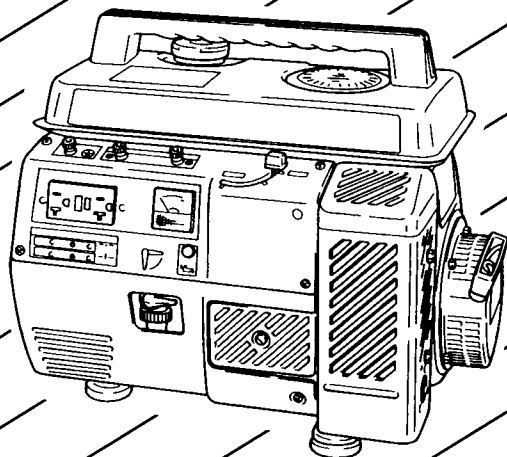


Makita **GENERATOR**

アメリカ

G series
MODEL **G1300R**



INSTRUCTIONS FOR USE

3ZZ9020081



WARNING:



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

FEDERAL EMISSION COMPONENT DEFECT WARRANTY

EMISSION COMPONENT DEFECT WARRANTY COVERAGE —This emission warranty is applicable in all States, except the State of California

MAKITA U. S. A. Inc., La Mirada, California, (herein "MAKITA") warrants to the initial retail purchaser and each subsequent owner, that this utility equipment engine (herein "engine") was designed, built, and equipped to conform at the time of initial sale to all applicable regulations of the U. S. Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship which would cause this engine to fail to conform with EPA regulations during its warranty period.

For the components listed under PARTS COVERED, Makita Factory Service Center or Service Center authorized by MAKITA will, at no cost to you, make the necessary diagnosis, repair, or replacement necessary to ensure that the engine complies with applicable U. S. EPA regulations.

EMISSION COMPONENT DEFECT WARRANTY PERIOD

The warranty period for this engine begins on the date of sale to the initial purchaser and continues for a period of 2 years.

PARTS COVERED

Listed below are the parts covered by the Emission Component Defect Warranty.

Some of the parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

- 1) Fuel Metering System
 - (a) Carburetor and its internal parts
- 2) Ignition System
 - (a) Spark plug
 - (b) Flywheel Magneto
 - (c) Ignition Coil
- 3) Other Miscellaneous Items Used in Above Systems
 - (a) Fuel Hoses
 - (b) Sealing Gaskets

OBTAINING WARRANTY SERVICE

To obtain warranty service, take your engine to the nearest Makita Factory Service Center or Service Center authorized by MAKITA. Bring your sales receipts indicating date of purchase for this engine. Makita Factory Service Center or Service Center will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order.

All parts and accessories replaced under this warranty become the property of MAKITA.

WHAT IS NOT COVERED

- * Conditions resulting from tampering, misuse, improper adjustment (unless they were made by Makita Factory Service Center or Service Center authorized by MAKITA during a warranty repair), alteration, accident, failure to use the recommended fuel and oil, or not performing required maintenance services.
- * The replacement parts used for required maintenance services.
- * Consequential damages such as loss of time, inconvenience, loss of use of the engine of

equipment, etc.

- * Diagnosis and inspection charges that do not result in warranty-eligible service being performed.
- * Any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

OWNER'S WARRANTY RESPONSIBILITIES

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. MAKITA recommends that you retain all receipts covering maintenance on your engine, but MAKITA can not deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that the MAKITA may deny your warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest Makita Factory Service Center or Service Center authorized by MAKITA when a problem exists.

If you have any questions regarding your warranty rights and responsibilities, you should contact the MAKITA Warranty department at 1-800-4-MAKITA for the information.

THINGS YOU SHOULD KNOW ABOUT THE EMISSION CONTROL SYSTEM WARRANTY MAINTENANCE AND REPAIRS

You are responsible for the proper use and maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. MAKITA reserves the rights to deny warranty coverage if the engine has not been properly maintained. Warranty claims will not be denied, however, solely because of the lack of required maintenance or failure to keep maintenance records.

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL ; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY MAKITA FACTORY SERVICE CENTER OR SERVICE CENTER AUTHORIZED BY MAKITA. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.

If other than the parts authorized by MAKITA are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by MAKITA in their performance and durability.

HOW TO MAKE CLAIM

All repairs qualifying under this limited warranty must be performed by Makita factory Service Center or Service Center authorized by MAKITA. In the event that any emission-related part is found to be defective during the warranty period, you shall notify MAKITA Warranty department at 1-800-4-MAKITA and you will be given the appropriate warranty service facilities where the warranty repair can be performed.

California Emission Control Warranty Statement

[This warranty does not apply in any other state.]

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and Makita U.S.A., Inc. are pleased to explain the emission control warranty on your 1995 utility and /or lawn and garden equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards. Makita U.S.A., Inc. must warrant the emission control system on your utility and/or lawn and garden equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your utility and/or lawn and garden equipment engine.

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

Where a warrantable condition exists, Makita U.S.A., Inc. will repair your utility and/or lawn and garden equipment at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE :

The 1995 and later utility and/or lawn and garden equipment engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Makita U.S.A., inc.

