

Makita

GENERATOR

MODEL : **G2400R**
G3500R
G3501R
G5500R
G5501R

INSTRUCTION MANUAL



ISSUE EMD-GU0899

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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 factory service center.

 **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.

CONTENTS

1. SAFETY PRECAUTIONS	1
2. SPECIFICATIONS	3
3. COMPONENTS	4
4. PRE-OPERATION CHECKS	5
5. OPERATING PROCEDURES	8
6. WATTAGE INFORMATION	15
7. MAINTENANCE SCHEDULE	17
8. "HOW-TO" MAINTENANCE	18
9. PREPARATION FOR STORAGE	20
10. TROUBLESHOOTING	21
11. WIRING DIAGRAM	22
12. ELECTRIC STARTER (G3501R, G5501R)	27

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 inflammables near the generator.

Be careful not to place fuel, matches, gunpowder, oily cloths, straw, trash, or any other inflammables 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 circuit breaker and disconnect tools or appliances when not in use, before servicing, adjusting, or installing accessories and attachments.

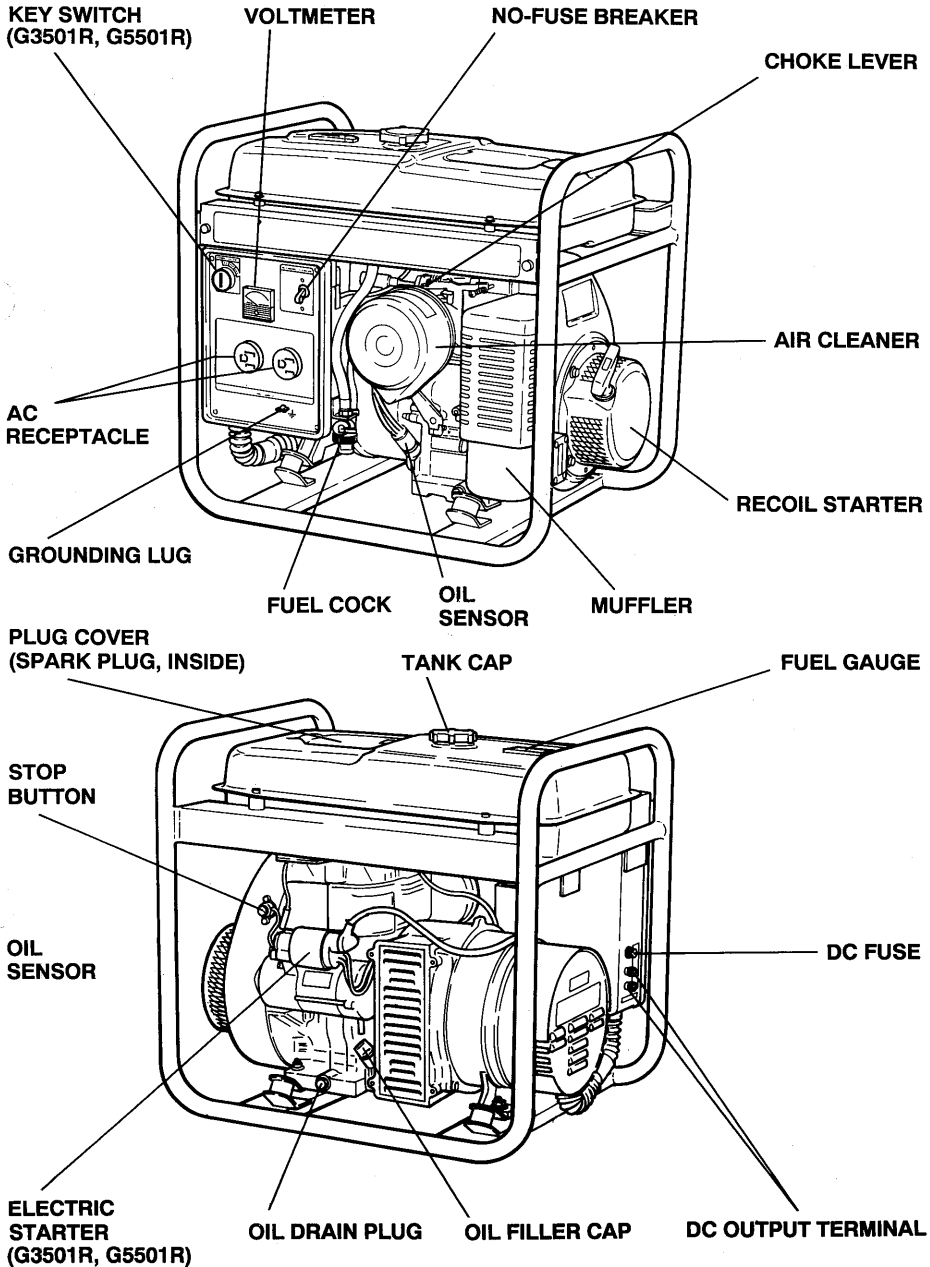
2. SPECIFICATIONS

MODEL		G2400R	G3500R	G3501R	G5500R	G5501R
ALTERNATOR	Type	Brushless, Self-Exciting, 2- Poles, Single Phase				
	AC Voltage	50Hz	110V, 220V, 240V, 110V/220V			
		60Hz	110V, 120V, 220V, 110V/220V, 120V/240V			
	Maximum AC Output	50Hz	2,000W	3,000W	5,000W	
		60Hz	2,400W	3,500W	5,500W	
	Rated AC Output	50Hz	1,700W	2,500W	4,400W	
		60Hz	2,000W	3,000W	4,800W	
	DC Voltage	12V – 8.3A				
	Condenser Voltage Regulator	Standard				
	Power Factor	1.0				
Over Current Protector	Fuseless Circuit Breaker					
Full Roll Frame	Standard					
ENGINE	Type	Robin EY20D	Robin EY28D	Robin EY40D		
	Displacement	183 cm ³	273 cm ³	388 cm ³		
	Maximum KW/3600 1/min	3.39	5.30	7.36		
	Fuel	Automobile Gasoline				
	Tank	10 liters	13 liters	15.5 liters		
	Rated Continuous Operation	9 hours	7.1 hours	5.7 hours		
	Easy Start Recoil	Standard				
	Electric Start	N.A.	N.A.	Standard	N.A.	Standard
	Oil Sensor	Standard				
Dimensions (L x W x H)	mm	552x377x482	552x413x521	726x445x520	635x448x596	810x448x596
Dry Weight	kg	45	56	61	76	85

* Manufacturer reserves the right to change specifications of parts and accessories without notice.

