



USER MANUAL



FOR MODELS:

GM9000iE

Digital Inverter Generator

7600 Running Watts | 9000 Starting Watts

GM9000iED

Digital Inverter Generator

GAS: 7600 Running Watts | 9000 Starting Watts
LPG: 7200 Running Watts | 8550 Starting Watts

INTRODUCTION

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ASSEMBLY

ASSEMBLY

Your generator requires some assembly. This unit ships from our factory without oil. It must be properly serviced with fuel and oil before operation.

UNPACKING

1. Set the shipping carton on a solid, flat surface.
2. Remove everything from the carton except the generator.
3. Using the carrying handles of the unit, carefully remove the generator from the box (two people lifting is recommended).

ADD ENGINE OIL

⚠ CAUTION

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

NOTICE

The generator rotor has a sealed, pre-lubricated ball bearing that requires no additional lubrication for the life of the bearing.

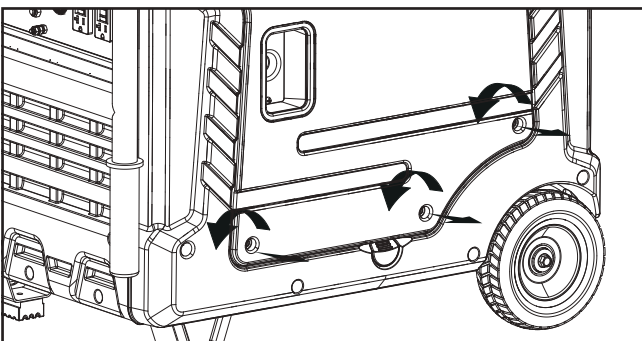
NOTICE

The recommended oil type for typical use is 10W-30 automotive oil.

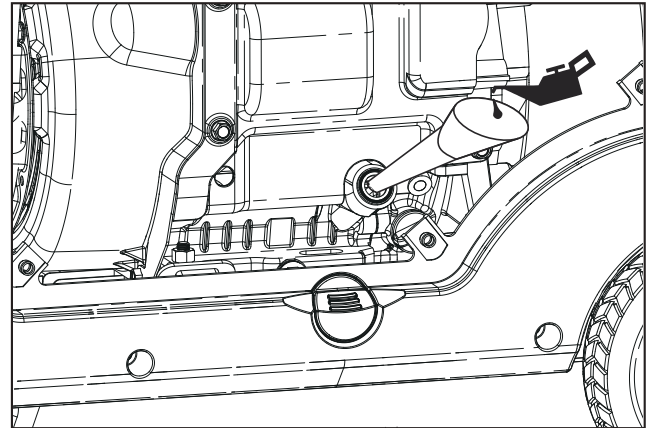
If running generator in extreme temperatures, refer to the following chart for recommended oil type.

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

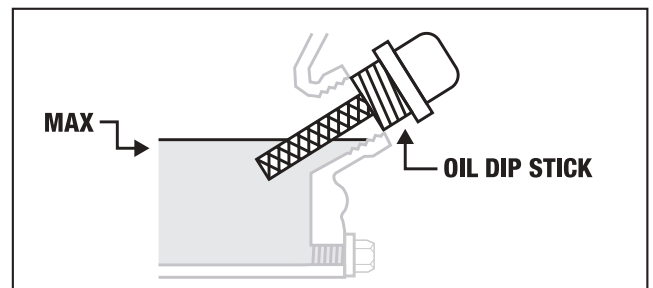
1. Place the generator on a flat, level surface.
2. On the left side of the Generator, loosen the Screw and remove the Oil Fill Access Door.



3. Remove oil fill cap/dipstick to add oil.
4. Using a funnel, as needed, add the appropriate type of oil until the oil level is at the proper level. SAE 10W-30 oil is recommended for general use. DO NOT OVERFILL. Replace oil fill cap/dipstick and secure maintenance cover.



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



NOTICE

Once oil has been added, a visual check should show oil about 1-2 threads from running out of the fill hole.

When using the dipstick to check oil level, DO NOT screw in the dipstick while checking.

NOTICE

Check oil level often during the break-in period. Refer to the Maintenance section for recommended service intervals.

⚠ CAUTION

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

NOTICE

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

ASSEMBLY

NOTICE

Synthetic oil may be used after the 5 hour initial break-in period. Using synthetic oil does not decrease the recommended oil change interval. Full synthetic 5W-30 oil will aid in starting in cold ambient < 41° F (5° C) temperatures.

ADD GASOLINE

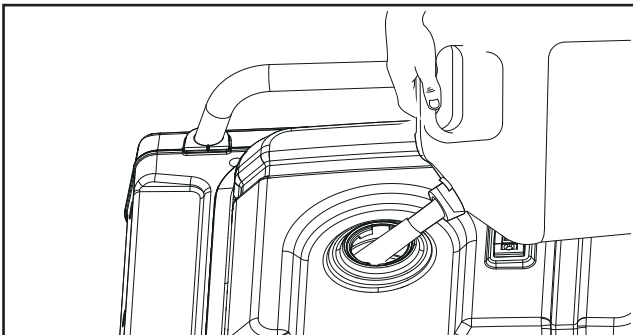
⚠ WARNING



TO PREVENT SERIOUS INJURY FROM FIRE:

Fill the fuel tank in a well-ventilated area away from ignition sources. If the Engine is hot from use, shut the Engine off and wait for it to cool before adding fuel. Do not smoke.

1. Make sure the generator is on a level surface.
2. Unscrew gas cap and set aside (NOTE: the gas cap may be tight and hard to unscrew).
3. Slowly add unleaded gasoline to the fuel tank. Be careful not to overfill. The fuel gauge on the top of the gas tank indicates how much gasoline is in the generator gas tank.



4. Replace fuel cap and wipe up any spilled gasoline with a dry cloth.

⚠ DANGER

DO NOT OVERFILL THE GAS TANK
OVERFILLING CAN RESULT IN A FIRE,
EXPLOSION, OR DEATH.

⚠ WARNING

Gas can expand. Do not fill the gas tank to the very top. Leave a minimum of 1.5 in open space. Gasoline and gas fumes are highly flammable. Do not fill the tank near an open flame. Always check for fuel spills.

IMPORTANT:

- To ensure that the generator runs smoothly use only **FRESH, UNLEADED GAS WITH AN OCTANE RATING OF 87 OR HIGHER.**
- Never use an oil/gasoline mixture. Never use old gas.
- Avoid getting dirt or water in the fuel tank.
- Gas can age in the tank and make it hard to start up the generator in the future.
- Never store generator for extended periods of time with fuel in the tank.

CONNECT AN LPG TANK

NOTICE

- The LPG tank can be of any capacity but the tank must conform to the standard as listed in Fuel Safety section.
- Propane tanks that use liquid withdrawal system can not be used on these models.
- Verify the re-qualification date on the tank has not expired.
- DO NOT use included LPG hose for any other appliances.

NOTICE

- All new tanks must be purged of air and moisture prior to filling. Used tanks that have not been plugged or kept closed must also be purged. The purging process should be done by a propane supplier (Tanks from an exchange supplier should have been purged and filled properly).
- ALWAYS position the tank so the connection between the valve and the gas inlet will not cause sharp bends or kinks in the hose.

⚠ WARNING

Explosion hazard. DO NOT start generator if you smell propane. ALWAYS fully close the propane tank valve and disconnect the LPG hose from the generator when not in use.

1. Turn the generator OFF and place on a flat surface in a well ventilated area.
2. Verify that the propane tank valve is in the fully closed position.
3. Remove the cover on the generator propane inlet valve.
4. Use your fingers to hand thread the LPG hose (included) to the propane inlet on the generator.

IMPORTANT: DO NOT use thread seal tape or any other type of sealant to seal the LPG hose connection.

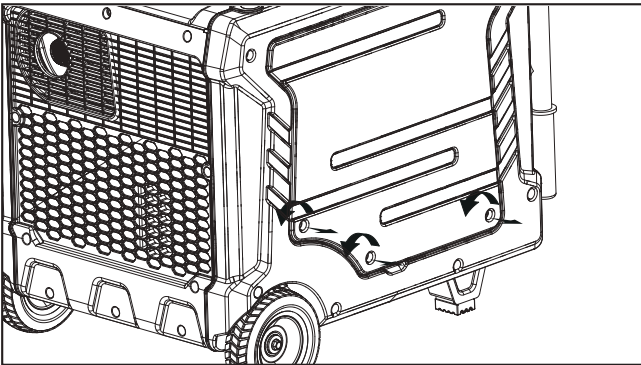
5. Tighten the LPG hose connector to the generator with a 19 mm or adjustable wrench. DO NOT over-tighten.