OWNER'S WARRANTY RESPONSIBILITIES :

As the utility and lawn and garden equipment engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Makita U.S.A., Inc. recommends that you retain all receipts covering maintenance on your utility and /or lawn and garden equipment engine, but Makita U.S.A., Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the utility and/or lawn and garden equipment engine owner, you should be aware, however, that Makita U.S.A., Inc. may deny you warranty coverage if your utility and/or lawn and garden equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your utility and/or lawn and garden equipment engine to a Makita U.S.A., inc. service center as a problem exists. The warranty repairs should be completed in a reasonable time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a Makita Factory Service Center Manager nearest you. A list of the Factory Service Center locations and phone numbers is provided below for your convenience.

LIMITED WARRANTY

—California Only—

Makita U.S.A., Inc., a distributor of utility and lawn and garden equipment in the U.S., warrants to the owner of 1995 and later utility and/or lawn and garden equipment engines that the engine(1) has been designed, built, and equipped at the time of manufacture so as to conform with the applicable regulations of the California Air Resources Board and, (2) is free from defects in materials and workmanship which may cause it to fail to conform with those regulations as applicable according to the terms and conditions stated below.

WARRANTY PERIOD

The warranty period begins on the date which the utility and/or lawn and garden equipment engine is delivered to the original retail purchaser and ends two years after that date. During this two year period Makita U.S.A., inc. warrants to the original retail purchaser and each subsequent purchaser that the engine is free from defect in material and workmanship that can cause the failure of a warranted emission-related part.

WHAT IS COVERED UNDER THIS WARRANTY

Repair and/or replacement of any warranted emission-related part will be performed at no charge provided the work is performed at an authorized warranty station. There will also be no charge for any diagnostic labor performed at an authorized warranty station which leads to the determination that a warranted emission-related part is defective.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance shall be warranted for the period of time up to the first scheduled replacement of that part. This warranty shall apply only towards the repair, replacement, and/or adjustment of the component parts listed below.

EMISSION-RELATED PARTS COVERED UNDER THIS WARRANTY

1. Fuel Metering Systems
 - (a) Carburetor and its internal parts
2. Ignition Systems
 - (a) Spark plug
 - (b) Flywheel Magneto
 - (c) Ignition Coil
3. Other Miscellaneous Items Used in Above Systems
 - (a) Fuel Hoses
 - (b) Sealing Gaskets

If it is determined by an authorized warranty station that other engine components have been damaged due to the failure of a warranted emission-related part during the warranty period, Makita U.S.A., Inc. will repair and/or replace the necessary components.

WHAT IS NOT COVERED UNDER THIS WARRANTY

This warranty does not cover any emission-related part which malfunctions, fails, or is damaged due to alterations and/or modifications such as changing, adding, or removing parts.

When an engine is being serviced under warranty, Makita U.S.A., Inc. and any of its authorized dealers, distributors, or warranty stations shall not be liable for any loss of use of the engine, for any damage to goods, or loss of time or inconvenience.

This limited warranty also does not apply to any emission-related part which malfunctions, fails, or is damaged due to failure to follow the maintenance and operating instructions specified in the 1995 and later Owner's Manual including.

- (a) Improper or inadequate maintenance of any warranted emission-related part.
- (b) Improper installation, adjustment, or repair of the engine or any warranted emission-related part unless performed by a factory authorized warranty station.
- (c) Failure to use recommended fuel as specified in the 1995 and later Owner's Manual.
- (d) Repairs and diagnosis performed outside of an authorized warranty station.
- (e) Use of parts which are not authorized by Makita U.S.A., Inc.

MAINTENANCE SCHEDULE

The engine owner is responsible for having all scheduled inspection and maintenance services performed at the intervals specified in the 1995 and later Owner's Manual and to retain records of these services as having been performed. These records should be transferred to each subsequent owner of the engine. Makita U.S.A., Inc. cannot deny a claim solely because there are no records of scheduled maintenance, however, a warranty claim may be denied if the failure to perform the scheduled maintenance and inspection resulted in the failure of a warranted emission-related part. As a minimum, the engine owner is responsible for the scheduled inspection and maintenance described below which are based on the procedures described in the Owner's Manual.

PROCEDURE

INTERVAL

- | | |
|--|-------------------------------------|
| (a) Check all nuts and bolts and tighten as necessary. | Every 8 hours of use or daily. |
| (b) Check air passages and engine cylinder fins for clogging.
Remove all obstructions as necessary. | Every 8 hours of use or daily. |
| (c) Check air cleaner. | Every 8 hours of use or daily. |
| (d) Check spark plug.
Clean and adjust if necessary. | Every 8 hours of use or daily. |
| (e) Check muffler exhaust port.
Clean if necessary. | Every 50 hours of use or monthly. |
| (f) Replace fuel lines. | Every 200 hours of use or annually. |
| (g) Overhaul engine. | Every 200 hours of use or annually. |
| (h) Replace packings and gaskets. | Every time engine is reassembled. |

REPAIR AND REPLACEMENT OF EMISSION-RELATED PARTS

It is recommended that only engine replacement parts which have been authorized and approved by Makita U.S.A., Inc. should be used in the performance of any warranty maintenance or repairs of emission- related parts. These replacement parts will be provided at no charge if the part is still under warranty.

