

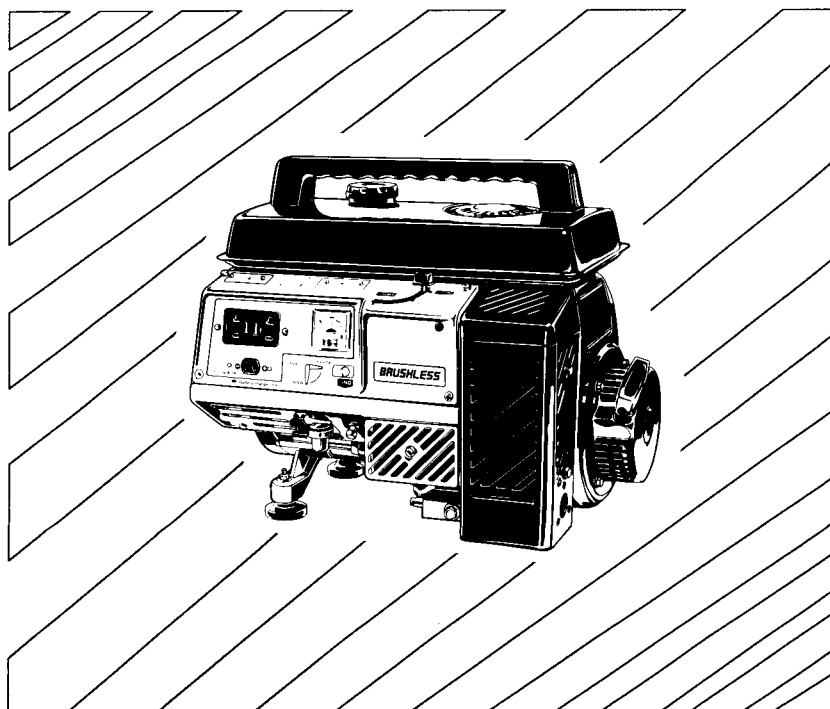
アメリカ

Makita

GENERATOR

MODEL : **G1200R**

INSTRUCTION MANUAL



ISSUE EMD-GU0815

3ZZ9020046

FOREWORD

Thank you for purchasing this portable generator. This manual contains information and *operating procedures necessary for the effective, economical and safe operation of the generator.* For the proper operating procedures, read this manual thoroughly before operating the generator.

For further details or questions, consult your nearest dealer.

NOTE

- Due to a constant effort to improve the product and because of a continuous program of research and development, certain procedures, specifications and equipment are subject to change without notice.

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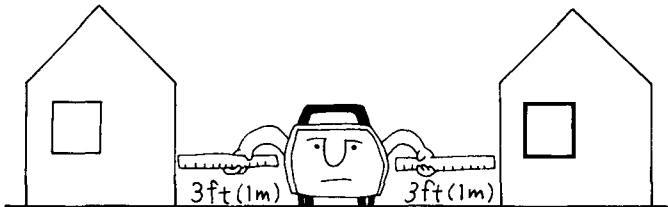
1. SAFETY PRECAUTIONS

Fire prevention

- When refueling :
 - Stop the engine.
 - Extreme care must be taken to prevent fire hazards. Avoid smoking and the use of matches or open flame.
 - Be sure to fill fuel tank up to the specified level. Do not overfill.
 - Spilled fuel must be wiped off thoroughly. After spilled fuel has dried, start the engine.



- Location of generator :
 - The generator should be placed at least 1 meter (3 ft) away from buildings or other facilities.
 - The surrounding area should be free of inflammables (trash, chips of wood, etc.) and hazardous materials (lubricants, celluloid items, explosives, etc.).



- While in use :
 - Be sure to operate the generator on a level surface. Avoid tilting or moving while in operation.
 - The generator should not be covered or enclosed by a box.

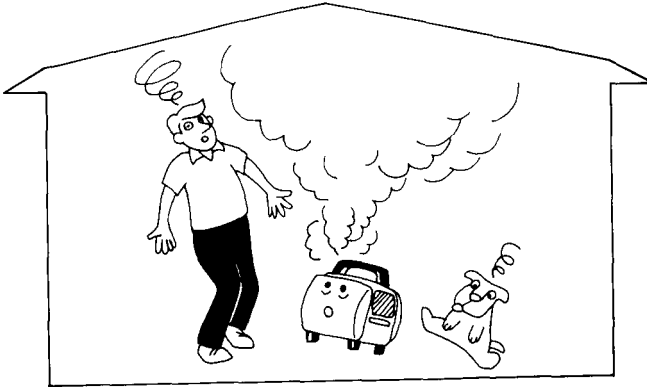
Prevention of electrical shock

- Never use the generator in the rain or snow.
- Never operate the generator with wet hands.
- Never spray water to clean the generator.



Exhaust gas precautions

- Exhaust gas contains toxic gases. Extreme care must be taken about people and domestic animals in the surrounding area.
- Never operate the generator indoors.
- Never operate in an enclosed area not adequately ventilated such as in a warehouse, tunnel, well, hold, reservoir, etc.
- The exhaust pipe should be pointed toward a well-ventilated open area.