ASSEMBLY

6. Remove the safety plug or cap from the propane tank valve and attach the other end of the hose to the LPG connector on the tank. Hand-tighten.
7. Turn the propane tank valve to the fully open position. Check all connections for leaks by wetting the fittings with a solution of soap and water. Bubbles which appear or bubbles which grow indicate that a leak exists. If a leak exists at a fitting, turn the propane tank valve to the fully closed position and tighten the fitting. Open the propane tank valve and recheck the fitting with the soap and water solution. If the leak continues or if the leak is not at a fitting then DO NOT use the generator and contact customer service.

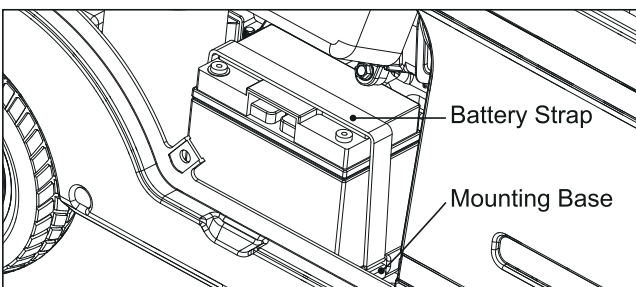
CONNECT THE BATTERY

1. On the right side of the Generator, loosen the Screw and remove the Cover

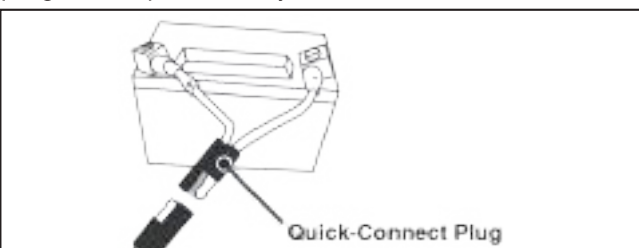


2. Verify that the rubber battery strap is firmly securing the battery in place. If loose, pull on the strap and hook it onto the mounting base.

Note: If the strap is loose behind the battery, remove the battery, reconnect the strap, replace the battery, then thread the strap under the battery quick connect cables.



3. A quick-connect battery plug is pre-installed on the battery. Remove the cable tie securing the plugs then push firmly to connect them.



4. Align the tabs on the bottom of the battery access cover with the generator case then push to reinstall the cover.

Note: The generator is equipped with a battery charging feature. Once the engine is running, a small charge will slowly recharge the battery.

GROUNDING THE GENERATOR

Attach grounding wire

- Ground the generator by tightening the grounding nut against a grounding wire.
- Connect the other end to a copper or brass grounding rod that's driven into the earth.

A generally acceptable grounding wire is a No. 12 AWG (American Wire Gauge) stranded copper wire.

Grounding codes can vary by location. Please contact a local electrician to check the grounding regulations for your area.

WARNING

Failure to properly ground the generator can result in electrocution.

OPERATION

GENERATOR LOCATION

⚠ WARNING

NEVER operate the generator inside any building, garage, basement, crawlspace, shed, enclosure or compartment, including a generator compartment of a recreational vehicle.

NEVER operate or start the generator in the back of an SUV, camper, trailer, truck bed (regular sides, flat or other configuration), under staircases, stairwells, next to walls or buildings or in any other location that will not allow for adequate cooling of the generator or for the proper exit of the exhaust flow from the muffler system.

DO NOT operate or store the generator in wet weather conditions such as rain or snow. Using a generator in wet conditions could result in serious injury or death due to electrocution.

In some state's generators may be required to be registered with the local utility company when used at construction sites and may be subject to additional rules and regulations, consult your local municipal authority.

Generators should always be operated on a flat, level surface at all times (even when not in operation).

Generators must have a minimum of 5 feet (1.5 m) of clearance from all combustible material. Generators must also have a minimum of 3 feet (91.4 cm) of air flow clearance on all sides to allow for adequate performance cooling, maintenance and servicing.

Always place the generator in a well-ventilated area. NEVER place the generator near air intake vents or where exhaust fumes could be drawn into occupied or confined spaces.

Always carefully consider wind and air currents when positioning generator.

Always allow generators to properly cool before transport or for storage purposes.

Failure to follow proper safety precautions may result in personal injury, damage to the generator and void the manufacturer's warranty.

⚠ WARNING

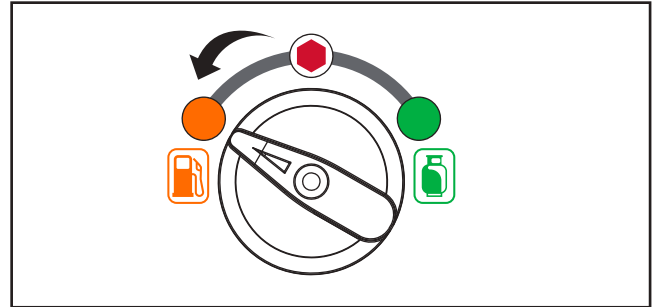
During operation the muffler and exhaust fumes will become hot. If adequate cooling and breathing space are not supplied, or if the generator is blocked or enclosed, temperatures can become extremely heated and may lead to fire.

STARTING THE ENGINE: GASOLINE

1. Make certain the generator is on a flat, level surface.
2. Disconnect all electrical loads from the generator. Never start or stop the generator with electrical devices plugged in or turned on.

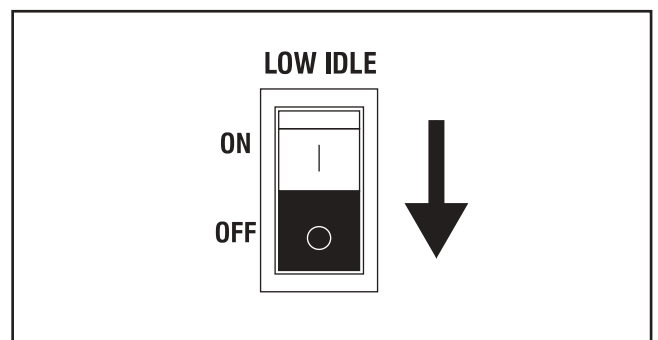
3. Select gasoline fuel

The fuel selector is located on the left side of the front power panel. Flip the switch up to select gasoline as a fuel source.



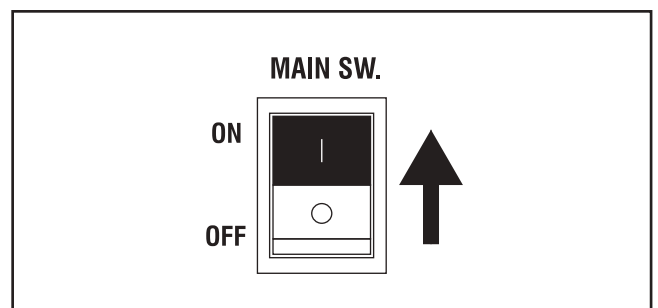
4. Turn low idle off

The low idle is located on the left side of the front power panel, next to the fuel selection switch. Flip the switch down to disable low idle when starting the generator.



5. Turn main switch on

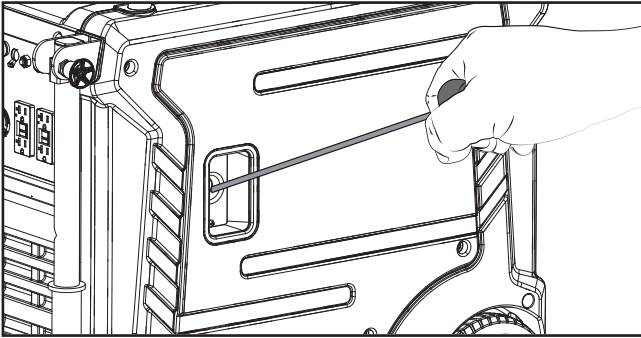
Press the main switch up to the start position to all the generator to start.



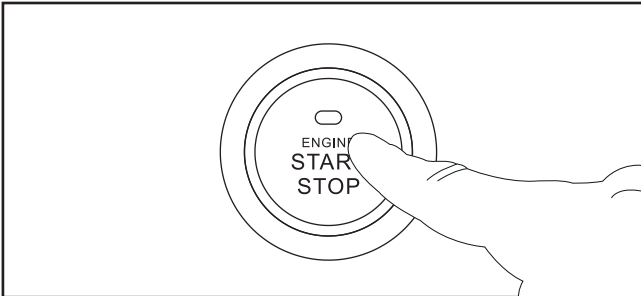
OPERATION

6. Choose the starting method

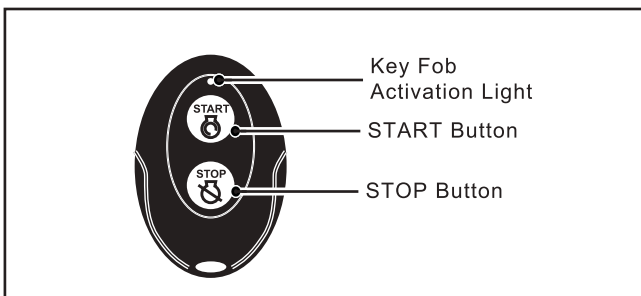
a. Recoil Start: Firmly grasp and pull the recoil handle slowly until you feel increased resistance, then pull rapidly.



b. Push-Button Start: Press the start up button down for 1 - 3 seconds to start the generator.