HOW TO FILE A WARRANTY CLAIM AND WHERE TO GET WARRANTY SERVICES

Contact the nearest Makita Factory Service Center Manager to determine the appropriate location where the required warranty services are to be performed. A list of the Factory Service Center locations and phone numbers are provided below for your convenience.

14930-B Northam Street
La Mirada, CA 90638
(714) 522-8088

1401 N.Clovis Ave., Ste. 110
Fresno, CA 93727
(209) 252-5166

392 S. Arrowhead, #A-1
San Bernardino, CA 92408
(714) 885-1289

180 S Spruce Ave., Unit D
South San Francisco, CA 94080
(415) 875-1002

16735 Saticoy St., Ste. 105
Van Nuys, CA 91406
(818) 782-2440

41850 Christy Street
Fremont, CA 94538
(510) 657-9881

4554 Roseville Rd., Ste. E
North Highlands, CA 95660
(916) 331-6211

7674 Clairemont Mesa Blvd.
San Diego, CA 92111
(615) 278-4471

15722-B Tustin Village Way
Tustin, CA 92680
(714) 667-5066

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.

TABLE OF CONTENTS

1. SAFETY PRECAUTIONS	1
2. COMPONENT IDENTIFICATION	3
3. CONTROLS AND INDICATORS	5
4. BEFORE OPERATION (NECESSARY INSPECTIONS /CHECKS)	7
5. OPERATING PROCEDURES	9
6. MAINTENANCE SCHEDULE	13
7. EASY CHECKING AND MAINTENANCE	15
8. PREPARATION FOR STORAGE	17
9. TROUBLESHOOTING	18
10. APPLICABLE WATTAGE OF THE GENERATOR	19
11. SPECIFICATIONS	21
12. WIRING DIAGRAM	22

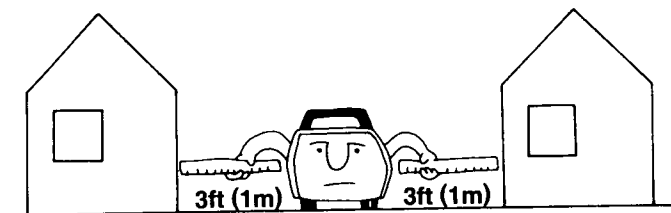
1. SAFETY PRECAUTIONS

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.

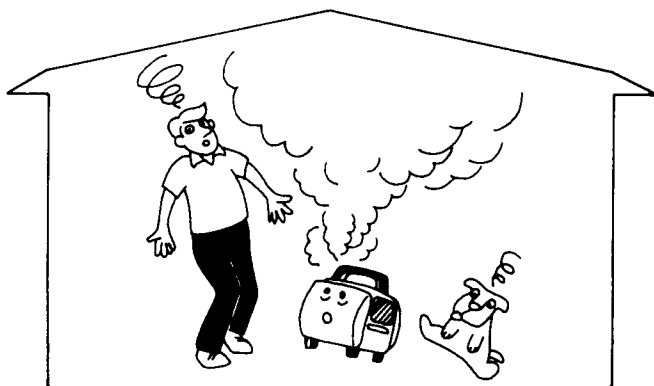
Prevention of electrical shock

- 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.