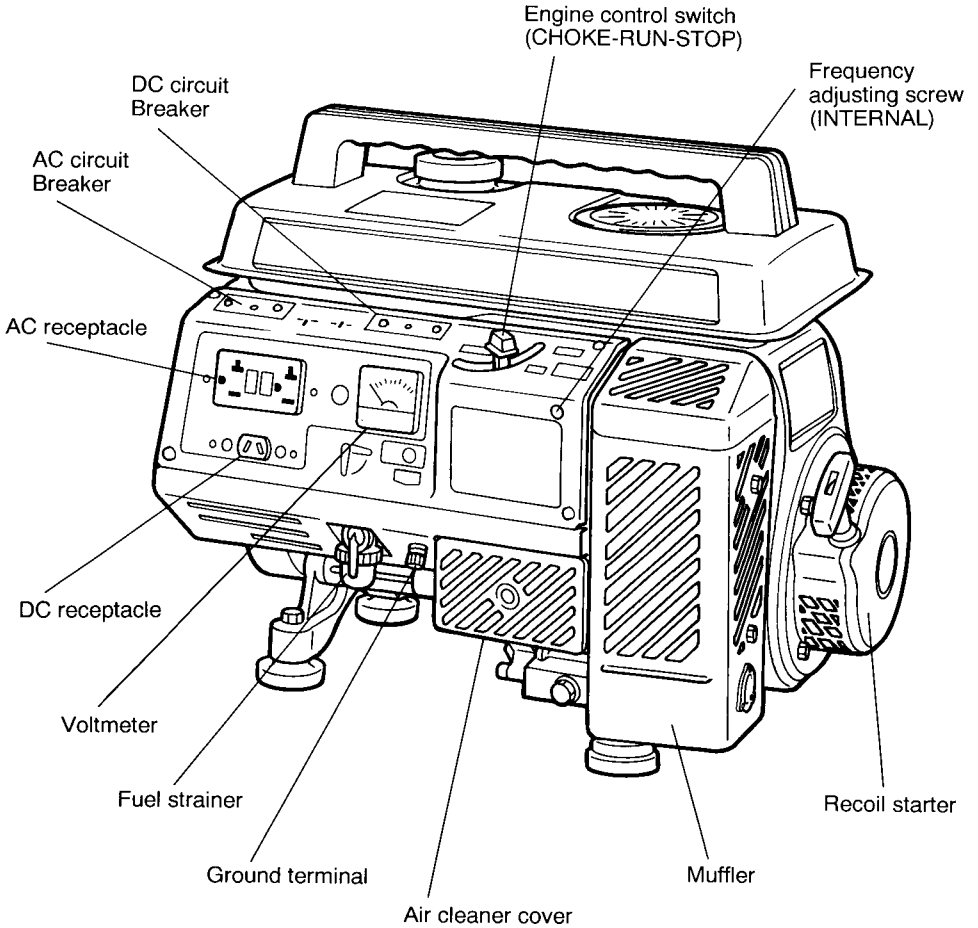
Necessary inspections and checks

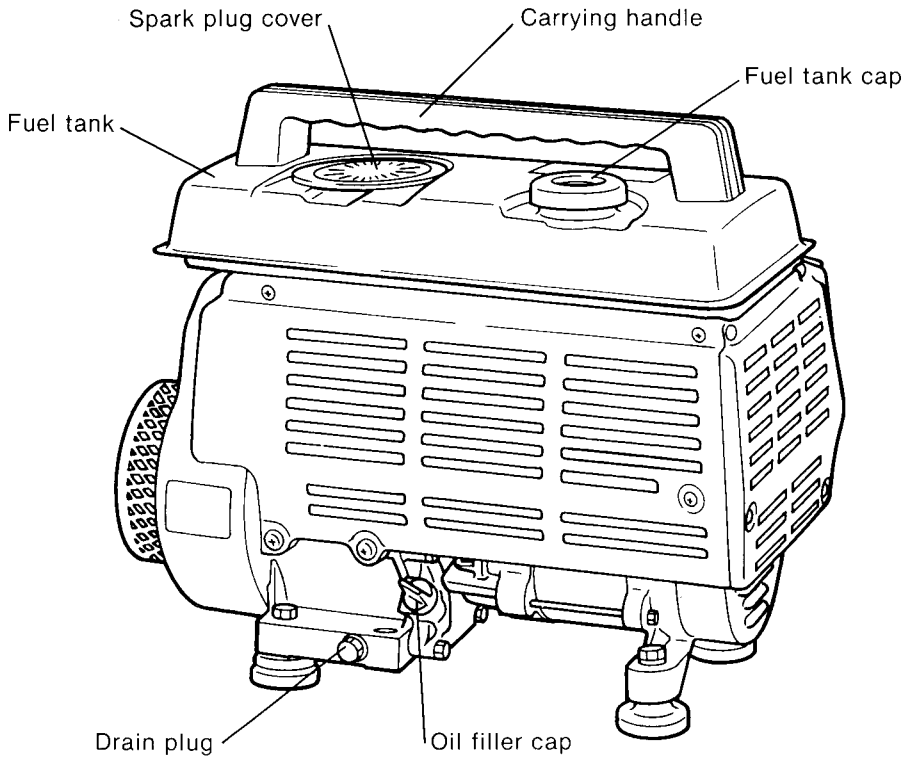
- Before operation (Refer to pages 7 and 8.) :
 - Check oil level and refill if necessary.
 - Check fuel level.
 - Check the surrounding area of the generator.
 - Be sure to disconnect the load appliance.
- Easy checking and maintenance (Refer to pages 15 and 16.) :
 - Attached tools.
 - Air cleaner element.
 - Oil change interval.
 - Spark plug inspection/adjustment.

Other safety instructions

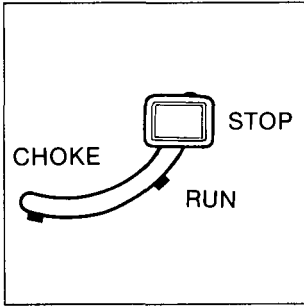
- Never connect the generator to indoor electrical wiring. If connected, malfunctions in home electrical units or generators, fire and / or electric shock may result.
- Be sure to use the generator on a level surface, never use on a soft or uneven surface with small rocks, soil, gravel, etc.
- If abnormal conditions such as excessive noise or odor or vibration appears, stop the engine immediately and consult your dealer for the necessary information.