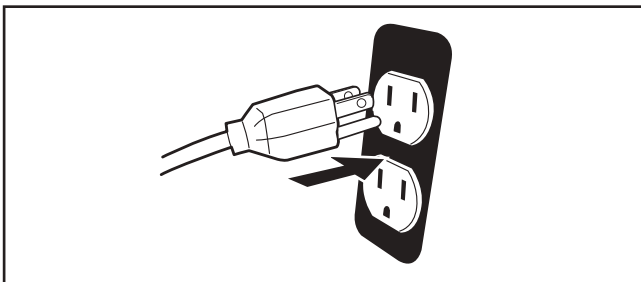


c. Remote Start: Push and hold the ON button on the remote start key fob for one second.



7. Plug in devices

Plug in devices to the appropriate receptacle. When using the generator in 120/240v mode, balance the load as closely as possible. Placing more load on one side of the circuit will reduce the breaker trip period.



Note: If engine does not start, check engine oil level. Engine will not start with low or no engine oil.

⚠ CAUTION

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

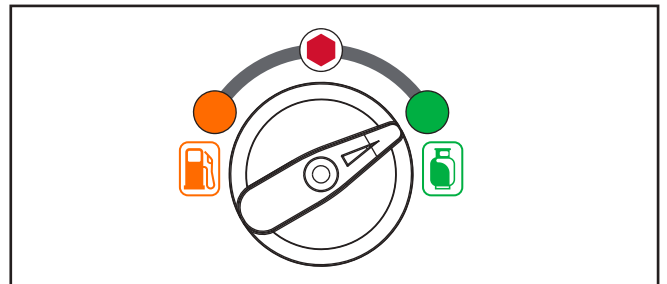
⚠ WARNING

Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, release the switch and wait 10 seconds before operating the starter again.

STARTING THE ENGINE: LPG

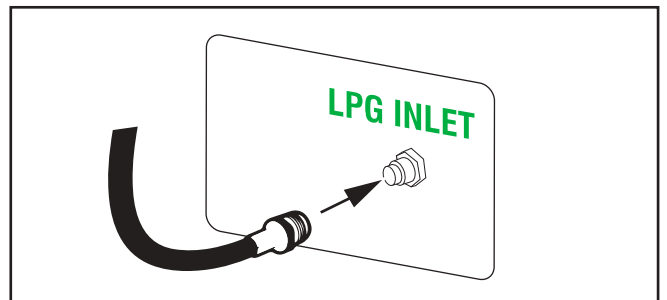
1. Select LPG fuel

The fuel selector is located on the left side of the front power panel. Flip the switch down to select LPG as a fuel source.



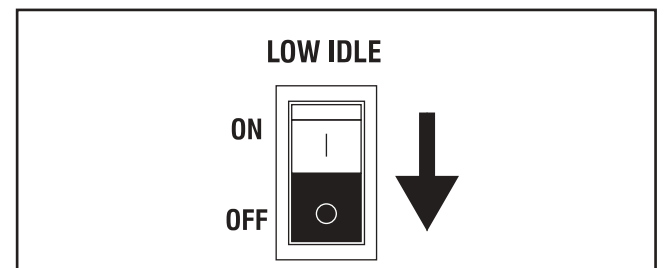
2. Connect propane hose

The LPG inlet is located on the bottom left of the front panel. Connect the propane hose to both the inlet and the propane tank. Open the propane tank.



3. Turn low idle off

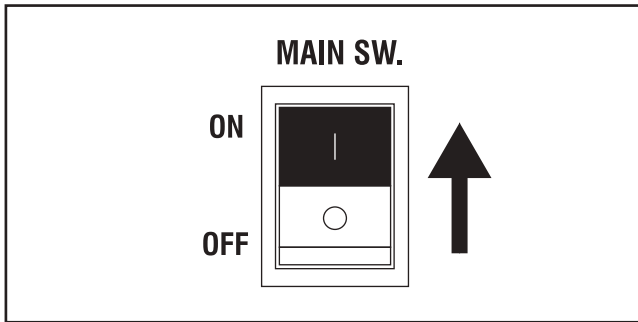
The low idle is located on the left side of the front power panel, next to the fuel selection switch. Flip the switch down to disable low idle when starting the generator.



OPERATION

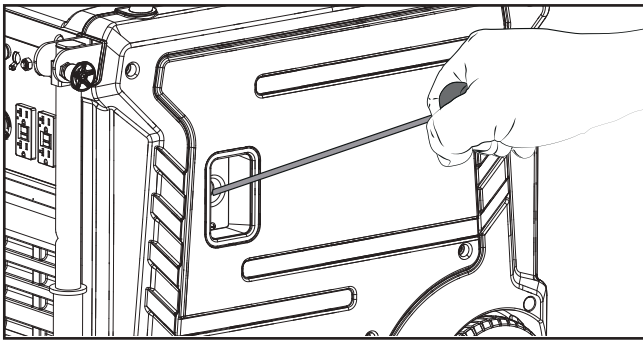
4. Turn main switch on

Press the main switch up to the start position to all the generator to start.

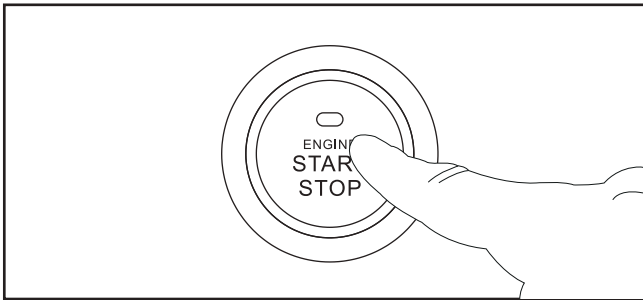


5. Choose the starting method

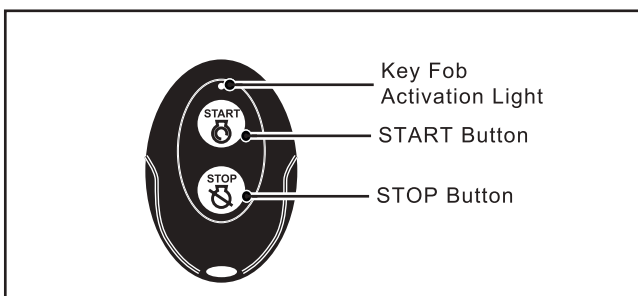
a. Recoil Start: Firmly grasp and pull the recoil handle slowly until you feel increased resistance, then pull rapidly.



b. Push-Button Start: Press the start up button down for 1 - 3 seconds to start the generator.

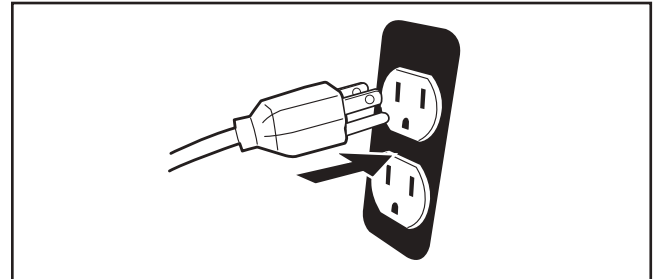


c. Remote Start: Push and hold the ON button on the remote start key fob for one second.



6. Plug in devices

Plug in devices to the appropriate receptacle. When using the generator in 120/240v mode, balance the load as closely as possible. Placing more load on one side of the circuit will reduce the breaker trip period.



⚠ DANGER

Fire and explosion hazard. Always turn the propane tank valve to the fully closed position if not running the generator on propane.

⚠ WARNING

WHEN USING THE GENERATOR WITH LPG, MAKE SURE THERE IS NO POSSIBLE IGNITION SOURCE CLOSE TO THE GENERATOR.

