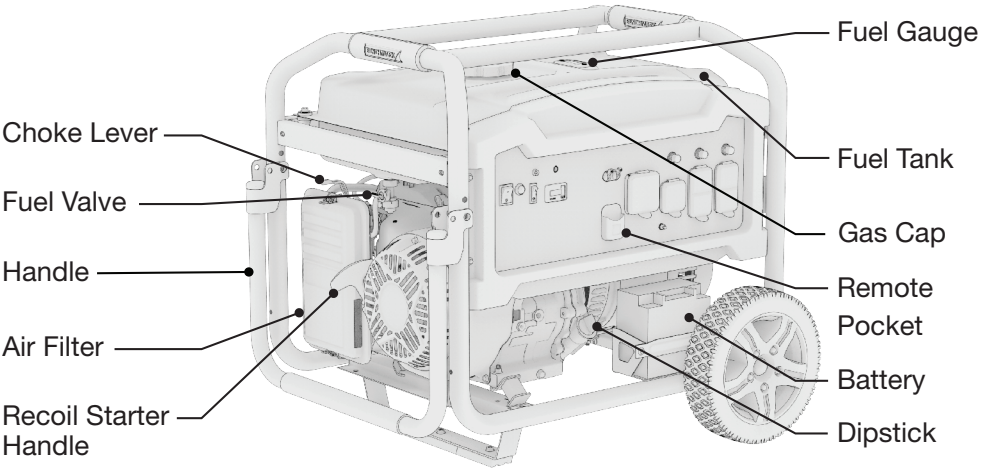


2.1 COMPONENT IDENTIFICATION

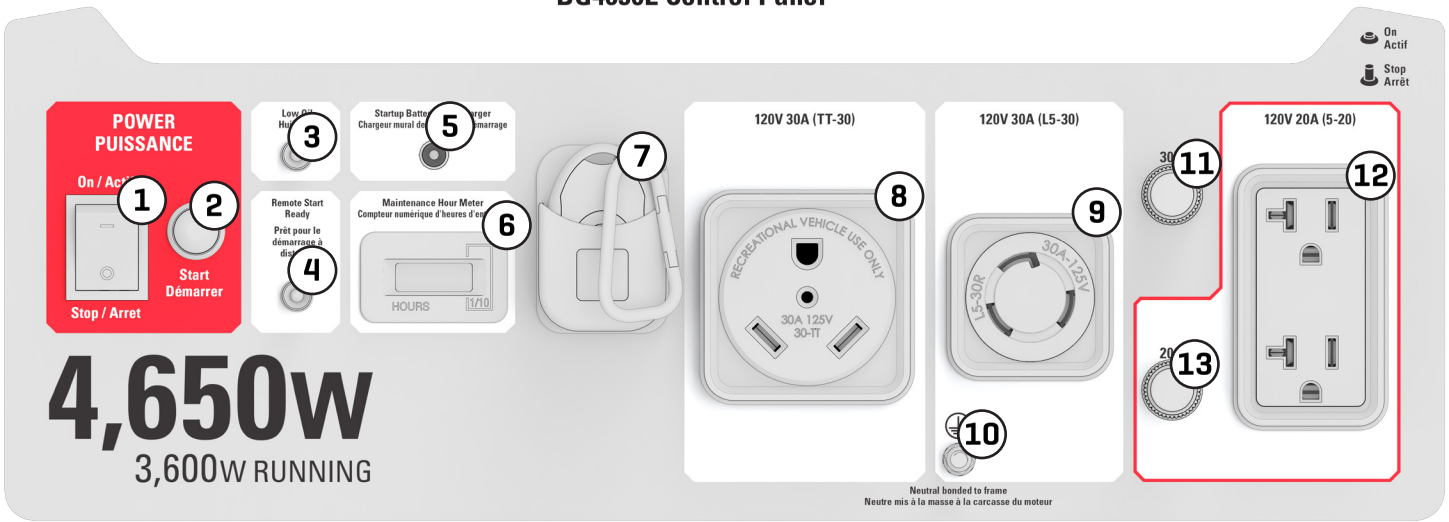
BG6250E



BG11,500E

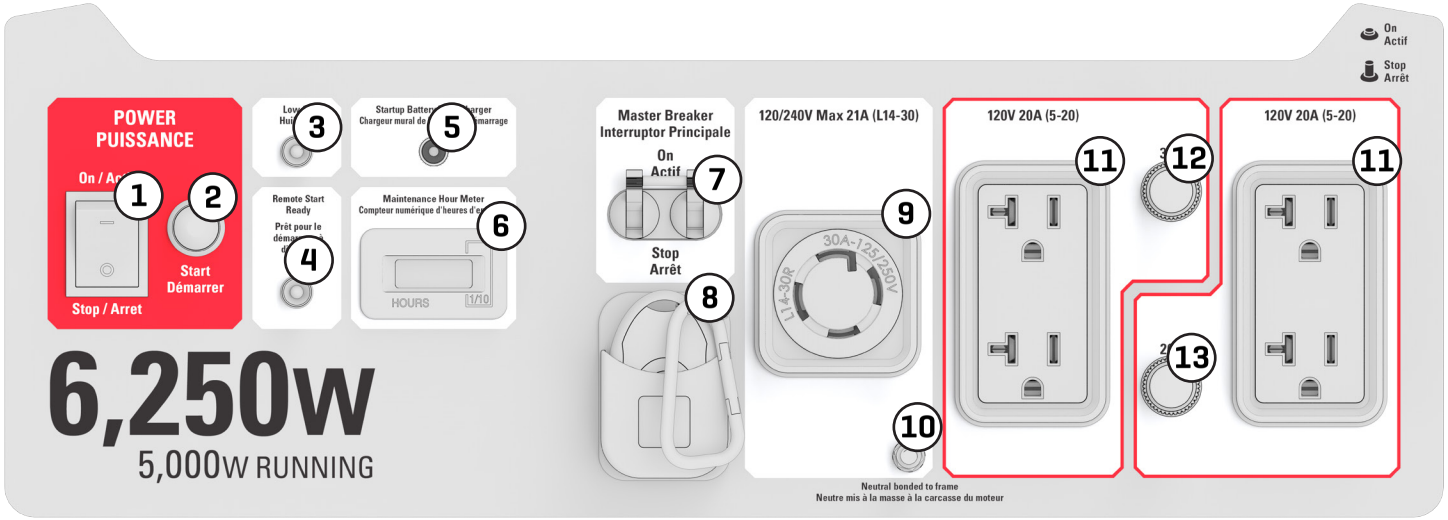


BG4650E Control Panel



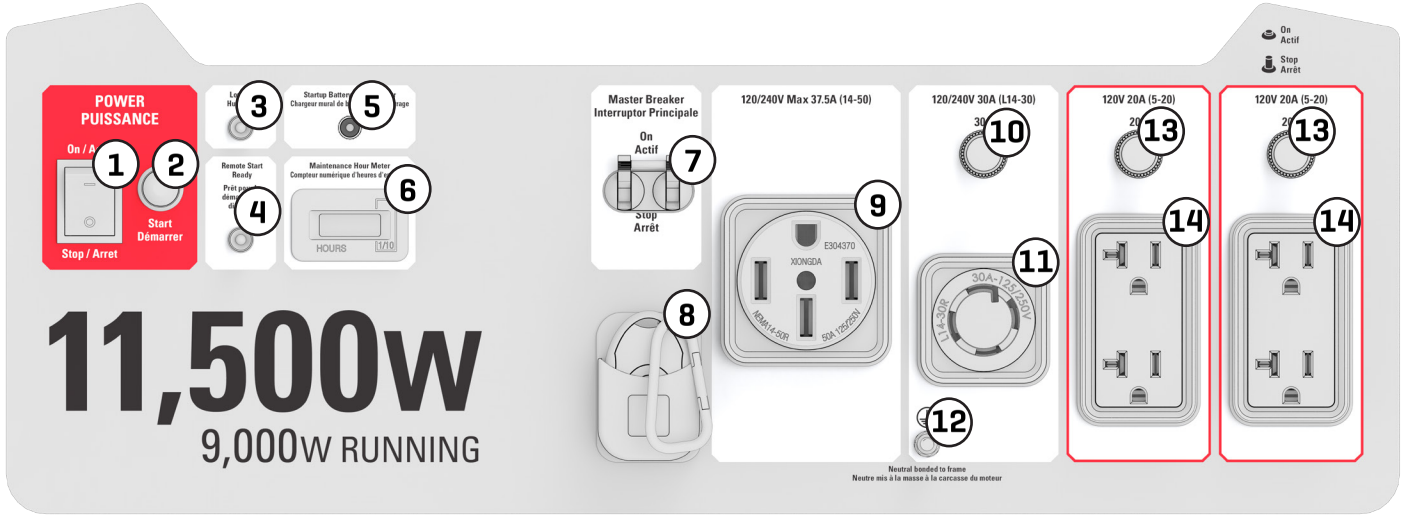
1. Power Switch
2. Electric Start
3. Low Oil Light
4. Remote Start Ready Light
5. Startup Battery Wall Charger Port
6. Maintenance Hour Meter
7. Remote
8. 120V 30A (TT-30)
9. 120V 30A (L5-30)
10. Ground Connection
11. 30A Breaker
12. 120V 20A (5-20)
13. 20A Breaker

BG6250E Control Panel



1. Power Switch
2. Electric Start
3. Low Oil Light
4. Remote Start Ready Light
5. Startup Battery Wall Charger Port
6. Maintenance Hour Meter
7. Master AC Breaker
8. Remote
9. 120/240V 21A (L14-30)
10. Ground Connection
11. 120V 20A (5-20)
12. 30A Breaker
13. 20A Breaker

BG11,500E Control Panel



1. Power Switch
2. Electric Start
3. Low Oil Light
4. Remote Start Ready Light
5. Startup Battery Wall Charger Port
6. Maintenance Hour Meter
7. Master Breaker
8. Remote
9. 120/240V 37.5A (14-50)
10. 30A Breaker
11. 120/240V 30A (L14-30)
12. Ground Connection
13. 20A Breaker
14. 120V 20A (5-20)

2.3 CONTROL FUNCTIONS

AC Circuit Breakers

- While the generator is running, the breakers should be in the ON position.
- If the current has exceeded its limits the breaker will automatically pop out to the OFF position. Reduce the electrical load on the generator and push the button back to the ON position.

Battery Charging Port

- When the generator will be stored for an extended period of time plug the battery charger into a 120V outlet every two months to top up the battery and prolong its life (Charger sold separately, included with BG11500E only).

Ground Terminal

⚠ WARNING!

Before using the ground terminal consult a qualified electrician, electrical inspector, or local agency having jurisdiction for local laws and codes that apply to the intended use of the generator.

- Neutral bonded to frame. The ground terminal is connected to the non-current carrying metal parts (such as the fuel tank), the frame, and the ground terminals of the AC outlets.

Hour Meter

- Always on display shows total run time. Perform maintenance at the proper intervals according to the 'Maintenance Schedule' section of this manual.

Low Oil Indicator Light

- The oil alert system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase reaches an unsafe limit, the oil alert system will automatically shut down the engine (the power switch remains in the ON position).
- If the oil alert system shuts down the engine, the low oil indicator light (red) will turn on. Check the engine oil level.

Remote

- Start your generator from up to 100 feet away

2.4 MAKE SURE YOU HAVE EVERYTHING

Make sure your generator has everything listed in the table below.

ITEMS INCLUDED	QUANTITY
English user guide	**1**
French user guide	**1**
Oil funnel	**1**
Spark plug wrench	**1**
Metal bar for spark plug wrench	**1**
Handle	**1**
Handle grip	**1**
Handle mount bolt	**2**
Frame mount bolt	**2**
Frame mount nut	**2**
Frame mount washer	**4**
Handle pin	**2**
Foot	**1**
Foot pad	**1**
Foot pad bolt	**3**
Foot pad nut	**3**
Frame mount bolt	**2**
Frame mount nut	**2**
Wheel	**2**
Short axle	**2**
Washer	**2**
Cotter pin	**2**

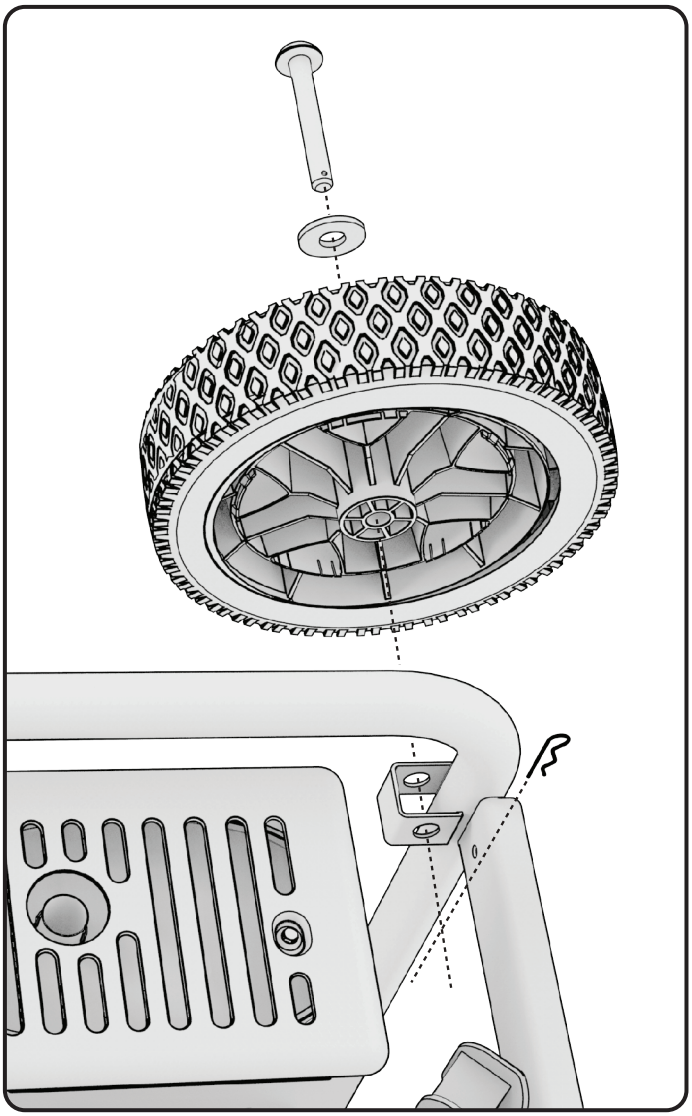
2.5 ASSEMBLY INSTRUCTIONS

Setup of your BG generator is designed to get you up and running as quickly as possible. If equipped with your generator, install the wheel, handle, and feet kits, then continue on to chapter 3.