2. COMPONENT IDENTIFICATION





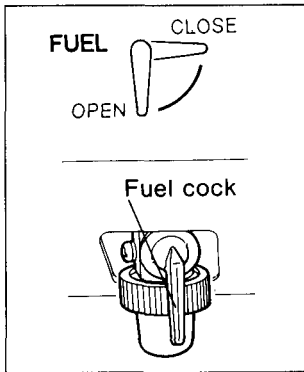
3. CONTROLS AND INDICATORS



Engine Control Switch

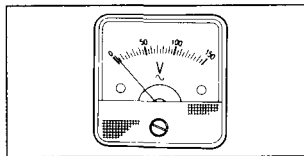
● By pushing and sliding this switch, the CHOKE-RUN-STOP functions of the engine can be controlled. It has the following three positions:

CHOKE	To start the engine, turn the knob to this position. (Choke valve is closed.)
RUN	Keep the knob in this position after the engine starts. (The engine can be started with the knob at this position when the engine is warm.)
STOP	To stop the engine, return the knob to this position.



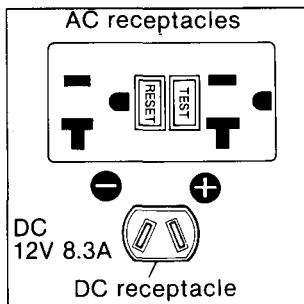
Fuel Cock

● Controls the supply of fuel.
 CLOSE : Engine stops.
 OPEN : Engine runs.



Voltmeter

● Indicates the AC voltage output of generator.

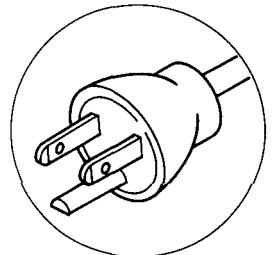


AC receptacle

● AC electric power is available through this receptacle. Use a ground type, three-leg plug as shown.

DC receptacle

● DC electric power for battery charge is available.

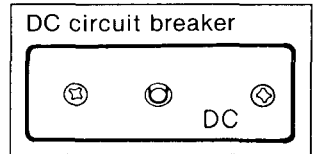
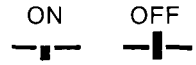
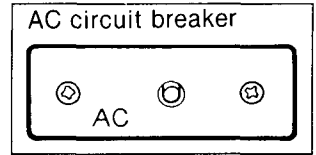


AC circuit breaker

DC circuit breaker

● Both AC and DC circuit breakers shut off electric current when the current exceeds its limit or a malfunction occurs in the connected appliance.

Check for excessive current consumption or defects in the appliance. After making sure everything is in order, push the button to the "ON" position.

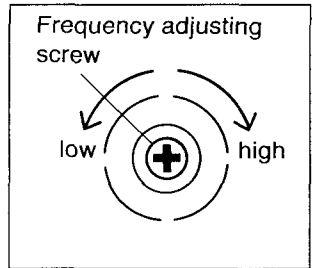


Frequency adjusting screw

● Frequency can be finely adjusted by turning the frequency adjusting screw with a Phillips screwdriver.

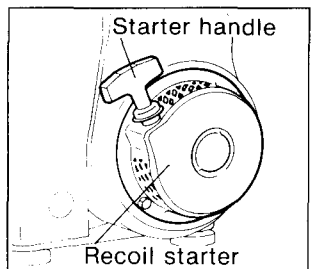
[CAUTION]

Do not adjust frequency unnecessarily because it is preset at the factory.



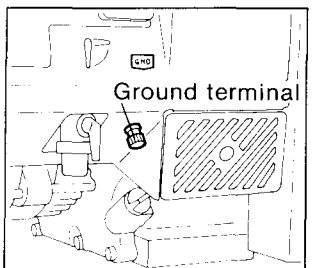
Starter handle

● Pull this handle to start the generator.

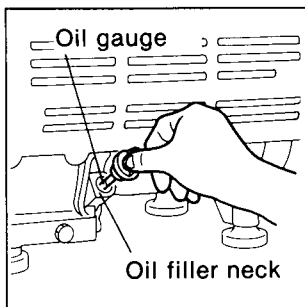


Ground (Earth) Terminal

● Terminal for grounding the generator.



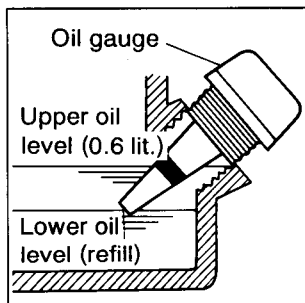
4. BEFORE OPERATION (NECESSARY INSPECTIONS / CHECKS)



Checking engine oil level

- Remove oil gauge and check oil level :
 - If level is low, fill to the top of the oil filler neck.
 - Change oil if badly contaminated. (See page 15 for procedure.)
- Use class SC (API classification) oil or a higher grade of oil.

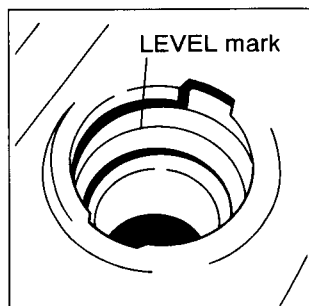
SAE 10W-30 or 10W-40 is recommended for general, all-temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.



- SAE 10W-30 — For general, all temperature use
- SAE 5W — For cold weather below -15 °C(5°F).

[CAUTION]

Oil level checking and refilling should be performed on a level surface with the engine stopped.



Checking fuel level

- If fuel level is low, place the engine switch to "STOP" position.
- Refill fuel tank up to the specified level indicated by the "LEVEL" mark in the fuel filler openings as shown.