1. Before using, make sure all of the LPG connectors and hoses are well connected and sealed.
2. Connect electrical devices to the generator ONLY after the engine runs smoothly. (There may be remnant gasoline in the carburetor; this can cause unsteady engine performance for several minutes)
3. If the propane gas leaks, shut off the LPG supply first and then quickly unplug or turn off any electrical devices powered by the unit.
4. When stopping the engine, unplug or turn off any electrical devices, turn off the Main Circuit Breaker and then turn off the LPG Supply. After the engine has stopped turn the Battery Switch to the "OFF" position.

⚠ CAUTION

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

⚠ WARNING

Operating the starter motor for more than 5 seconds can damage the motor. If the engine fails to start, wait 10 seconds before operating the starter again.

OPERATION

GASOLINE TO LPG

IMPORTANT: Load capacity is reduced when running on LPG. Make sure the generator can supply enough (running) and surge (starting) watts for the items you are powering before switching to LPG.

1. Turn the LPG tank valve to the fully open position.
2. Turn the fuel selector switch to propane operation.

LPG TO GASOLINE

1. Turn the fuel selector switch to gasoline operation.
2. Turn the LPG tank valve to the fully closed position.

NOTE: When switching to LPG operation the engine may run rough for a few seconds while it purges gasoline in the carburetor.

If the engine stops when switching fuel sources, disconnect all loads then restart the unit on the fuel source of choice.

BREAK-IN PERIOD

- Breaking-in the Engine will help to ensure proper equipment and Engine operation.
- The break-in period will last about 30 hours of use. DO NOT exceed 75% of the Generator's running wattage during this period.

Change the engine oil after this period.

Under normal operating conditions subsequent maintenance follows the schedule explained in the maintenance section.

PARALLEL OPERATION

The parallel connection ports allow you to connect two generators to increase the total available electrical power. Follow the instructions included with your parallel connection kit for proper installation and operation.

CONNECTING 120 VAC LOADS TO THE GENERATOR

Calculate Power Draw:

Power draw can be calculated by multiplying volts and amps. The resulting number is wattage.

- Never exceed the running wattage for the Generator or any outlet amperage rating.
- Refer to appliance/tool owner's manuals to determine the wattage of electrical load devices.
- Long power cords and extension cords draw additional power. Keep cord length at a minimum.

Wattage Estimates:

Refer to your device documentation for start-up and running wattage requirements.

Check nameplate wattages on all loads before connecting to Generator.

Plug the power cord of the 120 volt appliance/tool into the 120 VAC Outlet on the Generator. Plug in appliances from largest to smallest load.

Note: Do not allow the Generator to completely run out of fuel with devices attached.

A Generator's output may sharply spike as it runs out of fuel, causing damage to attached devices.

Overload Indicator

Note: The OVERLOAD light may turn on for a few seconds as a large device starts up. This is normal for loads approaching the capacity of this Generator.

1. The total combined load through the outlets on the Generator must not exceed the running power of the unit.
2. If the OVERLOAD light turns on and the Generator stops producing power, it has been overloaded.
3. Turn off and disconnect all electrical devices and stop the Engine. Compare device requirements to Generator rating and reduce the total wattage of connected devices if necessary. Move anything that may be limiting Generator ventilation away.
4. Check if any circuit breakers have tripped and make sure that ALL circuit breakers are reset before starting the Generator again.
5. Restart the Engine and reconnect devices while being careful to not overload Generator.

LOW OIL INDICATOR

1. If the Engine oil level is too low, the LOW OIL light turns on and the Engine will automatically shut off.
2. The Engine cannot be restarted until the proper amount of oil has been added. Add the appropriate type of oil until the oil level is at the proper level. SAE 10W-30 oil is recommended for general use.

NOTICE: Do not run the engine with too little oil. Engine will shut off if engine oil level is too low.

LOW IDLE SWITCH

1. Turn the low idle Switch ON to limit noise and fuel consumption for lighter generator loads.
2. Turn the low idle Switch OFF to operate engine at full speed:
 - when starting
 - when a heavy load is applied
 - when using the 12 VDC output

VOLTAGE SELECTOR

The Voltage Selector allows more current to be available at 120V outlets if 240V output is not required:

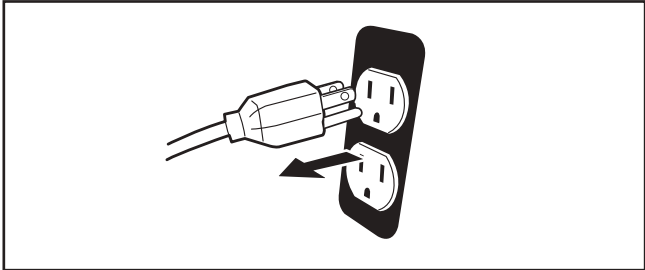
- Place switch at 120V only - only 120V outlets can be used.
- Place switch at 120/240V: Both 120V and 240V outlets can be used.

NOTE: Do not change the switch while under load. For parallel function, Switch position must be at 120/240V.

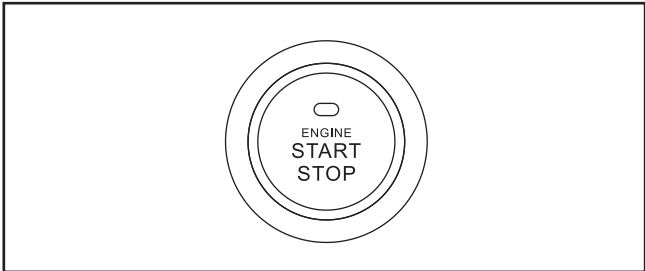
OPERATION

STOP THE ENGINE

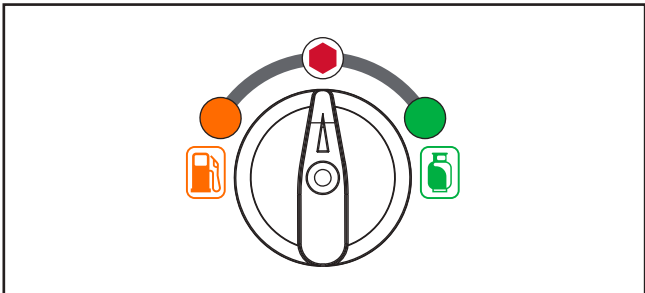
1. Turn off and unplug all connected electrical loads. Never start or stop the generator with electrical devices plugged in or turned on.



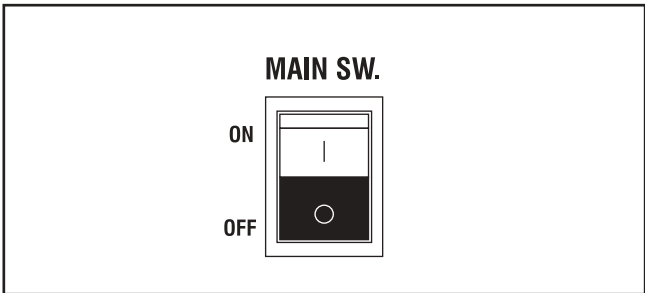
1. Push and hold the start up button for one second.



3. Turn the propane tank valve to the fully closed position.



4. Turn the main switch up to the off position.



GENERATOR CAPACITY

NOTICE

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

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

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

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

Example:

Tool or Appliance	Running Watts*	Starting Watts*
RV Air Conditioner (11,000 BTU)	1010	1600
TV (Tube Type)	300	0
RV Refrigerator	180	600
Radio	200	0
Light (75 Watts)	300	0
Coffee Maker	600	0
2590 Total Running Watts*		1600 Highest Starting Watts*

Total Running Watts	2590
Highest Starting Watts +	1600
Total Starting Watts Needed	4190

*Wattages listed are approximate. Verify actual wattage.

OPERATION

POWER MANAGEMENT

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

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

Wattage Reference

Tool or Appliance	Estimated Running Watts*	Estimated Starting Watts*
Incandescent Lights (4 Quantity x 75 Watts)	300	0
TV (Tube Type)	300	0
Sump Pump (1/3 hp)	800	1300
Refrigerator or Freezer	700	2200
Well Pump (1/3 hp)	1000	2000
Furnace (1/2 hp)	800	2350
Radio	200	0
Drill (3/8", 4 amps)	440	600
Circular Saw (Heavy Duty, 7-1/4")	1400	2300
Miter Saw (10")	1800	1800
Table Saw (10")	2000	2000

*Wattages listed are approximate. Verify actual wattage.

MAINTENANCE

WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL STARTING: Turn the Combination Switch of the equipment to its “OFF” position, wait for the engine to cool, and disconnect the spark plug cap before performing any inspection, maintenance, or cleaning procedures.

TO PREVENT SERIOUS INJURY FROM EQUIPMENT FAILURE: Do not use damaged equipment. If abnormal noise, vibration, or excess smoking occurs, have the problem corrected before further use.