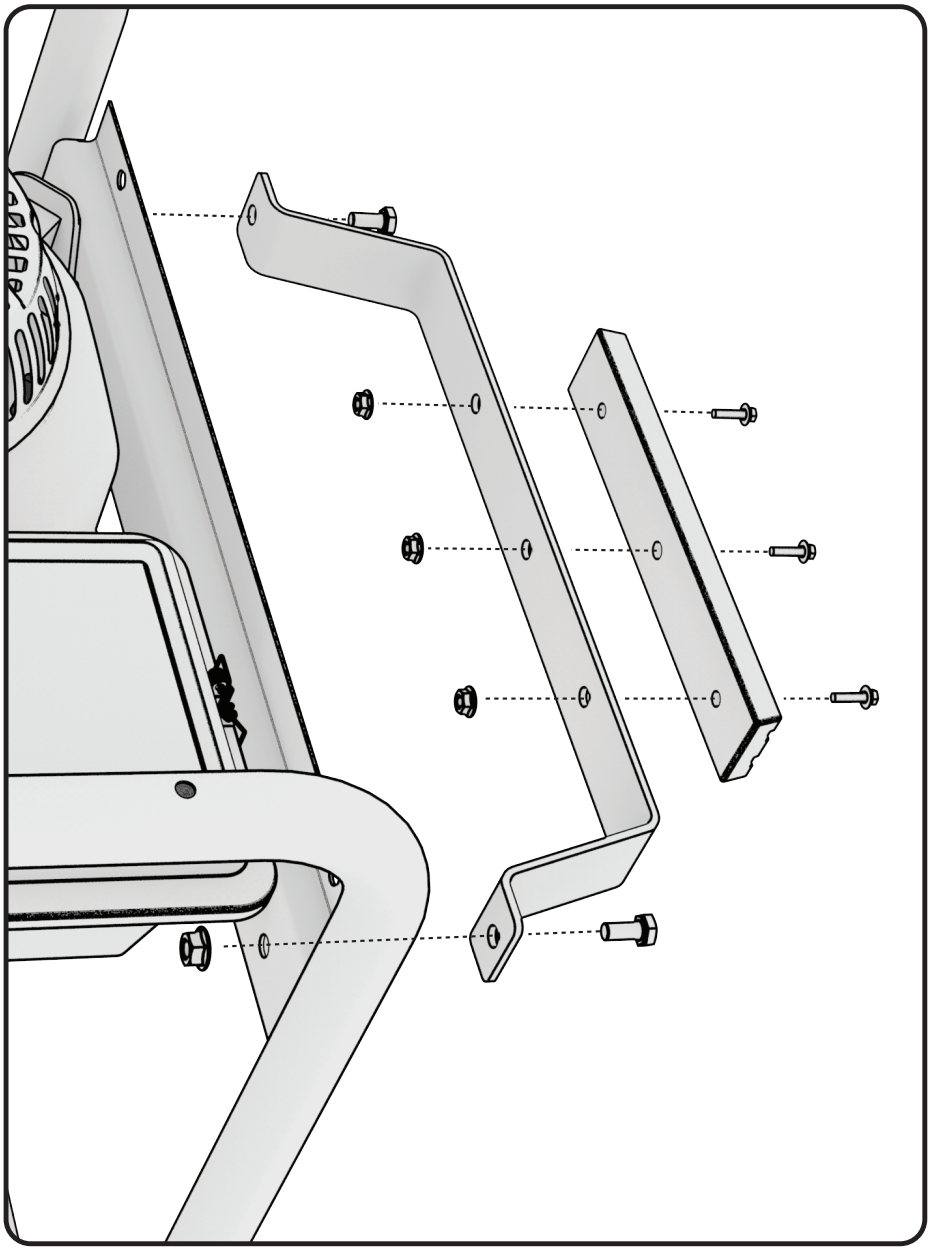
1. Install the wheels, foot, and handle as shown below.

Note

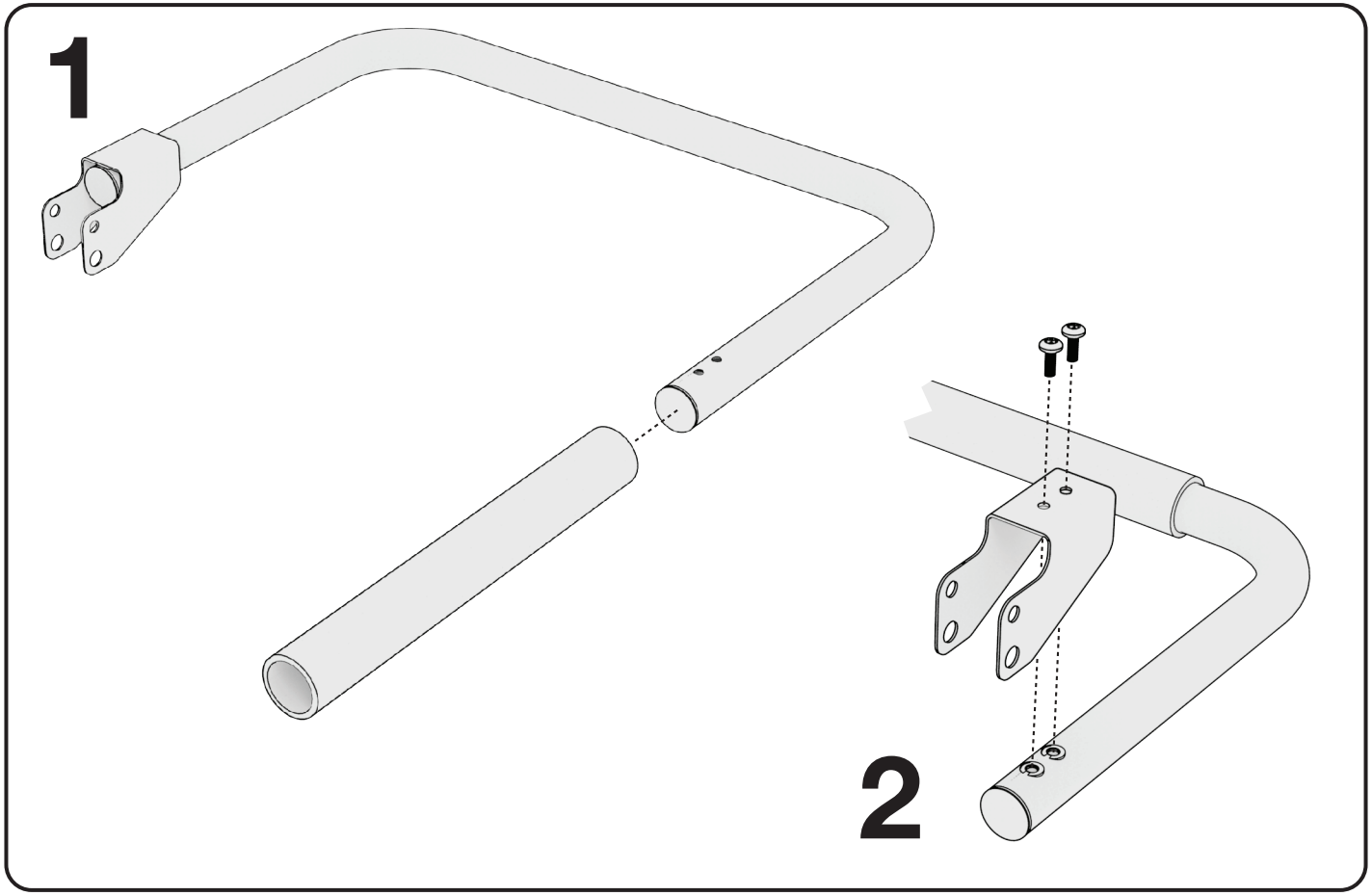
- Add engine oil and clean the air filter before starting the engine



Install Wheel Kit



Install Foot



Install Handle Kit Step 1 & 2

Install Handle Kit Step 3 (Repeat for other side)

3. PRE-OPERATION CHECK

These quick checks should be done each time the generator is started to ensure you get the most out of your generator.

Set the generator on a level surface and the power switch to OFF.

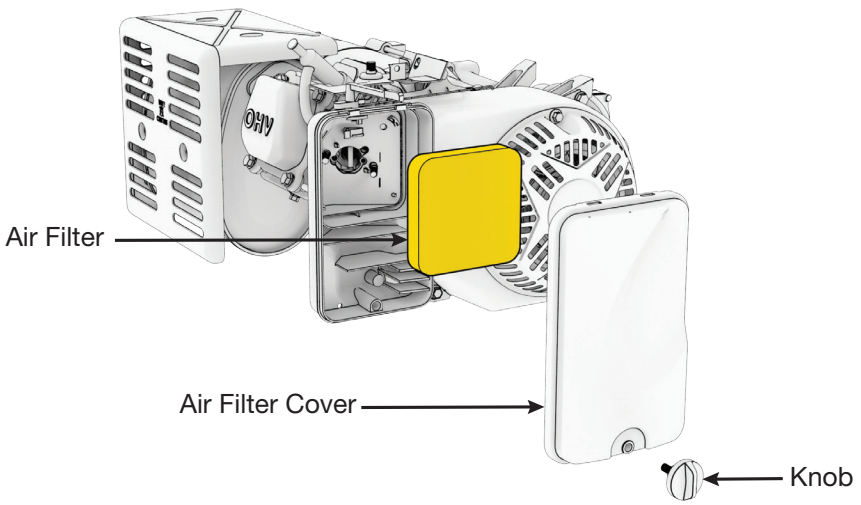
⚠ WARNING!

Exhaust gas contains poisonous carbon monoxide. Never run the generator in an enclosed area. Be sure to provide adequate ventilation. Operate the generator on a level surface. If the generator is tilted, fuel spillage may result. Keep away from rotating parts while the generator is running. The generator is air-cooled and may be damaged if ventilation is inadequate.

3.1 PREPARE THE AIR FILTER

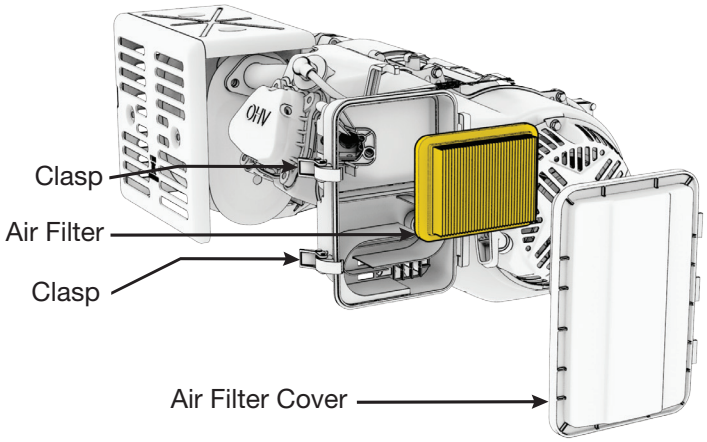
Clean and oil the air filter before your first use. Check the maintenance schedule for a complete cleaning guide.

BG4650E



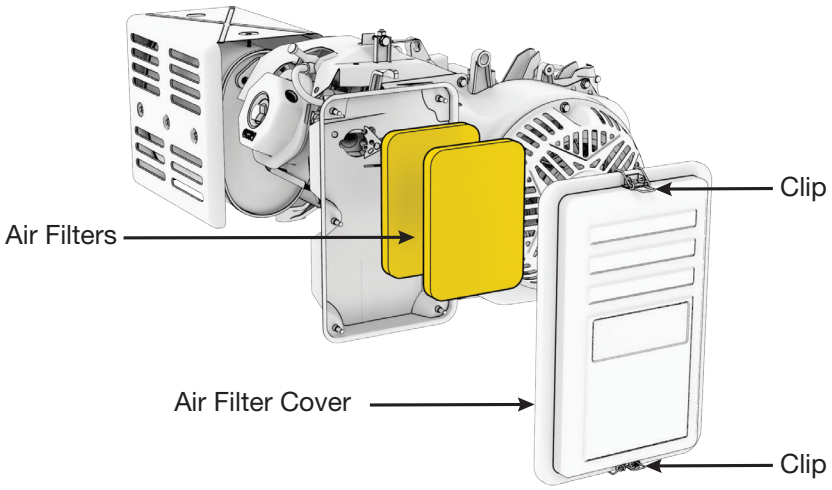
1. Loosen the knob and remove the air filter cover. Remove the air filter element and inspect for cleanliness.
2. Clean the air filter with soap and water or solvent and let dry.
3. Soak in clean engine oil.
4. Squeeze out all excess oil and reinstall. Replace the filter if it is damaged.