Tank capacity	3.5 lit. (0.92 U.S.gal) (up to the specified level marked "LEVEL")
Recommended fuel	Non-lead gasoline

[CAUTION]

1. Take the proper precautions to prevent fire hazards when refilling.
2. Avoid overfilling.
3. Be sure to stop the engine before refilling.

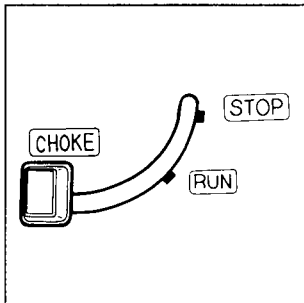
Checking the area around the generator

- Area should be free of inflammables and hazardous materials.
- The generator is placed at least 1 meter (3 ft) away from buildings or other facilities.
- Generator is located in well-ventilated, open area.
- The exhaust pipe is pointed toward a well-ventilated open area.
- The generator is positioned away from any type of open flame or sparks.
- The generator is placed in a stable condition on a level surface, not on an inclined or uneven surface.
- The generator is not enclosed or blocked by obstacles such as pieces of wood, cardboard, etc.

● Be sure to disconnect the appliance from the generator before starting. It is very dangerous to start the engine with the appliance on since the appliance may start suddenly.

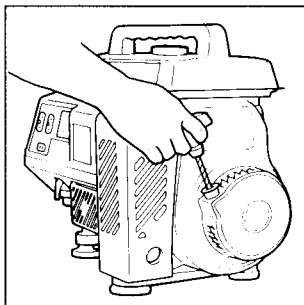
Check to make sure that the switch of the appliance is turned off or its plug is disconnected from the receptacle.

5. OPERATING PROCEDURES



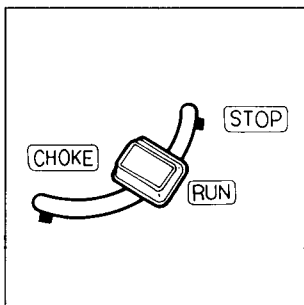
Starting

- Check oil and fuel levels.
- Make sure the appliance is disconnected.
- Turn engine switch to "CHOKE" position. (When engine is warm or temperature is high, start engine with the switch at "RUN" position.)



- Pull the starter handle slowly until passing the compression point (resistance will be felt), then return the handle to its original position and pull swiftly.
- After starting, allow the starter handle to return to its original position with the handle still in your hand.

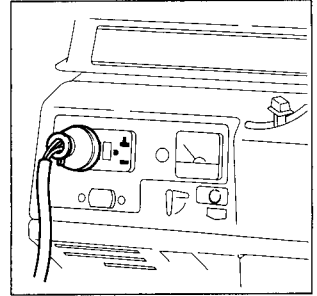
NOTE: When engine fails to start after several attempts, repeat the starting procedures mentioned above with the engine switch placed at "RUN" position.



- After 20 to 30 seconds of warm-up is completed, turn the engine switch to "RUN" position.

AC application

- Check the voltmeter for proper voltage.
The generator is thoroughly adjusted and tested in the factory. If the generator does not produce the specified voltage, consult your nearest Generator dealer.
- Check the electrical appliance to see if its switch is turned off, then connect the appliance to the generator.
- Switch on the appliance.



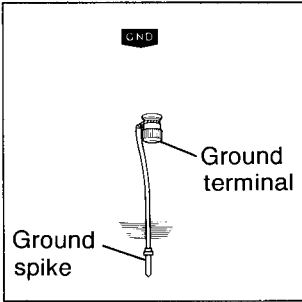
- **Applicable AC wattage :**

The following table shows the maximum wattage of various appliances which can be connected to the generator. Before connecting an appliance, make sure its wattage is within the range.

Electrical appliance	Applicable limit
	60Hz
Lamp, electrical heater, radio, stereo sets, etc.	up to 1000W
Electric tools	up to about 600W

[CAUTION]

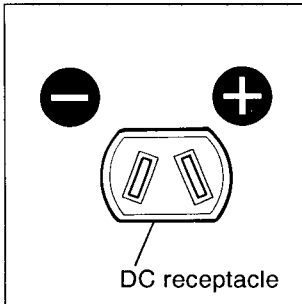
1. When connecting plural appliances make sure the total wattage does not exceed the generator's rated output. Otherwise the generator will not operate due to excessive wattage.
2. Some power tools require a large starting current. In these cases, it may not be possible to use the generator. Refer to page 20, or consult your dealer to obtain the necessary information.
3. When overloaded, the AC circuit breaker pops out to cut off the current. In such a case, make sure that the applied wattage of the appliance has not exceeded the wattage limit and that there are no defects in the appliance. Then push the circuit breaker back into the "ON" position.



- 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.

[CAUTION]

Generator must be grounded when the electrical appliance is grounded.
Failure to ground generator may lead to electric shock.

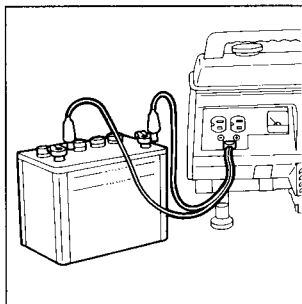


DC application (For charging 12V battery only)

- DC receptacle is used only for charging a 12V battery.
- Connection of battery charging cables :
Using the attached DC plug, connect its positive and negative terminals to the corresponding battery terminals.

[CAUTION]

Do not use DC output and AC output simultaneously.



- Battery charging procedures :
 - Make the proper connection as mentioned above, be careful not to make a wrong connection. Be sure to disconnect all cables connected from battery to any other appliance.
 - Remove all plugs from top of battery.
 - Check electrolyte level and add distilled water if necessary, to bring the electrolyte level to the level marked "UPPER".
 - Start engine to charge battery.