Follow all service instructions in this manual. The engine may fail critically if not serviced properly.



Many maintenance procedures, including any not detailed in this manual, will need to be performed by a qualified technician for safety. If you have any doubts about your ability to safely service the equipment or engine, have a qualified technician service the equipment instead.

Cleaning, Maintenance, and Lubrication Schedule

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of each piece of equipment will differ depending on factors such as duty cycle, temperature, air quality, fuel quality, and other factors.

Note: The following procedures are in addition to the regular checks and maintenance explained as part of the regular operation of the engine and equipment.

Procedure	Before Each Use	Monthly or every 8 hr. of use	Every 3 mo. or 50 hr. of use	Every 6 mo. or 100 hr. of use	Yearly or every 300 hr. of use	Every 2 Years	Page
1. Brush off outside of engine 2. Check engine oil level 3. Check air filter	✓						
Change engine oil				✓			17
Clean/replace air cleaner			✓*				18
1. Check and clean spark plug 2. Check and clean spark arrestor				✓			18
1. Check/adjust idle speed 2. Check/adjust valve clearance 3. Clean fuel tank, strainer and carburetor 4. Clean carbon build-up from combustion chamber					✓**		—
Replace fuel line if necessary						✓**	—

*Service more frequently when used in dusty areas.

**These items should be serviced by a qualified technician.

MAINTENANCE

CHECKING AND FILLING FUEL

⚠ WARNING



TO PREVENT SERIOUS INJURY FROM FIRE:

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

1. Clean the Fuel Cap and the area around it.
2. Unscrew and remove the Fuel Cap.
3. Remove the Strainer and remove any dirt and debris. Then replace the Strainer.

Note: Do not use gasoline containing more than 10% ethanol (E10). Do not use E85 ethanol. Add fuel stabilizer to the gasoline or the Warranty is VOID.

Note: Do not use gasoline that has been stored in a metal fuel container or a dirty fuel container. It can cause particles to enter the carburetor, affecting engine performance and/or causing damage.

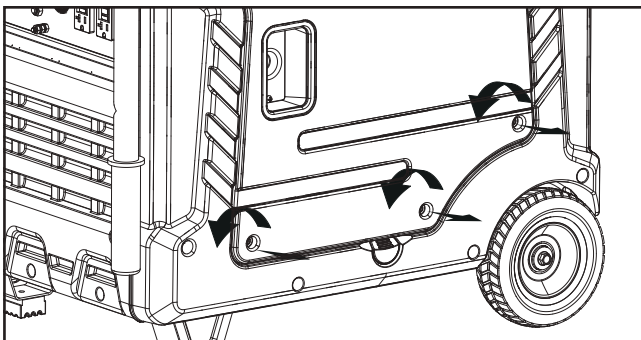
4. If needed, fill the Fuel Tank to about 1 inch under the fill neck of the Fuel Tank with 87 octane or higher unleaded gasoline that has been treated with a fuel stabilizer additive. Follow fuel stabilizer manufacturer's recommendations for use.
5. Replace the Fuel Cap.
6. Wipe up any spilled fuel and allow excess to evaporate before starting engine. To prevent FIRE, do not start the engine while the smell of fuel hangs in the air.

ENGINE OIL CHANGE

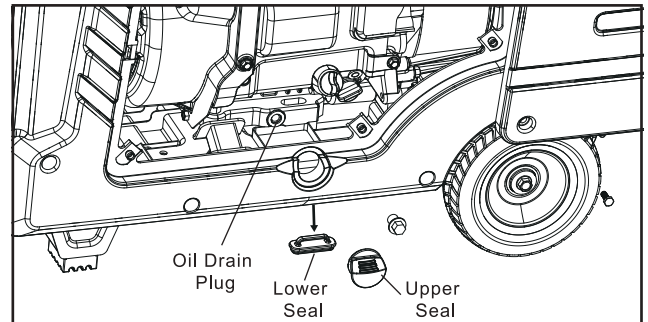
⚠ CAUTION

Oil is very hot during operation and can cause burns. Wait for engine to cool before changing oil.

1. Make sure the Engine is stopped and is level.
2. On the left side of the Generator, loosen the Screws and remove the Oil Fill Access Door.



3. Remove the lower Rubber Seal from underneath the Generator.



4. Place an oil drain pan under the Generator and center under the Oil Drain Hose opening. Remove the Oil Drain Cap, tilt the Generator slightly to facilitate drainage and wait for oil to drain completely. Recycle used oil.
5. Clean the top of the Oil Fill Cap / Dipstick and the area around it. Remove the Cap / Dipstick, turning it counterclockwise.
6. Remove the upper Rubber Seal from just below the Oil Drain Plug.
7. Use a wrench (sold separately) to remove the Oil Drain Plug and allow the oil to drain completely.
8. Replace the Oil Drain Cap. Put the Oil Drain Hose back into the Generator.
9. Add the appropriate type of oil until the oil level is at the proper level. SAE 10W-30 oil is recommended for general use.
10. Check the oil level. The oil level should be up to the edge of the hole as shown.
11. Thread the Oil Fill Cap / Dipstick back in clockwise and replace the Oil Fill Access Door.

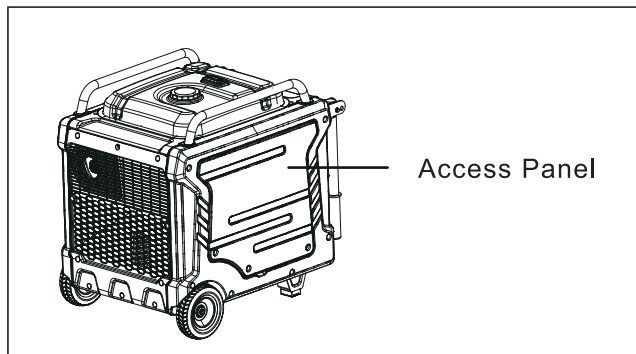
NOTICE

Do not run the engine with too little oil. Engine will not start with low or no engine oil.

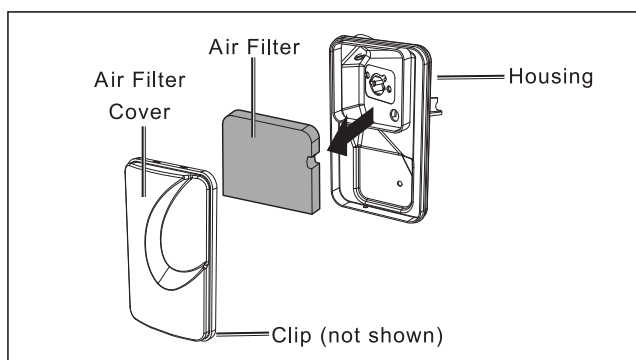
MAINTENANCE

Air Filter Element Maintenance

1. Loosen screws and remove the Air Filter Access Panel on the right side of the Generator.



2. Unsnap the Air Filter Cover Clip and remove Air Filter Cover. See figure below.
3. Remove Air Filter.



Spark Arrestor Maintenance

⚠ WARNING

TO PREVENT SERIOUS INJURY AND FIRE:

Operate only with proper spark arrestor installed.



Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

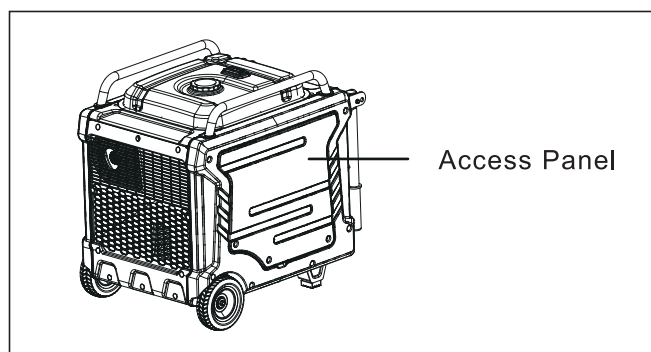
1. Allow the Generator to cool completely.
2. Remove the Screws from the back of the Generator.
3. Remove the Tail Pipe and Spark Arrestor.
4. Clean the Spark Arrestor using a wire brush (sold separately). Replace arrestor if damaged.