* Note : Specifications of parts and accessories may differ from country to country.

3. COMPONENTS

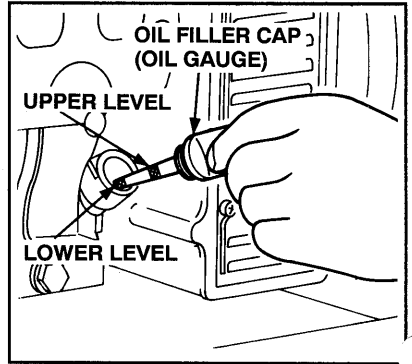


4. PRE-OPERATION CHECKS

CHECK ENGINE OIL.

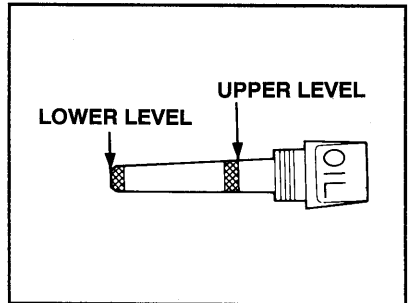
Before checking or refilling oil, be sure generator is located on stable and level surface with engine stopped.

- 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
G2400R	0.6 liter
G3500R, G3501R	0.85 liter
G5500R, G5501R	1.2 liter



Recommended engine oil :

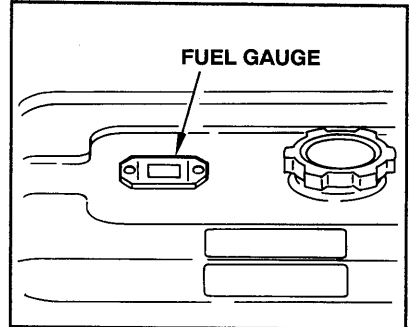
Use class SC (API classification) oil or a higher grade oil according to the table below. SAE 10W-30 or 10W-40 is recommended for general, all-temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.

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

CHECK ENGINE FUEL.

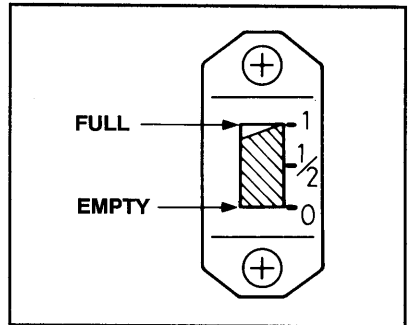
WARNING

- 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.



■ Fuel tank capacity:

G2400R	10 liter
G3500R, G3501R	13 liter
G5500R, G5501R	15.5 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.

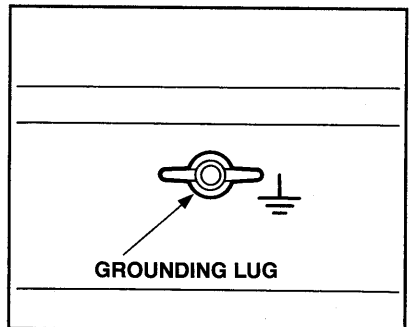
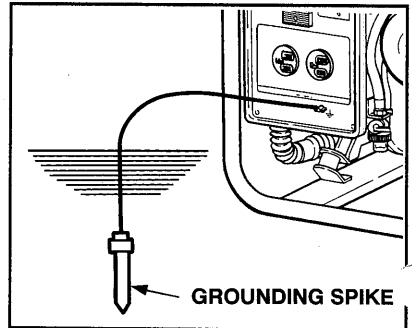
WARNING

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

- Keep area clear of inflammables or other hazardous materials.
- Keep generator at least 3 feet (1meter) 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.

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.



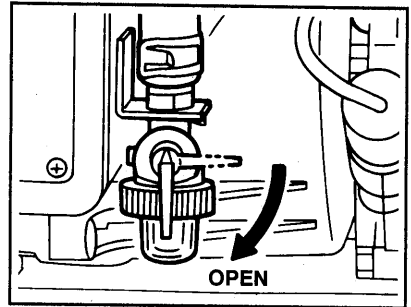
5. OPERATING PROCEDURES

1. STARTING THE ENGINE

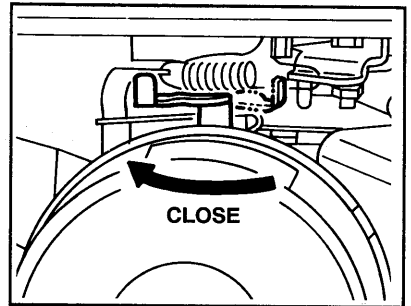
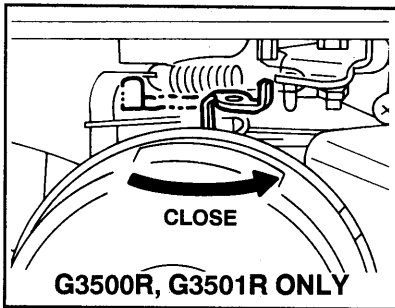
[CAUTION]

- Check the oil level before each operations as outlined on page 5.

(a) Open the fuel cock.

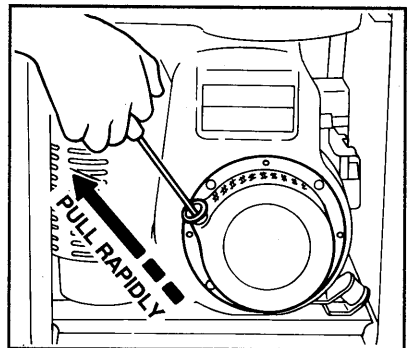


(b) Pull choke lever to close if the engine is cold.