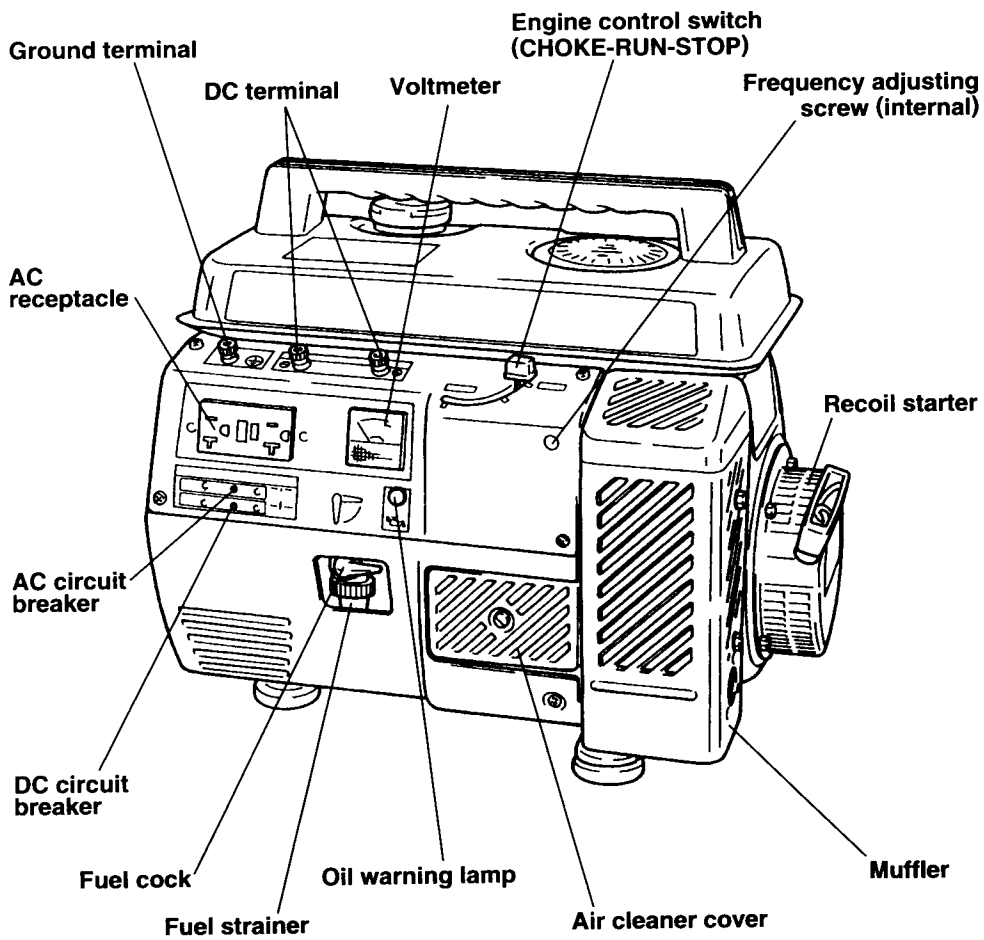
Necessary inspections and checks

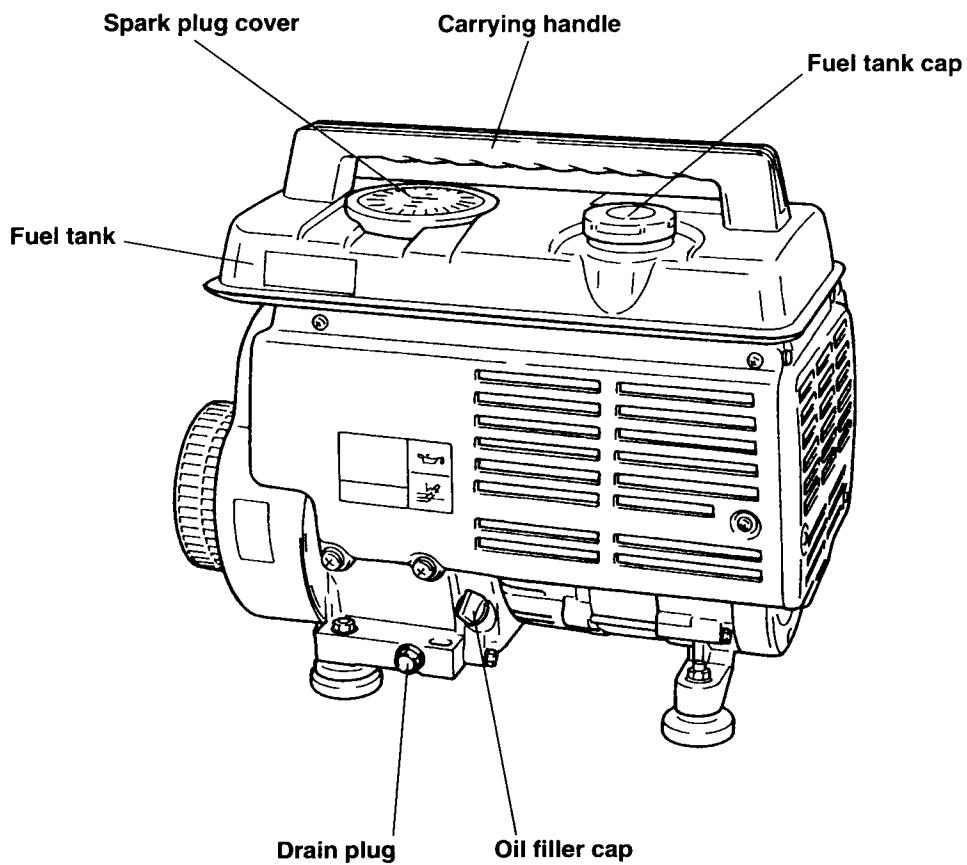
- Before operation (Refer to pages 7 and 8.) :
 - Check oil level and refill if necessary.
 - Check fuel level.
 - Check the surrounding area of the generator.
 - Be sure to disconnect the load appliance.
- Easy checking and maintenance (Refer to pages 15 and 16.) :
 - Attached tools.
 - Air cleaner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

Other safety instructions

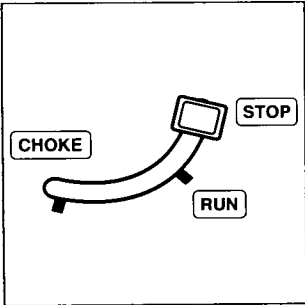
- Never connect the generator to indoor electrical wiring. If connected, malfunctions in home electrical units or generators, fire and / or electric shock may result.
- Be sure to use the generator on a level surface, never use on a soft or uneven surface with small rocks, soil, gravel, etc.
- If abnormal 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





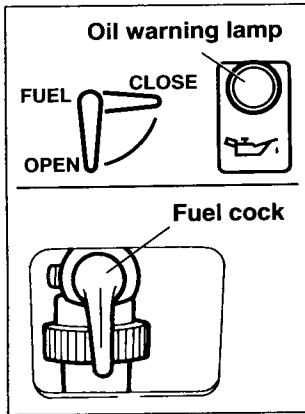
3. CONTROLS AND INDICATORS



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.