⚠ WARNING

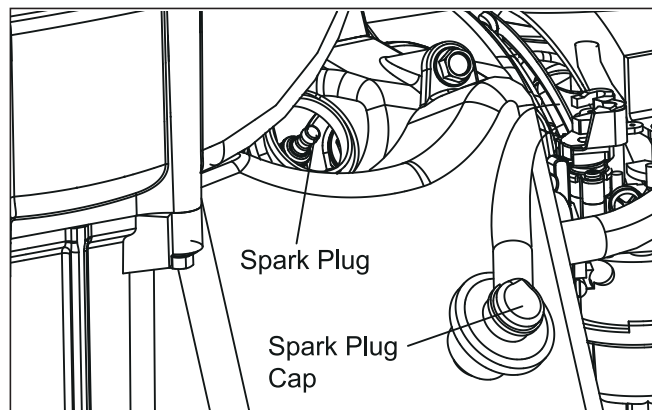
TO PREVENT SERIOUS INJURY FROM ACCIDENTAL BRUSH FIRE, secure Spark Arrestor back in place immediately after cleaning and before further operation.

Spark Plug Maintenance

1. Loosen two screws and remove the Access Panel on the right of the Generator.



2. Disconnect Spark Plug Cap from end of plug. Clean out debris from around Spark Plug.



3. Using the Spark Plug Wrench, remove the Spark Plug.
4. Inspect the Spark Plug: If the electrode is oily, clean it using a clean, dry rag. If the electrode has deposits on it, polish it using emery paper. If the white insulator is cracked or chipped, the spark plug needs to be replaced.

NOTICE

Use only BPR6ES (NGK) type spark plug or equivalent. Using an incorrect spark plug may damage the engine.

5. When installing a new spark plug, adjust the plug's gap to the specification on the Specifications chart. Do not pry against the electrode, the spark plug can be damaged.
6. Apply anti-seize material to Spark Plug threads. Install the new spark plug or the cleaned spark plug into the engine.

MAINTENANCE

- **Gasket-style:**

Finger-tighten until the gasket contacts the cylinder head, then tighten about 1/2-2/3 turn more.

- **Non-gasket-style:**

Finger-tighten until the plug contacts the cylinder head, then tighten about 1/16 turn more.

NOTICE

Tighten the Spark Plug properly. If loose, the Spark Plug will cause the engine to overheat.

If overtightened, the threads in the engine block will be damaged.

7. Apply dielectric spark plug boot protector (not included) to the end of the spark plug and reattach the cap securely.

8. Replace Spark Plug Access Cover and Access Panel.

Storage

When the equipment is to remain idle for longer than 20 days, prepare the engine for storage as follows:

1. **CLEANING:**

Wait for engine to cool, then clean engine with dry cloth. **NOTICE:** Do not clean using water. The water will gradually enter the engine and cause damage.

2. **FUEL:**

Gasoline Treatment/Draining the Fuel Tank

To protect the fuel tank during storage, fill the tank with fresh gasoline that has been treated with a fuel stabilizer additive. Follow fuel stabilizer manufacturer's recommendations for use.

Aged gasoline that has not been treated with stabilizer ahead of time must be safely drained away and not run through the engine.

⚠ WARNING



TO PREVENT SERIOUS INJURY FROM FIRE:

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

Draining the Carburetor

After closing the Fuel Valve, place an appropriate container under the Carburetor and carefully remove the Drain Bolt from the bottom of the Carburetor Bowl, allowing the fuel to drain completely. Replace the Drain Bolt after draining.

⚠ WARNING

To prevent serious injury and fire, close the Fuel Valve before draining the Carburetor.

3. **LUBRI CATION:**

- a. Change engine oil.
- b. Clean out area around spark plug. Remove spark plug and pour one tablespoon of engine oil into cylinder through spark plug hole.
- c. Replace spark plug, but leave spark plug cap disconnected.
- d. Pull Starter Handle to distribute oil in cylinder. Stop after one or two revolutions when you feel the piston start the compression stroke (when you start to feel resistance).

4. **STORAGE AREA:**

Cover and store in a dry, level, well-ventilated area out of reach of children. Storage area should also be away from ignition sources, such as water heaters, clothes dryers, and furnaces.

NOTICE

During extended storage periods the Engine must be started every 3 months and allowed to run for 15 – 20 minutes or the Warranty is VOID.

5. **AFTER STORAGE:**

Before starting the engine after storage, keep in mind that untreated gasoline will deteriorate quickly. Drain the fuel tank and change to fresh fuel if untreated gasoline has been sitting for a month, if treated gasoline has been sitting beyond the fuel stabilizer's recommended time period, or if the engine does not start.

TROUBLESHOOTING

Problem	Possible Causes	Probable Solutions
Engine will not start	FUEL RELATED: <ol style="list-style-type: none"> No fuel in tank or fuel valve closed. Choke not in START position, cold engine. Gasoline with more than 10% ethanol used. (E15, E20, E85, etc.) Low quality or deteriorated, old gasoline. Carburetor not primed. Dirty fuel passageways. Carburetor needle stuck. Fuel can be smelled in the air. Too much fuel in chamber. This can be caused by the carburetor needle sticking. Clogged Fuel Filter. 	FUEL RELATED: <ol style="list-style-type: none"> Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline and open fuel valve. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). Move Choke to START position. Clean out ethanol rich gasoline from fuel system. Replace components damaged by ethanol. Use fresh 87+ octane stabilizer-treated unleaded gasoline only. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). Use fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). Pull on Starter Handle to prime. Clean out passageways using fuel additive. Heavy deposits may require further cleaning. Gently tap side of carburetor float chamber with screwdriver handle. Turn Choke to RUN position. Remove spark plug and pull the start handle several times to air out the chamber. Reinstall spark plug and set Choke to START position. Replace Fuel Filter.
	IGNITION (SPARK) RELATED: <ol style="list-style-type: none"> Power Switch at OFF position. Spark plug cap not connected securely. Spark plug electrode wet or dirty. Incorrect spark plug gap. Spark plug cap broken. Circuit breaker tripped (electric start models only). Incorrect spark timing or faulty ignition system. 	IGNITION (SPARK) RELATED: <ol style="list-style-type: none"> Turn Power Switch to ON. Connect spark plug cap properly. Clean spark plug. Correct spark plug gap. Replace spark plug cap. Reset circuit breaker. Check wiring and starter motor if breaker continues to trip. Have qualified technician diagnose/repair ignition system.
	COMPRESSION RELATED: <ol style="list-style-type: none"> Cylinder not lubricated. Problem after long storage periods. Loose or broken spark plug. (Hissing noise will occur when trying to start.) Loose cylinder head or damaged head gasket. (Hissing noise will occur when trying to start.) Engine valves or tappets mis-adjusted or stuck. 	COMPRESSION RELATED: <ol style="list-style-type: none"> Pour tablespoon of oil into spark plug hole. Crank engine a few times and try to start again. Tighten spark plug. If that does not work, replace spark plug. If problem persists, may have head gasket problem, see #3. Tighten head. If that does not remedy problem, replace head gasket. Have qualified technician adjust/repair valves and tappets.
	ENGINE OIL RELATED: <ol style="list-style-type: none"> Low engine oil. Engine mounted on slope, triggering low oil shutdown. 	ENGINE OIL RELATED: <ol style="list-style-type: none"> Fill engine oil to proper level. Check engine oil before EVERY use. Operate engine on level surface. Check engine oil level.
	SPARK ARRESTOR RELATED: <ol style="list-style-type: none"> Spark Arrestor clogged with soot. 	SPARK ARRESTOR RELATED: <ol style="list-style-type: none"> Clean and replace Spark Arrestor.



Follow all safety precautions whenever diagnosing or servicing the generator or engine.

