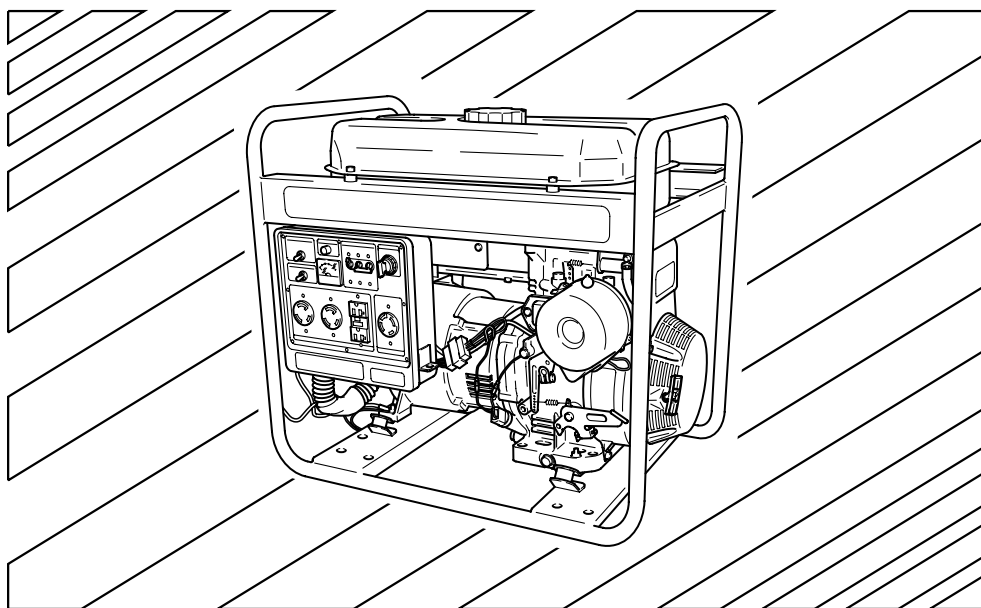


Makita GENERATOR

G series

MODEL **G2800R**
G4100R
G4101R
G6100R
G6101R



INSTRUCTIONS FOR USE

ISSUE EMD-GU2016

3ZZ9020166



WARNING :



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

NOTICE

FEDERAL EMISSION COMPONENT DEFECT WARRANTY and CALIFORNIA EMISSION CONTROL WARRANTY are applicable to only those engines/generators complied with EPA (Environmental Protection Agency) and CARB (California Air Resources Board) emission regulations in the U.S.A.

NOTICE

To the engines/generators exported to and used in the countries other than the U.S.A., warranty service shall be performed by the distributor in each country in accordance with the standard engine/generator warranty policy as applicable.

AIR INDEX

To show compliance with California emission regulations, a hangtag has been provided displaying the Air Index level and durability period of this engine.

The Air Index level defines how clean an engine's exhaust is over a period of time. A bar graph scaled from "0" (most clean) to "10" (least clean) is used to show an engine's Air Index level. A lower Air Index level represents cleaner exhaust from an engine.

The period of time (in hours) that the Air Index level is measured is known as the durability period. Depending on the size of the engine, a selection of time periods can be used to measure the Air Index level (see below).

<u>Descriptive Term</u>	<u>Applicable to Emissions Durability Period</u>
Moderate	- 50 hours (engine from 0 to 80 cc)
	- 125 hours (engine greater than 80 cc)
Intermediate	- 125 hours (engine from 0 to 80 cc)
	- 250 hours (engine greater than 80 cc)
Extended	- 300 hours (engine from 0 to 80 cc)
	- 500 hours (engine greater than 80 cc)

Notice : This hangtag must remain on this engine or piece of equipment, and only be removed by the ultimate purchaser before operation.

FOREWORD

Thank you for purchasing a Makita generator.

This manual covers operation and maintenance of the Makita generators. All information in this publication is based on the latest production information available at the time of approval for printing.

Pay special attention to statements preceded by the following words:

WARNING

Indicates a strong possibility of severe personal injury, loss of life and equipment damage if instructions are not followed.

[CAUTION]

Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE :

Gives helpful information.

If a problem should arise, or if you have any questions about the generator, consult an authorized dealer or service shop


WARNING


- **The generator is designed to give safe and dependable service if operated according to instructions.**
- **Do not operate the generator before you have read and understood the instructions. Failure to do so could result in death, personal injury or equipment damage.**


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1. SAFETY PRECAUTIONS









-  Do not operate the generator near gasoline or gaseous fuel because of the potential danger of explosion or fire.
Do not fill the fuel tank with fuel while the engine is running. Do not smoke or use open flame near the fuel tank. Be careful not to spill fuel during refueling. If fuel is spilt, wipe it off and let dry before starting the engine.


-  Do not place in flammables near the generator.
Be careful not to place fuel, matches, gunpowder, oily cloths, straw, trash, or any other in flammables near the generator.


-  Do not operate the generator inside a room, cave, tunnel, or other insufficiently ventilated area. Always operate it in a well-ventilated area, otherwise the engine may become overheated, and the poisonous carbon monoxide gas contained in the exhaust gases will endanger human lives. Keep the generator at least 1 meter (3 feet) away from any structure or building during use. If the generator must be used indoors, the area must be well-ventilated and extreme caution must be taken regarding the discharge of exhaust gases.


-  Do not enclose the generator nor cover it with a box.
The generator has a built-in forced air cooling system, and may become overheated if it is enclosed. If generator has been covered to protect it from the weather during non use, be sure to remove it and keep it well away from the area during generator use.

-  Operate the generator on a level surface.
It is not necessary to prepare a special foundation for the generator. However, the generator will vibrate on an irregular surface, so choose a level place without surface irregularities.
If the generator is tilted or moved during operation, fuel may spill and / or the generator may tip over, causing a hazardous situation.
Proper lubrication cannot be expected if the generator is operated on a steep incline or slope. In such a case, piston seizure may occur even if the oil is above the upper level.

-
-  Pay attention to the wiring or extension cords from the generator to the connected device.
If the wire is under the generator or in contact with a vibrating part, it may break and possibly cause a fire, generator burnout, or electric shock hazard. Replace damaged or worn cords immediately.
 -  Do not operate in rain, in wet or damp conditions, or with wet hands.
The operator may suffer severe electric shock if the generator is wet due to rain or snow.
 -  If wet, wipe and dry it well before starting. Do not pour water directly over the generator, nor wash it with water.
 -  Be extremely careful that all necessary electrical grounding procedures are followed during each and every use. Failure to do so can be fatal.
 -  Do not contact the generator to a commercial power line. Connection to a commercial power line may short circuit the generator and ruin it or cause electric shock hazard. Use the transfer switch for connecting to domestic circuit.
 -  No smoking while handling the battery. The battery emits flammable hydrogen gas, which can explode if exposed to electric arcing or open flame. Keep the area well-ventilated and keep open flames/sparks away when handling the battery.
 -  Engine becomes extremely hot during and for some time after operation. Keep combustible materials well away from generator area. Be very careful not to touch any parts of the hot engine especially the muffler area or serious burns may result.
 -  Keep children and all bystanders at a safe distance from work areas.

-
-  It is absolutely essential that you know the safe and proper use of the power tool or appliance that you intend to use. All operators must read, understand and follow the tool/appliance owners manual. Tool and appliance applications and limitations must be understood. Follow all directions given on labels and warnings. Keep all instruction manuals and literature in a safe place for future reference.

 -  Use only "LISTED" extension cords. When a tool or appliance is used outdoors, use only extension cords marked "For Outdoor Use". Extension cords, when not in use should be stored in a dry and well ventilated area.

 -  Always switch off generator's no-fuse breaker and disconnect tools or appliances when not in use, before servicing, adjusting, or installing accessories and attachments.

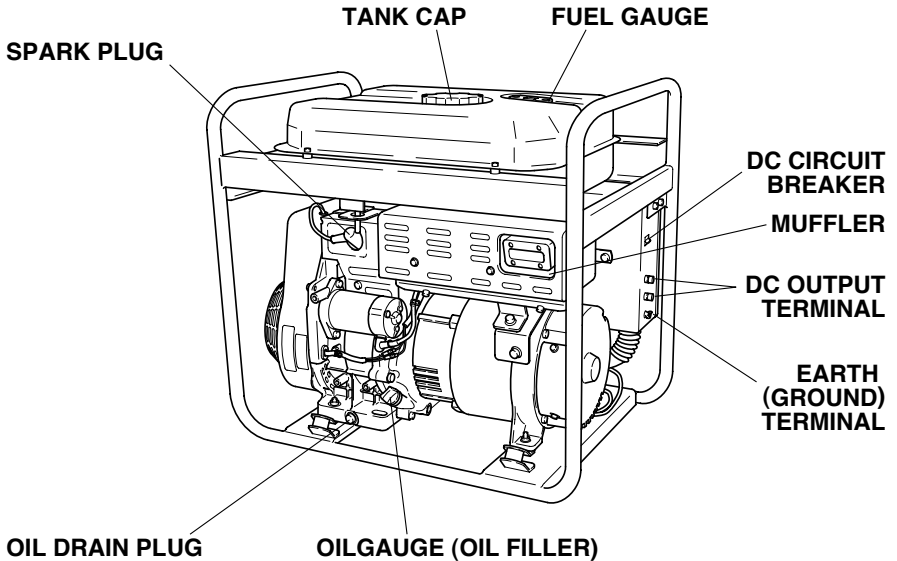
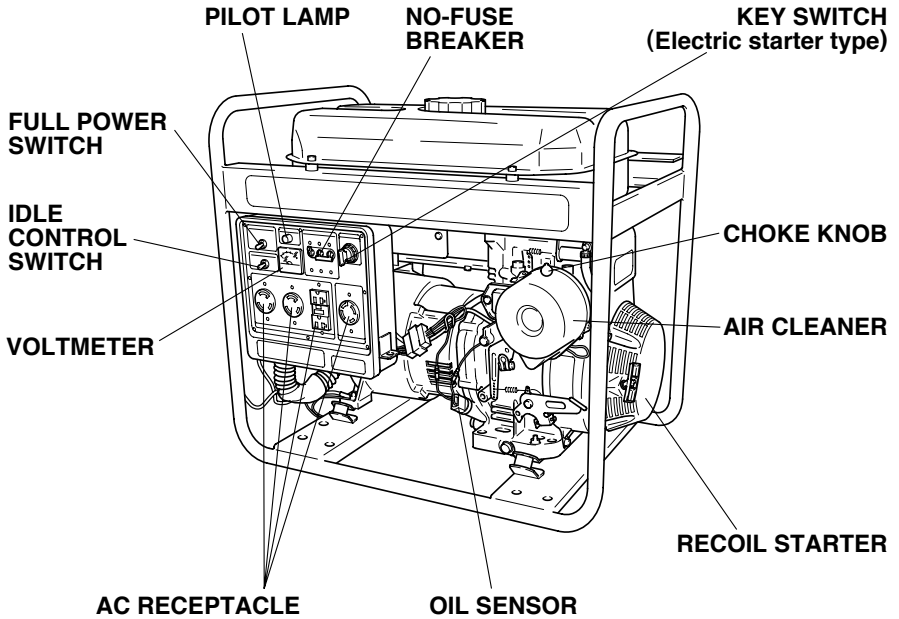
2. SPECIFICATIONS