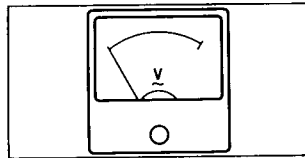


Fuel Cock

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

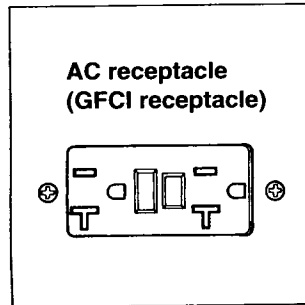
Oil Warning Lamp (With oil sensor type)

- When the engine oil level falls below the prescribed value, the engine oil warning lamp lights up, and the engine stops automatically. When the starter handle is pulled with the engine oil at a low level, the engine rotates during a few seconds but it stops automatically when the engine oil warning lamp lights up. In such a case, make sure of replenishing engine oil up to the level of the mouth of the oil filling port. (Refer to "Section 7" for details about the engine oil replenishing method).



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.

Ampere	Receptacle	AC plug	Description
up to 20A	NEMA 5-20R	NEMA 5-20P	GFCI (Ground fault circuit interrupter) Receptacle, duplex

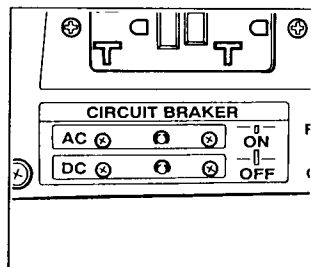
DC terminals

- DC electric power for battery charge is available.
- Red is positive (+) terminal.
- Black is negative (-) terminal.

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.

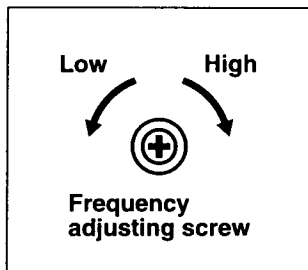


Frequency adjusting screw

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

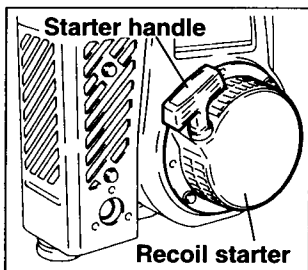
[CAUTION]

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



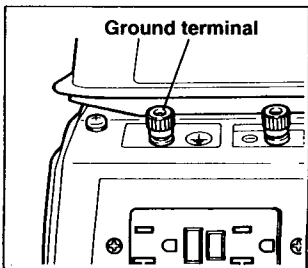
Starter handle

- Pull this handle to start the generator.

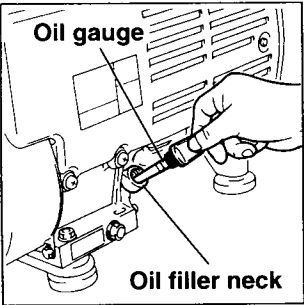


Ground (Earth) Terminal

- Terminal for grounding the generator.



4. BEFORE OPERATION (NECESSARY INSPECTIONS / CHECKS)

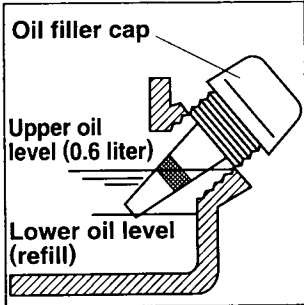


Checking engine oil level

- 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.

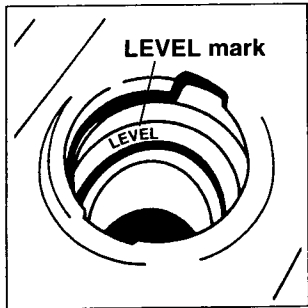
SAE 10W-30 or 10W-40 is recommended for general, all-temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.



- 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.

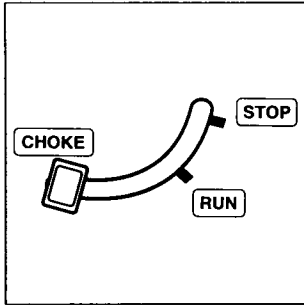
Checking the area around the generator

- 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.

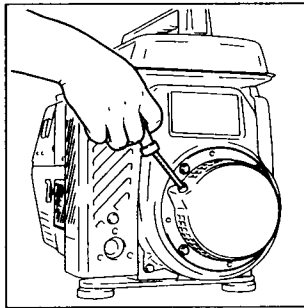
Check to make sure that the switch of the appliance is turned off or its plug is disconnected from the receptacle.