The charging time varies depending on the condition of discharge. The specific gravity of a battery electrolyte indicates the state of charge in each battery cell. While charging battery, check the specific gravity with a hydrometer, using a thermometer to correct hydrometer reading for temperature. A corrected specific gravity reading of 1.26 to 1.28 in all cells indicates a fully charged battery.

Example : In case of 12V-40Ah automobile battery, it takes 5 to 6 hours to bring a completely discharged battery to a state of full-charge.

- Charging safety :

Batteries produce explosive hydrogen gas. This gas is emitted from the vent hole of each battery cap. Safety precautions must be observed to prevent ignition and subsequent explosion of the hydrogen gas caused by open flame or sparks.

- No smoking and open flame near a charging battery.
- Be sure to perform the battery charging operation in a well-ventilated area.

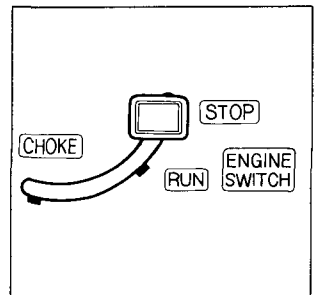
Extreme care must be taken as electrolyte will burn eyes, skin and clothing. If injured, use a large quantity of water to clean the affected area immediately, then consult a doctor for medical treatment.

[CAUTION]

1. When charging a large capacity battery, DC output will exceed the limit and the DC circuit breaker will pop out to the "OFF" position. In such a case, push DC circuit breaker into the "ON" position after checking the battery.
2. Do not use DC and AC output simultaneously.

Stopping generator

- Proceed as follows :
 - Turn off electrical appliance switch and disconnect cable from receptacle.
 - Turn engine switch to "STOP" position.



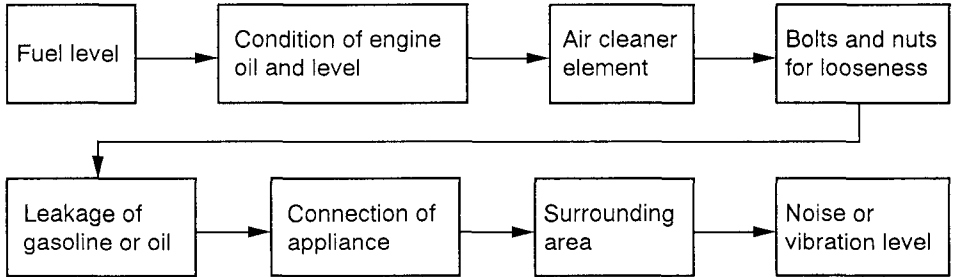
6. PERIODIC MAINTENANCE

Proper maintenance of the generator will allow reliable performance and reasonable maintenance cost. This section outlines a standard schedule for this purpose. This schedule should be adjusted as necessary to conform to the owner's conditions of use.

DO-IT-YOURSELF SERVICE

Checks before use

Be sure to check the following before operating the generator.



Easy maintenance

- Every 50 hours Wash cleaner element (or everyday when operating in extremely dusty conditions.), clean spark plug.
 - Every 100 hours Change oil.
 - Every 6 months (200 hours) Adjust spark plug gap.
- See page 15 for detailed information.

Draw up the most convenient schedule for conducting required checks, on the basis of the maintenance schedule outlined on the next page.

PERIODIC MAINTENANCE (UNDER NORMAL OPERATING CONDITIONS)

- Every 6 months (200 hours) Clean fuel filter.
- Every 12 months (500 hours) Replace spark plug and cleaner element, clean / adjust carburetor, cyl. head, valve clearance, valve seat and engine switch.
- Every 24 months (1,000 hours) Inspect control panel parts, rotor and stator. Replace engine mount,overhaul.

1. Change fuel lines if any leakage is found or after every two years regardless of usage.
2. Overhauling includes checking dimensions and adjusting or replacing component parts according to Repair Standards in the Service Manual.
It is recommended that the generator be overhauled every 2 years(1,000 hours).

For USA only : Clean spark arrester.

MAINTENANCE SCHEDULE

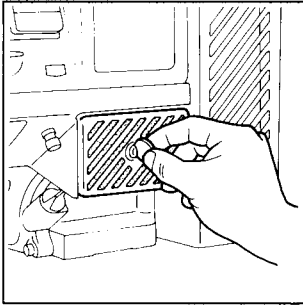
Do-it-yourself service

Item	Interval
Check & add engine oilrefill as required
Clean air cleaner	Check before each use
Clean & retighten screws	
Wash cleaner element	Every 50 hours
Clean spark plug	Every 50 hours See page 15.
Change engine oil	Every 100 hours (initial : after 20 hours)
Adjust spark plug gap	Every 6 months (200 hours)

Periodic maintenance

Item	Every 6 months (200 hours)	Every 12 months (500 hours)	Every 24 months (1,000 hours)
Clean fuel filter	#		
Change spark plug		#	
Clean carburetor		#	
Remove carbon from cyl. head		#	
Check & adjust valve clearance		#	
Overhaul			#
Check engine switch		#	#
Check rotor			#
Check stator			#
Change engine mount			#
Control panel parts			
AC receptacle			#
DC receptacle			#
Circuit breaker			#

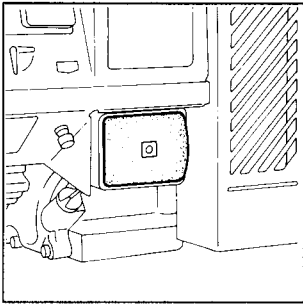
7. EASY CHECKING AND MAINTENANCE



Air cleaner servicing

- If the air cleaner element is clogged, a decrease in generator output, erratic engine operation and / or excessive fuel consumption may result. Be sure to clean air cleaner periodically as follows :

Interval : Every 50 hours or clean every day (or every 10 hours) when operating in extremely dusty conditions.