MODEL		G2800R	G4100R, G4101R	G6100R, G6101R	
Alternator	Type	Brushless, Self-Exciting, 2-Poles, Single Phase			
	Voltage regulator	Condenser type			
	Rated voltage	60 Hz	120 V	120 V/ 240 V	
	Maximum output	60 Hz	2.8 kW	4.1 kW	5.8 kW
	Rated output	60 Hz	2.3 kW	3.6 kW	4.8 kW
	Rated power factor	1.0			
	DC output	12V-8.3A			
	Over current protector	No-fuse Breaker			
Engine	Model	Robin EH17-2D	Robin EH25-2D	Robin EH34D	
	Type	Forced air-cooled, 4-cycle, Gasoline Engine			
	Displacement	172 cm ³	251 cm ³	338 cm ³	
	Fuel	Automotive unleaded gasoline			
	Fuel tank capacity	3.17 US-gal (12.0 liter)	4.39 US-gal (16.6 liter)	5.68 US-gal (21.5 liter)	
	Rated continuous operation (Approx.)	60 Hz	9.0 hours	7.0 hours	7.0 hours
	Starting system	Recoil	Recoil (Electric starter)*		
Dimension	Length	22.4 in. (570 mm)	24.4 in. (620 mm)	26.8 in. (680 mm)	
	Width	16.1 in. (410 mm)	17.7 in. (450 mm)	18.5 in. (470 mm)	
	High	19.3 in. (490 mm)	21.3 in. (540 mm)	24.4 in. (619 mm)	
Dry weight (Electric start type)		21.8 lb (48 kg)	27.2 lb (60 kg) 28.8 lb (63.5 kg)*	35.3 lb (78 kg) 37.0 lb (81.5 kg)*	
Valve clearance (Intake and Exhaust)		0.0039±0.0012 in. (0.1±0.03 mm)		0.0039±0.0006 in.(0.1±0.015 mm)	
		Note : Adjust the valve clearance while the engine is cold.			
Emissions Durability Period (California only)		500 hours			

Specifications are subject to change without notice.

* : Electric starter is available as option

3. COMPONENTS

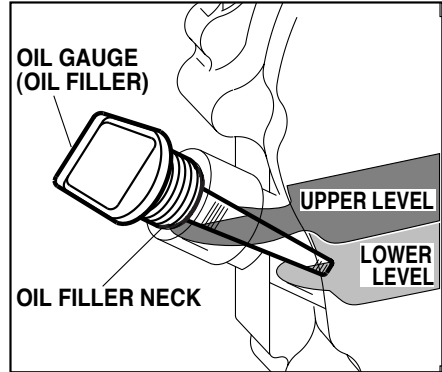


4. PRE-OPERATION CHECKS

CHECK ENGINE OIL.

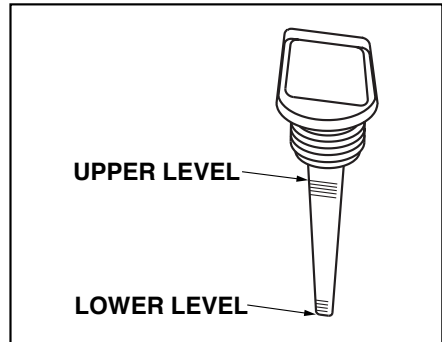
Before checking or refilling oil, be sure generator is located on stable and level surface with engine stopped.

- Remove oil filler cap and check the engine oil level.
- If oil level is below the lower level line, refill with suitable oil (see table) to upper level line. Do not screw in the oil filler cap when checking oil level.
- Change oil if contaminated.
(See "How-To" Maintenance.)



Oil capacity

Model	Upper level
G2800R	0.17 US-gal. (0.65 liter)
G4100R,G4101R	0.26 US-gal. (1.0 liter)
G6100R,G6101R	0.32 US-gal. (1.2 liter)



Recommended engine oil :

Use 4-stroke automotive detergent oil of API service class SE or higher grade (SG, SH or SJ is recommended). SAE 10W-30 or 10W-40 is recommended for general, all-temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.

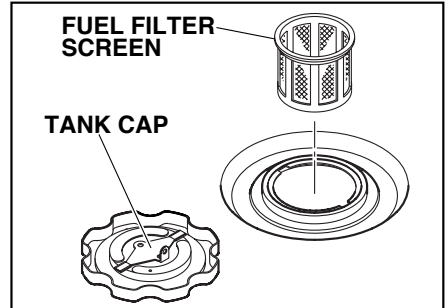
Single grade	5W	10W	20W	#20	#30	#40
	10W-30					
	10W-40					
	Ambient temperature					
	-20	-10	0	10	20	30
-4	14	32	50	68	86	104°F

CHECK ENGINE FUEL.

⚠ WARNING

Do not refuel while smoking or near open flame or other such potential fire hazards. Otherwise fire accident may occur.

- Check fuel level at fuel level gauge.
- If fuel level is low, refill with unleaded automotive gasoline.
This engine is certified to operate on automotive unleaded gasoline.
- Be sure to use the fuel filter screen on the fuel filter neck.

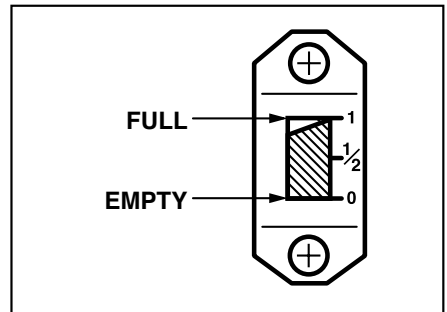


Fuel tank capacity :

G2800R · · · · · 3.17 US-gal. (12.0 liter)

G4100R,G4101R · · 4.39 US-gal. (16.6 liter)

G6100R,G6101R · · 5.68 US-gal. (21.5 liter)



⚠ WARNING

Make sure you review each warning in order to prevent fire hazard.

- Do not refill tank while engine is running or hot.
- Close fuel cock before refueling with fuel.
- Be careful not to admit dust, dirt, water or other foreign objects into fuel.
- Wipe off spilt fuel thoroughly before starting engine.
- Keep open flames away.

CHECKING COMPONENT PARTS

Check following items before starting engine:

- Fuel leakage from fuel hose, etc.
- Bolts and nuts for looseness.
- Components for damage or breakage.
- Generator not resting on or against any adjacent wiring.

CHECK GENERATOR SURROUNDINGS.

WARNING

Make sure you review each warning in order to prevent fire hazard.

- **Keep area clear of in flammables or other hazardous materials.**
- **Keep generator at least 3 feet (1 meter) away from buildings or other structures.**
- **Only operate generator in a dry, well ventilated area.**
- **Keep exhaust pipe clear of foreign objects.**
- **Keep generator away from open flame. No smoking!**
- **Keep generator on a stable and level surface.**
- **Do not block generator air vents with paper or other material.**

BATTERY INSTALLTION (Electric starter model)

Recommended Battery: A capacity of 12V-24AH or larger.

⚠ WARNING

Death, personal injury and/or property damage may occur unless instructions are followed carefully.

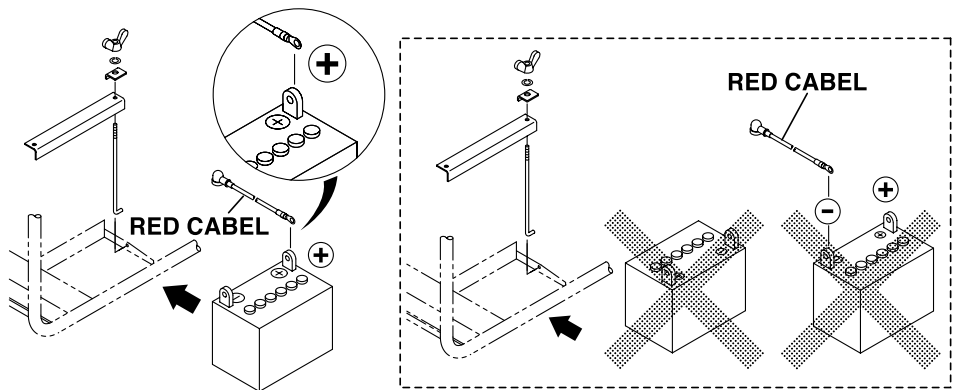
- Use battery of recommended capacity.
- Turn the starter switch to the "STOP" position when mounting or dismounting battery. When mounting battery, connect the positive (+) cable first and then the negative (-) cable to the battery. Be careful not to short battery cables. When dismantling battery, disconnect negative (-) cable first.

RED CABLE : To positive (+) terminal

BLACK CABLE : To negative (-) terminal

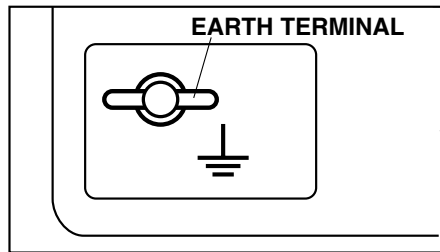
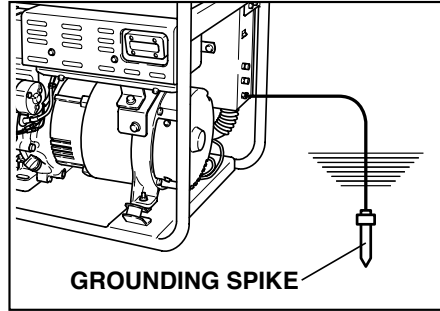
- Should the connection be made in incorrect manner, the generator will be broken.
- Tighten bolts and nuts on terminals securely so they will not be loosened by vibration.
- Disconnect battery cables when charging battery.