5. OPERATING PROCEDURES



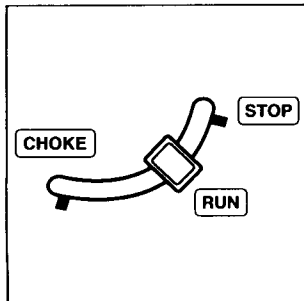
Starting

- 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.



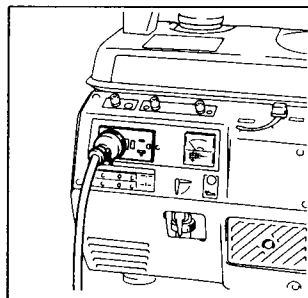
- After 20 to 30 seconds of warm-up is completed, turn the engine switch to "RUN" position.

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.



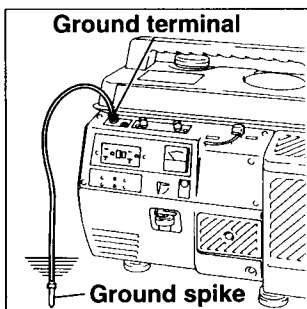
● Applicable AC wattage :

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.

Appliance	Applicable wattage
	60Hz
Incandescent lamp, hot plate	up to 1000W
Fluorescent lamp, mercury lamp Electric tool	up to about 800W
Pump, compressor	up to about 250W

[CAUTION]

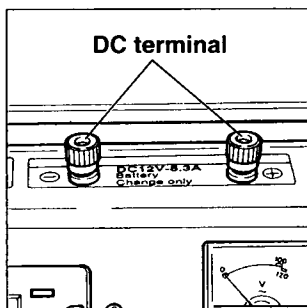
1. When connection plural appliances make sure the total wattage does not exceed the generator's rated output. Otherwise the generator will not operate due to excessive wattage.
2. Some power tools require a large starting current. In these cases, it may not be possible to use the generator. Refer to 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.

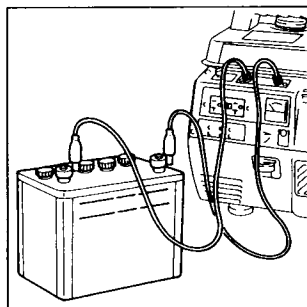


DC application (For charging 12V battery only)

- DC terminals are used only for charging a 12V battery.
- Connection of battery charging cables :
 - Positive (+) terminal (red) on generator to positive (+) terminal on battery.
 - Negative (-) terminal (black) on generator to negative (-) terminal on battery.

[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.

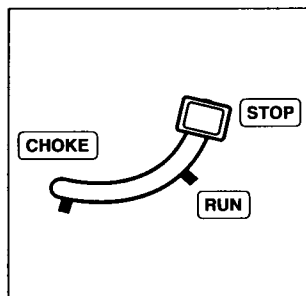
[CAUTION]

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 :**

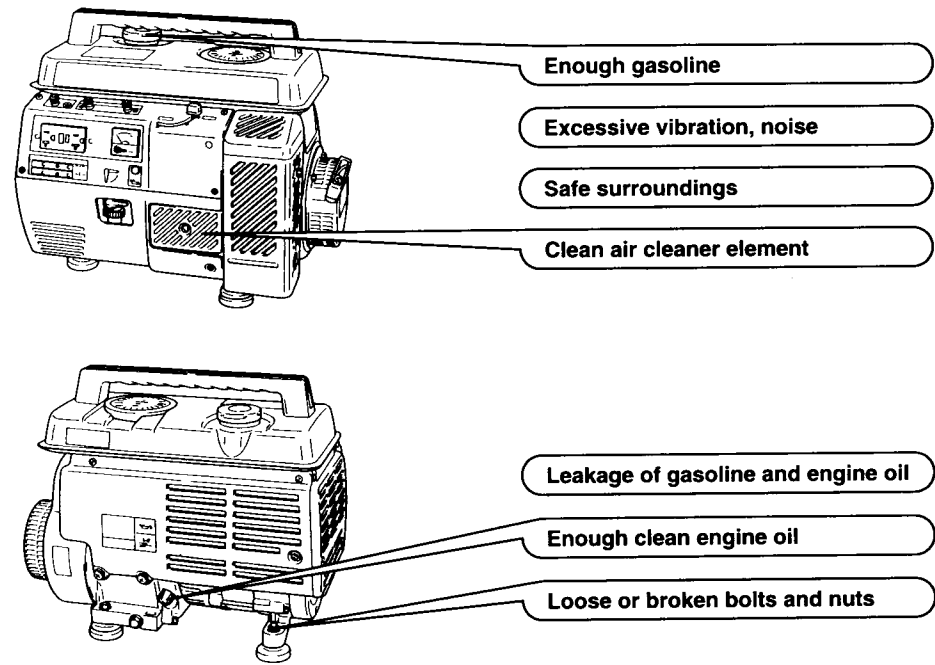
- Turn off electrical appliance switch and disconnect cable from receptacle.
- Turn engine switch to "STOP" position.