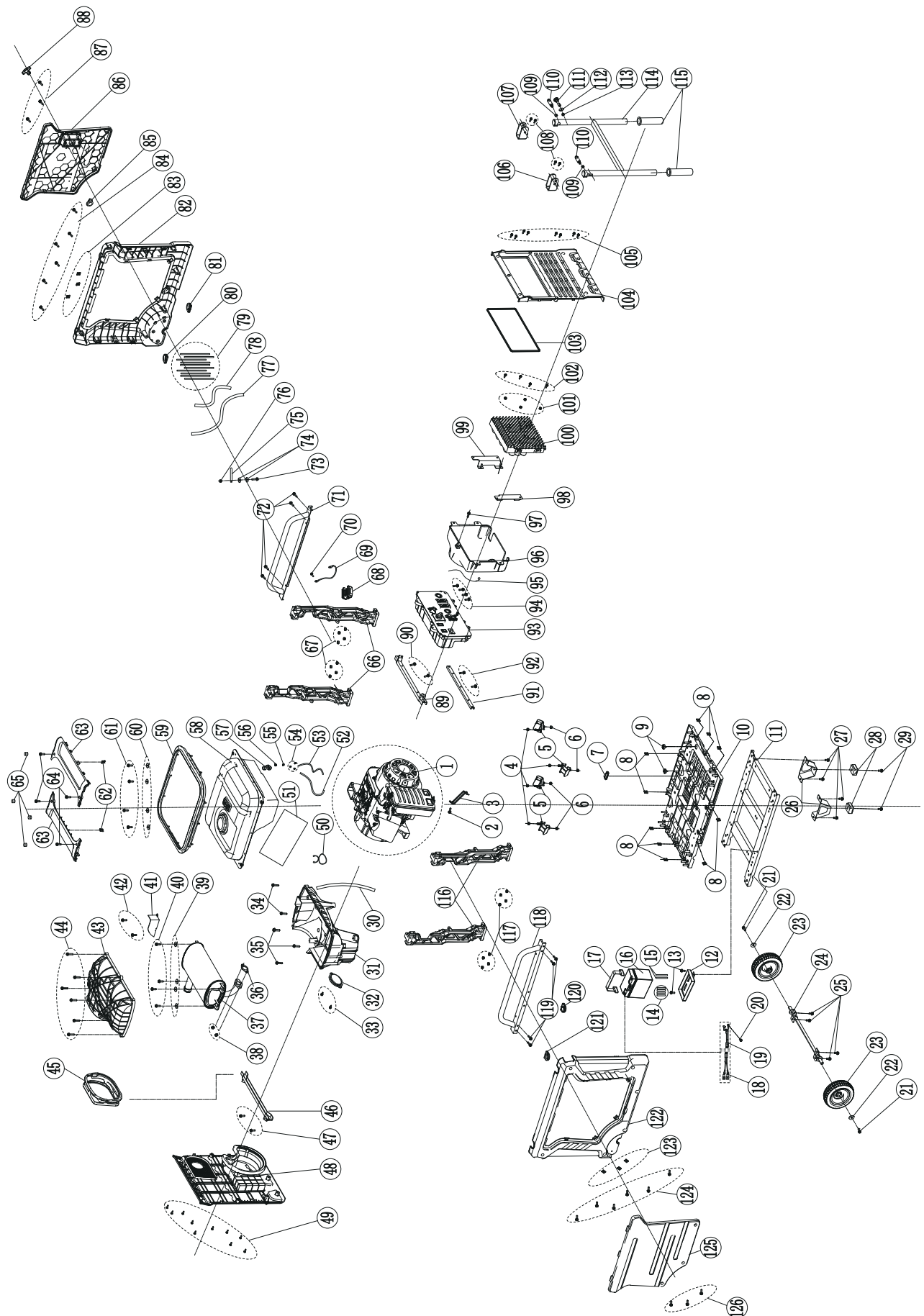
TROUBLESHOOTING

Problem	Possible Causes	Probable Solutions
Engine misfires	<ol style="list-style-type: none"> 1. Spark plug cap loose. 2. Incorrect spark plug gap or damaged spark plug. 3. Defective spark plug cap. 4. Old or low quality gasoline. 5. Incorrect compression. 	<ol style="list-style-type: none"> 1. Check cap and wire connections. 2. Re-gap or replace spark plug. 3. Replace spark plug cap. 4. Use only fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 5. Diagnose and repair compression. (Use Engine will not start: COMPRESSION RELATED section.)
Engine stops suddenly	<ol style="list-style-type: none"> 1. Carbon Monoxide level high. Red light on Carbon Monoxide Sensor illuminates. 2. CO Sensor Alarm flashes yellow continually shortly after starting. 3. CO Sensor Alarm flashes yellow continually after longer period of operation. 4. Low oil shutdown. 5. Fuel tank empty or full of impure or low quality gasoline. 6. Defective fuel tank cap creating vacuum, preventing proper fuel flow. 7. Faulty magneto. 8. Disconnected or improperly connected spark plug cap. 	<ol style="list-style-type: none"> 1. Leave area immediately and allow area to ventilate thoroughly. Only operate generator outside. 2. Carbon monoxide sensor malfunction. Sensor needs service. Do not use the Generator until the sensor is working properly. 3. Make sure to operate generator within rated ambient temperature; maintain minimum 5 ft. clearance from all sides. 4. Fill engine oil to proper level. Check engine oil before EVERY use. 5. Fill fuel tank with fresh 87+ octane stabilizer treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 6. Test/replace fuel tank cap. 7. Have qualified technician service magneto. 8. Secure spark plug cap.
Engine stops when under heavy load	<ol style="list-style-type: none"> 1. Dirty air filter 2. Engine running cold. 	<ol style="list-style-type: none"> 1. Clean element. 2. Allow engine to warm up prior to operating equipment.
Engine knocks	<ol style="list-style-type: none"> 1. Old or low quality gasoline. 2. Engine overloaded. 3. Incorrect spark timing, deposit buildup, worn engine, or other mechanical problems. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Do not exceed equipment's load rating. 3. Have qualified technician diagnose and service engine.
Engine backfires	<ol style="list-style-type: none"> 1. Impure or low quality gasoline. 2. Engine too cold. 3. Intake valve stuck or overheated engine. 4. Incorrect timing. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fresh 87+ octane stabilizer-treated unleaded gasoline. Do not use gasoline with more than 10% ethanol (E15, E20, E85, etc.). 2. Use cold weather fuel and oil additives to prevent backfiring. 3. Have qualified technician diagnose and service engine. 4. Check engine timing.
Attached device doesn't have power	<ol style="list-style-type: none"> 1. Device not plugged in properly. 2. Circuit Breaker tripped. 3. Product needs service. 	<ol style="list-style-type: none"> 1. Turn off and unplug the device, then plug it back in again and turn on. 2. Turn off and unplug device, reset Circuit Breaker, plug in device and turn on. 3. Have product repaired.
Attached device begins to operate abnormally	<ol style="list-style-type: none"> 1. Problem with device. 2. Rated load capacity exceeded. 	<ol style="list-style-type: none"> 1. Immediately unplug device. Have device repaired by a qualified technician, or replace device. 2. Lower the number of items plugged into the generator to stay within the rated capacity, or use a more powerful generator.



Follow all safety precautions whenever diagnosing or servicing the generator or engine.

ASSEMBLY DIAGRAM



PARTS LIST

Part	Description	Qty
1	Engine	1
2	Bolt	1
3	Air filter bracket	1
4	Locking nut with disc	4
5	Absorber A	4
6	Locking nut with disc	4
7	Plug	1
8	Clip nut	10
9	Plug	2
10	Base plate	1
11	Base plate	1
12	Battery box	1
13	Bolt	2
14	Battery protection pad A	4
15	Battery protection pad B	2
16	Battery	1
17	Battery strap	1
18	Battery wire	1
19	Battery wire	1
20	Bolt	1
21	Bolt	2
22	Washer	2
23	7 inch solid wheel	2
24	Axle	1
25	Bolt	4
26	Support	2
27	Bolt	4
28	Cushion	2
29	Bolt	2
30	Tin foil	1
31	Muffler exhaust lower cover assembly	1
32	Muffler lower cover	1
33	Bolt	2
34	Hexagon flange bolt	2
35	Bolt	3
36	Exhaust gasket	1
37	Muffler	1
38	Hexagon flange bolt	2
39	Flat washer	4
40	Hexagon flange bolt	4
41	Muffler cover partition	1