"HOW TO" INSTALL BATTERY (See "OPTIONAL PARTS")



GROUNDING THE GENERATOR

- To ground the generator to the earth, connect the grounding lug of the generator to the grounding spike driven into the earth or to the conductor which has been already grounded to the earth.
- If such grounding conductor or grounding electrode is unavailable, connect the grounding lug of the generator to the grounding terminal of the using electric tool or appliance.



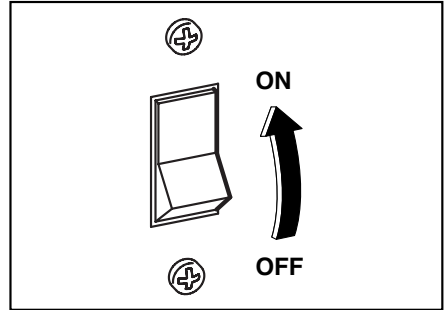
5. OPERATING PROCEDURES

STARTING THE ENGINE

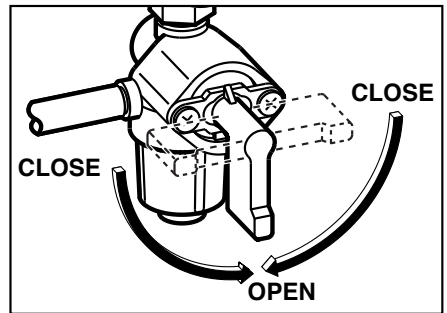
[CAUTION]

Check the oil level before each operations as outlined on page 6.

(a) Turn the engine switch to the position "ON". (Recoil starter model only)

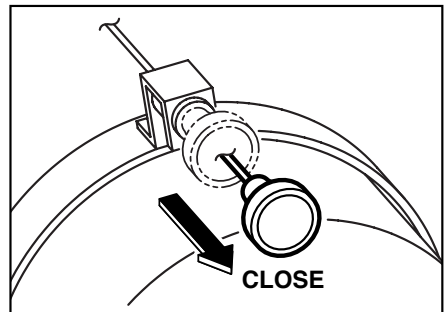


(b) Turn the no-fuse breaker to the "OFF" position.



(c) Open the fuel cock.

(d) Pull the choke knob to close if the engine is cold.



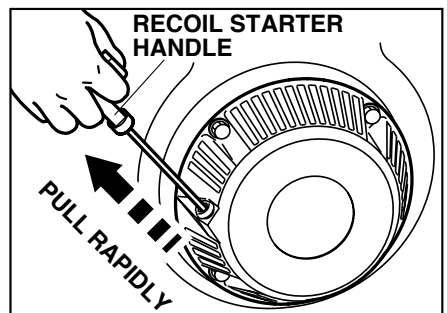
(e) [Recoil starter model]

Pull the starter handle slowly until resistance is felt.

This is the "compression" point.

Return the handle to its original position and then pull swiftly.

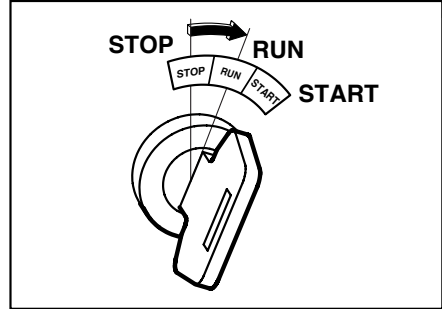
- If the engine fails to start after several attempts, repeat above procedures with choke knob returned to open.
- Do not fully pull out the rope.
- After starting, allow the starter handle to return to its original position while still holding the handle.



(f) **[Electric starter model]**

Insert the key into the key switch and turn it clockwise to the "RUN" position to start the engine.

Then turn the key further to the "START" position. The engine will be started by starting motor.

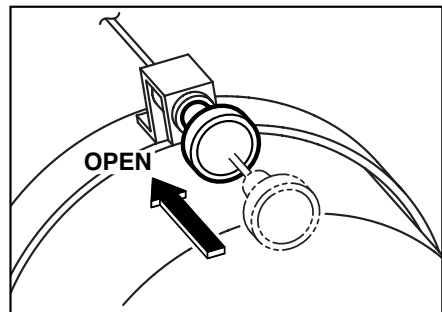


[CAUTION]

- Do not run the starting motor over 5 seconds continuously. If the engine fails to start, return the key to the "RUN" position and wait about 10 seconds then start again.
- Do not turn the key switch to "START" when the engine is running to prevent damage of starting motor.
- Do not turn the key switch to "START" position when the engine is running to prevent damage of starting motor.
- When starting the engine by recoil starter, set the key switch at the "ON" position and pull the starter handle.

(g) After the engine started, return the choke knob gradually to "OPEN" position.

(h) Warm up the engine without a load for a few minutes.

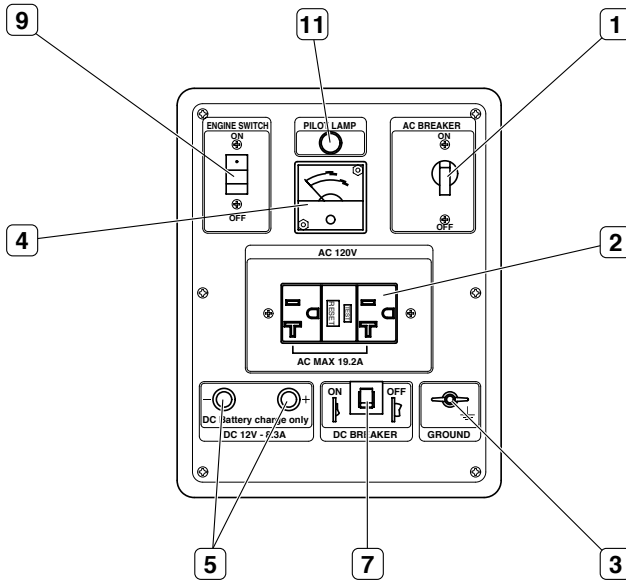


USING ELECTRIC POWER

⚠ WARNING

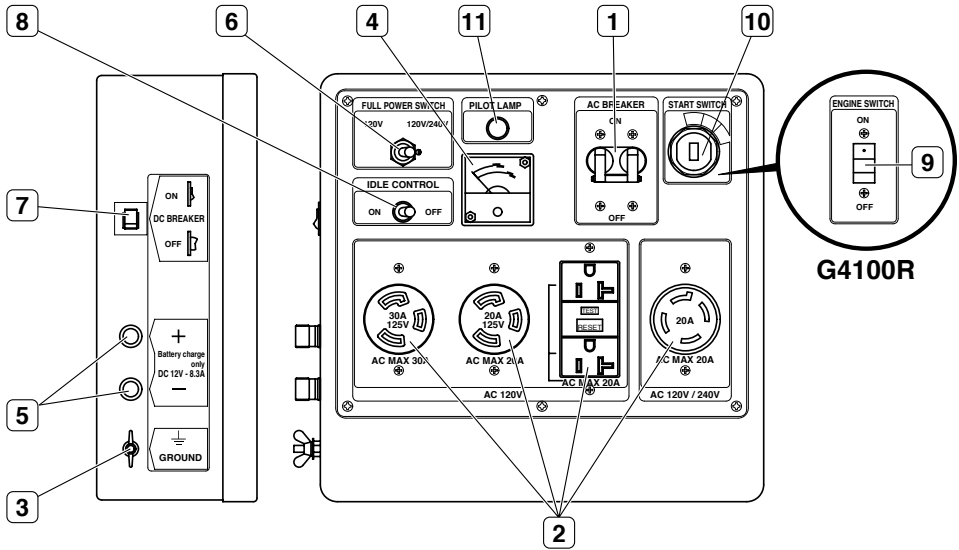
- Make sure that the appliance is switched OFF before connecting it to the generator.
- Do not move the generator while it is running.
- Be sure to ground the generator if the connected appliance is grounded. Failure to ground unit may lead to electrical shock.

CONTROL PANEL (G2800R)

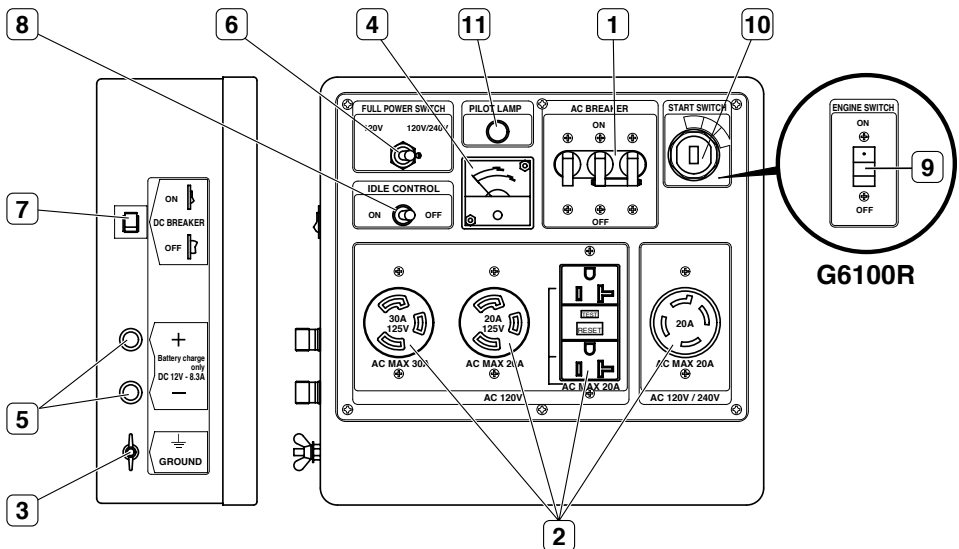


- | | |
|---------------------------|-----------------------|
| 1 No-fuse breaker | 7 DC circuit breaker |
| 2 AC receptacle | 8 Idle control switch |
| 3 Earth (Ground) terminal | 9 Engine switch |
| 4 Voltmeter | 10 Key switch |
| 5 DC output terminal | 11 Pilot lamp |
| 6 Full power switch | |

(G4101R / G4100R)



(G6101R / G6100R)

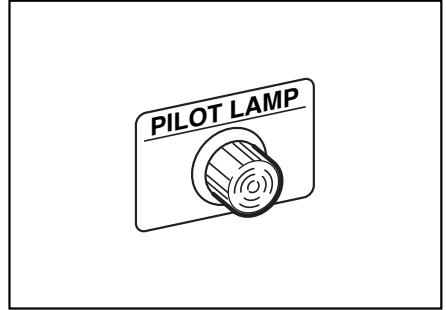


(1) AC APPLICATION

(a) Check the pilot lamp for proper voltage.