6. MAINTENANCE SCHEDULE

DAILY INSPECTION

Before running the engine, check the following service items.



PERIODIC MAINTENANCE

Periodic maintenance is vital to safe and efficient operation of your engine.

Check the table below for periodic maintenance intervals.

It is also necessary for the user of this engine 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 | (2) Choke system | (3) Fuel strainer |
| (4) Air cleaner elements | (5) Intake pipe | (6) Spark plug |
| (7) Magneto | (8) Fuel hoses, clamps, and sealing gaskets | |

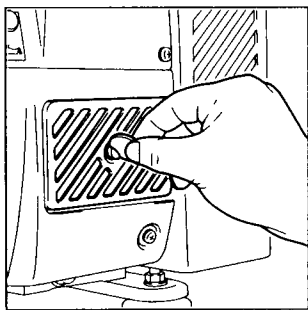
The maintenance schedule indicated in the following table is based on the normal engine operation. Should the engine be operated in extremely dusty condition or in heavier loading condition, the maintenance intervals must be shortened depending on the contamination of oil, clogging of filter elements,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

	8 hours (daily)	20 hours	50 hours	200 hours	500 hours	1000 hours
CLEAN ENGINE AND CHECK BOLTS AND NUTS	X (daily)					
CHECK AND REFILL ENGINE OIL	X (Refill daily up to upper limit.)					
CHANGE ENGINE OIL (*Note 1)		X (Initial)	X			
CLEAN SPARK PLUG			X			
CLEAN AIR CLEANER ELEMENTS			X			
CLEAN AND ADJUST SPARK PLUG GAP				X		
CLEAN FUEL STRAINER				X		
REPLACE SPARK PLUG					X	
REMOVE CARBON FROM CYLINDER HEAD (*Note 2)					X	
CHECK AND ADJUST TAPPET CLEARANCE (*Note 2)					X	
CLEAN AND ADJUST CARBURETOR (*Note 2)					X	
REPLACE FUEL LINES						X (yearly)
OVERHAUL ENGINE (*Note 2)						X

***Note :1.** Initial oil change should be performed after first twenty (20) hours of operation. Thereafter change oil every fifty (50) 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.

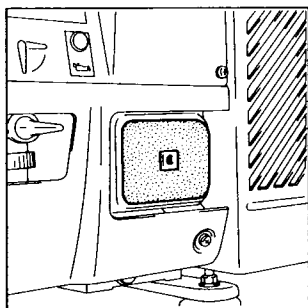
7. EASY CHECKING AND MAINTENANCE



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.

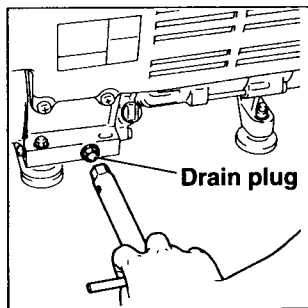


Cleaning procedure

- 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.

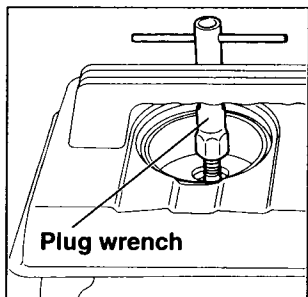
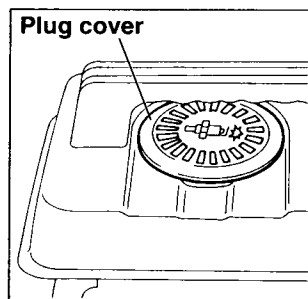
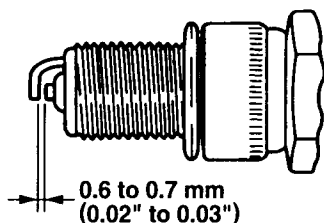


Engine oil change

- 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.

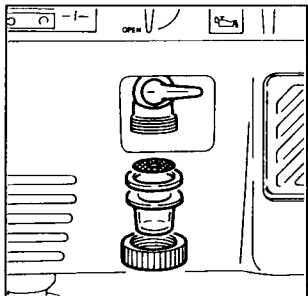
Checking the spark plug

- 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 0.02 to 0.03 in (0.6 to 0.7 mm) by bending the side electrode if necessary.
 - Recommended replacement plug type : BR6HS (make : NGK).



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 :

Check if engine switch is in its proper position.	→	Place engine switch to "CHOKE" position to start engine. ("RUN" position when starting a warm engine.)
Check fuel cock is open.	→	If closed, open fuel cock.
Check fuel level.	→	If empty, refill fuel tank.
Check to make sure that the generator is not connected to an appliance.	→	If connected, turn off the power switch on the connected appliance or disconnect power cable.
Check spark plug for loose plug cap.	→	Be sure to press spark plug cap securely.
Check spark plug for contamination.	→	Remove spark plug and clean electrode.