BG6250E



1. Loosen the clasp and remove the air filter cover. Remove the air filter element and inspect for cleanliness.
2. Replace the filter if it is damaged.

BG11,500E

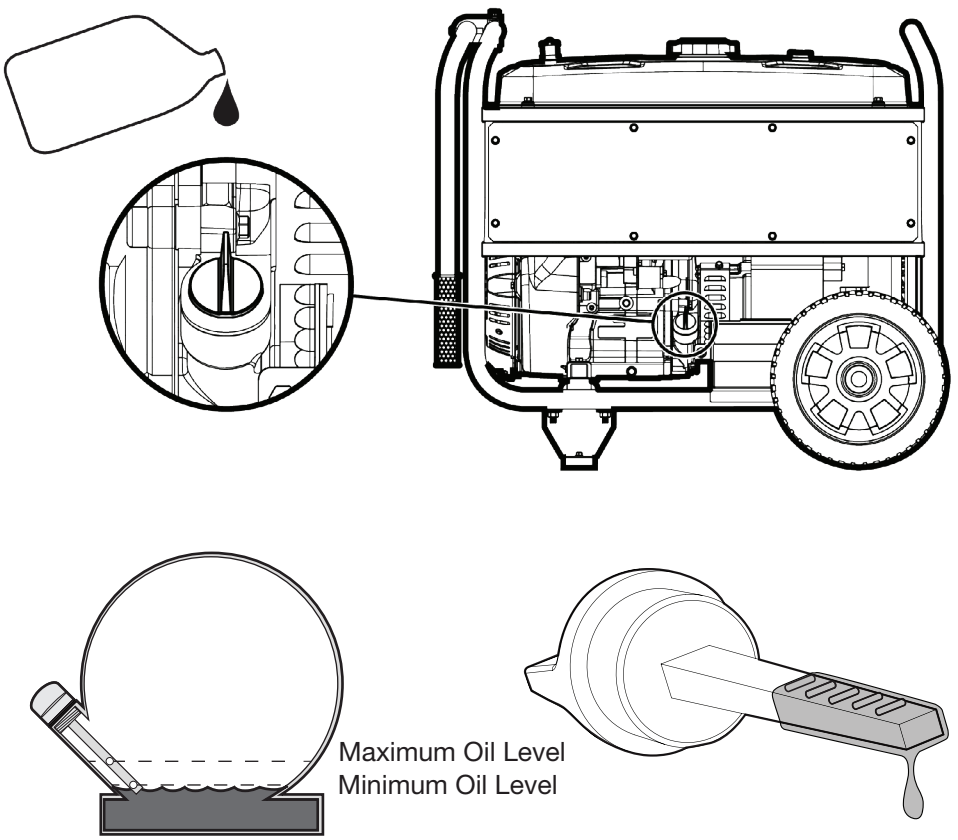


1. Undo the clips and remove the air filter cover. Remove the air filter elements and inspect for cleanliness.
2. Clean the air filter with soap and water or solvent and let dry.
3. Soak in clean engine oil.
4. Squeeze out all excess oil and reinstall. Replace the filter if it is damaged.

NOTE

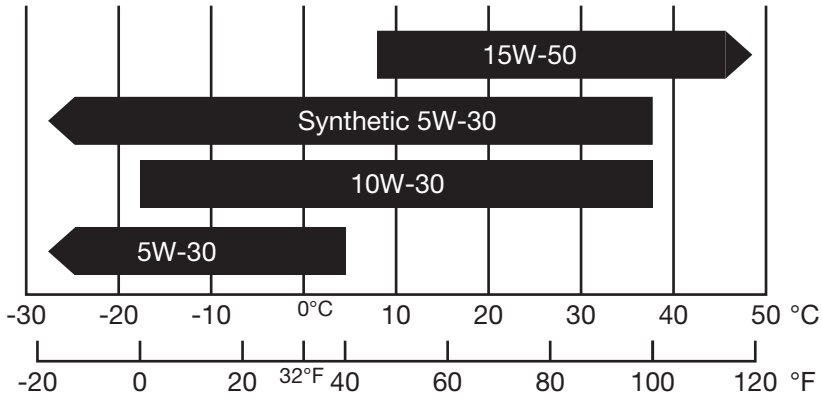
- Running the engine without the air filter will quickly degrade the engine
- Always inspect air filter before using the generator. Check and clean the air filter according to the maintenance schedule.

3.2 CHECK THE OIL LEVEL



1. Ensure the generator is on a level surface.
2. Unscrew the oil cap and clean the dipstick.
3. Check the oil level by reinserting the oil cap without screwing it back in. Remove the cap and examine the oil level on the dipstick. If the level is at or below the minimum oil level marked on the dipstick, refill to the maximum oil level mark.
4. Reinsert the oil cap and tighten securely.

Effective Viscosity Range of Engine Oils



Note

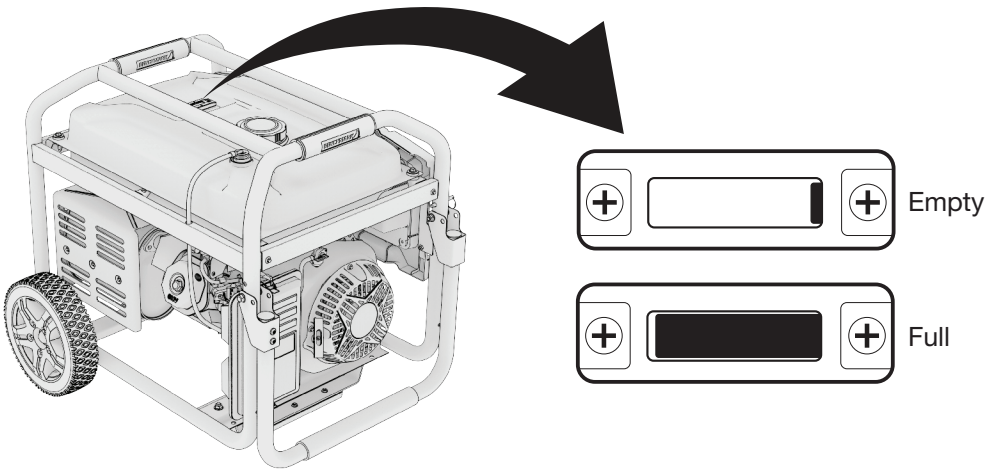
- Oil capacities: BG4650E (600mL), BG6250E (700mL), BG11500E (1.1L)
- Do not tilt the generator when adding engine oil. This could result in overfilling and damage to the engine.
- Using non-detergent or 2-stroke oil could shorten the engine's working life.
- Use high quality engine oil with strong detergents.
- Handle and store the engine oil with care, avoid getting dirt or dust into the engine oil.
- Do not mix different engine oils.
- Before the engine oil falls below the safety margin, the low oil alert system will automatically shut off the engine. The low oil light will turn on.
- To avoid the inconvenience of unexpected engine shutoff, check the engine oil level as often as possible.
- Use 4-stroke engine oil, certified to meet or exceed API standard SG, SF, SAE ratings

3.3 CHECK THE FUEL LEVEL

⚠ WARNING!

Gasoline is highly flammable and explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow open flames or sparks in the area where the generator is being refueled or where gasoline is stored. Do not overfill the tank. Be careful not to spill fuel when refueling. Wipe up any spilled gasoline and let the area dry before starting the engine.

Gasoline substitutes such as gasohol are not recommended. They may be harmful to the fuel system components.



1. Check the fuel level by reading the gauge or removing the fuel tank cap to visually check the level.
2. Add fuel. Tighten the fuel cap securely after refilling.

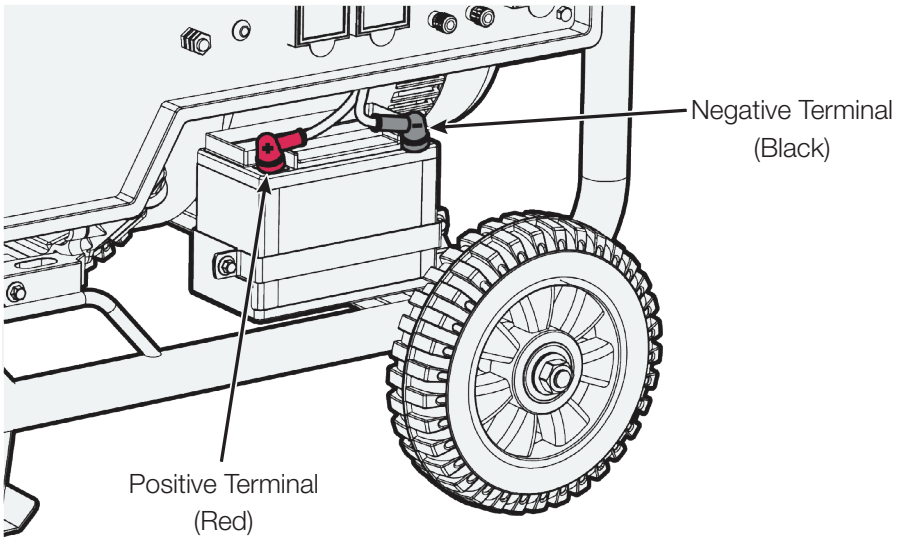
Note

- Only use unleaded gasoline (Pump Octane 87 or higher).
- Never use stale or contaminated gasoline, or an oil/gasoline mixture.
- Avoid getting dirt or water into the fuel tank.
- Do not use a mixture of gasoline containing methanol. This will cause serious damage to the engine.
- Use of gasoline with an ethanol content greater than 10% can damage the engine and fuel system and will void the manufacturer's warranty.

3.4 ELECTRIC START BATTERY CONNECTION

⚠ WARNING!

Batteries produce explosive gases. Keep sparks, flames and cigarettes away from the battery at all times.



1. Connect the red cable to the positive terminal of the battery. Ensure the connection is secured by using the fastener at the battery terminal.
2. Connect the black cable with the negative terminal of the battery. Ensure the connection is secured by using the fastener at the battery terminal.

Note

The onboard electric start battery recharges while the generator is running.

Note

Be sure to connect the electric start battery to the generator set before operation. Do not reverse the polarity of the terminals when charging the battery. Serious damage to the generator and/or battery may occur. Do not attempt to connect the battery while the generator engine is running. Disconnect the cables from the battery while the generator is in storage.

4. USING YOUR GENERATOR

⚠ DANGER! ⚠

Using a generator indoors WILL KILL YOU IN MINUTES.

Generator exhaust contains high levels of carbon monoxide (CO), a poisonous gas you cannot see or smell. If you can smell the generator exhaust you are breathing CO. Even if you cannot smell the exhaust, you could be breathing CO.

NEVER use a generator inside a home, garage, crawlspace, or other partly enclosed area, deadly levels of carbon monoxide can build up in these areas. Using a fan or opening windows and doors will NOT supply enough fresh air.

ONLY use a generator outdoors and far away from open windows, doors, and vents. These openings can pull in generator exhaust. Even when you use a generator correctly, CO may leak into the home. ALWAYS use a CO alarm in your home.

If you start to feel sick, dizzy, or weak after the generator has been running, move to fresh air RIGHT AWAY and seek medical attention. You could have carbon monoxide poisoning. Never run the generator in an enclosed or even partially enclosed area where people may be present.

Carburetor Modification for High Altitude Operation

- At high altitudes, the standard carburetor air-fuel mixture will be too rich. Fuel consumption will increase and performance will decrease. A very rich mixture will also foul the spark plug and cause hard starting.
- If using the generator at high altitudes, change the main-nozzle or adjust the idling-screw of the carburetor. If always operating the generator at altitudes above 1,000 meters, contact an authorized service center to have the carburetor modified.
- Conversely, if the carburetor has been modified for high altitude operation, the air-fuel mixture will be too lean for low altitude use. Operation at low altitude my cause the engine to overheat and result in serious engine damage. In this case the carburetor needs to be returned to its original specifications.
- Generator output power should be modified according to the altitude and ambient temperature. See more details on the correction factors in Chapter 11 - Appendix.

4.1 STARTING YOUR GENERATOR

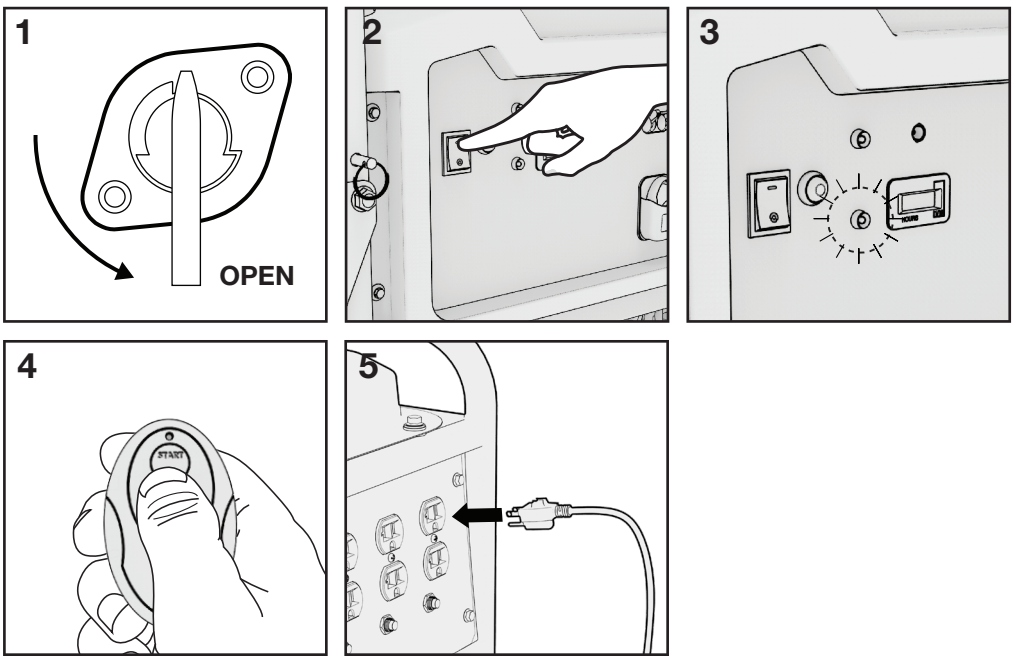
⚠ WARNING!