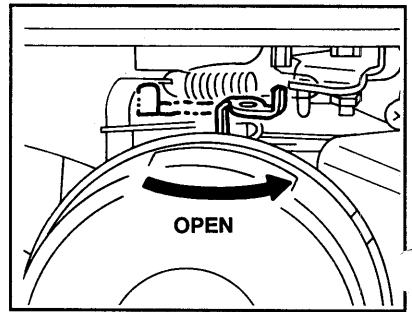
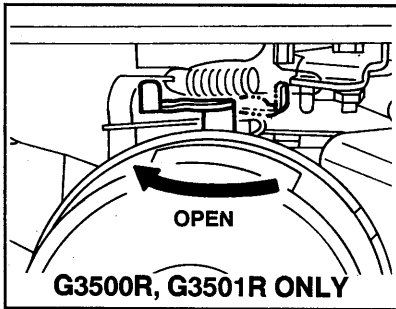


(c) Pull the starter handle slowly until resistance is felt. This is the "compression" point. Return the handle to its original position and then pull swiftly.

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



(d) After the engine started, return the choke lever gradually to "OPEN" position.



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

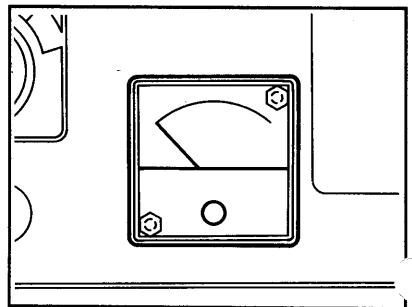
2. USING ELECTRIC POWER

(1) AC APPLICATION

A	Single Voltage Type
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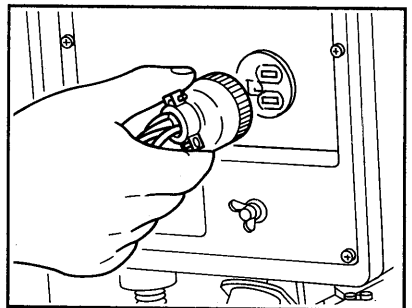
(a) Check the voltmeter for proper voltage.

- 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.

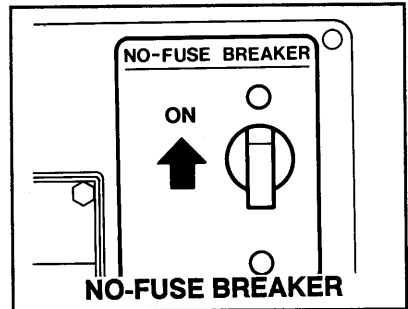
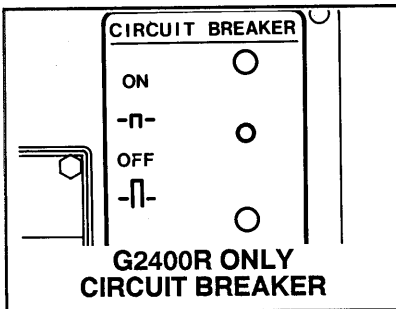


(b) Turn off the switch (es) of the electrical appliance (s) before connecting to the generator.

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



- (d) Check the circuit breaker or no-fuse breaker is "ON".
If the breaker is "OFF", set the breaker "ON".



WARNING

- Be sure to ground the generator if the connected electrical device is grounded.
- Failure to ground unit could lead to electrical shock.

- 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.





	up to total 15 ampere from two receptacles
	up to 15 ampere
	up to 20 ampere
	TWIST LOCK receptacle up to 30 ampere. (See Cautions.)

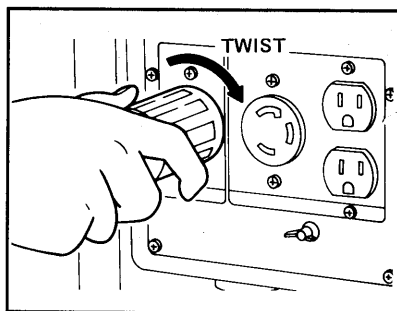
TABLE 1

[CAUTION]

- TABLE 1 does not apply to generators equipped with special receptacles.
- For the European market, TWIST LOCK receptacle can be used up to 20 amperes.

! WARNING

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



NOTE :

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

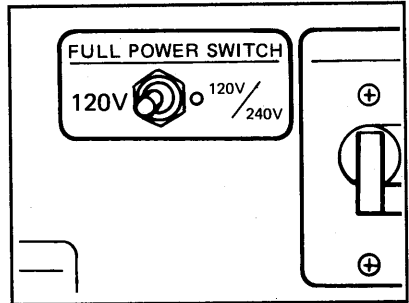
B	Dual Voltage Type
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- (a) Select the voltage using the FULL POWER SWITCH in accordance with the electrical appliance. Refer to TABLE 2.

NOTE :

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

- (b) Operate in the same way as step (a) through step (d) of single voltage type.

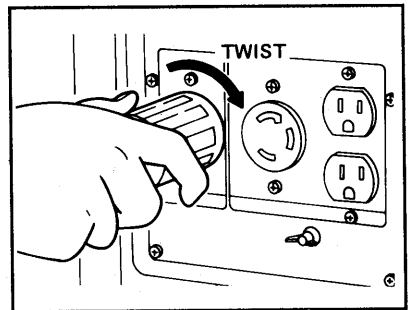


Switch	Lower Voltage Receptacle	Higher Voltage Receptacle
110V or 120V	rated output is available	unavailable
110V/220V or 120V/240V	half of rated output is available	rated output is available

TABLE 2

⚠ WARNING

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



NOTE :

When the circuit breaker or no-fuse breaker turns off during operation, the generator is overloaded or the appliance is defective.