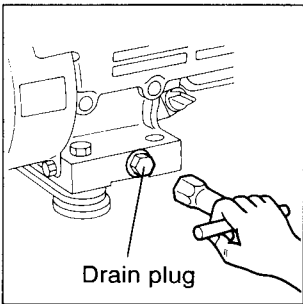


Cleaning procedure

- Using a coin, loosen screw securing air cleaner cover in place and remove cover.
- Remove element and clean with fresh cleaning solvent.
- After cleaning, soak element in a clean fuel mixture (3 parts gasoline to 1 part engine oil), then squeeze out excess oil and reinstall.

[CAUTION]

1. Extreme care must be taken to prevent fire especially when cleaning air cleaner element.
2. When squeezing excess oil out of element, do not twist element, just grasp and squeeze it tightly.

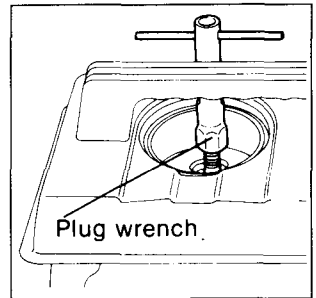
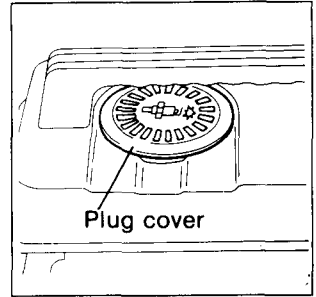
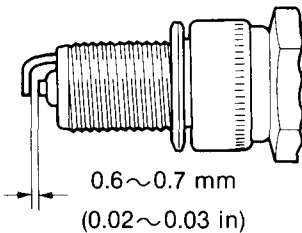


Engine oil change

- Servicing period :
 - Initial servicing : 20 hours after initial operation.
 - Regular servicing period : Every 100 hours.
- Drain oil by removing the drain plug and the oil filler cap while the engine is warm.
- Reinstall the drain plug and refill with fresh oil up to the upper level mark on the oil gauge.
- Use fresh and high quality oil as specified in page 7.

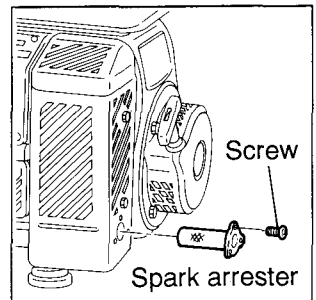
Checking the spark plug

- Inspection and adjustment procedure :
 - Open spark plug cover.
 - Remove plug cap and remove spark plug using a plug wrench.
 - Using plug cleaner or wire brush, clean plug electrode of burnt or deposited carbon.
 - Check for proper gap between electrodes. Adjust gap to 0.6 to 0.7 mm (0.02 to 0.03 in) by bending the side electrode if necessary.
 - Recommended replacement plug type : BR6HS (make : NGK).



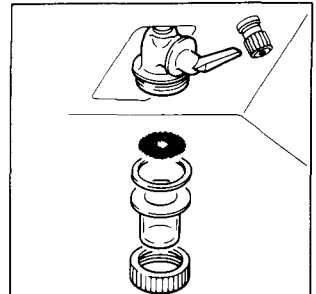
Spark arrester cleaning

- Inspect the spark arrester every 50 hours for carbon deposit or damage.
Clean or replace if necessary.
- 1. Make sure that the muffler is cool before working.
- 2. Remove the spark arrester and inspect.
- 3. Use a wooden scraper or small wire bursh to scrape away any dirt or carbon deposits from exhaust outlet opening and spark arrester screen.
- 4. Reinstall spark arrester screen.



Cleaning fuel strainer

- Check for water or contaminants in the fuel strainer.
- To remove contaminants, close fuel cock and remove strainer cup.
- After removing contaminants and water, wash the cup and strainer with gasoline. Reinstall securely to prevent leakage.



8. PREPARATION FOR STORAGE

- Remove fuel strainer cup, open fuel cock and completely drain fuel from tank.
- After draining fuel, reinstall strainer cup and close the fuel cock.
- Start and run the generator without an appliance connected until the carburetor is completely empty of fuel.
- Change old lubricating oil with fresh oil.
- Clean air cleaner element.
- Remove spark plug and pour 5-10 cc (1 fl.oz.) of lubricating oil through the plug hole. Then pull starter handle several times and reinstall the spark plug.
- Check for loose bolts and nuts. Retighten if necessary.
- Clean generator thoroughly and spray completely with a preservative spray if available.
- Be sure to place engine switch at the "STOP" position.
- Pull starter handle until resistance is felt and leave it in that position.
- Storage indoors in a well-ventilated, low humidity area is recommended.