Before using the generator, a ground wire may need to be connected to the ground terminal. The terminal is located on the front panel. Before using the ground terminal consult a qualified electrician.

Note

- Do not push the choke knob to the START/CLOSED position when the engine is hot or ambient air temperature is high.
- If recoil starting, return the starter grip slowly by hand, do not let it snap back.
- If there is no electric-start battery in the generator or the battery has died, the generator can only be started using the recoil method. If there is a battery and it is drained, running the generator will recharge the battery.

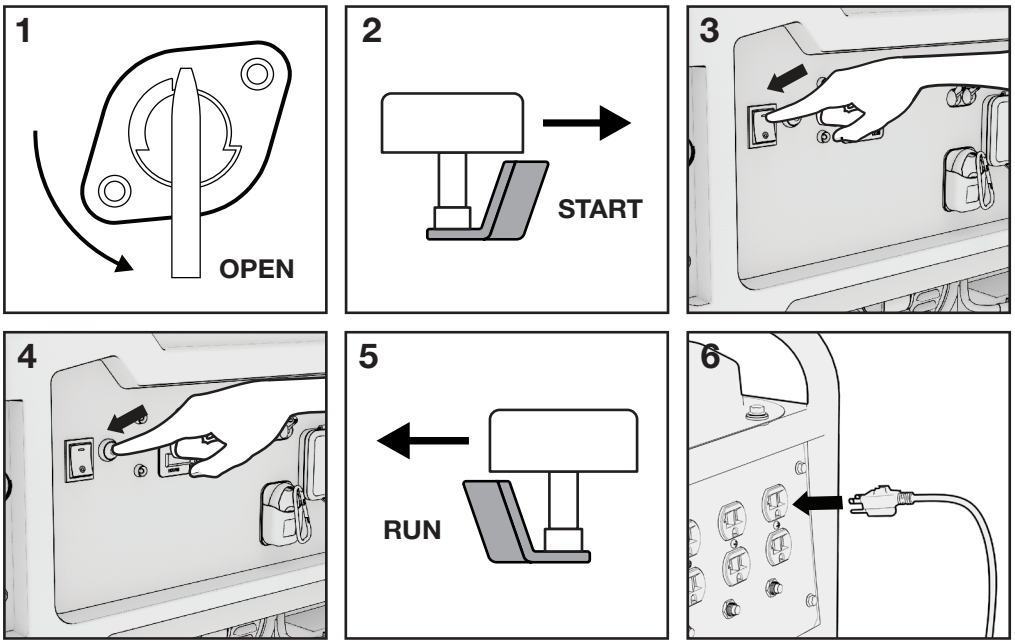
4.1.1 REMOTE START



1. Rotate the fuel valve to the OPEN position.
2. Push the power switch to the ON position.
3. Wait for the Remote Start Ready light to turn on.

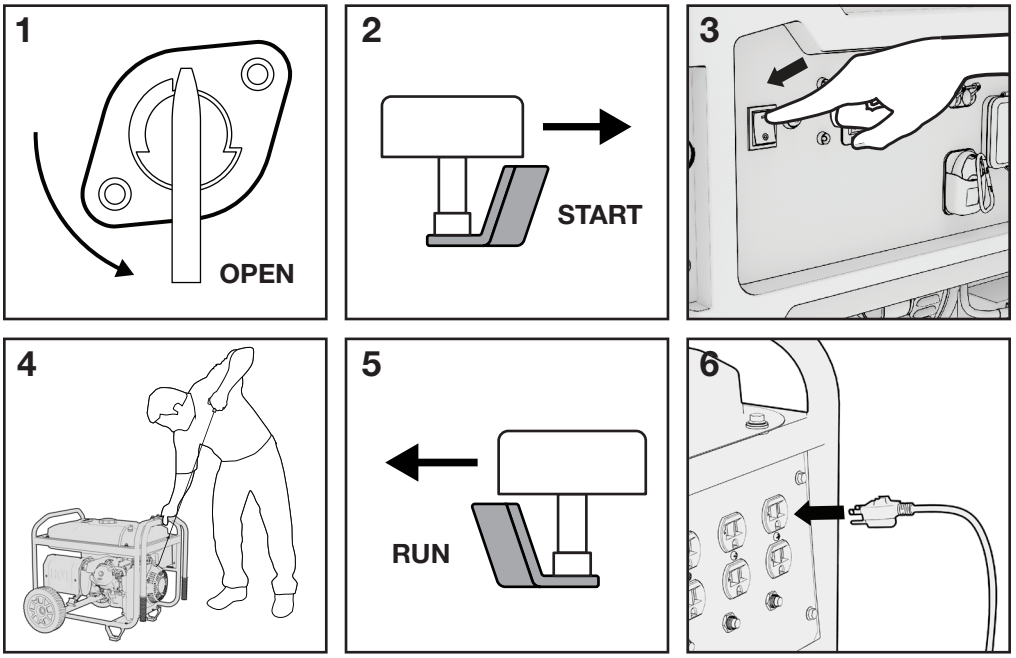
4. Press the START button to fire up the generator.
5. Connect the devices to the front panel.

4.1.2 ELECTRIC START



1. Rotate the fuel valve to the OPEN position.
2. If the engine is cold push the choke lever to the START/CLOSED position. The choke is used to provide the proper air-fuel mixture when the engine is cold. You can find the choke lever behind the air filter on the back side of your generator.
3. Turn the power switch to the ON position.
4. Press and hold the START button for 1 second, or until the generator fires, then release it.
5. When the engine warms up push the choke to the RUN/OPEN position.
6. Connect the devices to the front panel.

4.1.3 MANUAL RECOIL START



1. Rotate the fuel valve to the OPEN position.
2. If the engine is cold push the choke lever to the START/CLOSED position. The choke is used to provide the proper air-fuel mixture when the engine is cold. You can find the choke lever behind the air filter on the back side of your generator.
3. Turn the power switch to the ON position.
4. Pull the starter slowly until it engages then pull quickly. Repeat until the generator starts.
5. When the engine warms up push the choke to the RUN/OPEN position.
6. Connect the devices to the front panel.

4.2 USING THE BG SERIES WITH YOUR APPLIANCES

After starting the BG Series you can connect your devices to it. Before starting make sure you know what you can power with your generator.

Here's how you can decide:

Add the watt ratings of all the loads that the generator set will be powering at the same time. Make sure that total wattage will not exceed the generator's rating.

EXAMPLE:

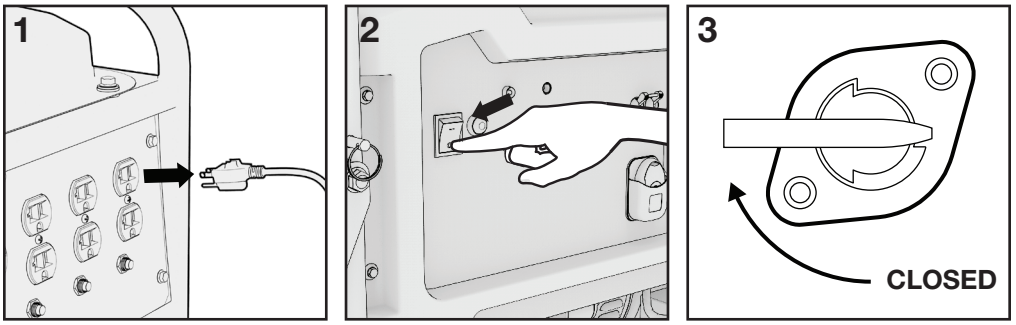
A generator set rated at 5000W can power two 1500W heaters, a 900W circular saw, a 500W drill and a 100W light at the same time (4500W combined). However, to operate a second 900W saw, it will be necessary to disconnect one of the 1500 W heaters.

Note

- To stop the engine in an emergency, turn the engine switch OFF. Always connect the generator to the ground terminal to prevent electrical shock.

4.3. STOPPING THE ENGINE

Normal Operation



1. Switch off the connected electrical appliances, and disconnect them from the generator.
2. Turn the power switch to the OFF position.
3. Turn the fuel valve to the CLOSED position.

Emergency (All Models)

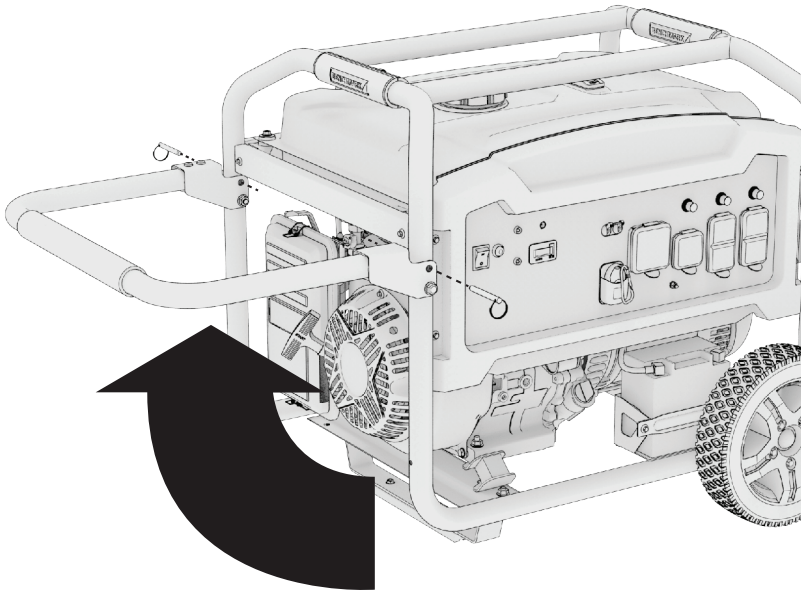
1. To stop the engine in an emergency, turn the power switch OFF immediately.

Note

- Make sure the fuel valve and engine switch are in the OFF position when stopping, transporting, and storing the generator.

5. FOLDING THE HANDLE

The handle folds down for compact storage and locks up into position for easy maneuvering.



1. Pull up the handle into the upright position.
2. Insert the locking pin on both sides.

6. MAINTENANCE

Proper maintenance keeps your generator in the best operating condition by ensuring safe, economical and trouble-free operation. Only use genuine parts and recommended fluids to replace the worn components. Improper maintenance may cause the generator to malfunction and can lead to serious injury. Contact customer support if you have any maintenance questions.

General Inspection Tips

- Look for fuel leaks around the fuel tank, fuel hose, and fuel valve. Close the fuel valve and repair leaks immediately.
- Look and listen for exhaust leaks while the engine is running. Have all the leaks repaired before continuing operation.
- Check for dirt and debris and clean as necessary .
- Check the engine oil level and add oil as necessary.

6.1 MAINTENANCE SCHEDULE

Maintain the generator according to the maintenance schedule in this section.

Note

- Service more frequently when used in dusty areas.
- These items should be serviced by an authorized service center, unless you have the proper tools and are mechanically proficient. Refer to manual for service procedures.

Item	Task	Each Use	First 25 Hours	Every 50 Hours	Every 100 Hours	Every 300 Hours
Generator	General Inspection	•				
Engine Oil	Inspect Oil Level	•				
	Replace		•		•*	
Air Filter	Inspection	•				
	Cleaning			•		
Sediment Cup	Cleaning			•		
Spark Plug	Inspection & Cleaning				•	
	Replacement					•
Valve Clearance	Inspection & Adjusting					•
Combustion Chamber	Inspection & Adjusting					•
Fuel Tank and Strainer	Cleaning					•
Fuel Line	Cleaning	Every two months (replace if necessary)				
Exposed Metal Parts	Lubricate with oil	After every use and especially before storage				

* Every 100 hours or every year, whichever comes first.

6.2 EMISSION CONTROL SYSTEM

Emission Source

Exhaust gas contains carbon monoxide, nitrogen oxides (NOx) and hydrocarbons. It is very important to control the emissions of NOx and hydrocarbons as they are a major contributor to air pollution. Carbon monoxide is a poisonous gas. The emission of fuel vapors is a source of pollution as well. The generator engine utilizes a precise air-fuel ratio and emission control system to reduce the emissions of carbon monoxide, NOx, hydrocarbons and evaporative fuel emissions.

Regulation

Your engine has been designed to meet current Environmental Protection Agency (EPA) clean air standards. The regulations dictate that the manufacturer provides operation and maintenance standards regarding the emission control systems. Tune up specifications are provided in the Specifications section and a description of the emission control system may be found in the appendix to this manual. Adherence to the following instruction will ensure your engine meets the emission control standards.

Modification

Modification of the emission control system may lead to increased emissions. Modification is defined as the following:

- Disassembling or modifying the function or parts of the intake, fuel or exhaust system.
- Modifying or destroying the speed governing function of the generator.