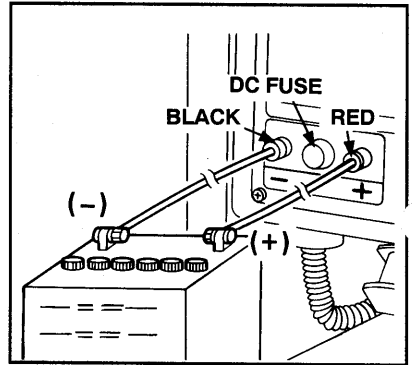
Stop the generator immediately, check the appliance and/or generator for overloading or detect and have repaired as necessary by Makita factory or authorized service center.

(2) DC APPLICATION

DC output capacity of generator is 12V-8.3A (100W).

Use DC output for charging batteries only.

- 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.

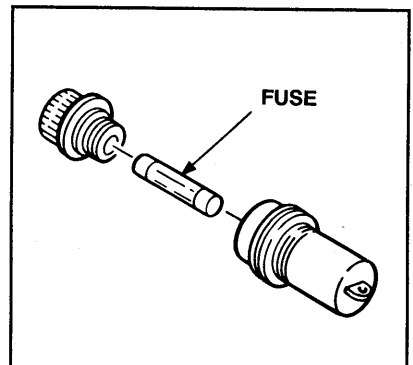


SAFETY PRECAUTIONS WHILE CHARGING

- 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 fuse to blow out. In such cases, use a battery charger to charge a large battery with AC output.
- Battery defects may cause the DC fuse to blow. Check the battery before replacing the fuse.

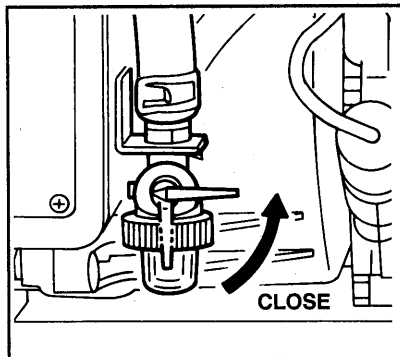
(3) FUSE REPLACEMENT

- (a) If a fuse burns out, check for the cause of trouble, and make the necessary repairs before installing the new fuse.
- (b) Be sure to use the correct fuse. An incorrect fuse may cause damage to the generator.
- (c) The fuse rating for DC output is 10A.



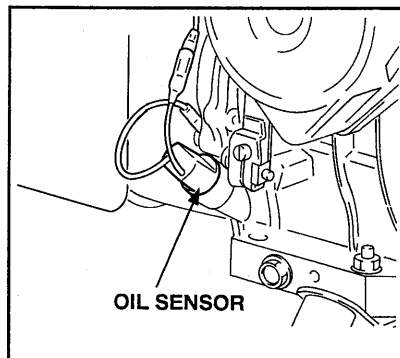
3. STOPPING THE GENERATOR

- (a) Switch off generator's circuit breaker or no-fuse breaker.
- (b) Turn off the power switch of the electric equipment and unplug the cord from receptacle of the generator.
- (c) Allow the engine about 3 minutes to cool down at no-load before stopping.
- (d) Push the stop button until the engine stops.
- (e) Close the fuel cock.



4. 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 circuit breaker or no-fuse breaker, check the oil level. Refill engine oil to the upper level as instructed on page 5 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.

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 and mercury lamps require 1.2 to 2 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)					
	G2400R		G3500R G3501R		G5500R G5501R	
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
Incandescent lamp, heater	1,700	2,000	2,500	3,000	4,400	4,800
Fluorescent lamp, mercury lamp	1,000	1,200	1,500	1,800	2,700	2,900
Electric tool	1,000	1,200	1,500	1,800	2,700	2,900
Pump, compressor	400	500	600	700	1,000	1,100

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	5.1-7	7.1-12	12.1-16
	Recommended Wire Size (A.W.G.Gauge No.)					
7.5 m	18	18	18	18	16	14
15 m	18	18	18	16	14	12
22.5 m	18	18	16	14	12	10
30 m	18	16	14	12	10	8
45 m	16	14	12	10	8	8
60 m	16	14	12	10	8	6
90 m	14	12	10	8	6	4
120 m	12	10	8	6	4	4
150 m	12	10	8	6	4	2
180 m	10	8	6	4	2	2
240 m	10	8	6	4	2	1

 Not normally available as flexible extension cord

7. MAINTENANCE SCHEDULE

DAILY	<ul style="list-style-type: none">● Check oil level.● Check all components according to "PRE-OPERATION CHECKS."
50 HOURS	<ul style="list-style-type: none">● Wash cleaner element. - more often if used in dirty or dusty environments.● Check spark plug, clean if necessary.
100 HOURS	<ul style="list-style-type: none">● Change engine oil. Change more often if used in dusty or dirty environments.
200 HOURS	<ul style="list-style-type: none">● Adjust spark plug gap.● Clean fuel strainer.
500 HOURS	<ul style="list-style-type: none">● Replace spark plug and cleaner element.● Clean and adjust carburetor, valve clearance, and valve seat along with cylinder head.
1,000 HOURS (24 MONTHS)	<ul style="list-style-type: none">● Inspect control panel parts.● Check rotor and starter.● Replace engine mount rubber.● Overhaul engine.● Change fuel lines.

Initial oil change should be performed after first twenty (20) hours of use.

Thereafter change oil every 100 hours.

Before changing the oil, check for a suitable way to dispose of the old oil. Do not pour it down sewage drains, onto garden soil or into open streams. Your local zoning or environmental regulations will give you more detailed instructions on proper disposal.

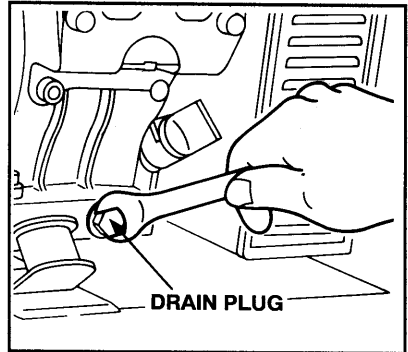
8. "HOW-TO" MAINTENANCE

1. 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 5. 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.