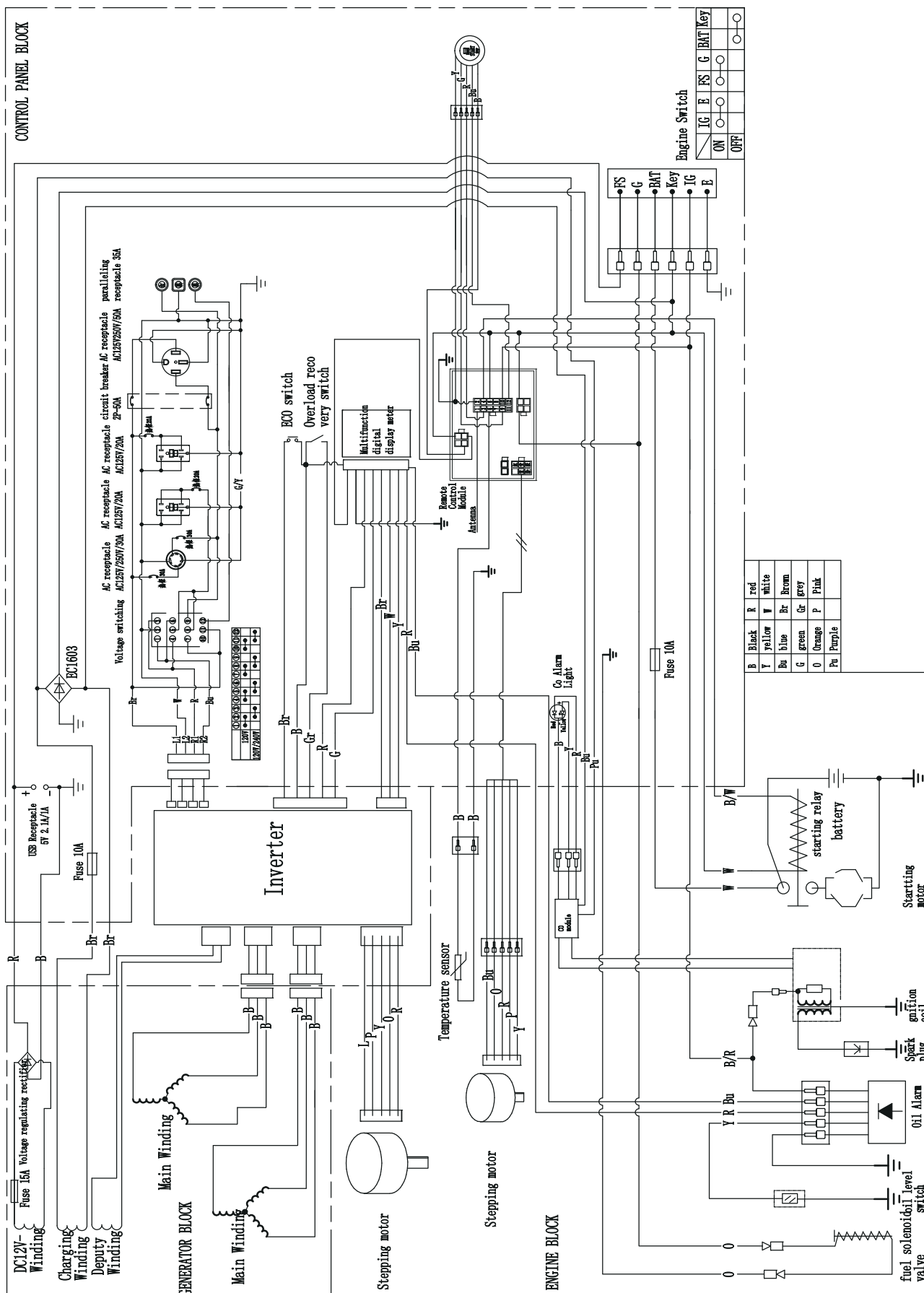
Part	Description	Qty
42	Bolt	2
43	Muffler exhaust upper cover assembly	1
44	Bolt	6
45	Muffler wind deflector	1
46	Upper front and rear beams	1
47	Bolt	2
48	Motor cover plate assembly	1
49	Bolt	10
50	Plastic twist ring	1
51	Tin foil	1
52	Oil tube	1
53	Fuel evaporation collection pipe	1
54	Tubing clamp	3
55	Tubing clamp	1
56	Tubing clamp	1
57	Oil switch	1
58	Fuel tank	1
59	Fuel tank rubber strip	1
60	Flat washer	4
61	Bolt	4
62	Clip nut	2
63	Upper cover assembly	2
64	Bolt	4
65	Plug	4
66	Holder	2
67	Locking nut with disc	8
68	Voltage regulating rectifier	1
69	Ground wire	1
70	Bolt	1
71	Left and right beams	1
72	Bolt	4
73	Bolt	1
74	Washer	2
75	Crimping board	1
76	Locking nut with disc	1
77	Bellows	1
78	Bellows	1
79	Nylon cable tie	10
80	Plug	1
81	Plug	1
82	Right shell	1

PARTS LIST

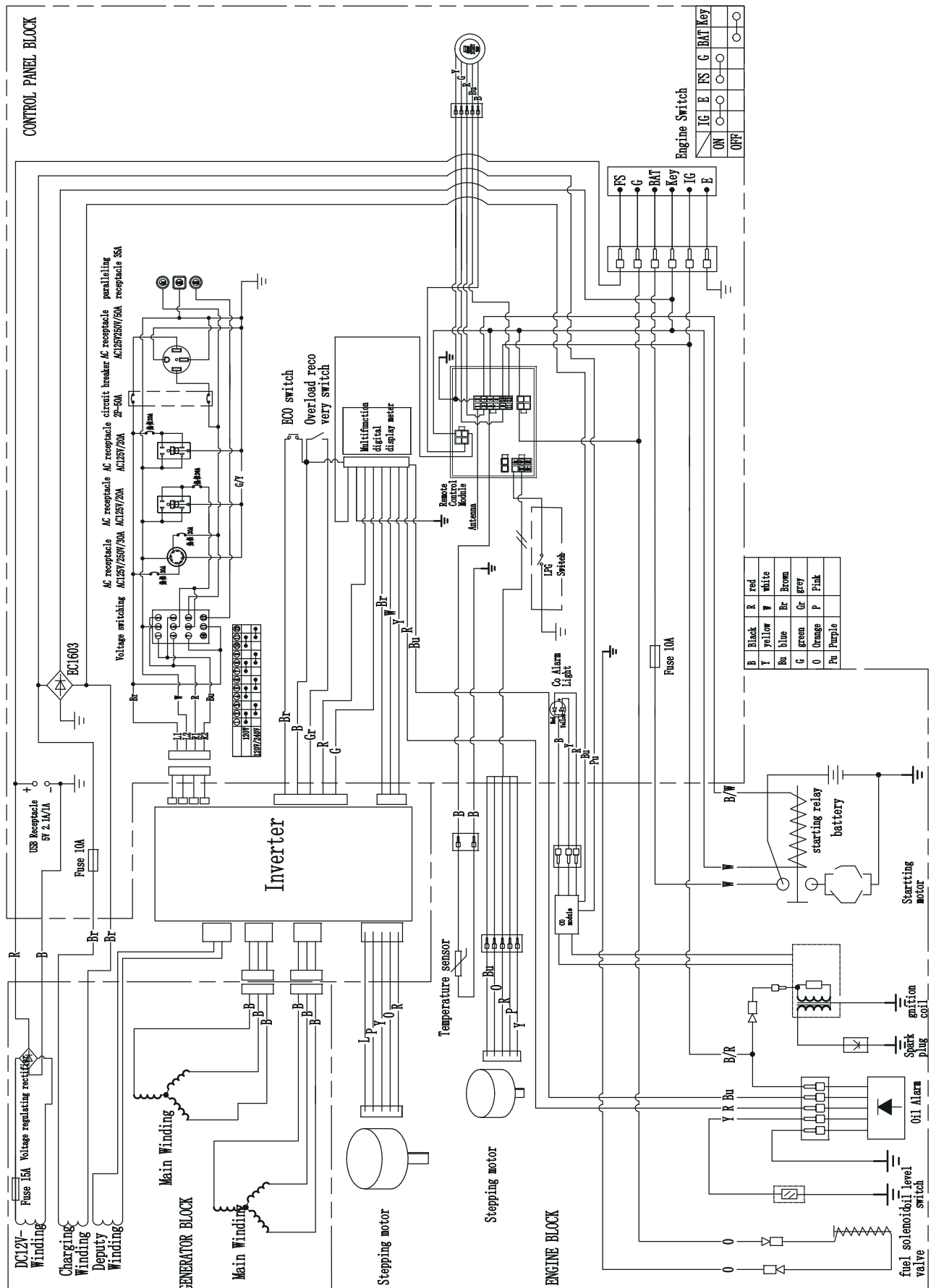
Part	Description	Qty
83	Clip nut	3
84	Bolt	6
85	Drain bolt plug	1
86	Right cover plate	1
87	Bolt	3
88	Handle	1
89	Front and rear upper beams	1
90	Bolt	2
91	Front lower beam	1
92	Bolt	2
93	Control panel assembly	1
94	Bolt	4
95	Temperature sensor line	1
96	Wind deflector assembly	1
97	Bolt	1
98	Inverter left bracket	1
99	Inverter right bracket	1
100	Inverter	1
101	Locking nut with disc	4
102	Bolt	4
103	Panel strip	1
104	Inverter cover board assembly	1
105	Bolt	8
106	Handle holder (right)	1
107	Handle holder (left)	1
108	Hexagon flange bolt	4
109	Locking nut with disc	2
110	Handle fixing pin	2
111	Quick release pin	1
112	Non-standard flat pad	1
113	Hex nut	1
114	Handle tube assembly	1
115	Handle rubber sleeve	2
116	Bracket	2
117	Locking nut with disc	8
118	Left and right beams	1
119	Bolt	4
120	Plug	1
121	Plug	1
122	Left shell	1
123	Clip nut	3

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WIRING DIAGRAM_(GM9000iE)



WIRING DIAGRAM(GM9000iED)



GENMAX®