Engine faults that may affect emission

Any of the following faults must be repaired immediately. Consult with your authorized service centre for diagnosis and repair:

- Hard starting or shut down after starting.
- Unstable idle speed.
- Shut down or backfire after applying an electrical load.
- Backfire or after fire.
- Black smoke and/or excessive fuel consumption.

Replacement parts and accessories

The parts making up the emission control system in your product's engine have been specifically approved and certified by the regulatory agencies. You can trust that the replacement parts supplied by customer service have been manufactured to the same production standard as the original parts. The use of replacement parts or accessories which are not designed for your engine – may negatively affect the engine emission performance. Therefore only use replacements parts and accessories from a qualified service centre to guarantee that the replacement products will not adversely affect emission performance.

Replacement parts other than those from an authorized service centre will void the warranty.

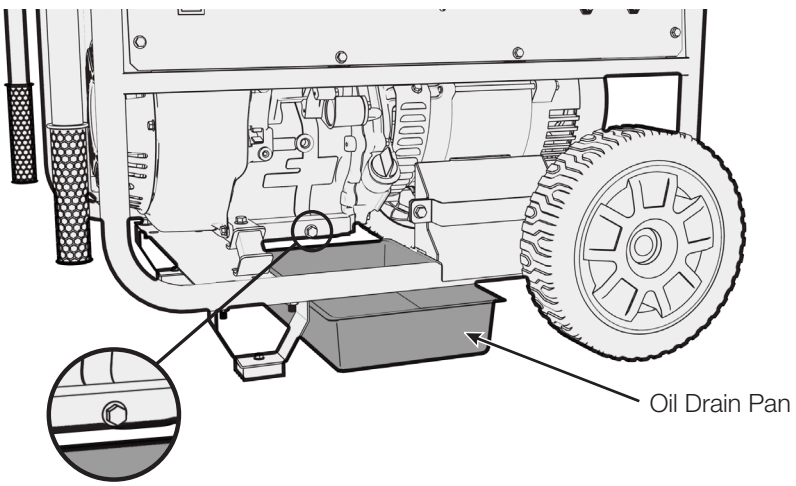
6.3 CHANGING THE OIL

⚠ WARNING!

Used motor oil can cause skin irritations if left in long-term contact with skin. Thoroughly wash off used oil as soon as possible with soap and water.

Do not dispose of used oil in drains or on soil. Local service shops provide environmentally-friendly disposal methods.

Drain the oil rapidly and completely on a level surface while the engine is still warm.



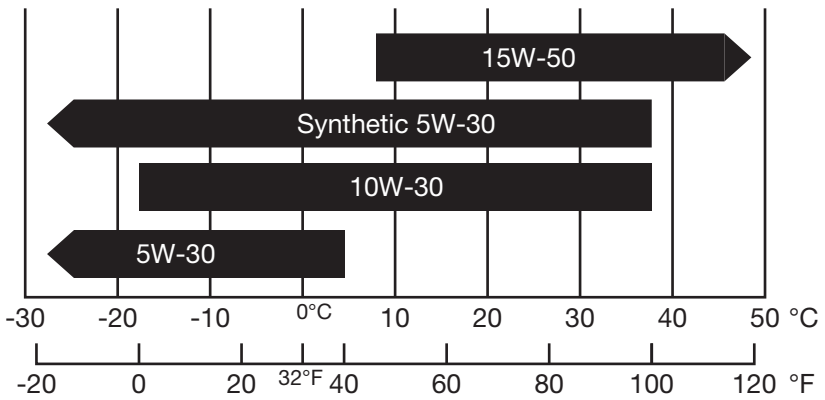
1. Stop the engine and remove oil filler cap.
2. Place a pan under the engine.
3. Remove the oil drain bolt and allow the oil to completely drain into the pan.

4. Reinstall drain bolt before filling the engine with fresh oil up to the maximum mark on the dipstick. Do not overfill oil reservoir. Use a funnel to prevent spillage.
5. Reinstall the oil filler cap and tightly fasten.

Note

- Oil capacities: BG4650E (600mL), BG6250E (700mL), BG11500E (1.1L)
- SAE10W-30 oil is recommended for general use.
- DO NOT OVERFILL.

Effective Viscosity Range of Engine Oils



Note

- Do not tilt the generator when adding engine oil. This could result in overfilling and damage to the engine.
- Use high quality engine oil with strong detergents. Using non-detergent or 2-stroke oil could shorten the engine's working life.
- Handle and store engine oil with care, avoid getting dirt or dust into the oil.
- Do not mix different engine oils.
- Before the engine oil falls below a safe level, the low oil alert system will automatically shut off the engine. The low oil light will turn on.
- To avoid the inconvenience of unexpected engine shutoff, check the engine oil level as often as possible.
- Use 4-stroke engine oil, certified to meet or exceed API standard SG, SF, SAE ratings.

6.4 CLEANING THE AIR-FILTER

⚠ WARNING!

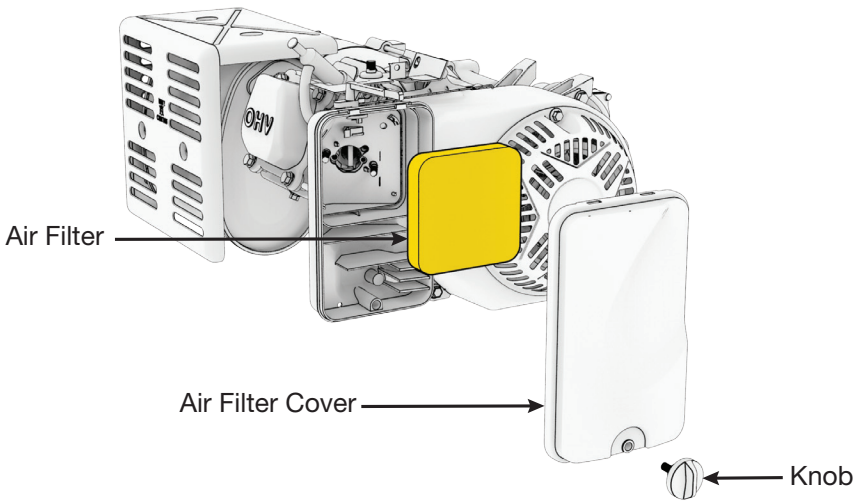
Using gasoline or other flammable solvents can cause a fire or explosion. Do not operate this product without an air filter.

A dirty air filter will restrict air flow into the carburetor. Clean and maintain the air filter regularly, especially in dusty areas.

Note

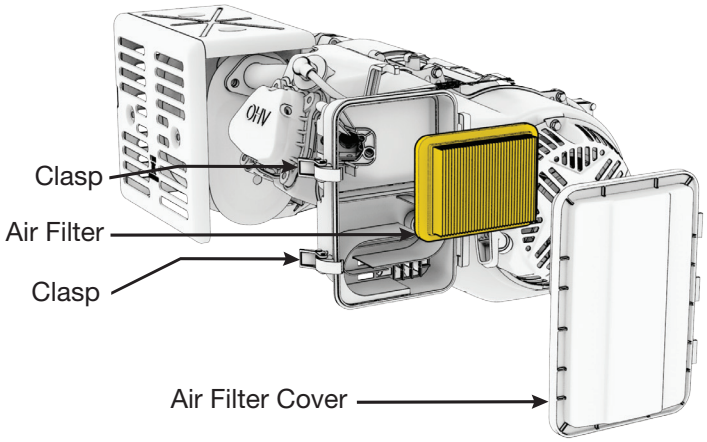
Never run the generator without an air filter, doing so will quickly degrade the engine.

BG4650E



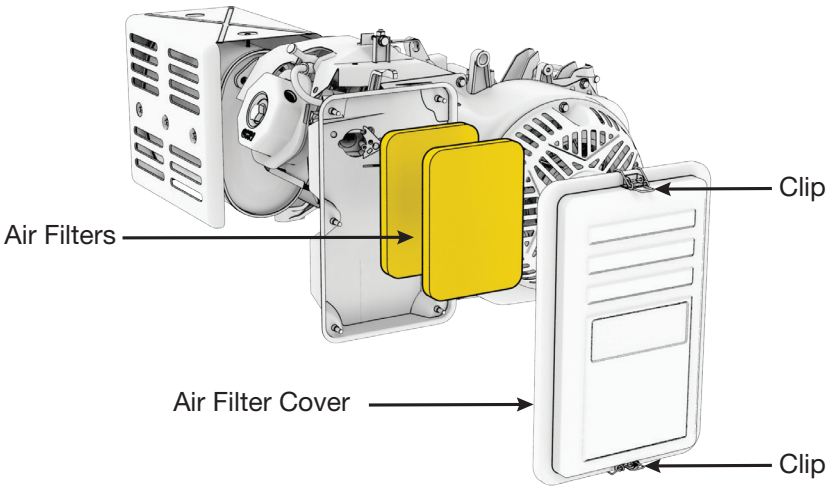
1. Loosen the knob and remove the air filter cover. Remove the air filter element and inspect for cleanliness.
2. Clean the air filter with soap and water or solvent and let dry.
3. Soak in clean engine oil.
4. Squeeze out all excess oil and reinstall. Replace the filter if it is damaged.

BG6250E



1. Loosen the clasp and remove the air filter cover. Remove the air filter element and inspect for cleanliness.
2. Replace the filter if it is damaged.

BG11,500E



1. Undo the clips and remove the air filter cover. Remove the air filter elements and inspect for cleanliness.
2. Clean the air filters with soap and water or solvent and let dry.
3. Soak in clean engine oil.
4. Squeeze out all excess oil and reinstall. Replace the filter if it is damaged.

6.5 SPARK PLUG SERVICE

Note

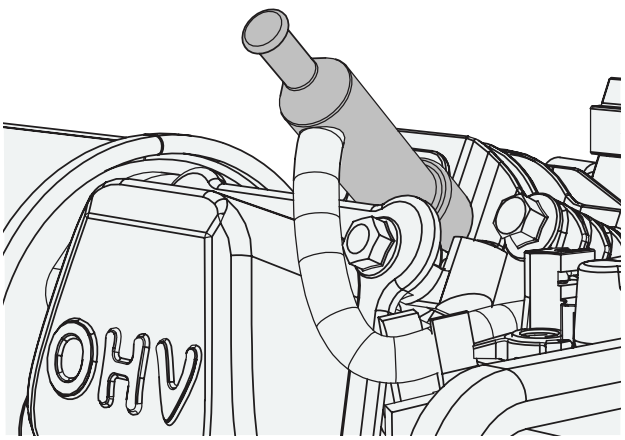
Do not rinse spark plug in water. Follow guidelines and be careful not to overtighten the spark plug.

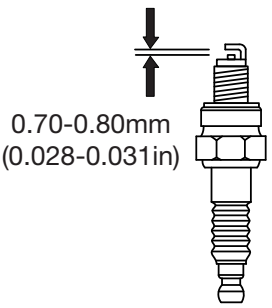
Recommended spark plug: **F7TC**

Check the spark plug gap and clean the carbon deposits at the bottom of the spark plug.

Tighten 1/2 turn when installing a new spark plug.

Tighten 1/8 TO 1/4 turn when re-installing an old spark plug.



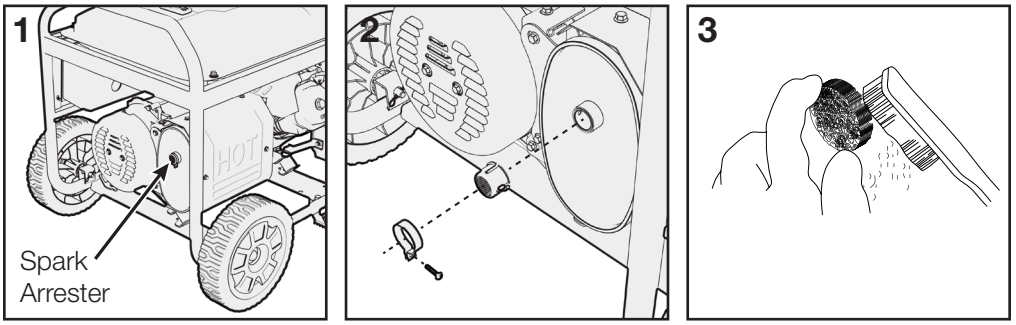


1. Remove the spark plug cap.
2. Remove the spark plug with the spark plug spanner.
3. Visually inspect the spark plug. Replace with a new plug if the insulation is cracked or chipped. Clean with a wire brush if the spark plug is reused.
4. Measure the spark plug gap with a feeler gauge. The normal value is: 0.7-0.8mm (0.028- 0.031in). Adjust the gap by carefully bending the electrode.
5. Carefully reinstall the spark plug by hand, to avoid cross-threading. A new spark plug should be tightened 1/2 turn with a spanner. A used spark plug should be tightened 1/8 to 1/4 turn with spanner.
6. Reinstall the spark plug cap.

Note

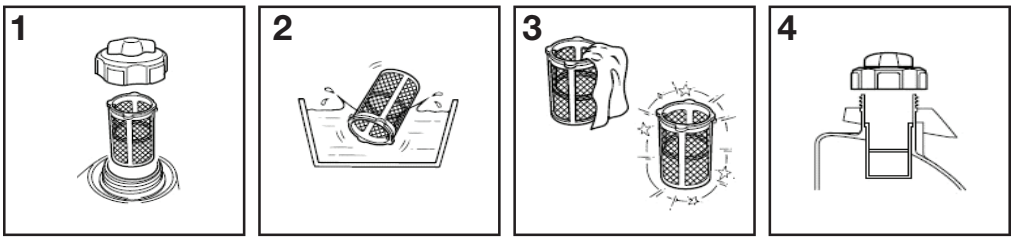
- The spark plug must be securely tightened or it could cause the spark plug to heat up, enough to damage the engine.
- Never use a spark plug with an improper heat range.