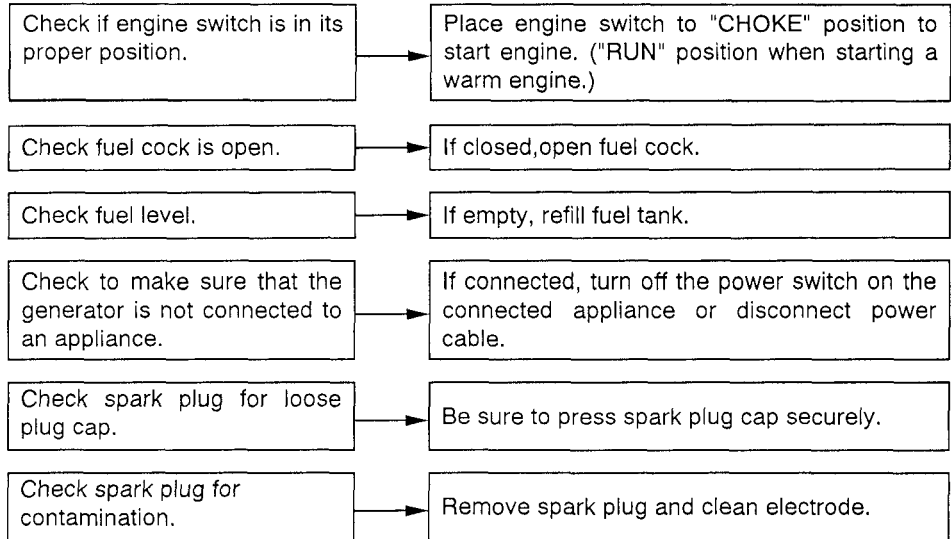
[CAUTION]

Extreme care must be taken when draining fuel tank. Never use water to clean the generator.

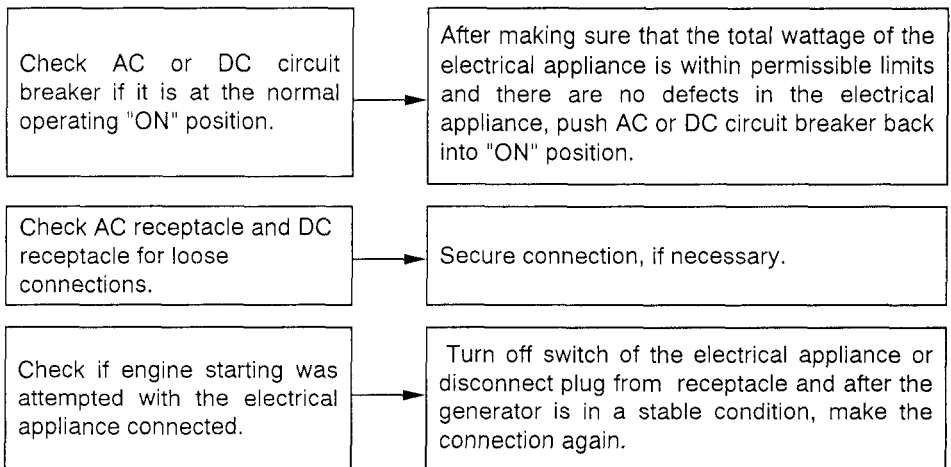
9. TROUBLESHOOTING

When engine fails to start or if the engine turns but there is no electricity at the receptacles, perform the following checks.

When engine fails to start :



When no electricity is generated at receptacle :



* If engine still does not start, contact your dealer for further information.

10. APPLICABLE WATTAGE OF THE GENERATOR

Electric appliances normally come with a label indicating voltage, cycle and (input) wattage, the electric power which the appliance consumes. However, when the generator is used as the power source both power factor and starting current should be considered.

HEATING RESISTANCE (Power factor 1.0, No starting current)

Electrical loads such as incandescent lamps and hot plates require the same wattage as indicated on the label.

Example : A 1kW generator can power ten 100W lamps.

ELECTRIC DISCHARGE TUBE (Power factor less than 1.0, Discharge starting voltage is required.)

Loads such as fluorescent lamps and mercury lamps require 1.2 to 2 times the stated wattage to start discharge.

Example : A 1kW generator can power three to seven 80W mercury lamps.

ELECTRIC MOTOR (Power factor less than 1.0, Starting current is required.)

Electric motors require large starting wattage. Its power requirement depends on kind and circumstance.

Electric tool (Driven by commutator motor, Shaft free in starting)

It speeds up quickly in starting, that is, it requires 1.2 to 3 times its wattage for starting.

Example : A 1kW generator can power a 600W electric drill.

Loads such as submersible pumps and air compressors (Driven by induction motor, initially loaded by water or compressed air at starting.)

Large power is required to start such load. Therefore, the generator has to supply 3 to 5 times the wattage for starting.

Example : A 1kW generator is only able to drive a home use pump (up to about 250W).

Appliance	Applicable wattage
	60Hz
Incandescent lamp, hot plate	up to 1000W
Fluorescent lamp, mercury lamp	up to about 600W
Electric tool	up to about 600W
Pump, compressor	up to about 250W

NOTE :

1. Appliances equipped with electric motors.

They need large starting current as mentioned above. However after starting, the appliance requires only 1.2 to 2 times the wattage to continue running. Therefore, the generator has reserve power for another appliance.

2. Some appliances will indicate output work instead of (input) wattage.

Example : 40W fluorescent lamp means 40W of the light beam is emitted from the lamp.

In such case, efficiency should be considered between the (input) wattage and output work,

Efficiency

0.6 to 0.8 motor

0.7 to 0.8 fluorescent lamp

The (input) wattage determined by the efficiency subjects to the same as above.

3. Voltage drop in long extension wires

When a long wire is used to connect an appliance with the generator, a certain amount of voltage drop occurs in the wire which lessens effective voltage to the appliance.

The table below shows the values for a 100m wire.