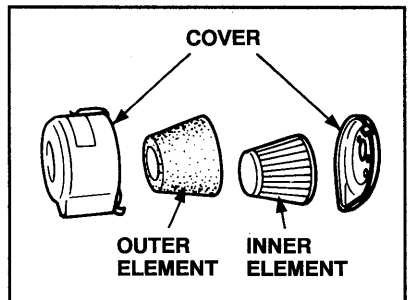
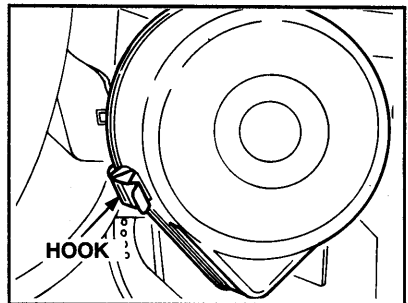


2. SERVICING THE AIR CLEANER

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. Keep the element clean according to the chart on page 16.

PROCEDURE:

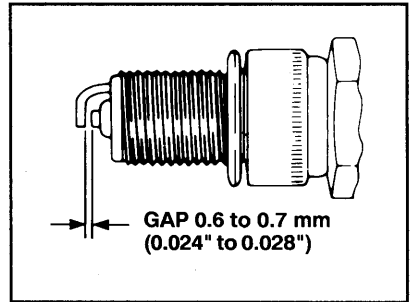
- (a) Unhook the cover and remove the cleaner element.
- (b) Inner element: Wash the element with kerosene, then soak it in mixed oil (Kerosene (3 parts) : Engine oil (1 part)). Drain the mixed oil.
- (c) Outer element: Wash the element with kerosene, then dip it into the mixed oil (Kerosene (3 parts):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



3. 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 to 0.6 to 0.7mm

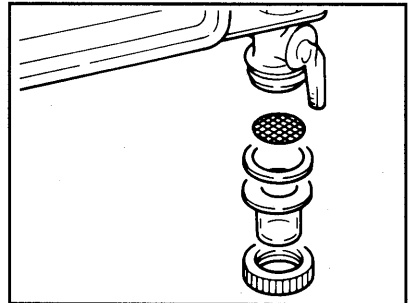
Model	Spark Plug
G2400R	NGK BR6HS
G3500R G3501R	NGK BPR6HS
G5500R G5501R	NGK BPR4HS



4. 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.



9. 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.

10. 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 :

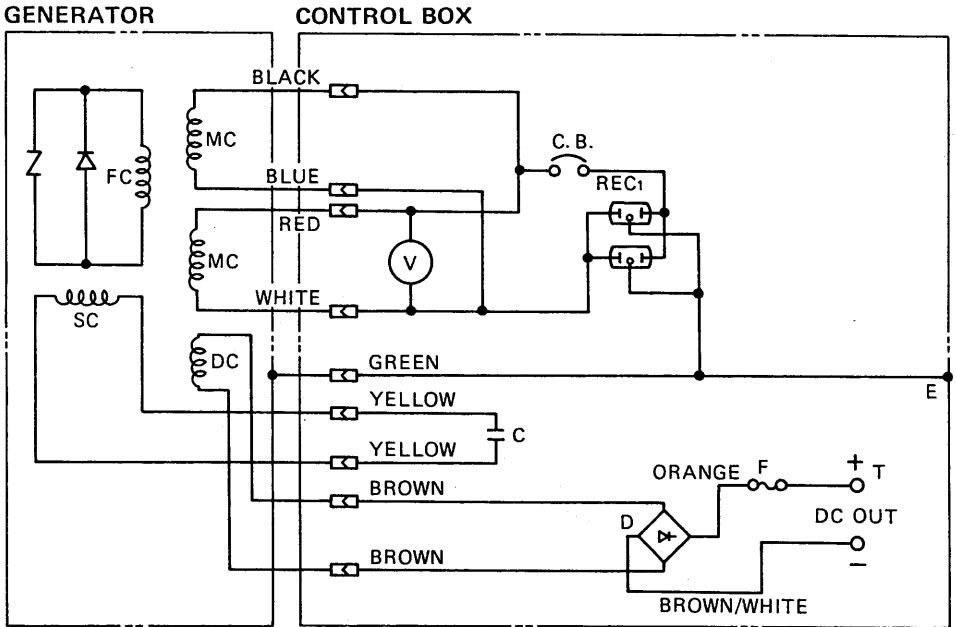
Check if choke lever is in its proper position.		Set the choke lever to "CLOSE" position.
Check if fuel cock is open.	↔	If closed, open fuel cock.
Check fuel level.		If empty, refill fuel tank making sure not to overflow.
Check to make sure generator is not connected to an appliance.		If connected, turn 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 electrodes.

When No Electricity Is Generated at Receptacle :

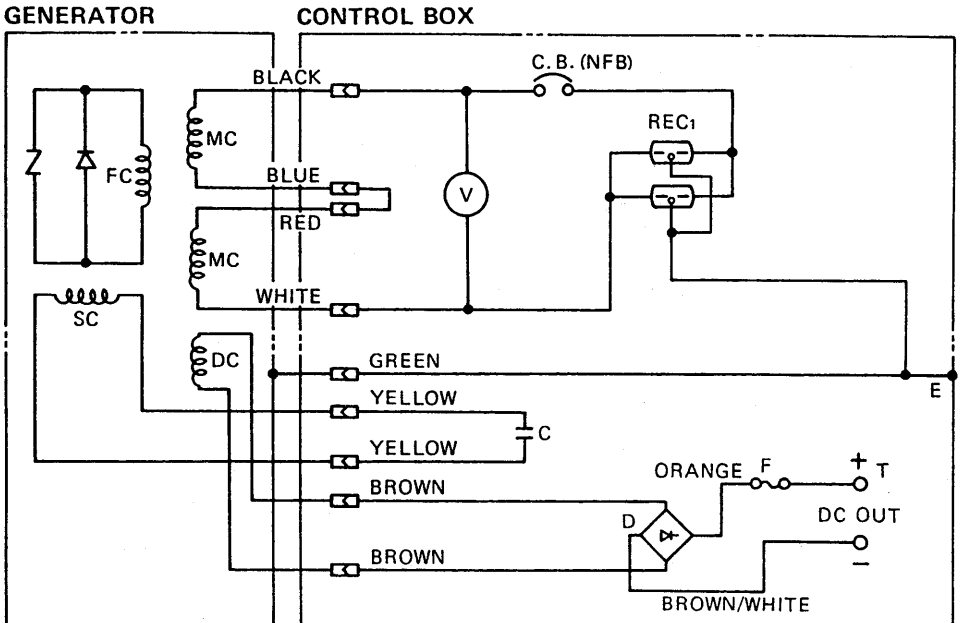
Check to make sure circuit breaker or no-fuse breaker is in the ON position.	↔	After making sure that the total wattage of the electrical appliance is within permissible limits and there are no defects in the appliance, turn the AC breaker to the "ON" position. If breakers continue to actuate, consult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