6.6 SPARK ARRESTER MAINTENANCE



1. After the engine has cooled down remove the spark arrester from the muffler by loosening the screw.
2. Use a brush to remove carbon deposits from the spark arrester. If the spark arrester is worn down, replace it.
3. Reinstall the spark arrester.

6.7 FUEL FILTER MAINTENANCE

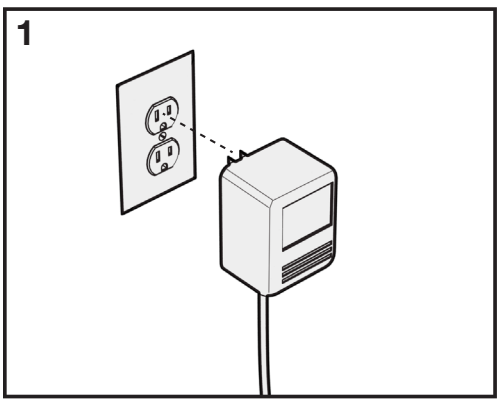


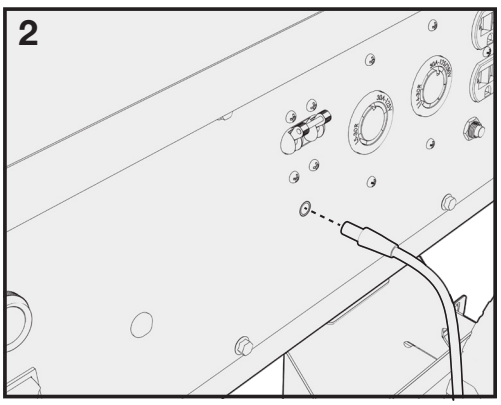
1. Remove the fuel cap and filter.
2. Clean the filter with solvent.
3. Wipe the filter.
4. Reinsert the filter.

6.8 BATTERY CHARGER

If your BG series is equipped with an electric start it will also feature a battery charging port (charging cord included on the BG11500E and sold separately on other models. You can find the charging cord on our part store at benchmark.midlandpowerinc.com or by calling our toll free support number). When storing your generator for an extended period of time the battery will self-discharge, which could cause permanent damage or even complete failure of the battery.

To prolong the battery life, it should be kept above 12.4 Volts (75%) charged while in storage. A fully charged battery will read 12.6-12.7 Volts. To top up, plug the charger into a standard 120V wall outlet and the charging port on your BG series (do not charge longer than 10 hours at a time). This will slowly recharge the battery and prolong its life.





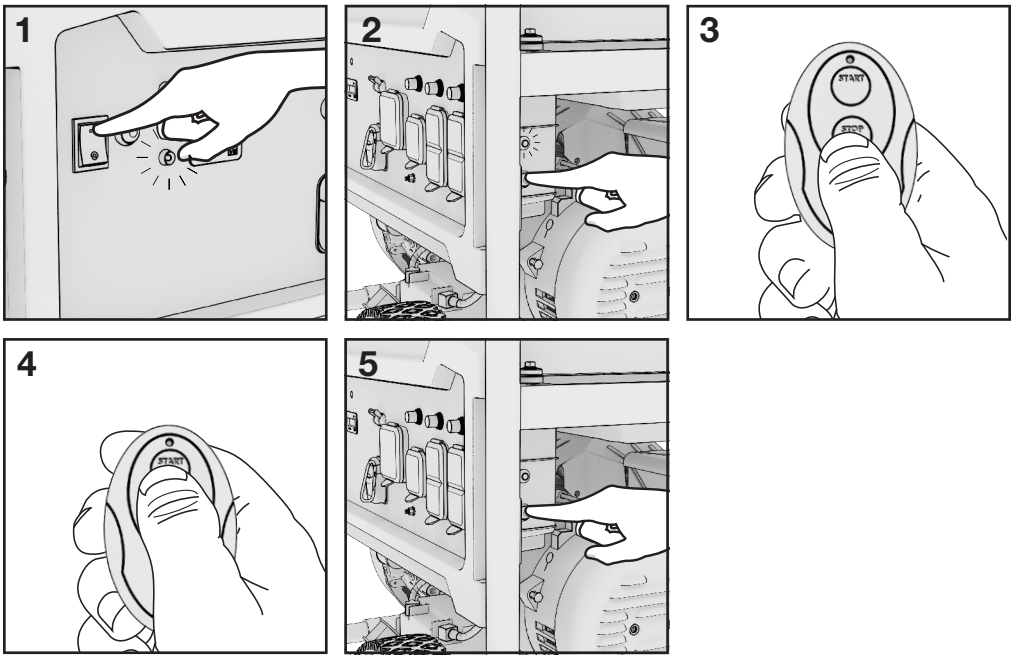
1. Plug the charging cord into a 120V wall outlet.
2. Plug the other end into the charging port of the generator.

Note

- The onboard electric start battery recharges while the generator is running.
- Do not charge for more than 10 hours at a time.
- Check the voltage with a digital voltmeter and top up the battery every two months while in storage. 12V batteries typically lose 5-15% per month when not in use.

6.9 HOW TO SYNC A NEW REMOTE (REMOTE PAIRING)

A new remote can be synced following the steps below.



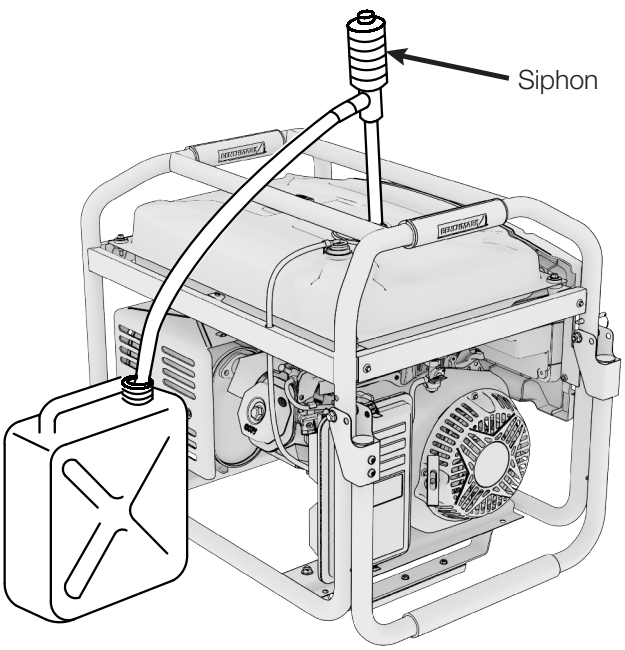
1. With the battery connected, turn the power switch to the ON position and wait for the Remote Start Ready light to illuminate.
2. Initiate Remote Sync mode on the generator by pressing and holding the Remote Sync button behind the right side of the control panel until the Remote Sync light illuminates then let go.
3. Press and hold the STOP button on the remote fob until the Remote Sync light flashes, then let go.
4. Press and hold the START button on the remote fob until the Remote Sync light flashes, then let go.
5. Turn off the remote sync function by pressing and holding the Remote Sync button until the Remote Sync light turns off.

7. TRANSPORTATION & STORAGE

Transporting the Generator

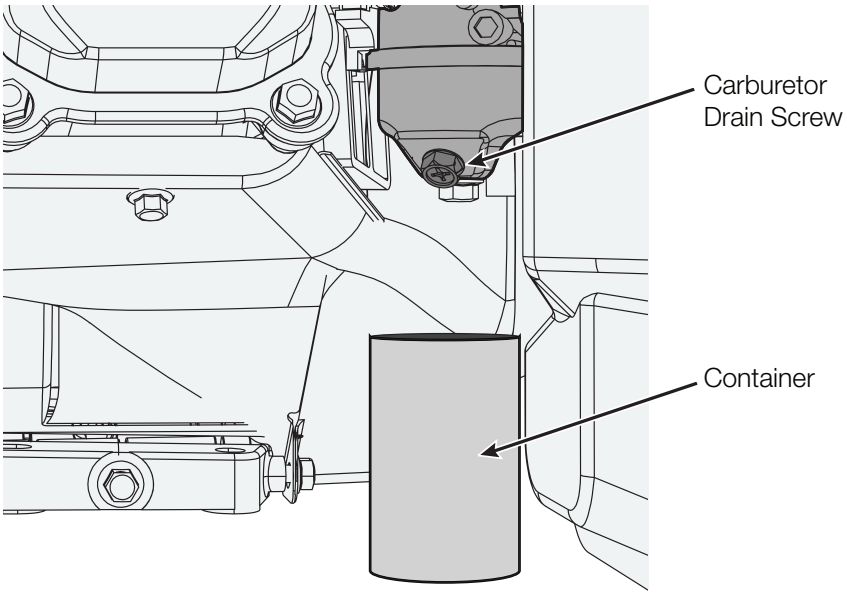
- Do not overfill the fuel tank (No residual fuel on the neck of tank).
- Do not use the generator in the vehicle. The generator should ONLY be used while in a well ventilated area.
- Avoid exposing the generator to prolonged direct sunlight while in an enclosed vehicle. The high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.
- Drain the generator of fuel and oil before being transported on rough roads.

Draining the Fuel Tank



1. Turn OFF the engine. Remove the fuel cap and the debris screen underneath the fuel cap.
2. Empty the fuel tank using a siphon and an approved gasoline container.

Draining the Carburetor



1. Turn OFF the engine and allow it to cool. Turn the fuel valve to OPEN.
2. Position a container under the carburetor drain screw. Loosen the drain screw.
3. Allow fuel to completely drain and re-tighten the drain screw.
4. Turn the fuel valve to CLOSED.

Note on Automatic Voltage Regulation (AVR)

Your generator is equipped with an Automatic Voltage Regulator which ensures a constant voltage and presents a waveform similar to what you get from the city power grid. They are an improvement over basic generators but not as effective at safely running sensitive electronics as an inverter generator or the power grid, which produces almost perfect sine waveforms.

Therefore powering sensitive electronics with this generator is not recommended because there is a risk damage will occur to electrical components.

Long Term Storage

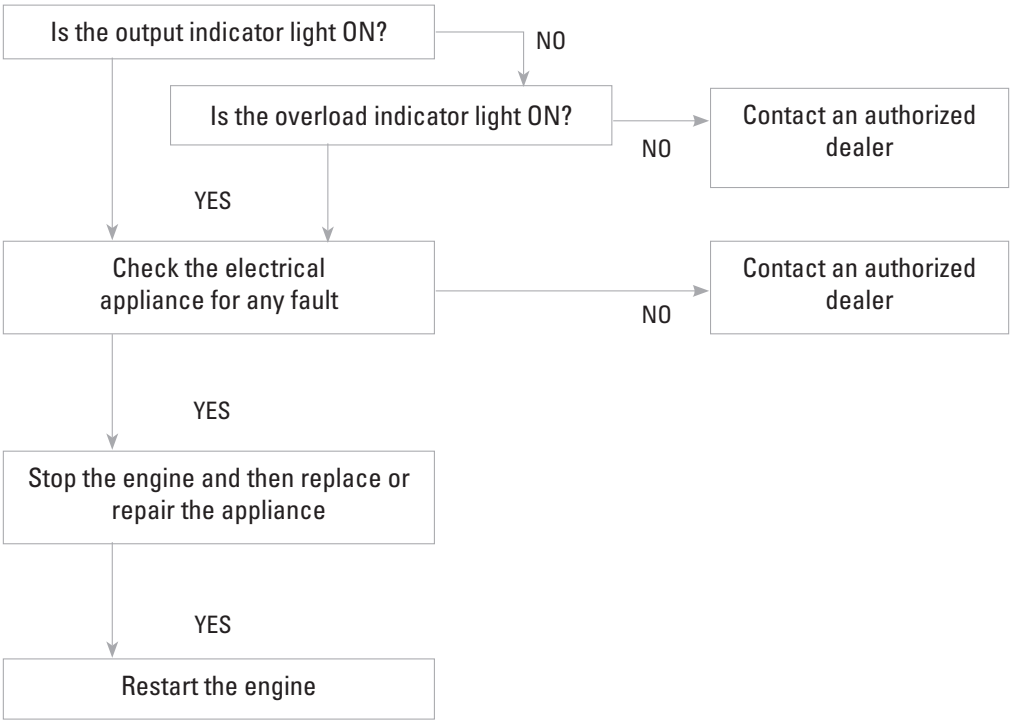
Before storing the generator set for an extended period:

- Ensure that the storage area is free of excess humidity and dust.
- Drain the fuel tank and the carburetor.
- To prevent corrosion, coat screws and exposed metal with anti-rust oil at least twice per year.