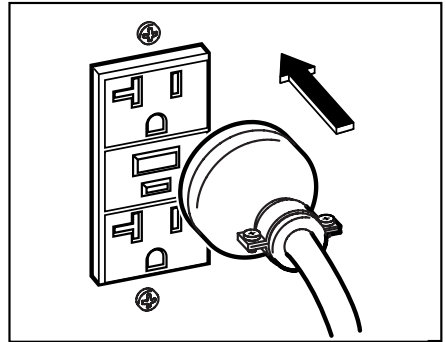
- This generator is thoroughly tested and adjusted in the factory. If the generator does not produce the specified voltage, consult your nearest Makita factory or authorized service center.

(b) Turn off the switch (es) of the electrical appliance (s) before connecting to the generator.

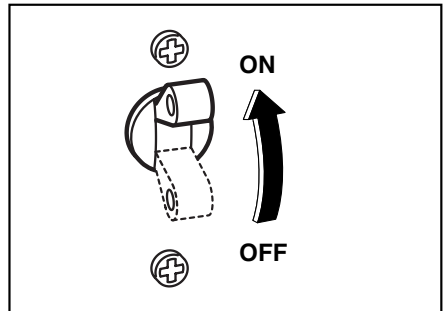


(c) Insert the plug (s) of the electrical appliance(s) into the receptacle.

- Check the amperage of the receptacles used referring to **TABLE 1**, and be sure not to take a current exceeding the specified amperage.
- Be sure that the total wattage of all appliances dose not exceed the rated output of the generator.



(d) Turn the no-fuse breaker to the position "ON".







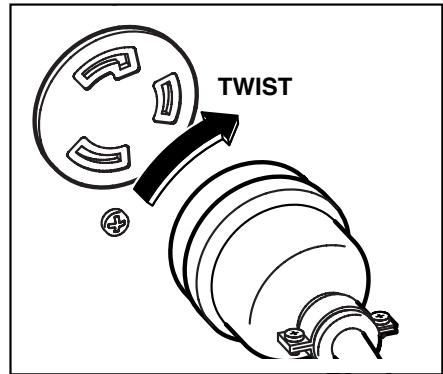
Style	Ampere	Receptacle	AC plug	Description
	up to 20A	NEMA 5-20R	NEMA 5-20P	GFCI (Ground Fault Circuit Interrupter) Receptacle, duplex (REC 1)
	up to 20A	NEMA L14-20R	NEMA L14-20P	Locking Receptacle (REC 4)
	up to 30A	NEMA L5-30R	NEMA L5-30P	Locking Receptacle (REC 2)
	up to 20A	NEMA L5-20R	NEMA L5-20P	Locking Receptacle (REC 3)

TABLE 1

⚠ WARNING

- To take power out from the **TWIST LOCK RECEPTACLE**, insert the plug into the receptacle, and turn it clockwise to the lock position.
- Be sure to ground the generator if the connected electrical device is grounded.



NOTE :

When the no-fuse breaker turns off during operation, the generator is over loaded or the appliance is defective. Stop the generator immediately, check the appliance and / or generator for overloading or detect and have repaired as necessary by Makita factory or authorized service center.

[CAUTION]

The duplex 120V receptacle is protected by a GFCI (Ground Fault Circuit Interrupter). GFCI shuts off the output current from the duplex 120V receptacle when a ground fault occurs in the generator or the appliance. Please note that other receptacles are not protected by GFCI.

GFCI RECEPTACLE

After starting the engine, check the GFCI for proper functioning by the following test procedure.

- Push yellow TEST button, The red RESET button will pop out exposing the word TRIP. Power is now off at the outlets protected by the GFCI, indicating that the device is functioning properly.
- If TRIP dose not appear when testing, do not use the generator. Call a qualified electrician.
- To restore power, push RESET button.

⚠ WARNING

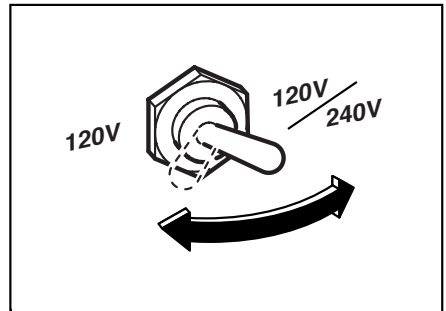
If the RESET button pops out during operation, stop the generator immediately and call a qualified electrician for checking generator and the appliances.

FULL POWER SWITCH

Select the voltage using the FULL POWER SWITCH in accordance with the electrical appliance. Refer to **TABLE 2**.

[CAUTION]

Change the FULL POWER SWITCH after turning the no-fuse breaker to "OFF".



NOTE :

Voltmeter always indicates the lower voltage whichever the FULL POWER SWITCH is set.

Switch position	Lower Voltage Receptacle	Higher Voltage Receptacle
120V	Activated full rated output	N.A
120/240V	Activated half of rated output	Activated full rated output

TABLE 2

(2) CONNECTING TO DOMESTIC CIRCUITS (HOUSE WIRING)

⚠ WARNING

All Makita generators are a neutral grounded type.

If a generator is to be connected to residential or commercial power lines, such as a stand-by power source during power outage, all connections must be made by a licensed electrician.

Failure in connection may result in death, personal injury, damage to generator, damage to appliances, damage to the building's wiring or fire.

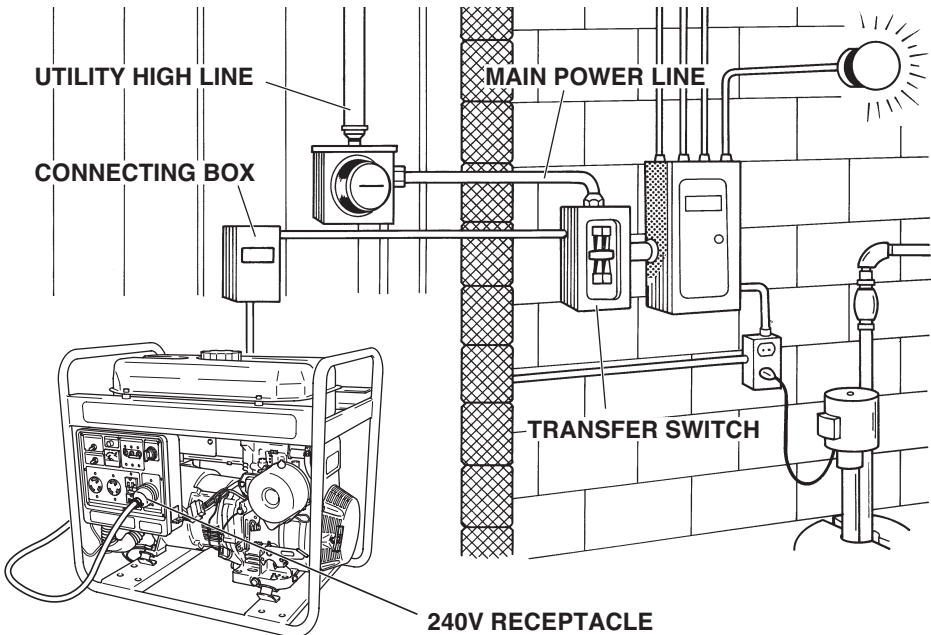
(a) When connecting a Makita generator to a house wiring, generator output power must be taken from the 240V-4P receptacle.

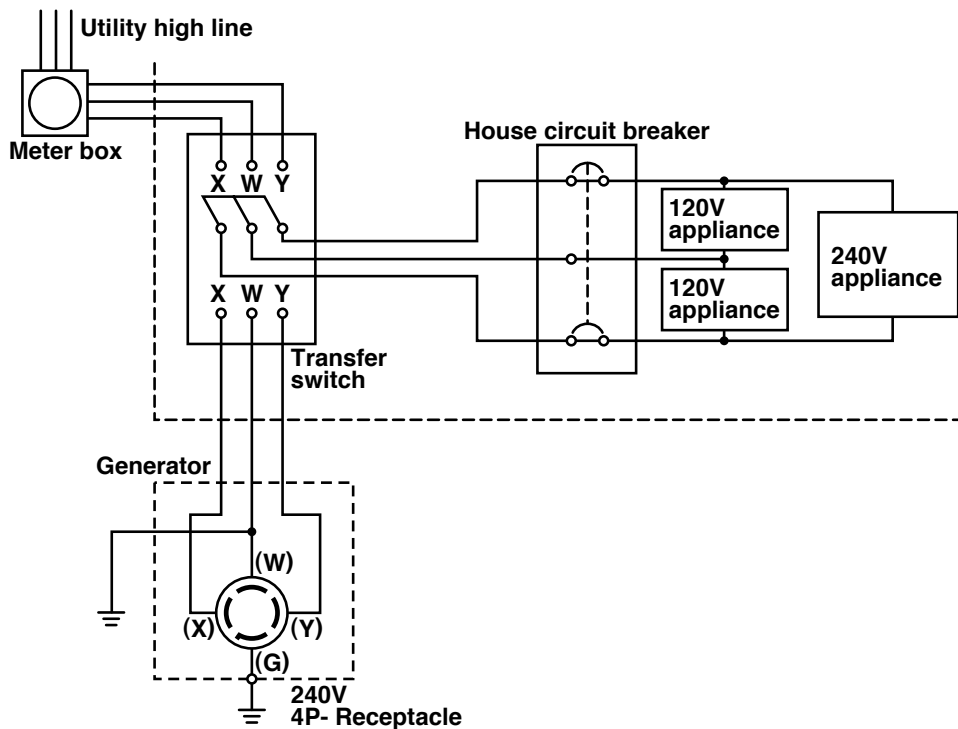
(b) Install a transfer switch.

A transfer switch must be installed to transfer the load from the commercial power source to the generator. This switch is necessary to prevent accidents caused by the recovery from power outage. Use a transfer switch of the correct capacity. Install transfer switch between the meter and the fuse or AC breaker box.

[CAUTION]

If the neutral wire of house wiring is grounded, be sure to ground the ground terminal of the generator. Otherwise an electric shock may occur to the operator.





(c) Operating the generator.

- Set the full power switch to 120V/ 240V side.
- Turn the house AC breaker off before starting the generator.
- Start the generator and warm it up.
- Turn the house AC breaker on.

[CAUTION]

Do not start the generator with electrical appliance (s) connected and with their switches on.