When no electricity is generated at receptacle :

Check AC or DC circuit breaker if it is at the normal operating "ON" position.	→	After making sure that the total wattage of the electrical appliance is within permissible limits and there are no defects in the electrical appliance, push AC or DC circuit breaker back into "ON" position.
Check AC receptacle and DC terminals for loose connections.	→	Secure connection, if necessary.
Check if engine starting was attempted with the electrical appliance connected.	→	Turn off switch of the electrical appliance or disconnect plug from receptacle and after the generator is in a stable condition, make the connection again.

* 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 Electric tool	up to about 800W
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.

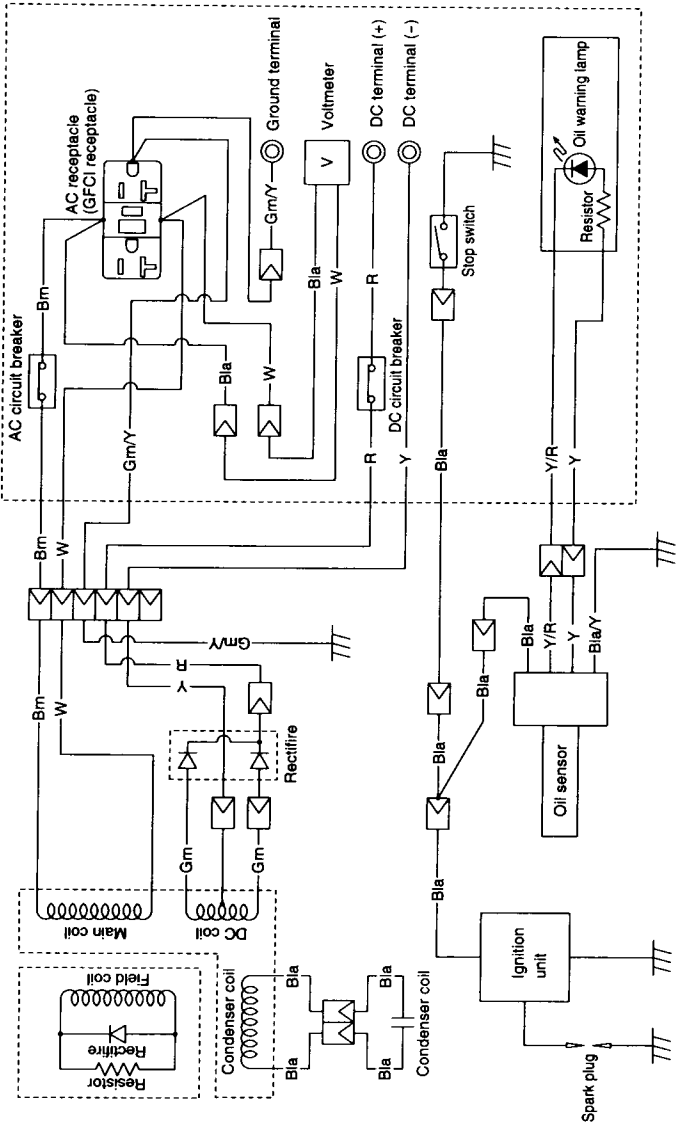
Sectional area mm ²	Allowable current A	Gauge No./ wire element No./mm	Resistance Ohm/100m	Voltage drop per 100 m						
				1A	3A	5A	8A	10A	12A	15A
0.75	7	30/0.18	2.477	2.5V	8V	12.5V				
1.25	12	50/0.18	1.486	1.5V	5V	7.5V	12V	15V	18V	
2.0	17	37/0.26	0.952	1.0V	3V	5.0V	8V	10V	12V	15V
3.5	23	45/0.32	0.517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

Generator	Type		Brushless, self-exciting, 2-pole, single phase, revolving field
	Frequency		60Hz
	AC Voltage		120V (8.3 A)
	AC Output	Max.	1300 W
		Rated	1000 W
	DC Output		12V-8.3A (100 W)
Voltage regulation system		Condenser system	
Engine	Type		Forced air-cooled, 4-stroke, side valve, gasoline engine
	Displacement		8.73 cu.in (143 cc)
	Bore × Stroke		2.48 × 1.81 in (63 × 46 mm)
	Fuel		Automotive gasoline
	Fuel tank capacity		0.9 U.S.gal (3.5 liters)
	Oil pan capacity		1.3 U.S.pints (600 cc)
	Rated continuous operating hours		Approx. 3.6 hours
	Ignition system		Solid state ignition
	Starting system		Recoil starter
Dimensions (L × W × H)			19.3 × 11.3 × 16.1 in (490 × 288 × 410 mm)
Dry Weight			60.6 lbs (27.5 kg)

Specifications are subject to change without notice.

12. WIRING DIAGRAM



Wiring color cord

Blk	: Black	Bm/W	: Brown/White	R	: Red	Blk/R	: Black/Red
Blk/W	: Black/White	Gm	: Green	W	: White	R/W	: Red/White
Blu	: Blue	Gm/W	: Green/White	Y	: Yellow		
LBlu	: Light blue	Org	: Orange	Pik	: Pink		
Bm	: Brown	Gry	: Gray	Gm/Y	: Green/Yellow		

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, brushes, mechanical seal, pump impeller and volute casing.

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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