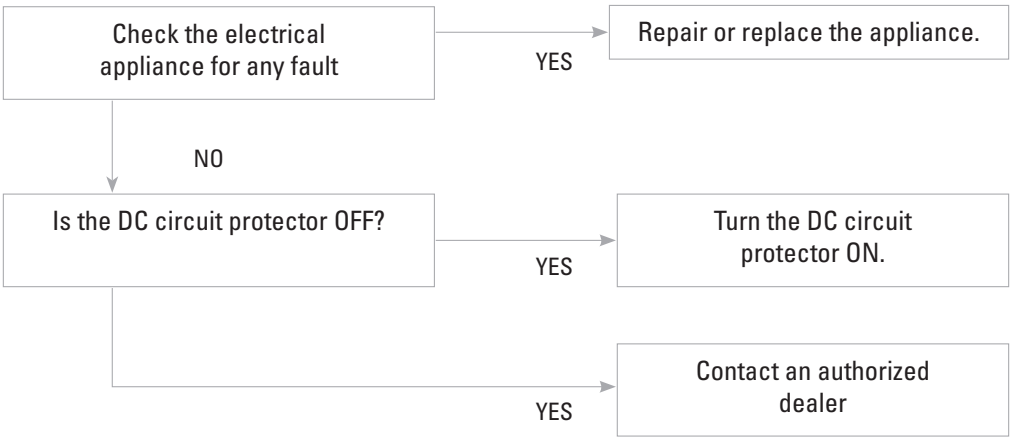
Storage Duration	Preparation Required
Less than 1 Month	■ No storage preparation required, simply store as is.
1 Month to 1 Year	■ Drain the old gas and completely fill the tank with fresh gas before storage. Add fuel stabilizer according to the manufacturer's directions. Adding a quality fuel stabilizer can keep gas fresh for up to a year.
1 Year or More	■ Drain off the gasoline from the fuel tank, and store in a suitable container. This will help prevent deposits from forming in the fuel system. ■ Turn the fuel switch to OPEN and loosen the carburetor drain bolt. Take off the spark plug cap and revolve the engine 3 or 4 times, by pulling the recoil handle, to fully discharge the gasoline from the fuel lines. ■ Turn the fuel switch to CLOSED and tighten the drain bolt of the carburetor. ■ Change oil while engine is still warm from operation. ■ Remove the spark plug, and pour a tablespoon of clean engine oil (10~20ml) into the cylinder. Revolve the engine several times by pulling on the recoil start to distribute the oil. Reinstall the spark plug. Pull the starter grip slowly until you feel resistance. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed. This position helps to protect the engine from internal corrosion.

8. TROUBLESHOOTING

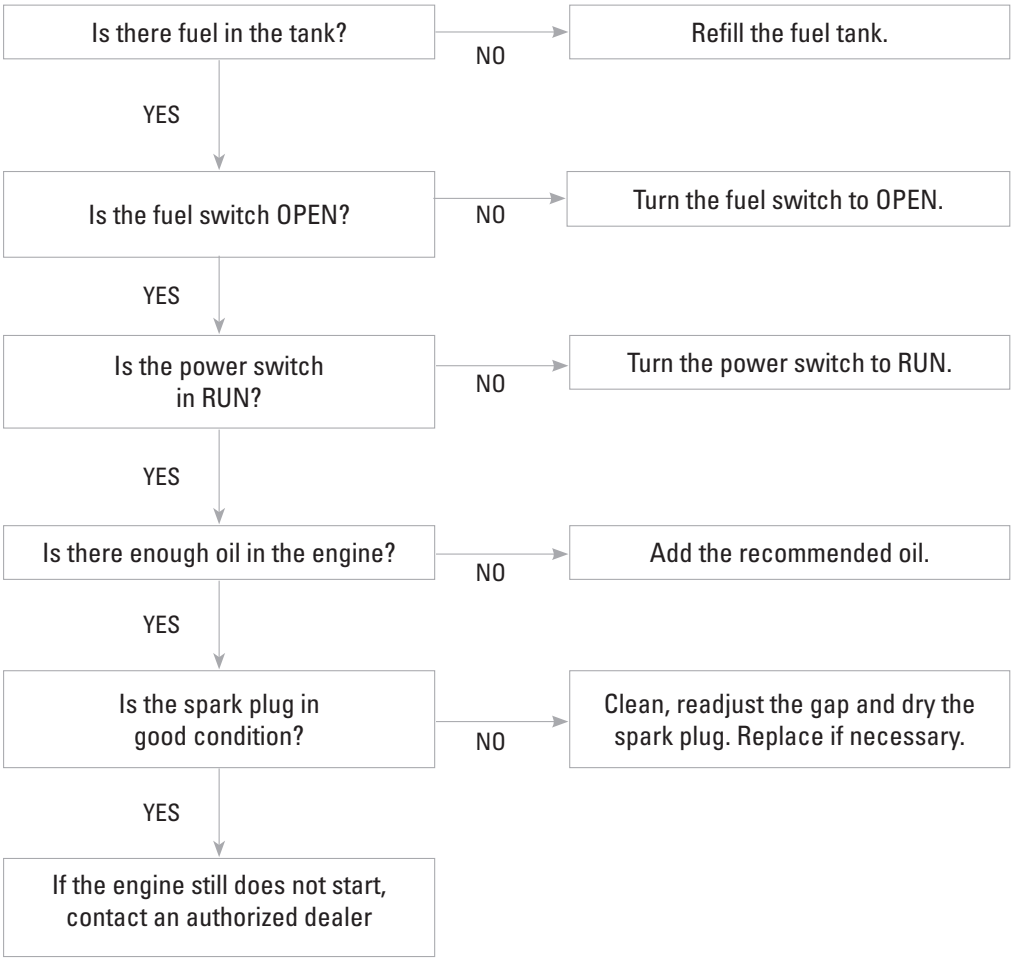
If appliances do not operate:



DC receptacle without any electricity:



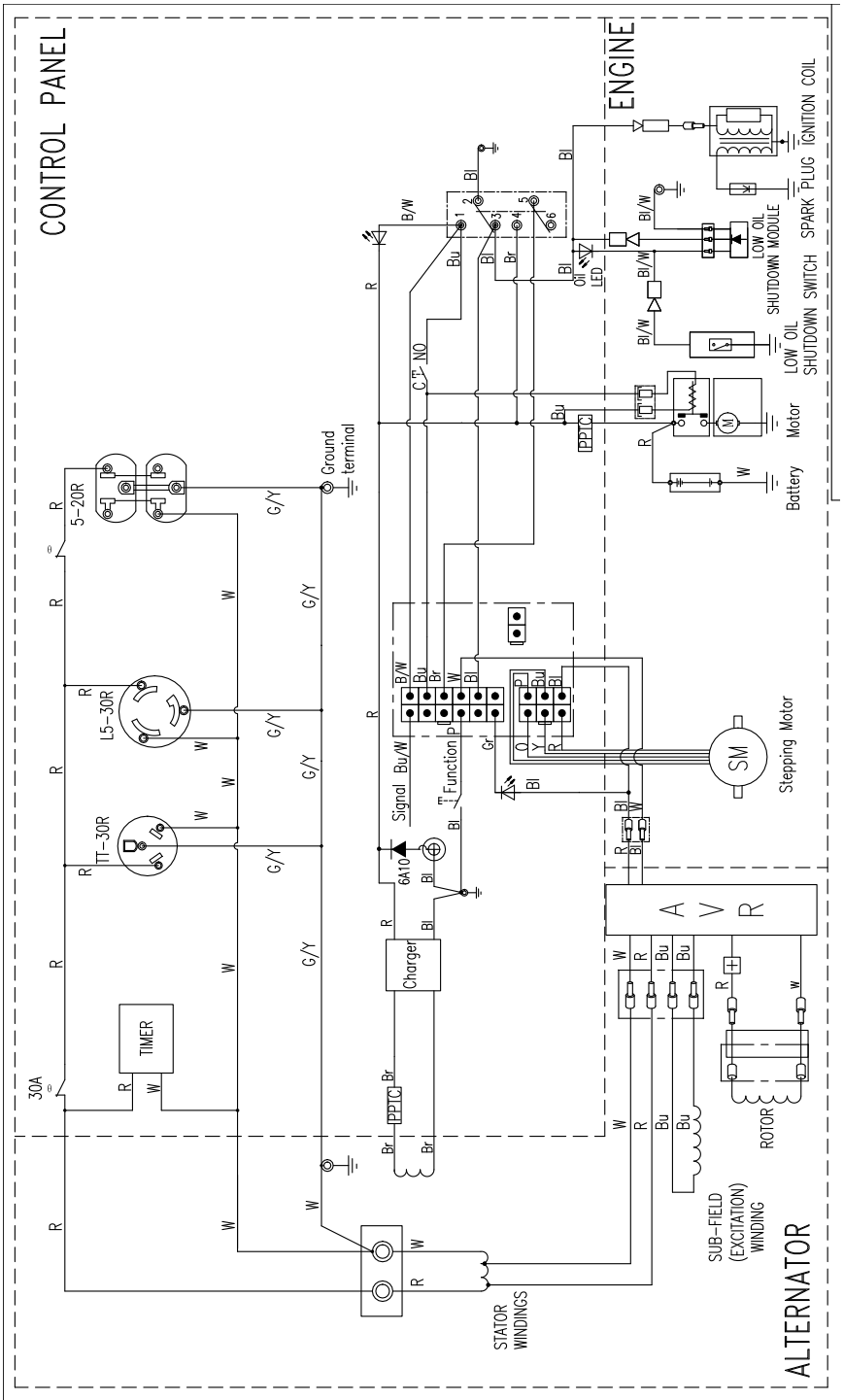
If the engine does not start:



9. TECHNICAL SPECIFICATIONS

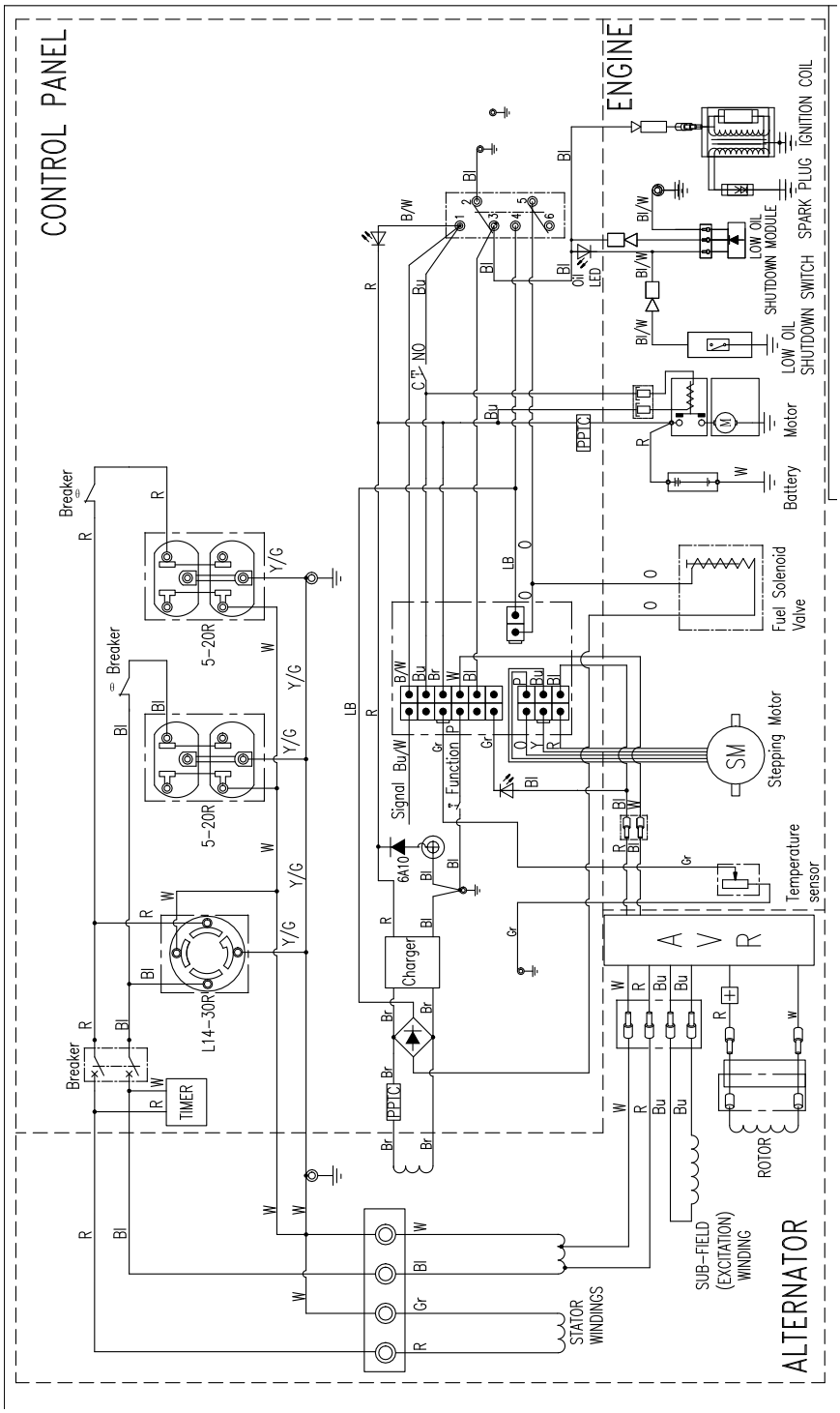
		BG4650E	BG6250E	BG11500E
GENERATOR	Rated frequency (Hz)	60Hz	60Hz	60Hz
	Max AC Output Power (W)	4650W	6250W	11500W
	Running AC Output Power (W)	3600W	5000W	9000W
	AC Voltage (V)	120V	120/240V	120/240V
	Power Factor	1.0	1.0	1.0
ENGINE	Type	7.0 HP, Single Cylinder, forced air cooling, 4-stroke, OHV	9.0 HP, Single Cylinder, forced air cooling, 4-stroke, OHV	15.0 HP, Single Cylinder, forced air cooling, 4-stroke, OHV
	Displacement (cm^3)	212cc	274cc	457cc
	Ignition mode	Transistor Controlled Ignition	Transistor Controlled Ignition	Transistor Controlled Ignition
	Starting mode	Remote Start, Electric Start, Recoil Start	Remote Start, Electric Start, Recoil Start	Remote Start, Electric Start, Recoil Start
	Max. Output (rpm)	3600	3600	3600
	Fuel tank capacity (Gal)	15L / 4.0 Gal	20L / 5.3 Gal	25L / 6.6 Gal
	Oil capacity	600mL (10W30)	700mL (10W30)	1100mL (10W30)
	Fuel Type	Unleaded gasoline 87+ Octane	Unleaded gasoline 87+ Octane	Unleaded gasoline 87+ Octane
	Run Time @ 100% Load	6.9 hrs	7.6 hrs	5.0 hrs
	Run Time @ 25% Load	12.3 hrs	14.0 hrs	12.0 hrs
UNIT	L x W x H	25.2 x 23.4 x 21.3"	25.2 x 25.6 x 21.7"	29.7 x 27.4 x 26.4"
	Gross Weight	108 lbs	128 lbs	190 lbs
BAT.	Battery Size	12V 6.5Ah	12V 9Ah	12V 14Ah