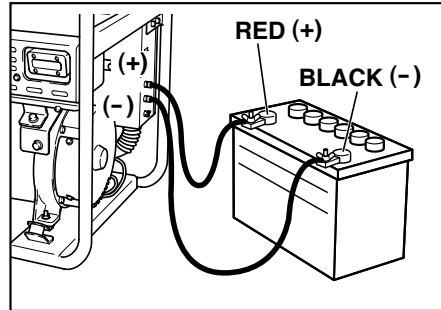
Otherwise the appliance (s) may be damaged by the surge voltage at starting.

(3) DC APPLICATION

The DC terminal is used only for charging 12 volt batteries. It provides up to 12V-8.3A (100W) of maximum power.

CONNECTION OF CABLE :

- Connect positive (red) terminal on generator to positive (+) terminal on battery.
- Connect negative (black) terminal on generator to negative (-) terminal on battery.
- Both AC and DC output can be used at the same time if the total output is within rated output of the generator.

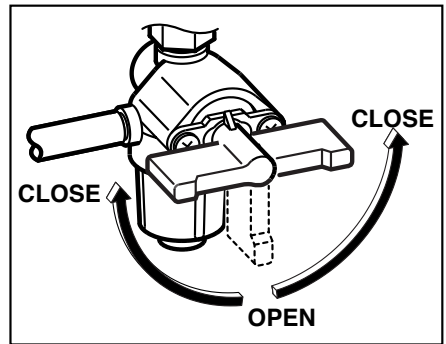
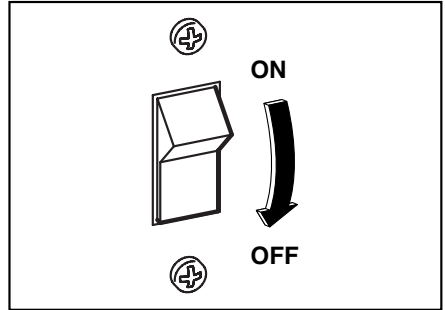


SAFETY PRECAUTIONS WHILE CHARGING

- An explosive hydrogen gas is discharged through vent holes in the battery during the charging process. Do not allow spark or open flame around the generator or battery during the charging process.
- Electrolyte fluid can burn eyes and clothing. Be extremely careful to avoid contact. If injured, wash the affected area immediately with large quantities of water and consult a doctor for treatment.
- When charging a large capacity battery or totally discharged battery, excessive current may force the DC breaker to turn off. In such cases, use a battery charger to charge a large battery with AC output.
- Battery defects may cause the DC breaker to turn off. Check the battery before replacing the DC breaker.

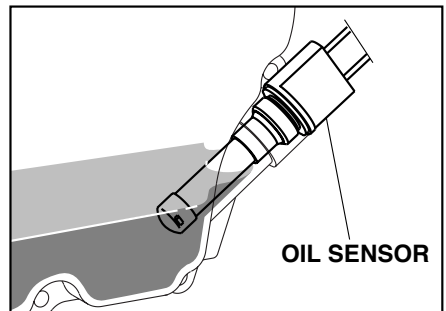
STOPPING THE GENERATOR

- (a) Turn off the power switch of the electric equipment and unplug the cord from receptacle of the generator.
- (b) Turn the no-fuse breaker to the "OFF" position.
- (c) Allow the engine about 3 minutes to cool down at no-load before stopping.
- (d) **[Recoil starter model]**
Turn the engine switch to the position "OFF".
[Electric starter model]
Turn the key switch to the STOP position.
- (e) Close the fuel cock.



OIL SENSOR

- (a) The oil sensor detects the fall in oil level in the crankcase and automatically stops the engine when the oil level falls below a predetermined level.
- (b) When engine has stopped automatically, switch off generator's no-fuse breaker, and check the oil level. Refill engine oil to the upper level as instructed on page 6 and restart the engine.
- (c) If the engine does not start by usual starting procedures, check the oil level.



[CAUTION]

Do not remove OIL SENSOR PROBE when refilling with oil.
Remove oil filler cap on the opposite side of carburetor.

IDLE CONTROL (Except G2800R)

IDLE CONTROL automatically reduces engine speed when load is OFF, and automatically increases engine speed to rated r.p.m. when load is ON.

IDLE CONTROL provides fuel economy and low noise operation at no-load running.

(1) HOW TO USE IDLE CONTROL

- Start the engine with IDLE CONTROL SWITCH off.

NOTE :

Warm up the engine without a load for a few minutes.

- Turn IDLE CONTROL SWITCH on.

(2) CHECKING THE OPERATION

When IDLE CONTROL does not operate normally, please check following :

- Overloaded ?
Please make it sure that the generator is not overload.

NOTE :

Most induction loads such as electric motors require three to five times more wattage than their ratings during starting.

This starting wattage should not exceed the rated output of the generator for proper operation of IDLE CONTROL.

- Turn IDLE CONTROL SWITCH off when the IDLE CONTROL does not work normally under the rated output.

NOTE :

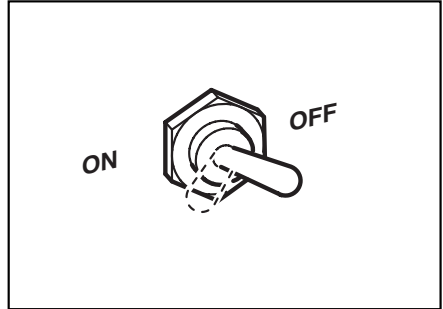
The IDLE CONTROL may not operate when the applied load is under 40W. In such cases turn the IDLE CONTROL SWITCH off.

(3) STOPPING THE ENGINE

- Turn off the switch of load.
- Switch off generator's AC breaker.
- Disconnect tool or appliance.
- Turn the IDLE CONTROL SWITCH off.
- Turn the STOP SWITCH to the position "O" (OFF).

NOTE :

Allow the engine about 3 minutes to cool down at no-load before stopping.



6. WATTAGE INFORMATION

Some appliances need a "surge" of energy when starting.

This means that the amount of electrical power needed to start the appliance may exceed the amount needed to maintain its use.

Electrical appliances and tools normally come with a label indicating voltage, cycles / Hz, amperage (amps) and electrical power needed to run the appliance or tool.

Check with your nearest dealer or service center with questions regarding power surge of certain appliances or power tools.

- Electrical loads such as incandescent lamps and hot plates require the same wattage to start as is needed to maintain use.
- Loads such as fluorescent lamps require 1.2 to 2 times the indicated wattage during start-up.
- Loads for mercury lamps require 2 to 3 times the indicated wattage during start-up.
- Electrical motors require a large starting current. Power requirements depend on the type of motor and its use. Once enough "surge" is attained to start the motor, the appliance will require only 50% to 30% of the wattage to continue running.
- Most electrical tools require 1.2 to 3 times their wattage for running under load during use. For example, a 5,000 watt generator can power a 1800 to 4000 watt electrical tool.
- Loads such as submersible pumps and air compressors require a very large force to start. They need 3 to 5 times the normal running wattage in order to start.
For example, a 5,000 watt generator would only be able to drive a 1,000 to 1,700 watt pump.

NOTE :

The following wattage chart is general guide only. Refer to your specific appliance for correct wattage.

To determine the total wattage required to run a particular electrical appliance or tool, multiply the voltage figure of the appliance/tool by the amperage (amps) figure of same. The voltage and amperage (amps) information can be found on a name plate which is normally attached to electrical appliances and tools.

Applications	Applicable Wattage (W)		
	G2800R	G4100R,G4101R	G6100R,G6101R
	60Hz	60Hz	60Hz
Incandescent lamp, Heater	2300	3600	4800
Fluorescent lamp, Electric tool	1200	1800	2400
Mercury lamp	800	1400	1600
Pump, Compressor	550	850	1100

VOLTAGE DROP IN ELECTRIC EXTENSION CORDS

When a long electric extension cord is used to connect an appliance or tool to the generator, a certain amount of voltage drop or loss occurs in the extension cord which reduces the effective voltage available for the appliance or tool.

The use of improper size or gauge of extension cords may cause unsafe or inefficient operation of your tool or appliance. It may also damage the tool or appliance. Be sure that any extension cord that you use is rated to allow sufficient current flow to the motor or appliance. Select the required wire gauge size according to the chart below. Chart lists the minimum wire gauge size for the proper extension cord.

EXTENSION CORD CHART

Use the right extension cord. An extension cord should have a suitable wire size for the overall cord length and tool amperage rating. This is to prevent a serious voltage drop, power loss and possible motor damage. Generally, heavier gauge wire is required as cord length increases. Use the recommendations in this table.

Extension Cord Length	Amperage Rating of Tool					
	0.2	2.1-3.4	3.5-5.0	5.1-7.0	7.1-12.0	12.1-16.0
	Recommended Wire Size (A.W.G. Gauge No.)					
7.5m	18	18	18	18	16	14
15m	18	18	18	16	14	12
22.5m	18	18	16	14	12	10
30m	18	16	14	12	10	8
45m	16	14	12	10	8	8
60m	16	14	12	10	8	6
90m	14	12	10	8	6	4
120m	12	10	8	6	4	4
150m	12	10	8	6	4	2
180m	10	8	6	4	2	2
240m	10	8	6	4	2	1

Not normally available as flexible extension cord.

7. SPARK ARRESTER

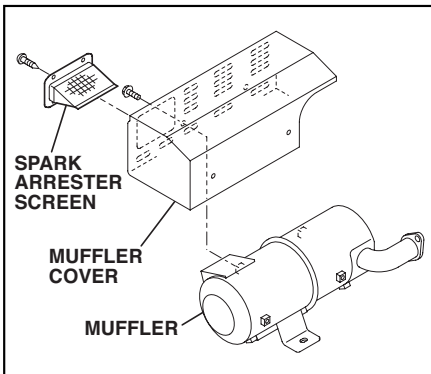
SPARK ARRESTER

In a dry or wooded area, it is recommendable to use the product with a spark arrester. Some areas require the use of a spark arrester. Please check your local laws and regulations before operating your product.

The spark arrester must be cleaned regularly to keep it functioning as designed. A clogged spark arrester :

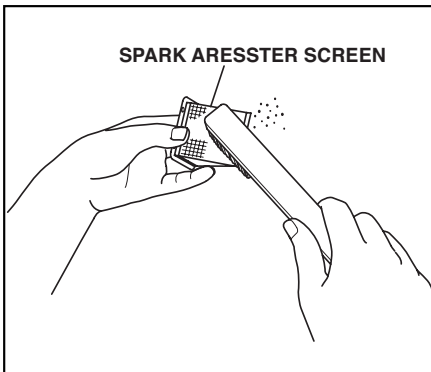
- Prevents the flow of exhaust gas
- Reduces engine output
- Increases fuel consumption
- Makes starting difficult

If the engine has been running, the muffler and the spark arrester will be very hot. Allow the muffler to cool before cleaning the spark arrester.