11. WIRING DIAGRAM

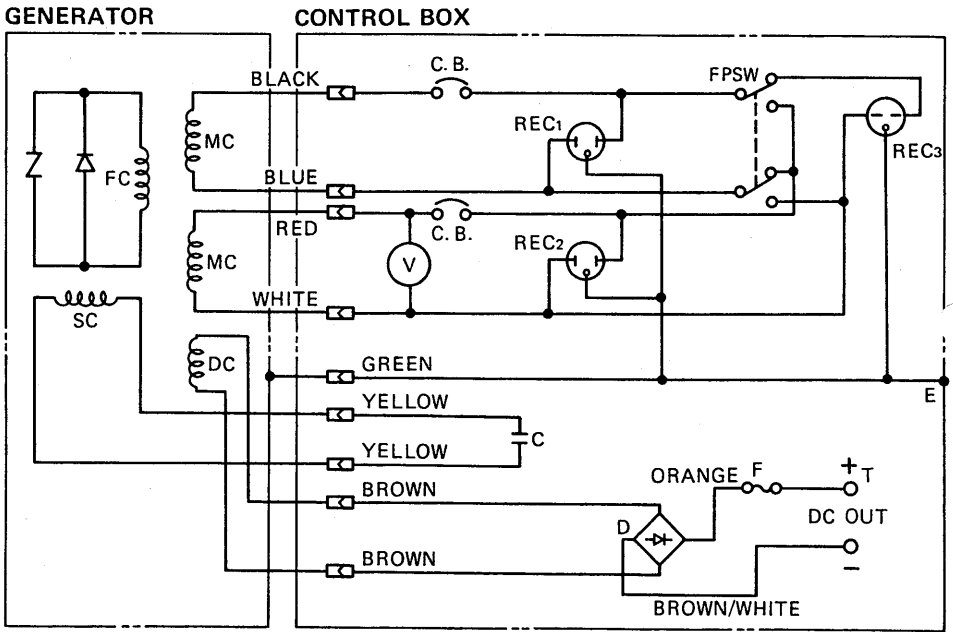
1. G2400R (110V,120V)



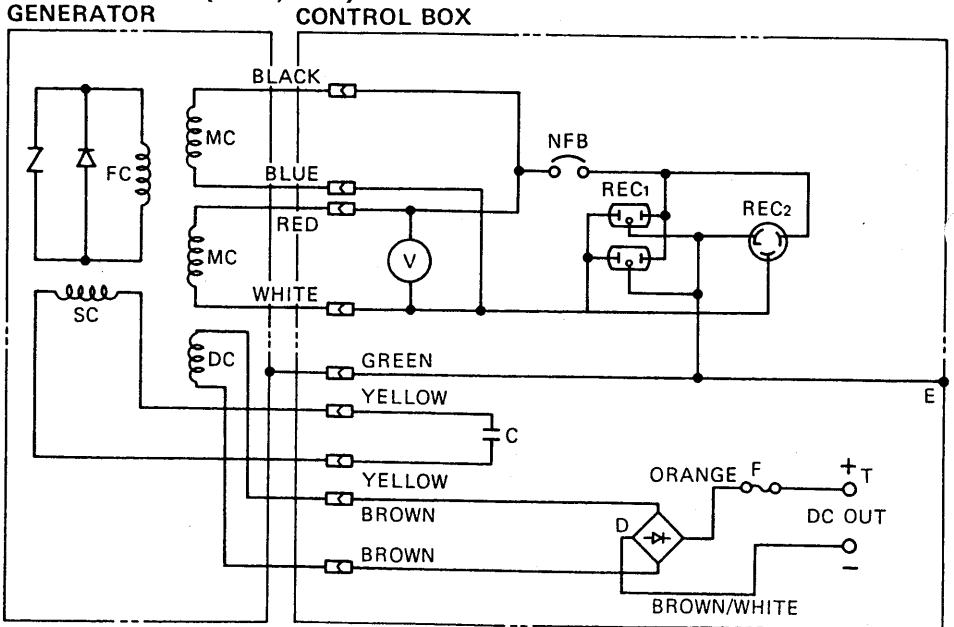
2. G2400R (220V,240V)



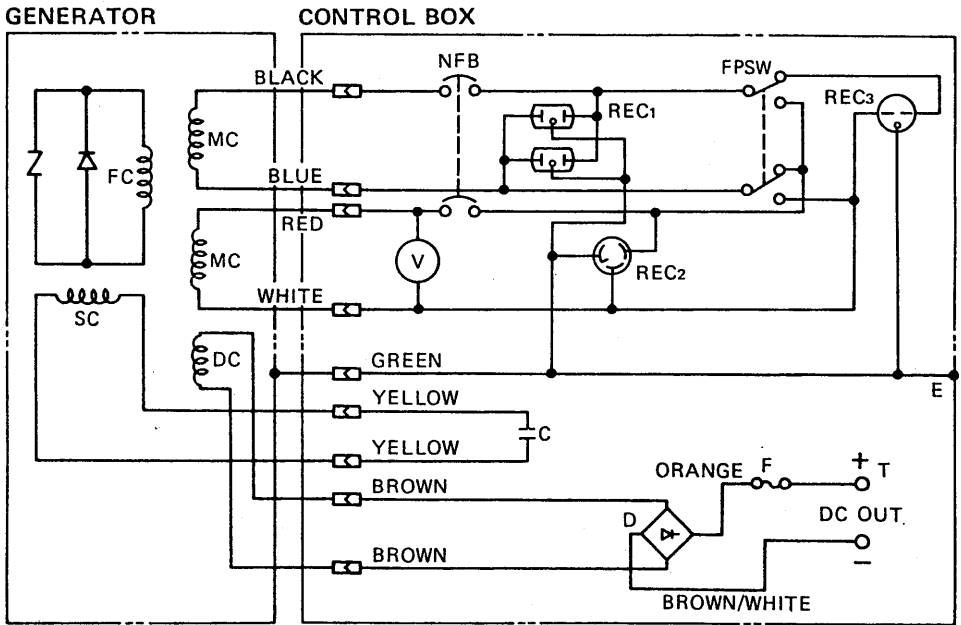
3. G2400R (110V/120V)