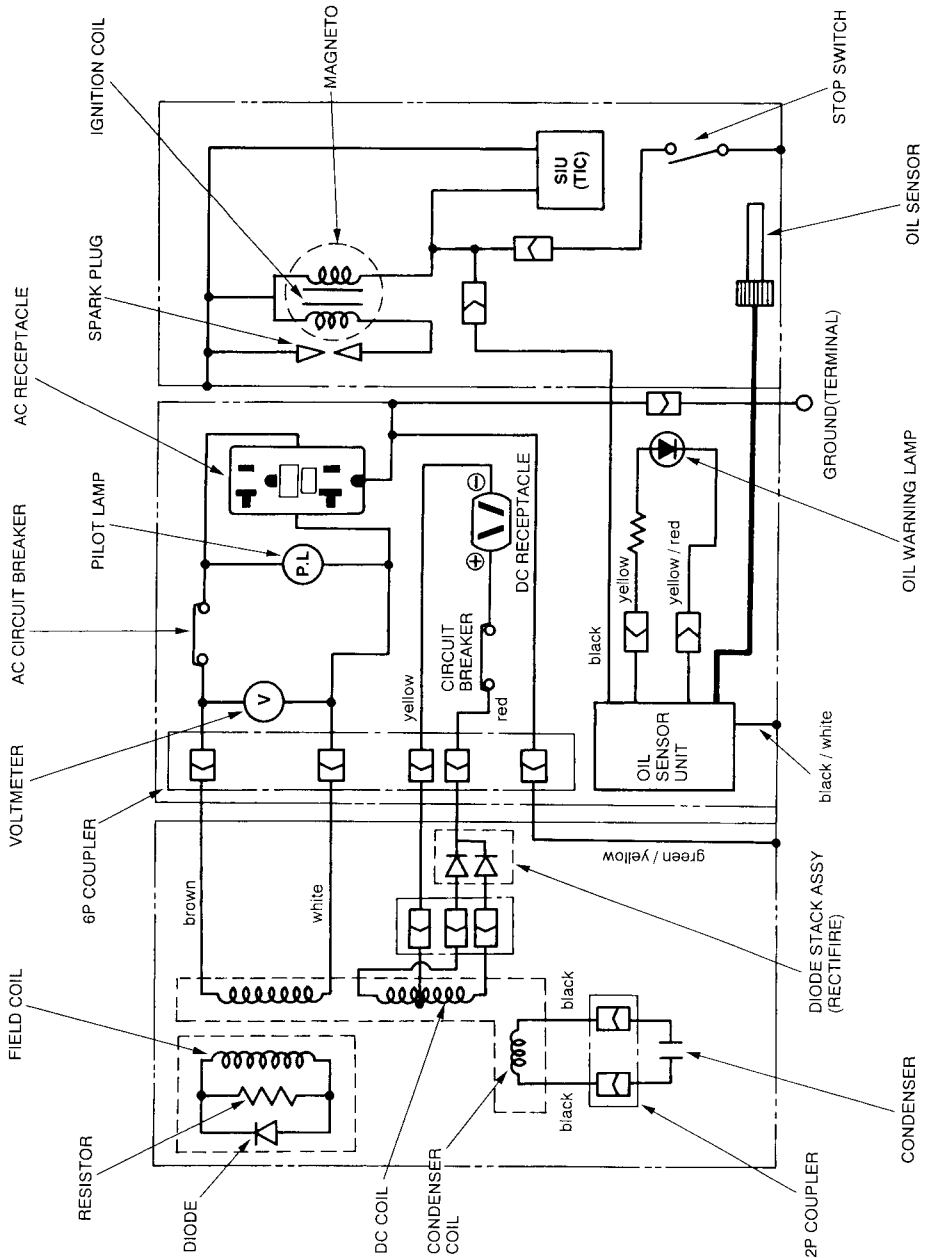
Sectional area mm ²	Allowable current A	Gauge No./ wire element No./mm	Resistance Ohm/100m	Voltage drop per 100 m							
				1A	3A	5A	8A	10A	12A	15A	
0.75	7	30/0.18	2.477	2.5V	8V	12.5V					
1.25	12	50/0.18	1.486	1.5V	5V	7.5V	12V	15V	18V		
2.0	17	37/0.26	0.952	1.0V	3V	5.0V	8V	10V	12V	15V	
3.5	23	45/0.32	0.517		1.5V	2.5V	4V	5V	6.5V	7.5V	
5.5	35	70/0.32	0.332		1V	2V	2.5V	3.5V	4V	5V	

11. SPECIFICATIONS

DESCRIPTION		G1200R
Engine Model		EY15D (W1-145)
Displacement	cc /cu in	143 / 8.73
Frequency	Hz	60
Rated Output Watts AC Continuous Duty		1000
Output Max. Watts AC		1200
Engine Speed	RPM	3600
Voltage	V	120
Output DC		12 Volts 8.3 Amps
Starting System		Recoil
Fuel Tank Capacity : Liters US Gal.		3.5 0.9
Continuous Operation Hours Per Tank		3.5
Ignition		Transistorized
Automatic Voltage Regulator		Yes
AC Circuit Breaker		Yes
DC Breaker		Yes
Carburator		Float
AC Receptacle	Unit / Volt (Amp)	2 / 125V (20A) G.F.C.I.
DC Receptacle		1
Spark Plug		NGK BR6HS
Oil Capacity	Liters Ounces	0.6 21.0
Low Oil Level Shutdown System		Yes
Spark Plug Wrench with Driver		1
Dimension	L W H mm (inches)	486 (19.1) 288 (11.3) 410 (16.1)
Weight	kg (lbs)	27.5 (60.6)

Specifications are subject to change without notice.

12. WIRING DIAGRAM



MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- there is evidence of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

Defects are due to the use of parts, accessories or attachments which are not Makita genuine products, specifically recommended for use with this tool. Damage may be caused in transit. (This must be the responsibility of the carrier.) Claims arise from regulations such as for noise levels, exhaust gas emissions, etc. This product has been operated for racing purposes or other competitive activities. This product has been employed for powering equipment that is operated on, in or near water or explosive atmospheres.

The following parts are expendable (not durable), so warranty does not apply: Expendable parts including, but not limited to: Spark plugs, packings, gaskets, rubber materials, washers, nuts, V-belt, engine oil, grease, paper elements and brushes.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Makita Corporation

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