How to remove the spark arrester

1. Remove the flange bolts from the muffler cover and remove the muffler cover.
2. Remove the special screw from the spark arrester and remove the spark arrester from the muffler.



Clean the spark arrester screen

Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen.

The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged.

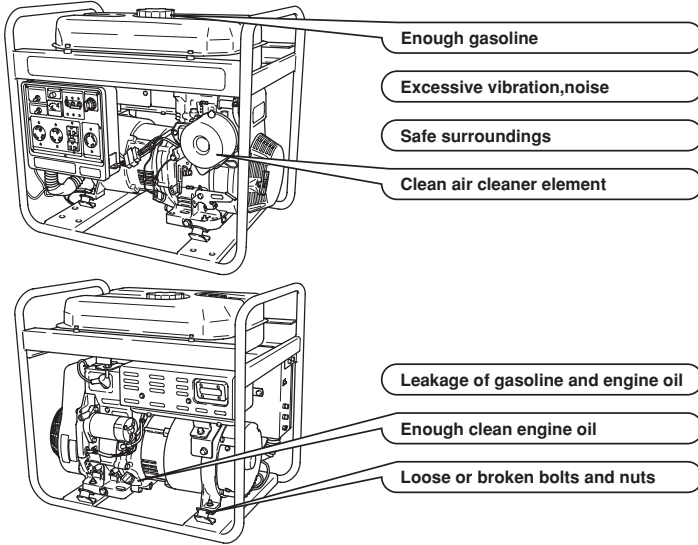
Install the spark arrester, and muffler protector in the reverse order of disassembly.

8. MAINTENANCE SCHEDULE

MAINTENANCE, REPLACEMENT OR REPAIR OF THE EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY NONROAD ENGINE REPAIR ESTABLISHMENT OR INDIVIDUAL.

DAILY INSPECTION

Before running the generator, check the following service items:



PERIODIC MAINTENANCE

Periodic maintenance is vital to safe and efficient operation of your generator. Check the table below for periodic maintenance intervals.

IT IS ALSO NECESSARY FOR THE USER OF THIS GENERATOR TO CONDUCT THE MAINTENANCE AND ADJUSTMENTS ON THE EMISSION-RELATED PARTS LISTED BELOW TO KEEP THE EMISSION CONTROL SYSTEM EFFECTIVE.

The emission control system consists of the following parts:

- | | | |
|---|--|--|
| (1) Carburetor and internal parts | (4) Air cleaner elements | (8) Exhaust manifold, if applicable |
| (2) Cold start enrichment system, if applicable | (5) Spark plug | (9) Hoses, belts, connectors, and assemblies |
| (3) Intake manifold, if applicable | (6) Magneto or electronic ignition system | |
| | (7) Spark advance/retard system, if applicable | |

The maintenance schedule indicated in the following table is based on the normal engine operation. Should the engine be operated in extremely dusty condition or in heavier loading condition, the maintenance intervals must be shortened depending on the contamination of oil, clogging of filter elements, wear of parts, and so on.

Periodic Maintenance Schedule table

Maintenance Items	Every 8 hours (Daily)	Every 20 hours	Every 50 hours (Weekly)	Every 200 hours (Monthly)	Every 500 hours	Every 1000 hours
CLEAN GENERATOR AND CHECK BOLT AND NUTS	● (Daily)					
CHECK AND REFILL ENGINE OIL	● (Refill daily up to upper level)					
CHANGE ENGINE OIL (*Note1)		● (Initial)	● (Every 100 hours)			
CLEAN SPARK PLUG			●			
CLEAN AIR CLEANER			●			
REPLACE AIR CLEANER ELEMENT				●		
CLEAN FUEL STRAINER				●		
CLEAN AND ADJUST SPARK PLUG AND ELECTRODES				●		
REPLACE SPARK PLUG					●	
SPARK ARRESTER			● (Every 100 hours)			
REMOVE CARBON FROM CYLINDER HEAD (*Note 2)					●	
CHECK AND ADJUST VALVE CLEARANCE, (*Note 2)					●	
CLEAN AND ADJUST CARBURETOR (*Note 2)					●	
REPLACE FUEL LINES						● (Yearly)
OVERHAUL ENGINE (*Note 2)						●

*NOTE: 1. Initial oil change should be performed after first twenty (20) hours of operation. Thereafter change oil every hundred (100) hours. Before changing oil, check for a suitable way to dispose of old oil. Do not pour it down into sewage drains, onto garden soil or into open streams. Your local zoning or environmental regulations will give you more detailed instructions on proper disposal.

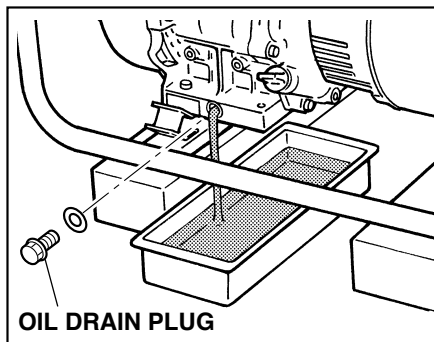
*NOTE: 2. As to the procedures for these items, please refer to the SERVICE MANUAL or consult your nearest Makita service dealer.

9. "HOW-TO" MAINTENANCE

ENGINE OIL CHANGE

- Change engine oil every 100 hours. (For new engine, change oil after 20 hours.)

- (a) Drain oil by removing the drain plug and the oil filler cap while the engine is warm.
- (b) Reinstall the drain plug and fill the engine with oil until it reaches the upper level on the oil filler cap.



- Use fresh and high quality lubricating oil to the specified level as directed on page 6. If contaminated or deteriorated oil is used or the quantity of the engine oil is not sufficient, the engine damage will result and its life will be greatly shortened.

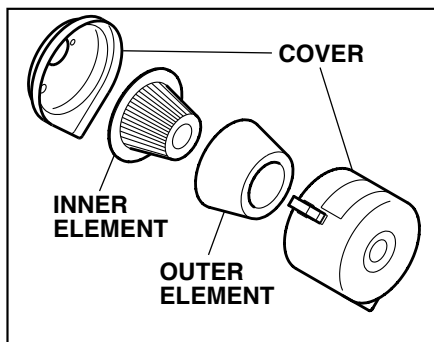
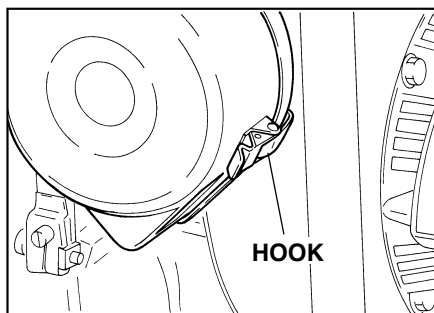
CLEANING AIR CLEANER

(Model G2800R)

Maintaining an air cleaner in proper condition is very important.

Dirt induced through improperly installed, improperly serviced or inadequate elements damages and wears out engines. Always keep the air cleaner element clean.

- (a) Unhook the cover and remove the cleaner element.
- (b) Inner element : Wash the element with kerosene, then soak it in mixed oil (Kerosene (3 parts) : Engine oil (1 part)). Drain the mixed oil.
- (c) Outer element : Wash the element with kerosene, then dip it into the mixed oil (Kerosene (3 parts) : Engine oil (1 part)). Squeeze out the mixed oil. (Do not twist.)

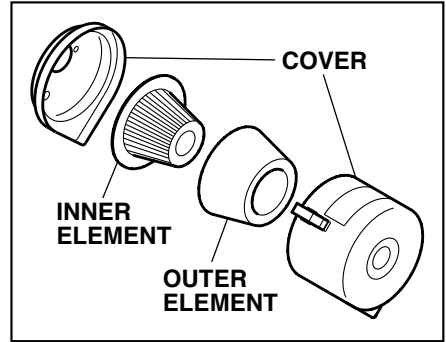


(Model G4100R, G4101R, G6100R, G6101R)

[CAUTION]

Do not wash elements with kerosene, gasoline or oil.

A dirty air cleaner element will cause starting difficulty, power loss, engine malfunctions, and shorten engine life extremely. Always keep the air cleaner element clean.



1. Urethane Foam Element

Wash and clean the urethane foam with detergent. After cleaning, dry it. Clean the urethane foam element every 50 hours.

2. Paper element

Clean by tapping gently to remove dirt and blow off dust.

Never use oil. Clean the paper element every 50 hours of operation, and replace element set every 200 hours.

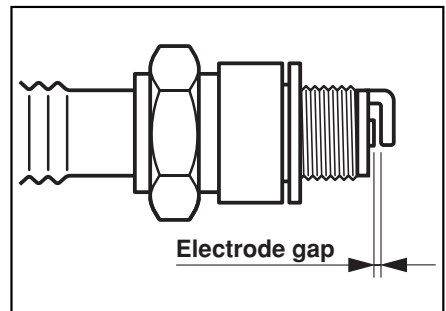
Clean and replace air cleaner elements more often when operating in dusty environments.

CLEANING AND ADJUSTING SPARK PLUG

- (a) If the plug is contaminated with carbon, remove it using a plug cleaner or wire brush.
- (b) Adjust the electrode gap.

ELECTRODE GAP

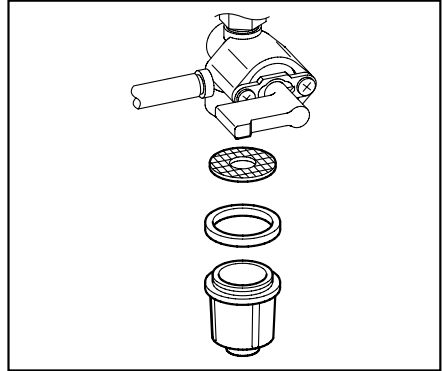
Model	Spark plug	Electrode gap
G2800R G4100R G4101R	NGK BR6HS	0.02 to 0.03 in. (0.6 to 0.7 mm)
G6100R G6101R	NGK BR6ES	0.03 in. (0.7 to 0.8 mm)



CLEANING FUEL STRAINER

Dirt and water in the fuel are removed by the fuel strainer.

- (a) Remove the strainer cup and throw away water and dirt.
- (b) Clean the screen and strainer cup with gasoline.
- (c) Tightly fasten the cup to main body, making sure to avoid fuel leak.