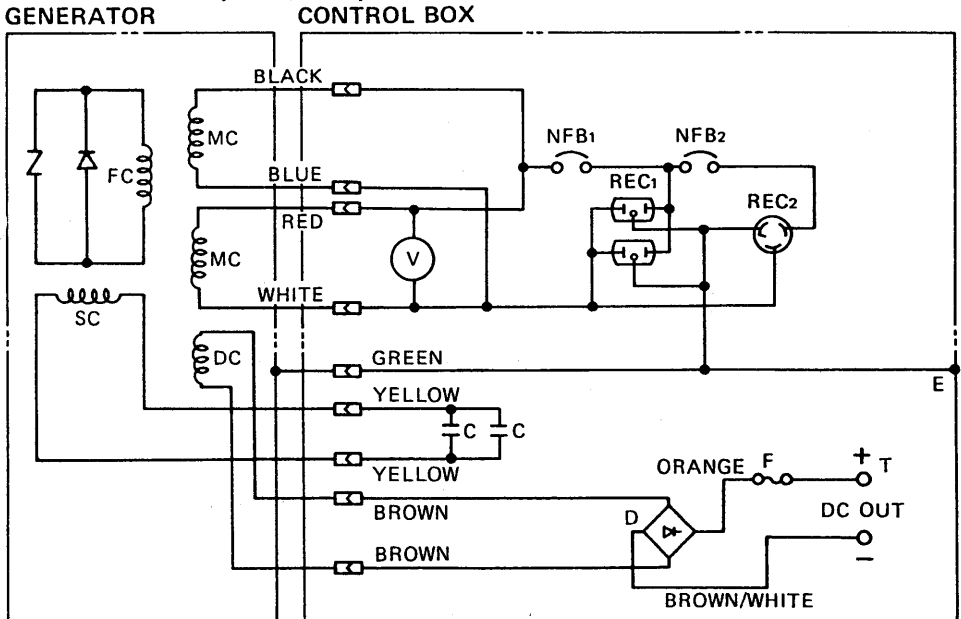
4. G3500R/3501R (110V,120V)



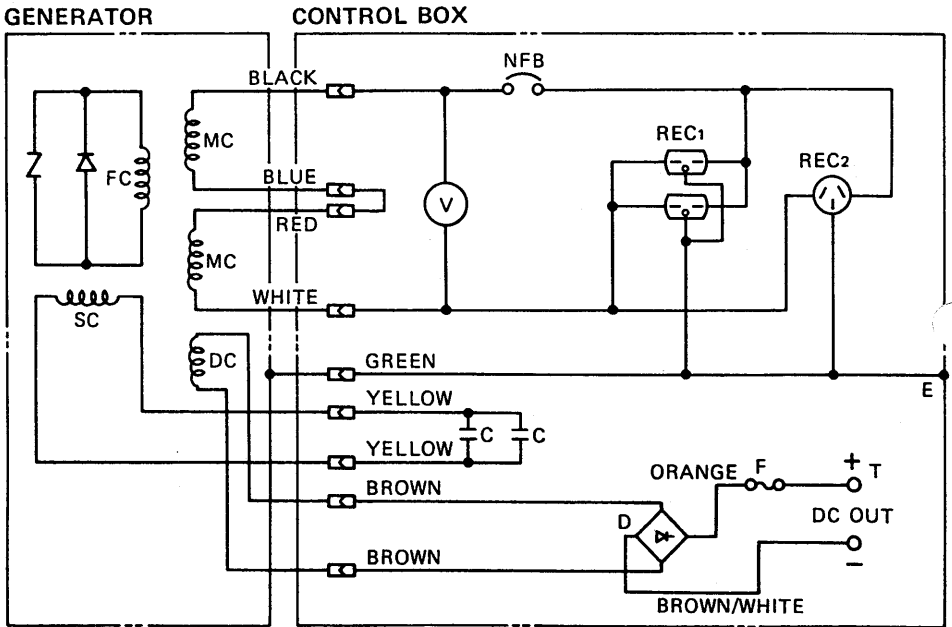
5. G3500R/3501R (110V/220V)



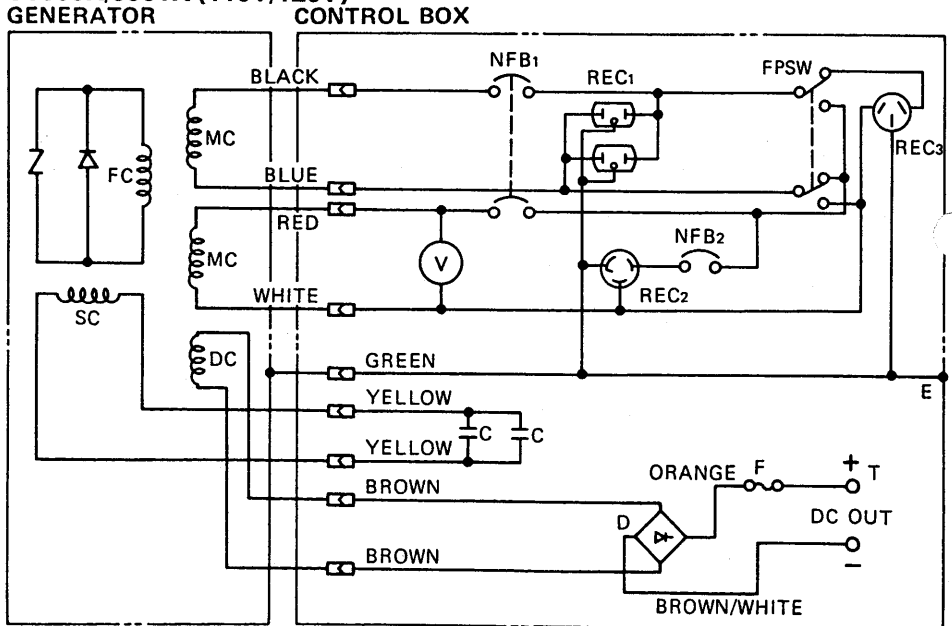
6. G5500R/5501R (110V,120V)