10. WIRING DIAGRAM BG4650E



Bl	Black	Y/G	Yellow/Green	Br/R	Brown/Red	Bu	Blue	G	Green	Bl	Black	W	White
Br	Brown	O	Orange	Bl/W	Black and White	LB	Light Blue	Gr	Gray	R	Red		

WIRING DIAGRAM BG6250E

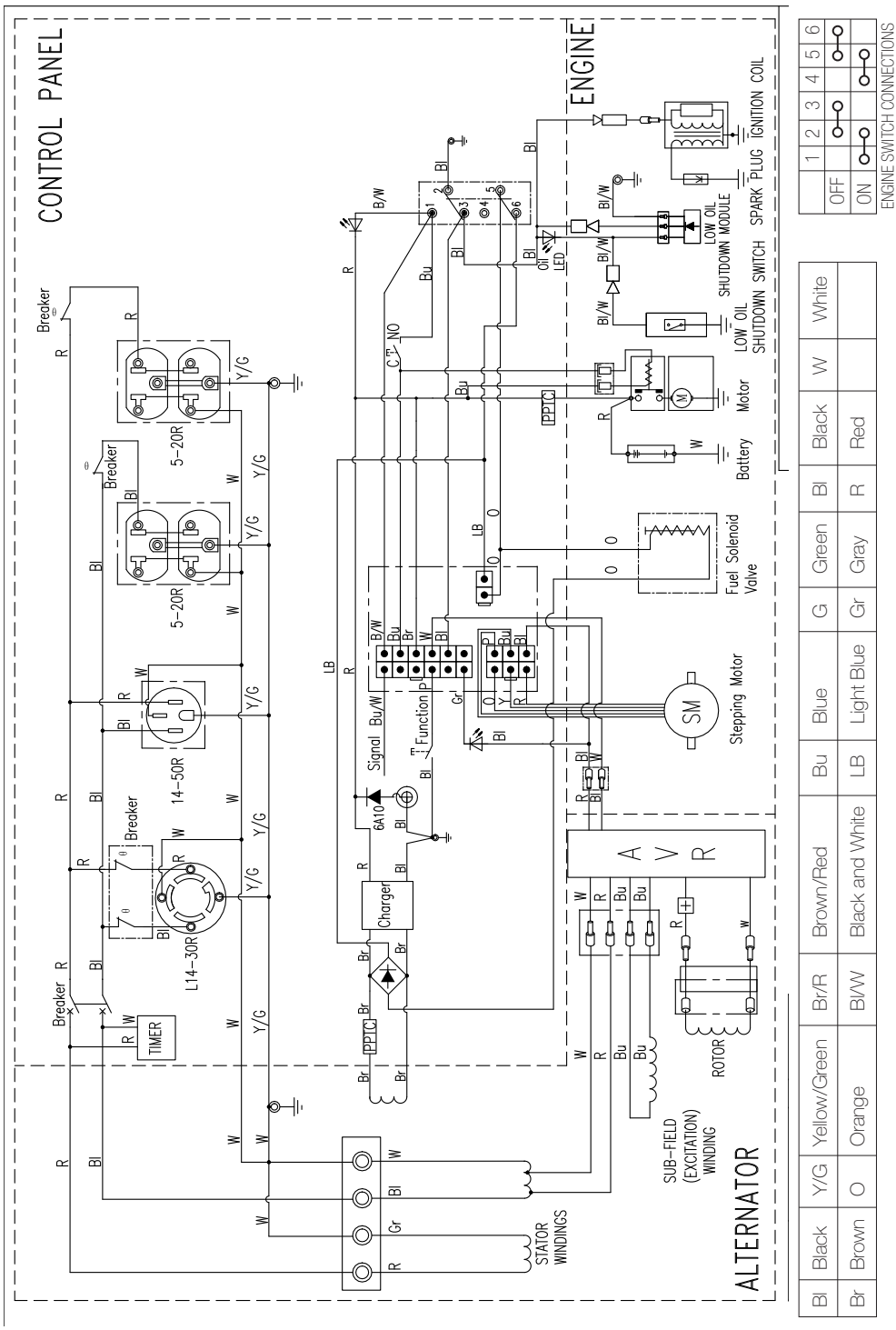


Bl	Black	Y/G	Yellow/Green	Br/R	Brown/Red	Bu	Blue	G	Green	Bl	Black	W	White
Br	Brown	O	Orange	Bl/W	Black and White	LB	Light Blue	Gr	Gray	R	Red		

	IG	E	FS	G
OFF				
ON				

ENGINE SWITCH CONNECTIONS

WIRING DIAGRAM BG11,500E



Bl	Black	Y/G	Yellow/Green	Br/R	Brown/Red	Bu	Blue	G	Green	Bl	Black	W	White
Br	Brown	O	Orange	Bl/W	Black and White	LB	Light Blue	Gr	Gray	R	Red		

	1	2	3	4	5	6
OFF			o			o
ON	o		o			o

ENGINE SWITCH CONNECTIONS

11. APPENDIX

The standard condition of rated power output:
Altitude: 0m
Ambient temperature: 25°C
Relative humidity: 30%

Factor of Environment Correction:

Altitude (m)	Ambient Temperature°C				
	25	30	35	40	45
0	1	0.98	0.96	0.93	0.90
500	0.93	0.91	0.89	0.87	0.84
1000	0.87	0.85	0.82	0.80	0.78
2000	0.75	0.73	0.71	0.69	0.66
3000	0.64	0.62	0.60	0.58	0.56
4000	0.54	0.52	0.50	0.48	0.46

NOTE:
Relative humidity 60% correction factor C-0.01
Relative humidity 80% correction factor C -0.02
Relative humidity 90% correction factor C-0.03
Relative humidity 100% correction factor C-0.04

Example:

Rated power (PN) 2.8kVA generator (Altitude: 1000m) Ambient temperature: 35°C,
Relative humidity: 80%

P=Pn*(C-0.02)=2.8*(0.82-0.02)=2.24kVA

12. LIMITED WARRANTY

E-mail: support@midlandpowerinc.com
Toll Free: 1-877-528-3772

Benchmark products are distributed and supported by:

Midland Power Inc.
376 Magnetic Drive, Toronto, ON M3J 2C4, Canada

This product is warranted to be free of defects in material and workmanship for five (5) years from date of purchase. This warranty guarantees that any defective parts will be repaired or replaced at no cost, including diagnosis and replacement parts.

Limited Warranty Periods

Recreational and Residential use: Five (5) Years Limited

- 1st to 3rd Year: Parts and Labor
- 4th to 5th Year: Parts only

Commercial use: Six months limited, parts and labor

This limited warranty begins at the initial time of retail purchase and covers manufacturer's defects caused by a defect in components or workmanship during the warranty period. The warranty coverage is continual from the initial date of purchase and does not restart at anytime under any circumstances. This limited warranty is valid for residential or recreational applications only and only when the generator receives all necessary preventative maintenance as described in the User Guide.

The repair or replacement of a generator will take place within a reasonable period of time during normal business hours. All repair and replacement parts shall be warranted for (90) days after the initial date of installation or purchase.

Limitation of Remedies and Disclaimers

Midland Power Inc. disclaims any responsibility for loss of time or use of the generator in a recreational vehicle or any vehicle in which the generator is installed, transportation, commercial loss, or any other incidental or consequential damage. Any implied warranties are limited to the duration of this written warranty.

THE FOREGOING LIMITED WARRANTY IS EXCLUSIVE OF AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND OF ANY OTHER WARRANTY WHETHER EXPRESS OR IMPLIED.

Consumable parts, such as oil or fuel filters, fuel cut off valve, brushes, fuel injection nozzle valve, lubricant, or ignition plug, are not covered under this warranty. All expenses incurred in maintaining and replacing these parts for generator shall fall on the purchaser. This warranty coverage does not include parts affected by accident and/or collision, corrosion or rust, normal wear, incorrect fuel type or fuel contamination, use in an application for which the product was not intended, unauthorized service, or any other misuse, neglect, incorporation or use of unsuitable attachments or parts. Damage to voltage regulators caused by failure to ground, shorting or overloading will not be covered under this warranty. Under this Warranty, we do not have the obligation to bear any transportation fees of any product to/from an authorized service center. Unauthorized alteration, installation or any cause other than defects in material or workmanship of the product will not be covered under the warranty.

Exclusions Not Covered by this Limited Warranty

- Normal engine/alternator wear;
- Damage caused by lack of maintenance as described in the User Guides, or negligence by using improper or impure motor oil, coolant, or fuel;
- Damage caused by accidents, improper installation or storage;
- Damage caused by water ingestion, submersion, or external water damage;
- Damage or non-performance caused by operation of the generator set in a marine application;
- Damage caused by operation with improper fuel, or at speeds, loads, conditions, or modifications contrary to published specifications;
- Items not supplied including, but not limited to, starting batteries, battery cables, external wiring, fuel lines, filters, etc; (refer to exclusions)
- Repairs made during the warranty period, without first obtaining a case number

Batteries

Batteries supplied with any generator product should be considered a bonus item and not covered by warranty. Batteries can be damaged by shock, shorting terminals, heat, acid spillage, neglect, and a number of other factors that cannot be controlled after they have left our facility. It is the customer's responsibility to take great care when handling a battery so no spillage of acid will occur and cause corrosion; damage caused by battery acid is not covered under this warranty.

Our Warranty Rights and Obligations

California

The California Air Resources Board and Midland Power Inc. are pleased to explain the emission control system warranty on your Midland Power Inc. engine. In California, new spark-ignited small off-road equipment engines must be designed, built, and equipped to meet the State's stringent anti-smog standards.

Other States, U.S. territories, and Canada

In other areas of the United States and in Canada, your engine must be designed, built, and equipped to meet the U.S. EPA and Environment Canada emission standards for spark-ignited engines at or below 19 kilowatts.

All of the United States and Canada

Midland Power Inc. must warrant the emission control system on your power equipment engine for the period of time listed below, provided there has been no abuse, neglect, or improper maintenance of your power equipment engine. Where a warrantable condition exists, Midland Power Inc. will repair your power equipment engine at no cost to you including diagnosis, parts, and labor.

Your emission control system may include such parts as the carburetor or fuel injection system, the ignition system, and catalytic converter. Also included may be hoses, connectors, and other emission-related assemblies.

Emission Control System Warranty Parts:

This list applies to parts supplied by Midland Power Inc. and does not cover parts supplied by the equipment manufacturer. Please see the original equipment manufacturer's emissions warranty for non-Midland Power Inc. parts.

Consumable parts are covered up to a maximum of 30 days.

SYSTEMS COVERED IN WARRANTY	PARTS DESCRIPTION
Fuel Metering	Carburetor assembly (includes starting enrichment system), Engine temperature sensor, Engine control module, Fuel regulator, Intake manifold
Evaporative	Fuel Tank, Fuel Cap, Fuel Hoses, Vapor Hoses, Carbon Canister, Canister Mounting Brackets, Fuel Strainer, Fuel cock, Fuel Pump, Fuel Hose Joint, Canister Purge Hose Joint
Exhaust	Catalyst, Exhaust Manifold
Air Induction	Air filter housing, Air filter element
Ignition	Flywheel magneto, Ignition pulse generator, Crankshaft position sensor, Power coil, Ignition coil assembly, Ignition control module, Spark plug cap, Spark plug
Crankcase Emission Control	Crankcase breather tube, Oil filler cap
Miscellaneous Parts	Tubing, fittings, seals, gaskets, and clamps associated with these listed systems

Warranty Claim Procedure

Warranty service must be performed by one of our authorized service dealers. Do not return your product where purchased. If you feel your generator is malfunctioning due to a defect or misuse, simply contact our customer support center for technical advice, a warranty claim or general information. Warranty service, operation assistance and product support is provided by Midland Power Inc., contact us at the numbers below.

Product Registration Instructions

Product registration is required for product support and warranty coverage. You can register online at benchmark.midlandpowerinc.com. Once your registration is complete, your receipt will be on file and any future warranty claims will be easily created. If you wish, you can confirm your registration by e-mail at support@midlandpowerinc.com

Proof of purchase is required for warranty claims. Keep a copy of the original receipt, UPC code and serial number with this user guide.

Customer Service

email: **support@midlandpowerinc.com**
online: **benchmark.midlandpowerinc.com**
phone: **1-877-528-3772**


BENCHMARK