FUEL HOSE REPLACEMENT



WARNING

Take extreme caution when replacing fuel hose ; gasoline is flammable.

Replace the fuel hose every 1,000 hours or every year.

If fuel hose leak is found, replace the fuel hose immediately.

10. PREPARATION FOR STORAGE

The following procedures should be followed prior to storage of your generator for periods of 6 months or longer.

- Drain fuel from fuel tank carefully by disconnecting the fuel line.
Gasoline left in the fuel tank will eventually deteriorate making engine-starting difficult.
- Remove the carburetor float chamber and also drain the carburetor.
- Change engine oil.
- Check for loose bolts and screws, tighten them if necessary.
- Clean generator thoroughly with oiled cloth. Spray with preservative if available. **NEVER USE WATER TO CLEAN GENERATOR !**
- Pull starter handle until resistance is felt, leaving handle in that position.
- Store generator in a well ventilated, low humidity area.

11. TROUBLESHOOTING

When generator engine fails to start after several attempts, or if no electricity is available at the output socket, check the following chart. If your generator still fails to start or generate electricity, contact your nearest Makita factory or authorized service center for further information or corrective procedures.

When Engine Fails to Start :

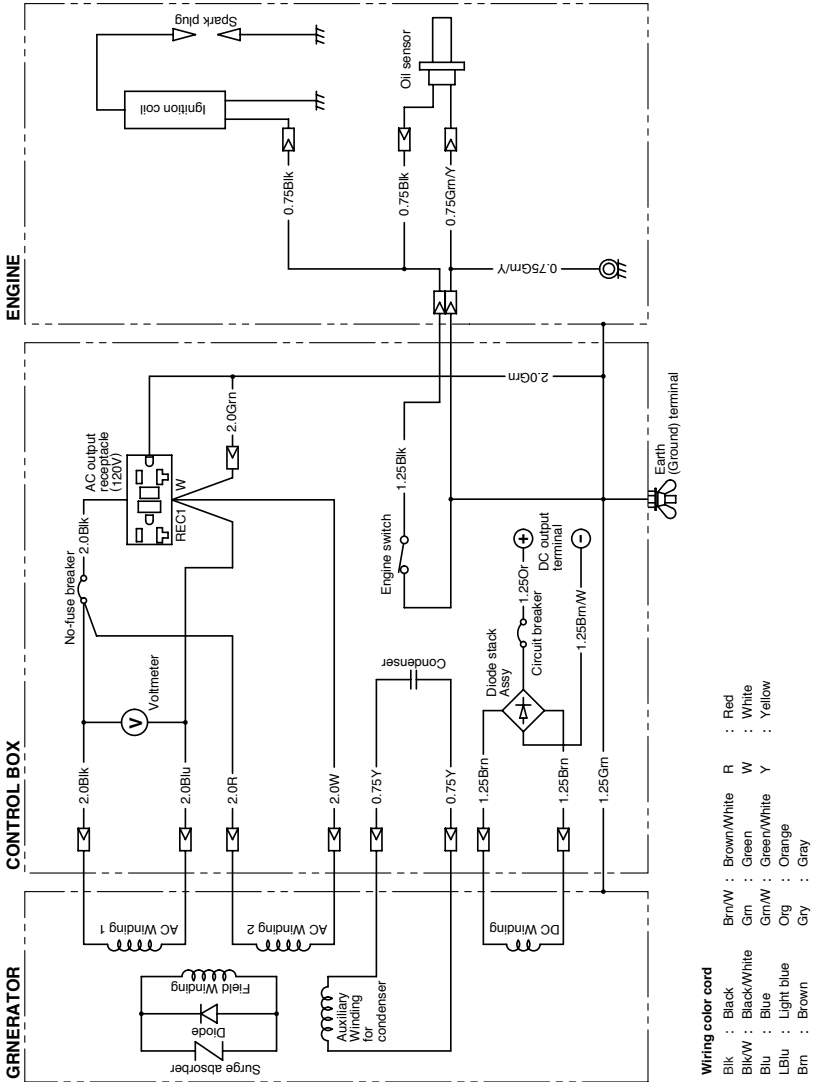
Check if choke lever is in its proper position.		Set the choke lever to "CLOSE" position.
Check if fuel cock is open.	↔	If closed, open fuel cock.
Check fuel level.		If empty, refill fuel tank making sure not to overfill.
Check if engine switch is in OFF.		Turn engine switch to ON.
Check to make sure generator is not connected to an appliance.		If connected, turn off the power switch on the connected appliance and unplug.
Check spark plug for loose spark plug cap.	↔	If loose, push spark plug cap back into place.
Check spark plug for contamination.		Remove spark plug and clean electrode.

When No Electricity Is Generated at Receptacle :

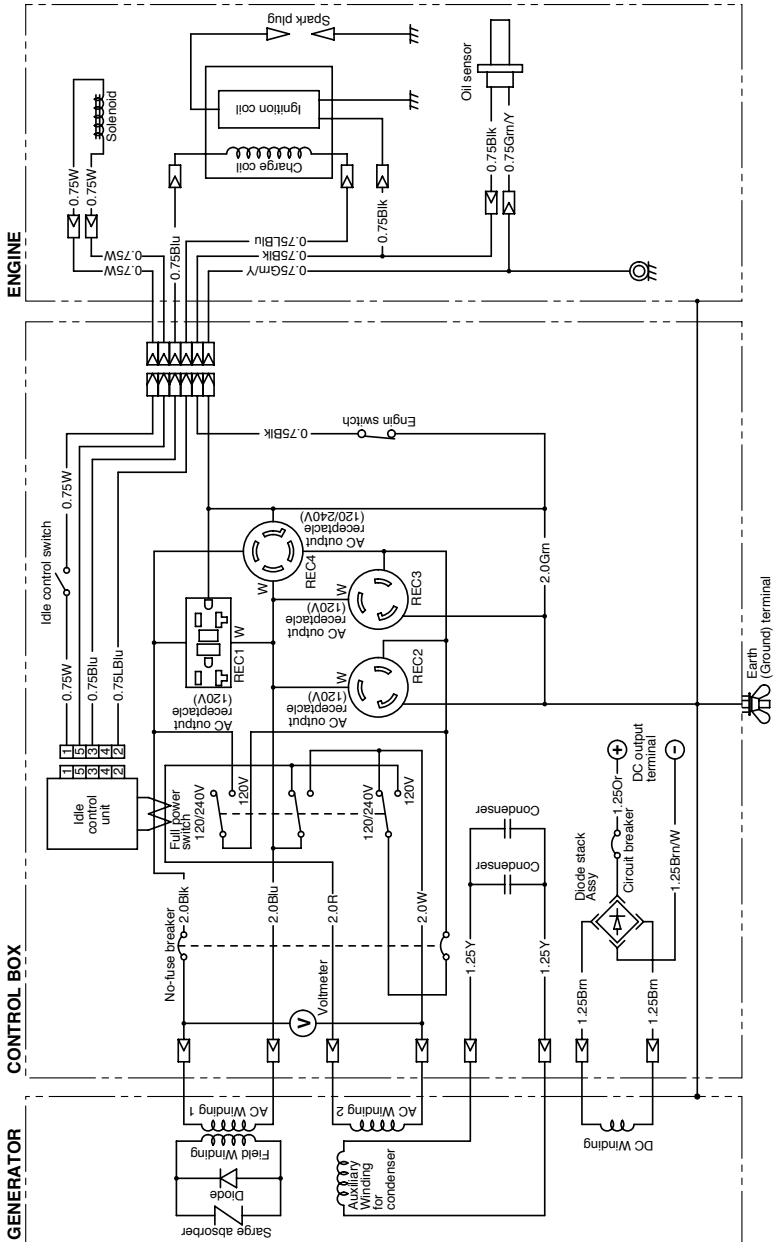
Check to make sure no-fuse breaker is in the "ON" position.	↔	After making sure that the total wattage of the electrical appliance is within permissible limits and there are no defects in the appliance, turn the no-fuse breaker to the "ON" position. If breakers continue to actuate, consult your nearest servicing dealer.
Check AC and DC terminals for loose connection.		Secure connection if necessary.
Check to see if engine starting was attempted with appliances already connected to generator.	↔	Turn off switch on the appliance, and disconnect cable from receptacle. Reconnect after generator has been started properly.