7. G5500R/5501R (220V,240V)



8. G5500R/5501R (110V/120V)



Symbols	Part Name
MC	AC Winding
SC	Auxiliary Winding
DC	DC Winding
FC	Field Winding
C	Condenser
D	Diode Stack Assy
T	DC Output Terminal
F	Fuse
C.B.	Circuit Breaker
NFB1	No-Fuse Breaker
NFB2	No-Fuse Breaker
FPSw	Full Power Switch
V	Voltmeter
E	Earth Terminal(Ground Terminal)
REC1	AC Output Receptacle (Total 15A Max.)
REC2	AC Output Receptacle (220V/240V)
REC3	AC Output Receptacle (110V/120V)

12. ELECTRIC STARTER (G3501R, G5501R)

1. ELECTRIC STARTER (G3501R, G5501R)

(1) BATTERY

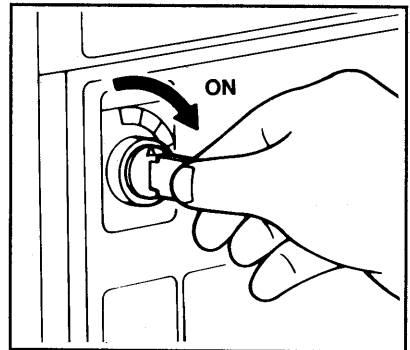
Recommended Battery	
Capacity	12V- 24AH
Maximum Dimensions (K x W x H)	198x 132x 188 mm

[CAUTION]

- Do not use a smaller battery which would be overcharged in usual operation.

(2) STARTING PROCEDURES

- Switch No-Fuse breaker OFF.
- Open the fuel cock.
- Choke if engine is cold.
- Insert key into key slot and turn it fully clockwise. Starting motor will turn to start the engine.
Release key, and it will automatically returns to "RUN" position.



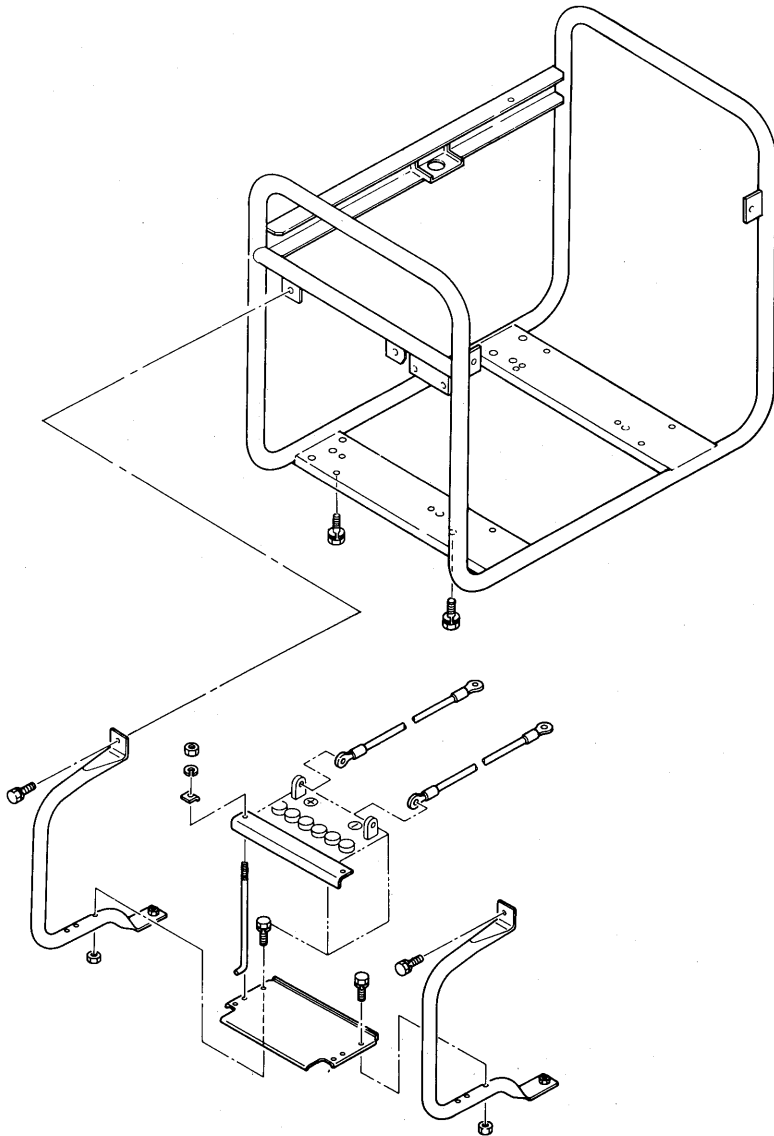
[CAUTION]

- Do not run the starting motor over 5 seconds. If you failed to start, return key to "STOP" position and wait about 30 seconds, then repeat starting.
- Do not turn the key switch to "START" position while the engine is running.

(3) STOPPING THE ENGINE

- Switch No-Fuse breaker OFF.
- Turn the key switch to "STOP" position.

2. "HOW TO" INSTALL THE BATTERY



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.

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