12. WIRING DIAGRAM

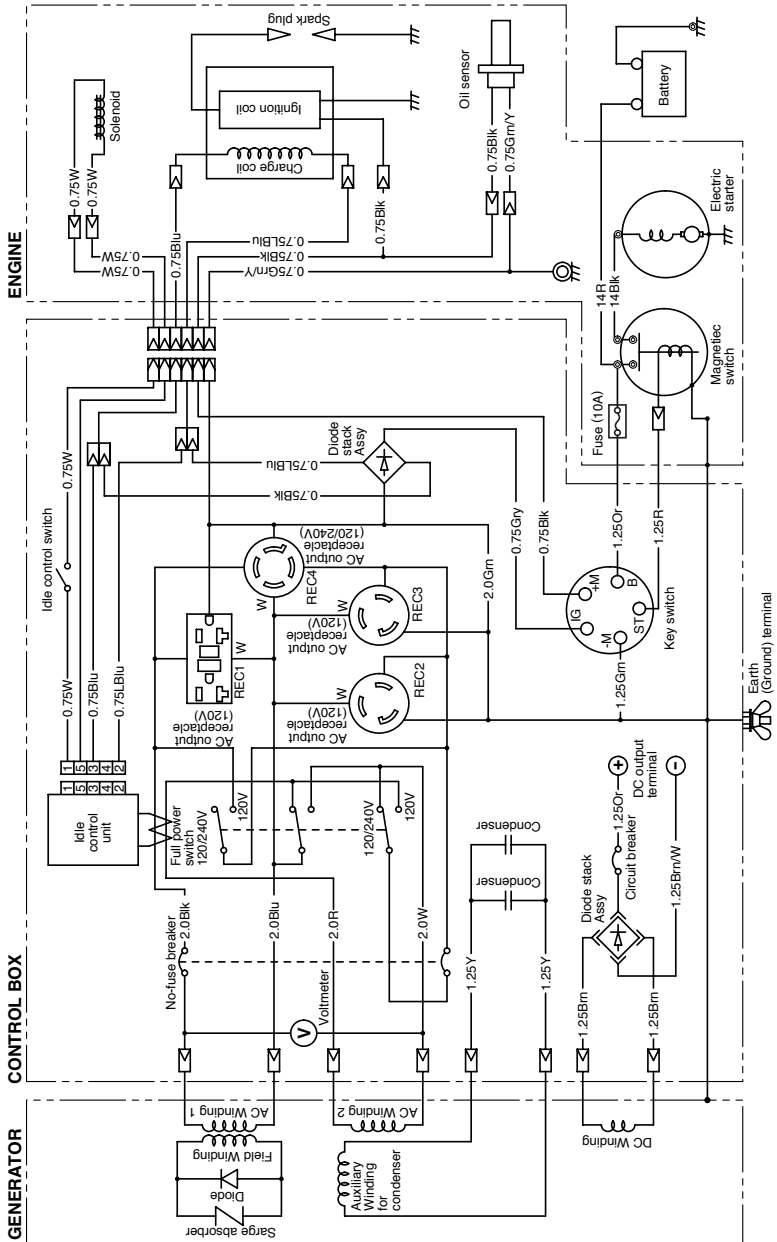
G2800R



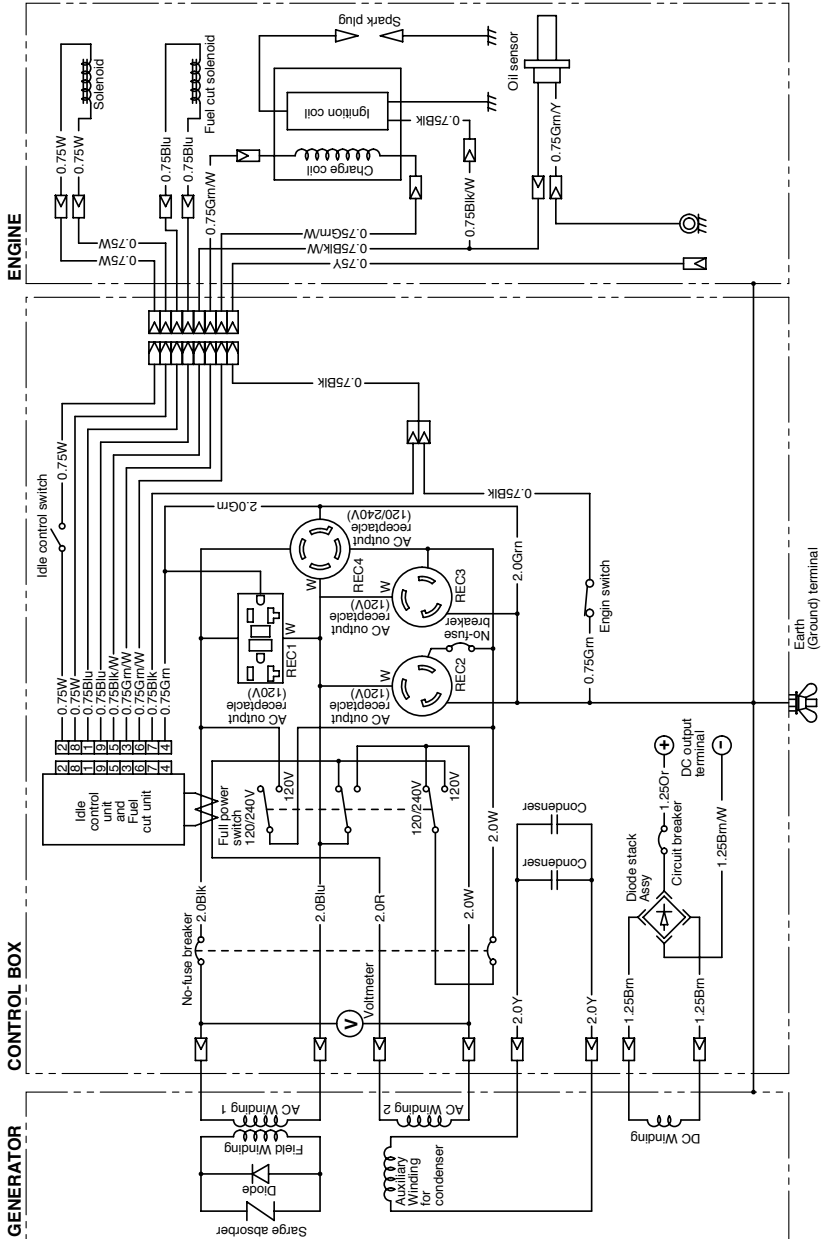
G4100R



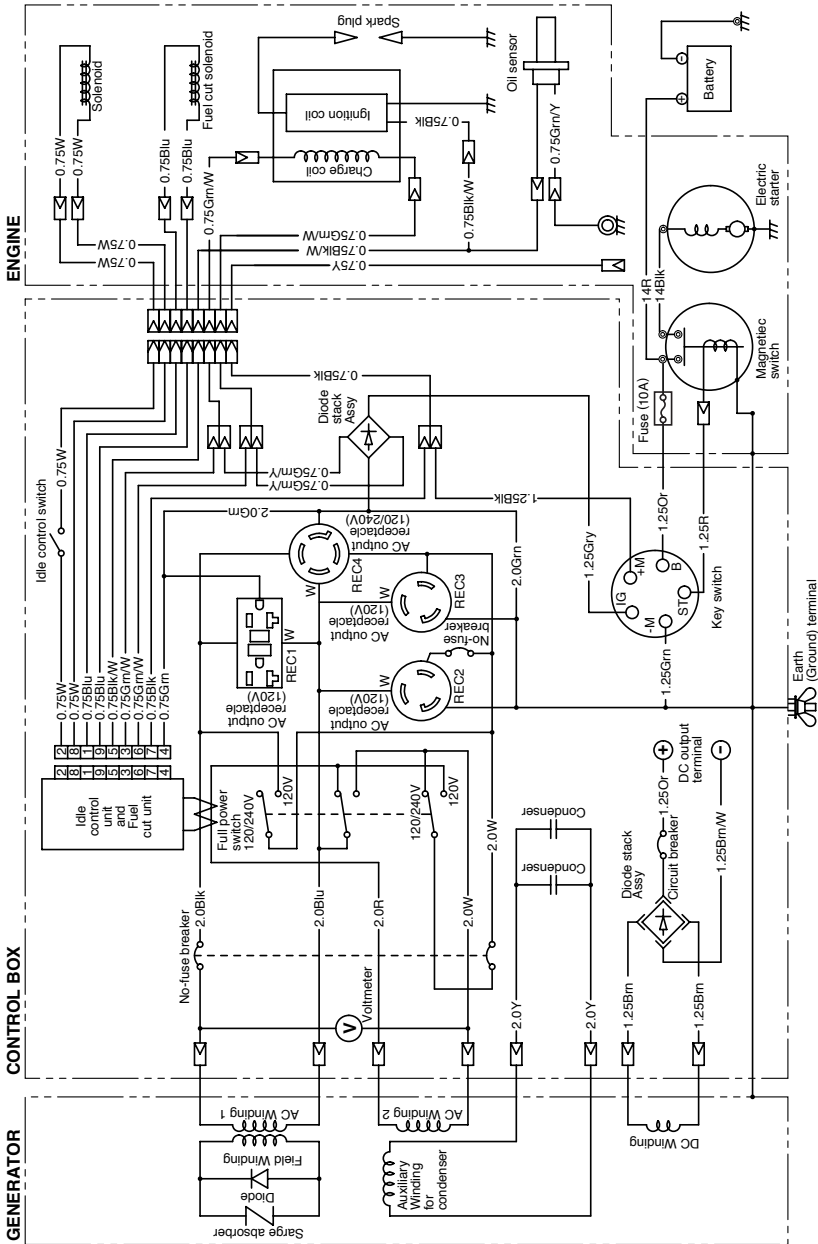
G4101R



G6100R

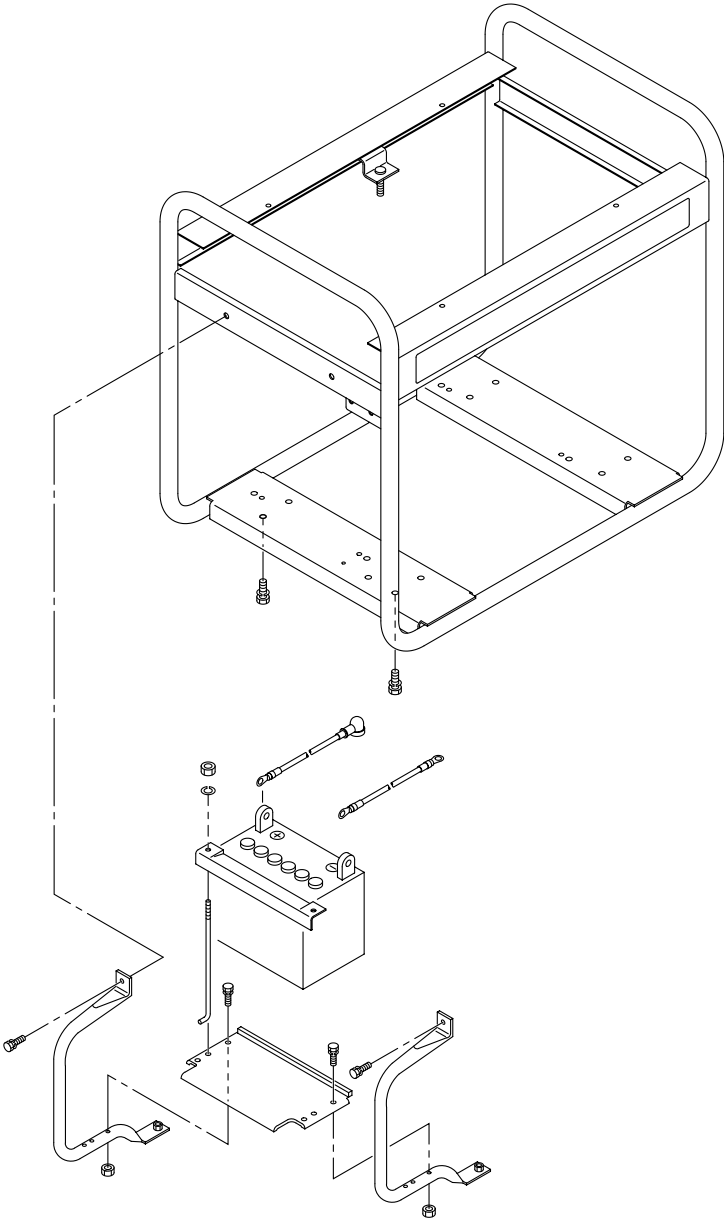


G6101R



13. OPTIONAL PARTS

"HOW TO" INSTALL BATTERY



Learn more about generators on our website.